

The Mental Health and Well-Being of Informal Caregivers in Europe:
Regime Type, Intersectionality, and the Stress Process

by

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B.A., University of Victoria, 2010
M.A., University of Victoria, 2013

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We acknowledge with respect the Lekwungen peoples on whose traditional territory the
university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical
relationships with the land continue to this day.

Supervisory Committee

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Abstract

This dissertation addresses the role of welfare state/family care regimes, intersecting social locations and stress process factors in influencing the mental health and subjective well-being of informal caregivers of care recipients with age-related needs or disabilities within a European international context. Empirical analyses were conducted with secondary data from the 2012 and 2016 European Quality of Life Surveys. The study sample included informal caregivers ($n=6,007$) residing in seven different welfare state/family care regimes, including Denmark, Sweden, France, Germany, Italy, Greece and the United Kingdom. Ordinary least squares and ordered logit regression models revealed that welfare state/family care regime, social location (including both additive and interactive associations among gender, age group, marital status, and income), and stress process factors were independently associated with the mental health and life satisfaction of informal caregivers. Furthermore, there was some evidence to suggest that social location and stress process factors mediate some of the relationships between regime type and self-reported health and well-being and that stress process factors mediate relationships between social location factors and mental health and well-being.

Overall, the results provide support for integrating welfare state/family care regime type and intersectionality factors into the SPM. Thus, future research on informal caregivers' mental health and well-being ought to incorporate such factors into their empirical analyses. The results also have some policy and practice implications. Residence in social democratic formal (Denmark), semi-formal (Sweden) and conservative formal (France) care regimes was the most beneficial to informal caregivers self-reported mental health. This was also the

case for life satisfaction, except that residence in the liberal semi-formal (UK) was more beneficial than in the conservative formal (France) care regime. Mediating social location and stress process factors suggest that UK policy makers should address the greater social location disparities, greater role overload, and lack of coping resources that advantage Danish and Swedish informal caregivers compared to those residing in the UK. Lastly, policy makers from all the European countries assessed in the study should address the poorer mental health status of women and rural informal caregivers, those who experience role overload, secondary stressors, and lack coping resources. They should also address the the lower levels of formal education, more secondary stressors, and lack of coping resources associated with poorer subjective well-being.

Table of Contents

Supervisory Committee	ii
Abstract.....	iii
Table of Contents.....	v
List of Tables	vii
List of Figures.....	viii
Acknowledgments	ix
Dedication.....	x
Introduction.....	1
Chapter One: The Stress Process Model	9
1.1 Background and Contextual Factors	12
1.2 Primary Stressors.....	18
1.3 Secondary Stressors.....	22
1.4 Stress Resources	29
1.5 Summary.....	32
Chapter Two: Intersectionality Theory and the Stress Process	34
2.1 Gender and Age.....	37
2.2 Gender and Socio-economic Status.....	38
2.3 Gender and Marital Status.....	39
2.4 Age and Marital Status	40
2.5 Age and Socio-economic Status.....	41
2.6 Socio-economic Status and Marital Status	42
2.7 Three or More Intersections	42
2.8 Summary.....	43
Chapter Three: The Welfare State and Family Care Regimes	44
3.1 An Ethics of Care Approach.....	44
3.2 Welfare State Regimes	53
3.3 Gender Regimes	66
3.4 Family Care Regimes	73
3.5 An Integrated Model of Welfare State/Family Care Regimes	82
3.6 Summary.....	94
Chapter Four: Conceptual Framework and Research Objectives.....	96
Chapter Five: Research Design and Methods.....	102
5.1 Methodology.....	102
5.2 Data Sources	106
5.3 Sample	108
5.4 Measurement	110
5.5 Data Analysis.....	126
5.6 Model Assumptions and Adjustments.....	128
5.7 Additional Procedures	130
Chapter Six: Results	136
6.1 Descriptive Statistics	136
6.2 Self Reported Mental Health.....	144
6.3 Life Satisfaction.....	155
6.4 Summary.....	162

Chapter Seven: Discussion	165
7.1 Research Question 1	165
7.2 Research Question 2	172
7.3 Research Question 3	179
7.4 Research Question 4	183
7.5 Research Question 5	186
7.6 Summary.....	188
Chapter Eight: Conclusions	192
References.....	202
Appendices	289
Appendix A	289
Appendix B.....	290
Appendix C.....	291
Appendix D	292

List of Tables

Table 1. Descriptive Statistics of the Variables Used in the Regression Models: Informal Caregivers (Age 18+), EQLS, 2012 and 2016.....	139
Table 2. Descriptive Statistics of the Variables Used in the Regression Models by Country: Informal Caregivers (Age 18+), EQLS, 2012 and 2016.....	143
Table 3. Ordinary Least Squares Regressions of Mental Health on Welfare State/Family Care Regime with Varying Reference Categories (Model 1, no controls): Informal Caregivers (Age 18+), EQLS, 2012 and 2016.....	145
Table 4. Ordinary Least Squares Regressions of Mental Health on Welfare State/Family Care Regime, Social Location and Stress Process Indicators: Informal Caregivers (Age 18+), EQLS, 2012 and 2016.....	146
Table 5. Ordinary Least Squares Regressions of Life Satisfaction on Welfare State/Family Care Regime with Varying Reference Categories (Model 1, no controls): Informal Caregivers (Age 18+), EQLS, 2012 and 2016.....	156
Table 6. Ordinary Least Squares Regressions of Life Satisfaction on Welfare State/Family Care Regime, Social Location and Stress Process Indicators: Informal Caregivers (Age 18+), EQLS, 2012 and 2016	157

List of Figures

Figure 1: A Conceptual Model of Alzheimer's Caregivers' Stress.....	12
Figure 2: An Integrated Typology of Welfare State and Family Care Regime.....	83
Figure 3: A Modified Stress Process Model of Informal Caregiving.....	97
Figure 4: Interaction of Age and Household Income on Informal Caregiver Self-Reported Mental Health.....	148
Figure 5: Interaction of Age and Marital Status on Informal Caregiver Self-Reported Mental Health.....	149
Figure 6: Interaction of Age and Household Income on Informal Caregiver Self-Reported Mental Health.....	154
Figure 7: Interaction of Age and Marital Status on Informal Caregiver Life Satisfaction.....	159

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Dedication

This dissertation is dedicated to my mother, Linda Browning, and my grandmother, Beatrice Corkum, who have embodied caregiving in their personal and public lives.

Introduction

The global population is aging, a trend that has been evident since at least the 1960s and in all regions of the world (Shrestha, 2000). For example, North American countries are experiencing demographic changes in their age structures, including population aging, related to declining fertility rates and increasing life expectancy. In Canada, the proportion of those aged 65 and older increased from 8 per cent in 1960 to 17.2 per cent in 2017 (Statistics Canada, 2018). At the same time, 15 per cent of the population was aged 65 and older in the United States (Statistics Canada, 2018). Despite this disparity, the proportion of those aged 65 years and older is projected to reach roughly 20 per cent in both Canada and the United States by 2030 (Statistics Canada, 2015).

The populations of European countries are also aging. Across the European Union (EU) member states, individuals aged 65 or older comprised 19.2 per cent of the overall population in 2017 compared with 16.8 per cent ten years earlier (Eurostat, 2017). As in North America, European countries are experiencing demographic changes in their age structures, including population aging, related to declining fertility rates and increasing life expectancy. However, European countries have different age populations as the proportions of those aged 65 and older varied from 13 per cent in Ireland to 23 per cent in Italy as of 2017 (Eurostat, 2017). Changing age structures also appear to reflect an epidemiological transition or shift in the causes of morbidity and mortality. According to Omran (1971), the major causes of morbidity and mortality have shifted over time from: (1) infectious disease, malnutrition and famine; (2) to receding pandemics resulting in increased life expectancy compared to the previous phase; and more recently (3) to the replacement of infectious

diseases by chronic and degenerative diseases. Indeed, in the EU as of 2019, the leading causes of death were heart disease, respiratory diseases, cardiovascular diseases, and cancer (EuroStat, 2019).

Against this background of demographic and epidemiological change, policy makers have raised concerns about the potential negative implications of population aging. They include concerns that dependency ratios will increase dramatically (e.g., Muszynska & Rau, 2012) and consequently, long-term care needs will double between 2000 and 2040 (Allen, 2005), health care system sustainability will become compromised, and an increasing "care deficit" will result (Harrington, 2000; Heymann et al., 2002; Stone, 2000). The extent to which these concerns are warranted and the proposed policies to address the perceived concerns are debated (McKnight, 2006; Payne, et al., 2007; Spillman & Pezzin, 2000).

Nevertheless, these demographic and epidemiological changes have had several implications for informal caregivers. An informal caregiver is a person who provides some type of unpaid assistance with activities of daily living (ADLs) or instrumental activities of daily living (IADLs) to a person with a chronic illness and/or a disability (Roth, Fredman, & Haley, 2015). ADLs include feeding, dressing, bathing and walking, and IADLs include cooking, cleaning, transportation, laundry and managing finances (Guo & Sapra, 2020). An informal caregiver is often contrasted with formal caregivers such as home health aides who are paid for their professional services (Roth, Fredman, & Haley, 2015). An informal caregiver is often defined broadly as including family members, partners, friends, or neighbours who provide unpaid assistance (Lambert et al., 2017).

Informal caregivers are known to be an essential component of health care delivery throughout the world. For example, approximately 80 per cent of all long-term care in

Europe has been estimated to be provided by informal carers (Hoffmann & Rodrigues, 2010). European countries have restructured their health care systems, leading to a greater reliance on informal caregivers. Prevalence rates of informal caregiving vary from lows of 21.1 per cent in Austria and 23.0 per cent in Lithuania to highs of 42.8 per cent in Denmark and 43.6 per cent in Finland (Verbakel et al., 2017). Increases in reliance on informal caregivers do not affect all caregivers in the same way or to the same extent. Family caregivers make up the majority of informal caregivers with the partner or spouse and adult children being the most common care providers (OECD, 2011). Often, older parents receive care from their adult children when there is no partner or spouse available or where physical limitations accumulate (Haber Kern & Szydlik, 2010). In these situations, daughters do most of the caregiving (Chesley & Poppie, 2009) and women in general (i.e., spouses, daughters and daughters-in-law) provide most of the care (Colombo et al., 2011; European Commission, 2018; Haber Kern, Schmid, & Szydlik, 2015).

Accompanying declines in fertility, the pool of informal caregivers potentially available to provide care has been decreasing (Fast, 2015). There is some evidence to support the notion that the balance between working aged and older adults has shifted. In Europe, the old-age dependency ratio increased from 22.5 per cent to 29.9 per cent over the period from 1997 to 2017 (Eurostat, 2018). The old-age dependency ratio is also known to vary across EU member states with Italy (34.8%), Greece (33.6%), and Finland (33.2%) at the higher end and Luxembourg (20.5%), Ireland (20.7%), and Slovakia (21.5%) at the lower end (Eurostat, 2018). With increases in life expectancy, the potential duration of caregiving has become longer and the role of informal caregivers has become more complex. For example, across 20 European countries, 7.6 per cent of informal caregivers provided care for a

minimum of 11 hours a week, defined as “high intensity” care (Verbakel et al., 2017). In another study across 10 European countries, informal caregivers provided an average of 132.33 hours of care annually (Bolin, Lindgren, & Lundborg, 2008). As well, informal caregivers residing in the Netherlands were found to provide an average of 17.4 hours of caregiving per week (Metzelthin et al., 2017). In addition to the high intensity of informal care provided, the complexity of tasks are said to have expanded and can include changing gastronomy tubes and colostomy bags or providing home chemotherapy along with tasks such as assisting with meals, housework, or personal care activities (Arno, Levine, & Memmott, 1999; Yantzi, Rosenberg, & McKeever, 2007).

Providing care has been found to have positive implications for informal caregivers (Cohen et al., 2002; Lloyd, Patteson, & Muers, 2014), especially if the relationship between the caregiver and care recipient is perceived as good by the caregiver (Sánchez-Izquierdo, Prieto-Ursúa, & Caperos, 2015). Positive feelings about caring are associated with lower burden scores and better self-assessed health (Abdollahpour, Nedjat, & Salimi, 2017; Cohen, Colantonio, & Vernich, 2002), and with decreased depression among caregivers to older adults with dementia (Sanchez-Izquierdo et al., 2015). However, despite some evidence of the positive aspects of caregiving, informal caregivers typically provide physical, medical, and psychosocial care that may result in responsibilities, demands, and stresses that may overwhelm some caregivers’ abilities to cope (Crooks et al., 2007; Exley & Allen, 2007; Grunfeld, 2004). In fact, over two decades of research have established that informal caregivers are at greater risk of poor mental health and well-being outcomes than non-caregivers (For literature reviews see Lavela & Ather, 2010; Vitaliano, Zhang, & Scanlan, 2003).

The pool of informal caregivers available to provide care is expected to decline across European (European Commission, 2018) and other countries (Barratt, 2011; Health Council of Canada, 2012) due to demographic (e.g., changes in family structure and population aging) and economic and policy changes (e.g., post-poned retirement). Additionally, the proportion of available caregivers expected to provide care is also estimated to increase across Europe (Calvó-Perxas et al., 2018) and other countries (ASPE, 2003). More informal caregivers are providing care for multiple people in the U.S. (AARP, 2020), but it is unclear what the trend is in Europe. The complexity of care tasks is also said to be increasing among informal caregivers in Europe (Moise, Schwarzinger, & Um, 2004) and other countries (Schulz & Eden, 2016). However, hours of care provided have not changed in recent years in the U.S. and Canada (Janus & Doty, 2018; Statistics Canada, 2012) while the trend in Europe is currently unknown (Barczyk & Kredler, 2019).

European countries have adopted diverse policy approaches to support informal caregivers. For example, in the United Kingdom, the Direct Payments benefit provides informal caregivers with financial support to a maximum of £50.00 a week in support to assist with care provision, whereas in Denmark, financial support can be as comprehensive as wage replacement.

Considering the mental health and well-being risks associated with informal caregiving, there is a need to understand what factors differentially expose informal caregivers to the risk of such negative outcomes as well as which factors support their mental health and well-being. In this study, mental health is conceptualized as a positive resource that is not reducible to mental disorders (Bertolote, 2008; Grundberg et al., 2012; Muntaner, Eaton, & Diala, 2000; Wakefield, 1992). Mental health is viewed as a state of mind that

includes emotions, self-valuation, and individual functioning in terms of self-realization that can be compromised in the presence of mental illnesses including mood, behavioural, and/or personality disorders (Bertolote, 2008; Braidwood, 2000; Westerhof & Keyes, 2010). In order to assess the mental health of informal caregivers, this dissertation uses the “WHO well-being index” originally used for the identification of depression cases (World Health Organization, 1998). The index asks respondents five questions pertaining to how they have been feeling over the past two weeks. Thus, this study assesses the emotional health aspect of mental health and not mental illness. On the other hand, well-being is conceptualized as being broader than mental health as it focuses on the evaluation of one’s life beyond their mental state (e.g., purpose in life and satisfaction with life) (Ryff, 1989; Ryff & Keyes, 1995). In order to assess the life satisfaction of informal caregivers, this dissertation uses a single-item measure of life satisfaction (range 1-10) included in social surveys such as the World Values Survey, World Gallup Poll, and European Quality of Life Survey (Diener, Inglehart, & Tay, 2013). Thus, this study assesses the life satisfaction aspect of well-being. Additionally, this dissertation assesses the role of multiple factors, including policy and social structural contexts and stress process factors, in influencing the mental health and well-being of informal caregivers of care recipients with age-related needs or disabilities within a European international context. European countries are the focus of the study given their relatively diverse policy approaches to supporting informal caregivers.

The study is informed by the stress process model (Pearlin et al., 1990), intersectionality (Crenshaw, 1989; McCall, 2001), welfare state regime (Esping-Andersen, 1990; 1993) and family care regime (Frericks, Jensen, & Pfau-Effinger, 2014) approaches. A modified version of the stress process model (SPM) as applied to caregiving (Pearlin et al.,

1990) is needed to more fully understand the implications of the policy and social structural contexts within which caregiving occurs for the mental health and well-being of informal caregivers. This may be the case across European countries but may also be relevant to other contexts with different health care systems and policies that differentially support informal caregivers (e.g., Canada and the United States). The proposed modifications include incorporating both macro-level structural factors (regime type) and intersecting social location factors as determinants of the mental health and well-being of informal caregivers. An integrated regime typology informed by welfare state regime and family care regime approaches is needed to assess the role that the diverse policy approaches adopted in Europe have for the mental health and well-being of informal caregivers.

In order to situate the study theoretically and empirically, Chapter 1 outlines the stress process model and reviews empirical studies applying the model to the mental health and well-being of informal caregivers. Chapter 2 summarizes intersectionality theory and reviews empirical studies that use it to inform their analysis of the mental health and well-being of informal caregivers. Chapter 3 introduces the welfare state regime and family care regime approaches and empirical studies that use these approaches to inform their analysis of informal caregivers' mental health and well-being. My review of the literature, leads to the following five research questions:

- 1.) Is regime type associated with the mental health and well-being of informal caregivers?
- 2.) Are social location factors and their intersections associated with the mental health and well-being of informal caregivers?

- 3.) Is there evidence that social location factors and their intersections mediate the relationships between regime type and the mental health and well-being of informal caregivers?
- 4.) Do stress process factors mediate the relationships between regime type and the mental health and well-being of informal caregivers?
- 5.) Do stress process factors mediate the relationships between social location factors and their intersections and the mental health and well-being of informal caregivers?

Chapter 4 describes the conceptual framework and research objectives for the study. The research design and methods used for the study, including how the research questions are empirically examined using secondary data from the European Quality of Life Survey (2012, 2016), are discussed in Chapter 5. Chapter 6 reports the results of the empirical analysis. The findings of the research with respect to each the five research questions studied are discussed in Chapter 7. Lastly, Chapter 8 concludes by discussing the limitations of the study as well as its theoretical, research, and policy and practice implications.

Chapter One: The Stress Process Model

The stress process model (SPM) is a widely used and important theoretical approach to understanding the role that stress plays in impacting individual physical health, mental health, and well-being. The SPM originated in the work of Leonard I. Pearlin and his colleagues in the late 1970s. This early work focused on the coping behaviours that protect people from being psychologically harmed by potentially stressful social experiences (Pearlin & Schooler, 1978). However, building on this work, Pearlin and colleagues (1981) subsequently conceptualized the stress process model as one in which stressors impact individual physical health, mental health, and well-being through stress exposure and stress mediation.

Indeed, the stress process model is seen to include exposure and vulnerability to both primary stressors (e.g., life events, chronic problems) and to secondary stressors (e.g., role strains such as family or work conflict and intra-psycho resources/strains such as self-esteem and mastery, sense of control, optimism and emotional reliance) (Pearlin, Schieman, Fazio, & Meersman, 2005). Primary stressors occur first in peoples' experience and can include disruptive or repeated events (Pearlin, 1989). Secondary stressors are brought about by exposure to the primary stressors (Pearlin et al., 2005). Secondary stressors are secondary in the sense of a sequence and not their importance in the stress process (Pearlin, 1989). Lastly, stress resources are seen as important in protecting individuals from the consequences of stressful experiences. They include social support and coping resources (such as acceptance or problem-focused coping and negative coping strategies such as denial or avoidance) (Avison & Pearlin, 2010; Katerndahl & Parchman, 2002).

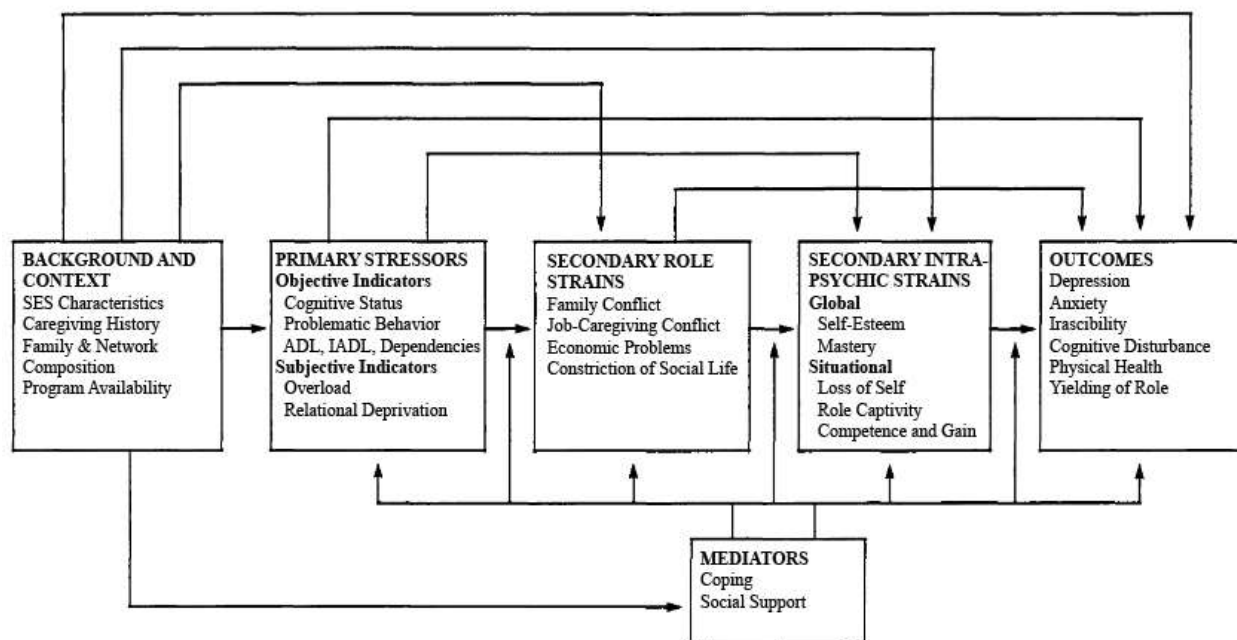
Although stress process factors are important components of the model, according to Pearlin (1989), its primary concern was with "...the socially patterned distribution of components of the stress process: stressors, mediators, and outcomes" (p. 242). The model suggests that the likelihood of exposure to primary and secondary stressors, stress resources, and the difference in the impact that exposure will have, depend upon individuals' locations within systems of stratification and their participation in social institutions and relationships. In his view, one of the key assumptions that underlie the model is that the origins of stress are situated in the social world. Indeed, the model is known for its articulation of the causal connections linking the structural arrangements of society to the health of individuals (Pearlin & Bierman, 2013). For instance, social structural factors that have been identified as important background factors in the model include: socioeconomic status (SES), gender, marital status, neighbourhood context (Pearlin, 1989; 1999), race and ethnicity (Turner, Wheaton, & Lloyd, 1995), age (Milkie, 2010), and immigrant status (Gilster, 2014).

Although originally developed as a general model of stress factors, Pearlin et al. (1990) also used the SPM to understand the implications of caregiving specifically (see Figure 1). They viewed caregiver outcomes as being a consequence of background and contextual factors, primary and secondary stressors, and stress resources. All are seen as having implications for the physical health, mental health, and well-being of informal caregivers.

An advantage of using the caregiving adapted SPM for understanding caregiver outcomes is that it recognizes caregiving-specific variables that are left unspecified in the general SPM. Pearlin et al. (1990) developed the model as an alternative to those assessing the "global burden" of caregiving as they wanted a model that disaggregated global burden

into specific stressors and their pathways (Pearlin et al., 1990). In addition to socioeconomic factors, the caregiver adapted SPM includes caregiving history, family and network composition, and program availability as contextual factors. In this context, primary stressors are hardships and problems related directly to caregiving, including objective indicators such as care recipients' cognitive status, problematic behaviour, functioning in terms of activities of daily living and instrumental activities of daily living, and dependencies as well as subjective indicators such as caregiver overload and relational deprivation (Pearlin et al., 1990). Subsequent authors drawing on the SPM have sometimes equated burden with the primary stressor of overload (Stucki & Mulvey, 2000; Yates, Tennstedt, & Chang, 1999). Secondary stressors include secondary role strains such as family conflict, work/family conflict, economic strain, and constriction of social life, as well as secondary intra-psychic strains such as self-esteem, mastery, loss of self, role captivity, competence, and gain (Pearlin et al., 1990). Lastly, stress resources include coping and social support that are seen as protecting informal caregivers from the negative implications of other stressors (Pearlin et al., 1990).

Figure 1: A Conceptual Model of Alzheimer's Caregivers' Stress
(Pearlin et al., 1990, p.586).



1.1 Background and Contextual Factors

A review of the empirical literature reveals considerable support for the importance of the background and contextual factors included within the SPM as applied to informal caregiving. For example, research has consistently found evidence indicating that social structural (background) and contextual factors impact the mental health and well-being of informal caregivers. In this section, I review studies on the impacts of age, gender, marital status and socio-economic status as examples of social structural location factors.¹ Research supporting the important role that contextual factors - caregiving history, social networks,

¹ Although they are also important, a thorough review of other social structural factors including race and ethnicity (e.g., Aranda & Knight, 1997; Hilgeman et al. 2009; McCallum, Longmire, & Knight, 2007) and immigrant status (e.g., Lahaie, Earle & Heymann, 2013) is beyond the scope of this research and therefore is not included.

and program availability - have in impacting the mental health and well-being of informal caregivers is also reviewed.

Given that caregiving often becomes more prevalent at different life stages (e.g., mid-life for adult children and older age for spouses), age is a particularly important social structural (background) factor among informal caregivers. Additionally, life course expectations of when caregiving occurs may have an impact on informal caregivers. Research has found that the mental health and well-being of older caregivers tends to be better than that of younger caregivers in general (Andrén & Elmståhl, 2007; Provencher et al., 2003) as well as among condition-specific care recipient samples (McCullagh, Brigstocke, Donaldson, & Kalra, 2005; McPherson, Wilson, Chyurlia, & Leclerc, 2011; Morimoto, Schreiner, & Asano, 2003). There is also evidence of differences among older caregivers. For example, a study of informal caregivers in Hong Kong found that older-old caregivers (i.e., those aged 75 to 90) reported lower levels of psychological distress, fewer depressive symptoms and better subjective well-being than young-old caregivers (i.e., those aged 56 to 74) (Chow & Ho, 2015). However, some studies have reported that older caregivers report worse mental health and well-being than their younger counterparts in terms of anxiety and depression (De Fazio et al., 2015; Liang et al., 2016) whereas other studies have reported no age differences in terms of anxiety (Cooper, Balamurali, & Livingston, 2007) or quality of life (Chappell & Dujela, 2008).

Gender also appears to be an important social structural (background) factor impacting the mental health and well-being of informal caregivers. Women are widely reported to provide more hours of care and more hands on care than men (Calasanti & Bowen, 2006). Research has also consistently found that women caregivers are more likely

to report poorer mental health and well-being compared to men caregivers. A meta-analysis of the results from 229 studies found that women caregivers tended to report higher levels of depression and lower levels of subjective well-being and physical health than men caregivers (Pinquart & Sörensen, 2006). The review also concluded that the gender differences in mental health and well-being outcomes were greater than they were among the general population, suggesting that caregiving related differences in stressors and resources likely explained the difference.

More recent studies continue to find that women caregivers report poorer mental health and well-being outcomes than men caregivers (Arai et al., 2014; Burnette, Duci, & Dhembo, 2017; Collins et al., 2016; Pillemer, Davis, & Tremont, 2017; Sallim et al., 2015). For example, Li, Mak and Loke (2013) conducted a systematic review of literature addressing the association of gender with health and well-being among informal caregivers of spouses with cancer. They concluded that women spousal caregivers reported poorer mental health, physical health, and health-related quality of life, as well as lower life satisfaction than men. However, women were also more likely to report experiencing personal growth as a result of caregiving including greater appreciation for life, personal strength, and spiritual change. Only one study reviewed found that there was no gender difference among informal caregivers in terms of either mental health or well-being outcomes (depression and psychological distress - Mohamed et al., 2010).

Research has also supported the notion that marital status is an important background factor to consider when addressing the mental health and well-being of informal caregivers. Brody et al. (1992) found that married and remarried women were less depressed than separated or divorced and widowed women, had better self-rated health than widowed

women, and scored higher on positive affect than never-married women. According to another study, widowed caregivers had greater odds of reporting poorer self-reported health than caregivers in a partnership (Legg et al., 2012). Although these studies found that married and partnered informal caregivers reported better self-reported health and mental health than those in other marital status groups, there is some evidence to the contrary. Navaie-Waliser et al. (2002) found that married caregivers were more likely to report being “vulnerable” than non-married caregivers, with vulnerability measured with a multi-scale item that included whether their own physical health had declined since becoming a caregiver. As well, in a study among informal caregivers of family members with dementia, married caregivers were more likely to report poor self-reported health than other marital statuses (Abdollahpour et al., 2014). It is worth noting that studies to date on the impact of marital status on the health and well-being of informal caregivers have focused on self-reported health rather than mental health and well-being.

Socio-economic status has also been reported to be significantly associated with the health and well-being among informal caregivers, with lower SES being associated with poorer mental health (depression) and well-being outcomes (André et al., 2014; Arai, 2014; Covinsky et al., 2003; Cummings & Kropf, 2015; De Fazio et al., 2015; Zunzunegui et al., 1999), self-rated health (Andren & Elmstahl, 2006; Bakas & Burgener, 2002; Ekwall, Sivberg & Hallberg, 2005), psychological distress (Andrén & Elmståhl, 2007; Ekwall, Sivberg & Hallberg, 2005; Williams et al., 2003), and quality of life (Lahaie, Earle, & Heymann, 2013). Additionally, both income and education appear to have independent associations with informal caregivers’ health outcomes. For example, Choi et al. (2016) assessed depression among informal caregivers of family members with cancer, finding that

spousal caregivers, those with low education, and those with low income reported greater levels of depression.

Pearlin et al. (1990) also included caregiving history among contextual factors in the SPM in order to address the role of time spent caregiving as a stressor. Short-term spousal caregivers have reported elevated depressive symptoms when compared to those providing care for a longer term (Capistrant, Berkman, & Glymour, 2014). As well, among a sample of informal caregivers to family members with cancer, duration of care was positively associated with quality of life (Jeong et al., 2020). However, some have found no evidence that duration of care is associated with mental health or well-being. For example, Kim and Schulz (2008) reported that there was no significant association between duration of caregiving and either emotional or physical strain. As well, in another study, a non-significant association was reported between duration of care and psychological well-being (Gupta et al., 2015). One study also found that duration of care was associated with worse mental health. Kent and Dionne-Odom (2018) assessed whether caregiving duration (high=2 years or more, low=less than 2 years) was associated with mental health among cancer caregivers. They reported that high duration caregivers had more unhealthy days than did short duration caregivers.

Pearlin et al. (1990) differentiated social networks from social support in the SPM. Indeed, whereas social support is considered a stress resource in the model, social networks are considered a contextual factor. Pearlman et al. (1990) defined social networks as “networks (including family) to which caregivers have attachments” and focused on the composition and size of the networks (p.586). Research has found that larger and more diverse social networks are related to a lower likelihood of morbidity and mortality, to higher levels of

psychological well-being, and to lower levels of health-risk behavior (Cheng et al., 2009; Cohen & Wills, 1985). With regards to mental health, Cannuscio (2004) assessed the association of social networks and depression among middle aged and older women caregivers. Women with fewer social ties reported elevated depressive symptoms compared to women with many social ties. Lastly, in a longitudinal study, Fuller-Iglesias and colleagues (2015) assessed associations between changes in family network composition and size and psychological well-being among older adults over time (not exclusively caregivers), finding that a decrease in the proportion of family members in the network and an increase in the number of family members in the network were associated with decrease in depressive symptoms over time.

According to the model, the third contextual factor is program availability. Pearlin et al. (1990) defined program availability as a "...type of resource represented by community based formal programs created to benefit patients, caregivers, or both..." that "...links the caregiver to the larger community" (p.586). Availability and access to such programs can be beneficial as "...one can escape some of the vicissitudes and hardships of caregiving one might otherwise experience" (Pearlin et al., 1990, p.586).

Although Pearlin and colleagues did not identify specific programs, subsequent studies have assessed the role of support services including the role respite care and counselling have had on informal caregivers' mental health and well-being. In terms of respite care, studies have reported that depression and mental health have improved among informal caregivers from time of assessment to follow-up or post-program evaluation (Deimling, 1992; LaVela et al., 2012). However, a literature review on the impact of home care interventions on informal caregivers of family members with dementia found that home

care did not improve the burden or depression of caregivers, and respite care was associated with an increase in burden (Schoenmakers, Buntinx, & Delepeleire, 2010).

Turning to counselling, Toseland and Smith (1990) found that counselling provided to daughters and daughters in law who are caregivers for their older adult parents did not report improvement in subjective well-being different from the control group. Similarly, in another study, informal caregivers of family members with schizophrenia who received counselling once a week for six weeks reported no difference in mental health or well-being compared to the control group (Szmukler et al., 1996). As well, in a review of counselling studies among informal caregivers of family members with dementia, about two-thirds of the forty studies found that counselling had no impact on psycho-social outcome measures (Cooke et al., 2001). However, the authors of the review cautioned that these studies had small sample sizes.

1.2 Primary Stressors

Primary stressors are stressors that occur directly from the caregiving experience and can include disruptive or repeated events (Pearlin, 1989). There is some empirical support for the view that primary stressors (e.g., care recipient cognitive status, limitations in basic activities of daily living and instrumental activities of daily living, dependencies, problematic behavior, caregiver overload and relational deprivation) are associated with the mental health and well-being of informal caregivers.

In terms of care recipient cognitive status, research has reported that caregivers of individuals with dementia have poorer subjective well-being (Chappell & Reid, 2002), social well-being, physical strain, emotional strain and mental health than non-dementia caregivers

(Ory et al., 1999). For example, Schulz et al. (2008) assessed whether the emotional and existential distress of care recipients with dementia impacted caregivers' depression while controlling for other background and primary stressors. They found that both emotional and existential distress were associated with caregivers' depression. Informal caregivers of individuals with dementia have also reported more interrupted sleep, and more depressed or hopeless feelings than caregivers to individuals without dementia (Moon & Dilworth-Anderson, 2014). However, there are a few studies reporting a lack of support for the notion that care recipients' cognitive status is associated with the mental health or well-being of informal caregivers. For example, cognitive impairment was not found to be a significant predictor of self-reported health or psychosocial functioning of caregivers in a study focusing on daughters and daughters-in-law only (Cattanach & Tebes, 1991) and in another study, there were no direct paths between care recipients' mental status and caregivers' depressive symptoms (Sherwood et al., 2005).

Care recipients have different levels of need in terms of basic activities of daily living including feeding, dressing, bathing, and walking (Edemekong et al., 2020). Research suggests that a greater need for help with basic activities of daily living is associated with lower quality of life among caregivers of those with Alzheimer's disease (Logsdon et al., 1999), depression among caregivers of those with mild cognitive impairment (Garand et al., 2005), anxiety but not depression among caregivers to those with Alzheimer's disease (Mahoney et al., 2005), and depression among older spousal caregivers (Dunkle et al., 2014). Care recipients are also known to have different levels of need in terms of instrumental activities of daily living including cooking, cleaning, transportation, laundry, and managing finances (Edemekong et al., 2020). Higher levels of assistance with instrumental activities of

daily living have also been found to be associated with depression among informal caregivers (Winslow, 1997).

Research has generally reported that informal caregivers of those with more problematic behaviors are at greater risk of poorer mental health and well-being outcomes. Studies suggest that problematic behaviors are associated with depression (Covinsky et al., 2003; Gaugler, 2000; Ranney & Aranda, 2008; Schulz & Williamson, 1991) and negatively associated with mental and physical health among dementia caregivers (Hooker et al., 2002). Among informal caregivers in general, problematic behaviors have also been found to be negatively associated with self-rated health and life satisfaction, and positively associated with perceived stress (Schulz et al., 1995). Additionally, both impairment and behavioral problems have been reported to be associated with caregivers' health and well-being independently. Perren, Schmid, and Wettstein (2006) assessed the association between dementia care recipients' impairment and behavioural problems and their caregivers' well-being over two years. They reported that levels of cognitive and functional impairment and an increase in behavioural problems negatively affected caregivers' well-being over time. As well, a study of spousal caregivers to partners with mild cognitive impairment reported that problematic behaviors were negatively associated with well-being and physical health (Savla et al., 2011).

Caregiver overload is defined by the burnout felt by caregivers including their level of fatigue (subjective) as well as the source of the feelings of burnout and fatigue (objective) (Pearlin et al., 1990). Both subjective and objective overload appear to be associated with poorer mental health and well-being outcomes among informal caregivers. Winslow (1997) found that subjective overload (as measured by a three item scale including the statement

“You are exhausted when you go to bed at night”) was negatively associated with subjective health status. Another study reported that subjective overload (as measured by a three item scale asking whether the caregiver was able to relax, could have a block of time to use as they liked, and had time just for themselves) was negatively associated with dementia caregivers’ self-reported health (Son et al., 2007). In terms of objective overload, caregiving hours have been found to be a significant and positive predictor of psychological distress (CIHI, 2010) and depression (Covinsky et al., 2003), and a significant and negative predictor of well-being (Chappell & Dujela, 2008) and life satisfaction (Borg & Hallberg, 2006). There is also some evidence to suggest that objective overload is also related to subjective overload. For instance, studies have reported that caregiving hours are associated with caregiver burden (Chappell & Dujela, 2008; Kim et al., 2012; Rigby, Gubitz, & Phillips, 2009).

Lastly, relational deprivation is said to occur when Alzheimer's disease and other dementias have a transforming effect on the care recipient and this in turn restructures the relationship between the caregiver and care recipient, stripping it of its former reciprocities (Pearlin et al., 1990). This loss of reciprocities includes the feeling that the caregiver is increasingly separated from the parts of their lives that have been previously supported by or shared with the care recipient. For instance, this can include the exchange of intimacy as well as goals and social activities that were once shared with the care recipient but are no longer obtainable (Pearlin et al., 1990). Studies have reported that relational deprivation is positively associated with depression and loneliness (Beeson et al., 2000; Cohen, Katz & Baruch, 2007), and negatively associated with self-perceived health (Cohen, Katz & Baruch, 2007). However, one study found no significant relationship between relational deprivation

and both self-rated health and mental distress among informal caregivers (Ducharme et al., 2007).

1.3 Secondary Stressors

The stressors identified thus far are anchored in the needs and demands of the care recipient or in the caregiving required to satisfy those needs and are directly associated with the caregiving experience. These primary stressors can lead to secondary stressors among informal caregivers, including role strains such as family conflict, work/family conflicts, economic strains, and constriction of social life as well as intra-psychoic strains (Pearlin et al., 1990).

Family conflict as a result of a caregiving relationship can further impact spousal relationships, adult children and their aging parents, as well as sibling relationships. Family conflict has been found to be negatively associated with mental health among caregivers of stroke survivors (Clark et al., 2004) and caregiver strain within a general caregiver sample (Scharlach, Li, & Dalvi, 2006). Davis et al. (2011) interviewed spousal caregivers of individuals with Alzheimer's disease and Parkinson's disease and found that informal caregivers with below average relationship quality scores had above average depression scores when compared with other informal caregivers. In one study, 40 per cent of adult children caregivers experienced serious caregiving-related family conflicts, most often involving siblings (Strawbridge & Wallhagen, 1991). Semple (1992) reported that among caregivers to those with Alzheimer's disease, family members' attitudes and actions towards the care recipient were most likely to result in anger among caregivers. There is also some

evidence that the impact of primary stressors on psychological distress is partially mediated by family conflict (Sharlach, Li, & Davli, 2006; Yates, Tennstedt & Chang, 1999).

Informal caregivers are also at risk of work/family conflict that can also have implications for their mental health and well-being. Employed caregivers have been found to report higher levels of depressive symptoms than unemployed caregivers (Lee, Walker, & Shoup, 2001). Depasquale et al. (2017) assessed employees occupying caregiving roles and found that compared to non-caregivers, caregivers reported greater perceived stress and psychological distress. As well, work/family conflict has been found to explain differences in well-being between middle-aged caregivers and non-caregivers (Marks, 1998), and work absence due to non-psychotic psychiatric disorders, including depression (Melchior et al., 2007). In another study, high levels of work/family conflict were associated with decreases in life satisfaction and increases in depression (Li, Shaffer & Bagger, 2015). There is also some evidence among a sample of primary caregivers of care recipients with cancer that work/family conflict mediates the relationship between gender and feelings of exhaustion and fatigue (Gaugler et al., 2008). Lastly, work/family conflict has also been found to mediate the association between caregiving demands (amount of assistance provided with activities of daily living and instrumental activities of daily living) and both depression and life satisfaction among employed caregivers of people with disabilities (Li, Shaffer & Bagger, 2015).

Economic strains include reductions in household income, increases in expenditures related to care and treatment, and whether there is enough money to make ends meet (Pearlin et al., 1990). Research has suggested that economic strains have further impacts on mental health and well-being beyond those of primary stressors. In one study, informal caregivers of

relatives with substantial care needs spent ten per cent more of their household incomes on healthcare, were six per cent more likely to take out a loan on their mortgage, spend their savings, or obtain additional jobs (Emanuel et al., 2000). They were also more likely to have depressive symptoms when compared to informal caregivers of those with less substantial care needs (Emanuel et al., 2000). As well, Williams et al. (2008) found that among caregivers, financial burden was positively associated with emotional strain and negatively associated with physical health.

Lastly, research suggests that participation in social activities can no longer be maintained at previous levels among informal caregivers thereby reflecting the notion of a constricted social life (George & Gwyther, 1986; Gilhooly, 1984; Haley et al., 1987). In turn, low social activity has been found to be associated with depressive symptoms (Cannuscio et al., 2004), emotional strain (Kang, 2006), and low mental quality of life (Ekwall, Sivberg, & Hallberg, 2005) among informal caregivers in general. There is also some support for the notion that social constriction mediates relationships between background factors and primary stressors and mental health and well-being. Nijboer (1998) assessed whether constriction of social activity mediated the association between caregiving tasks (18 IADL items) and depressive symptoms among spousal caregivers. The study reported that the association was completely mediated by constricted social activity.

Another set of secondary stressors that appear to be associated with informal caregivers' mental health and well-being are intra-psychic strains (including self-esteem, mastery, role captivity, loss of self, competence, and gain). Pearlin et al. (1990) defined intra-psychic strains as distinct from role strains as they involve dimensions of self-concept and psychological states. In addition, Pearlin et al. (1990) separated intra-psychic strains into two

categories: (1) global strains – viewing self-esteem and mastery as not tied to the caregiving context specifically and (2) situational strains – viewing role captivity, loss of self, competence, and gain as tied to the caregiving situation.

Caregivers' self-esteem is expected to be an important secondary stressor associated with their mental health and well-being. Indeed, high self-esteem has been found to be a predictor of higher levels of well-being among caregivers (Chappell & Reid, 2002; Crespo, López & Zarit, 2005). Several studies have also found that low self-esteem is related to symptoms of anxiety and depression among caregivers (see Aggar, 2011 for a review). In a more recent study, Chung et al. (2016) reported that low self-esteem was associated with higher levels of depressive symptoms among spousal caregivers of stroke survivors. In another recent study, those with higher self-esteem were less likely to report experiencing affiliate stigma (internalized self-stigma associated with the mental illness) among caregivers of family members with mental illness (Chang et al., 2017). There is also some evidence that caregivers' self-esteem mediates associations between primary stressors and mental health and well-being. For example, in one study, the relationships between problematic behaviours (specifically caring for an abusive parent) and depression, psychological well-being and life satisfaction were all mediated by self-esteem (Kong, 2018).

Mastery is defined as "...the control that individuals feel they are able to exercise over forces importantly affecting their lives" (Pearlin et al., 1990, p.589). Mastery has been reported to be negatively associated with the emotional distress of caregivers of family members with acute respiratory disease syndrome (Cameron et al., 2006). Mastery has also been found to be negatively associated with depression among informal caregivers in general: thus as mastery increased, depression decreased (Mausbach et al., 2012). There is

also some evidence that mastery mediates relationships between primary stressors and health outcomes. For example, Pendergrass et al. (2017) found that problematic behaviour and providing assistance with activities of daily living had direct positive impacts on depression levels but also, had indirect associations through feelings of mastery (which reduced the associations between problematic behaviour and providing assistance with activities of daily living with depression). In another study, Gaugler et al. (2009) found that mastery fully mediated the negative relationship between role captivity and health status. Lastly, Koltai, Bierman, and Schieman (2018) assessed whether the association between economic strain and mental health was mediated by mastery. They found that mastery weakened the association thereby explaining some of the impact economic strain had on mental health.

There are also some studies on the role that “self-efficacy” plays in informal caregivers’ mental health and well-being. Although Pearlin et al.’s (1990) model does not explicitly discuss self-efficacy, Bandura’s (1982) definition of self-efficacy as "...how well one can execute courses of action required to deal with prospective situations" (p.122) is similar to Pearlin et al.’s (1990) definition of mastery. Gilliam and Steffen (2006) assessed the relationship between self-efficacy and depressive symptoms among informal caregivers of care recipients with dementia, finding a direct negative relationship after controlling for primary stressors. In another study, self-efficacy was reported to be a protective factor of subjective well-being from the negative implications of primary stressors (Chappell & Dujela, 2008).

Role captivity is defined as the extent to which taking on the caregiving role is perceived as being done unwillingly or involuntarily (Pearlin et al., 1990). Alspaugh (1999) found that role captivity was associated with an increase in depression over one year among

caregivers when controlling for primary stressors. As well, Schulz et al. (2012) assessed the impact of lack of choice in providing care on emotional stress, physical strain, and health status. They reported that a lack of choice was negatively associated with all three outcomes after controlling for primary stressors and background factors. There is also some evidence that role captivity mediates relationships between primary stressors and mental health and well-being among informal caregivers. For example, one study found that care intensity (hours of daily care and providing assistance with basic and instrumental activities of daily living) and recipient problems (cognitive and behavioural) were associated with stress but mediated by role captivity among informal caregivers (Bertrand, Fredman & Saczynski, 2006).

Loss of self is defined as "...a loss of identity that comes about as a result of engulfment in the caregiving role" (Pearlin et al., 1990, p.656). In their study among Alzheimer's disease (AD) caregivers, they found that loss of self was associated with greater depressive symptoms (Skaff & Pearlin, 1992). In a later study among AD spousal caregivers, Beeson (2003) also reported that loss of self and depression were also associated. There is some evidence that loss of self mediates select relationships between primary stressors and health-related outcomes. In Adams and colleague's (2008) study, loss of self had a direct positive association with depression and also mediated the positive association between being a spousal caregiver and depression. None of the studies reviewed assessed whether loss of self was a mediator of associations between background factors and the mental health and well-being of informal caregivers.

Pearlin et al. (1990) viewed competence as caregivers' perceived adequacy of performance in the caregiving role. There is some evidence to support the notion that

caregiver competence is associated with mental health and well-being. Zanetti et al. (1998) found that among caregivers of individuals with AD, caregiver competence was negatively associated with depressive symptoms: that is, as caregiver competence increased, depressive symptoms decreased. In another study, caregiving competence also had an independent association with depression when controlling for other stress process factors including mastery (Chan et al., 2018). Informal caregivers of people with dementia reported that competence was negatively associated with psychological distress (Feast et al., 2017). Caregivers with no formal competence (no formal education in nursing care) have reported less overall competence and more psychosomatic health problems (poorer sleep and more stress symptoms) (Engstrom, Skytt, & Nilsson, 2011). None of these studies found that caregiver competence was a mediator of associations between background factors or primary stressors and the mental health and well-being of informal caregivers.

Gain measures the sense of personal growth a caregiver has as a result of providing care (Pearlin et al., 1990). Kramer (1997) defined “gain” as “...the more positive appraisals of the caregiving experience” distinct from the negative aspects implied by concepts of stress or burden (p.219). Furthermore, gain includes “...the extent to which the caregiving role is appraised to enhance an individual’s life space and be enriching” (Kramer, 1997, p.219). Gain is also viewed as having a specific reference to the caregiving role whereas well-being is independent, and potentially influenced by that role (Kramer, 1997). Despite these definitions, the majority of studies reviewed on caregiver gain have addressed gain as an outcome, including an outcome of mental health and well-being rather than as an intra-psychic strain that impacts mental health and well-being (e.g. Liew, 2010; Morano & King, 2005; Parveen, Morrison, & Robinson, 2014; Polenick et al., 2019; Polenick, Min, Kales,

2020). One exception was Talkington-Boyer and Snyder's (1994) study reporting that caregiver gain was associated with lower depression scores. Another exception was a study reporting that lower gain was associated with poorer self-rated health among Chinese caregivers of family members with Alzheimer's disease (Cheng et al., 2013). None of the studies reviewed found that caregiver gain was a mediator in the background factor or primary stressor associations with mental health and well-being.

1.4 Stress Resources

The background factors, primary and secondary stressors identified thus far have been reported to have direct associations with the mental health and well-being of informal caregivers. Additionally, there is evidence that some secondary stressors mediate the impact of background factors and primary stressors on informal caregivers' mental health and well-being outcomes, as suggested by the SPM. Pearlin et al.'s (1990) SPM also recognizes that coping and social support play important roles in as a stressor, as stress resources, linking primary and secondary stressors to various stress-related health outcomes. Other researchers have also acknowledged the importance of these stress process factors (Goode et al., 1998; Haley et al., 1987; 1996; 2003; Mausbach et al., 2012; McAuliffe, Ong, & Kinsella, 2018).

Several studies have reported that coping resources have direct associations with the mental health and well-being outcomes of informal caregivers. For example, coping effectiveness is reported to have had strong direct associations with informal caregivers' positive affect and self-reported mental health (Gottlieb & Rooney, 2004). In their study among informal caregivers to care recipients' with cancer, Gaugler et al. (2013) found that "not coping well" was strongly associated with emotional distress and negative

psychological outcomes. As well, in a longitudinal study, Pakenham (2005) found that an coping strategies improve mental health (anxiety, depression, and positive affect) and well-being (life satisfaction) over time among caregivers of family members with multiple sclerosis.

Several studies have also pointed out the relative importance of coping when also considering primary stressors. Two studies among caregivers of care recipients with depression reported that primary stressors were not significantly associated with depression outcomes but that coping was the most important predictor (Papastavroua et al., 2011; Schoenmakers, Bundix, & Delepeleire, 2009). As well, Crespo, Lopez, and Zarit (2005) found that primary stressors in general had a limited impact compared to emotion-focused coping which had significant associations with both anxiety and depression. Studies also suggest that coping plays a mediating role with regard to primary and secondary stressors. There is evidence that coping strategies mediate the relationships between caregivers' subjective overload and mental health (McLennon, 2011), negative affect and mental health (Gottlieb & Rooney, 2002), work/family conflict and mental and physical health (Sayegh & Knight, 2011), problematic behaviours, role overload and depression (Mausbach et al., 2012), and functional status and psychological distress among dementia caregivers (Lee, Kim & Kim, 2006).

The notion that informal social support has a direct association with the mental health and well-being of informal caregivers has been supported by previous research. Informal social support has been found to be negatively associated with depression of informal caregivers in general (Cannuscio et al., 2004), depression among informal caregivers of nursing home residents (Majerovitz, 2007), and depression and anxiety over time among

informal caregivers of care recipients with brain tumours (Reblin et al., 2018). Studies have also reported that informal social support plays an important role in mediating the effects of several primary and secondary stressors on mental health (Goode et al., 1998) including fully mediating the relationship between functional status and psychological distress (Lee, Kim, & Kim, 2006). There is also evidence that informal social support moderates the effects of primary and secondary stressors on resilience (Wilks & Croom, 2008), life satisfaction (Ergh et al., 2003), and depression (Aneshensel, Botticello, & Yamamoto-Mitani, 2004; Choi et al., 2016; Mengting et al., 2017; Rozario & DeRienzi, 2008; Zunzunegui et al., 1999).

Whereas the majority of studies on social support have focused on informal social support from family, friends, and neighbours, some studies have also pointed to the importance of formal social support as a stressor. Among informal caregivers providing support to a family member with schizophrenia, receipt of information from professionals and collaborative interactions with professionals have been reported to be positively associated with caregiver gain (Chen & Greenberg, 2004). One study found that multidisciplinary case management was weakly associated with a decrease in depression (Schoenmakers, Buntinx, & Delapeleire, 2009). A study among spousal dementia caregivers found that formal social support had a positive association with strain and no relationship with depression (Morris, Morris, & Britton, 1989). In a more recent study among a sample of informal adult children caregivers to older family members, instrumental social support from formal sources was associated with higher levels of psychological distress (Kikuzawa, 2016). Chong et al. (2014) assessed the impact of access to domestic helpers as a moderator of relationships between older adults' care needs and psychological distress among spousal caregivers. They found that access to domestic help did function as a moderator, with spousal

caregivers who provided personal care being more distressed if they were not assisted by domestic helpers. A study of informal caregivers of family members aged 75 and older, reported that receipt of foreign domestic workers' instrumental support mediated the negative association between both physical and memory impairment and informal caregivers' disturbed schedule and poor health (Ostbye et al., 2013). The study also reported that the negative association of behavioural problems and mood impairment on caregiver esteem were moderated by foreign domestic workers' instrumental support (Ostbye et al., 2013).

1.5 Summary

The stress process model literature suggests that there is extensive support for the notion that stress process factors are important to consider when assessing the mental health and well-being of informal caregivers. The literature generally suggests that in terms of background factors, informal caregivers who are younger, women, uncoupled/unmarried, and who have lower socio-economic status, provided care for a shorter duration of time, and have smaller and less diverse social networks are particularly vulnerable to poorer mental health and well-being. In terms of primary stressors, the review generally suggests that: informal caregivers of care recipients with more cognitive difficulties, more activities of daily living and instrumental activities of daily living dependencies, more problematic behaviours, more overload and more relational deprivation are particularly vulnerable to poorer mental health and well-being. In terms of secondary stressors such as role strains: informal caregivers who reported family conflict, work/family conflict, economic strain, and constriction of social life had poorer mental health and well-being. Additionally, family conflict, work/family conflict,

and constriction of social activities mediated some of the relationships between background factors and primary stressors and mental health and well-being. In terms of secondary stressors that includes intra-psychic strains: informal caregivers with low self-esteem, low mastery, high role captivity, loss of self, low competence, and low gain were particularly vulnerable to poorer mental health and well-being outcomes. Additionally, self-esteem, mastery, and role captivity appear to mediate some relationships between primary stressors and secondary role strains and mental health and well-being. Lastly, coping and informal social support appear to be positively associated with informal caregivers' mental health and well-being as well as mediate some of the relationships of primary and secondary stressors with these outcomes.

Although the literature provides support for the importance of considering stress process factors for an understanding of informal caregivers' mental health and well-being, the way research has approached the role of background factors such as age, gender, marital status, and socio-economic status is somewhat limited. For instance, the finding that women and younger informal caregivers report worse mental health and well-being is unable to speak to whether there are mental health or well-being disparities among informal caregivers who are older women, younger women, younger men, and older men. Likewise, the finding that low SES and unpartnered/unmarried informal caregivers report worse mental health and well-being is unable to speak to the mental health and well-being disparities between married caregivers with low SES and high SES, unpartnered/unmarried caregivers with low SES and high SES. To address this issue, the next section discusses the importance of incorporating an intersectionality framework into the stress process model in order to provide an integrated approach.

Chapter Two: Intersectionality Theory and the Stress Process

The stress process model acknowledges the importance of social structural background factors (e.g., age, gender, marital status, and socio-economic status) in influencing the stress, but it tends to view them as discrete and additive. Drawing on intersectionality theory, these social structural background factors are viewed instead as impacting informal caregivers' mental health and well-being not through separate experiences (e.g., being of old age, being a woman, being married, or having low SES) but rather, through their intersections (e.g., being "an older, low SES married woman") (Acker, 2006; Denis, 2008). Intersectionality theory views an individual's position in society within these social structures simultaneously as denoted by the concept of social location.

Intersectionality theory built on multiple jeopardy theory originally developed among feminist women of colour who argued that multiple social identities accumulate to increase disadvantage and oppression (Anthias & Yuval-Davis, 1983; Beal, 2008; Collins, 2000; King, 1988). Intersectionality theory took the notion of multiple jeopardy further, seeing each social identity (e.g., age, gender, marital status, social class) as taking shape only in relation to other categories. For example, it argued that gender is shaped by class, sexual orientation, race/ethnicity, disability, and other social locations (Shields, 2008). Crenshaw (1989) has defined it as the study of overlapping or intersecting social identities and related systems of oppression, domination, or discrimination. Additionally, Fiorenza (1992) theorized that an individual might be oppressed in some relationships and privileged in others simultaneously. Some forms of inequality seem to arise from the same conditions that

might reduce other forms, including, potentially, a conflict between reducing gender inequality and reducing inequality among women (McCall, 2001).

An intersectionality approach to social structure has been identified as a useful theoretical tool to integrate into studies on informal caregiving to avoid essentializing these aspects of social identity into discrete categories or along some predetermined hierarchical pattern (Chappell, Dujela, & Smith, 2015). Intersections are also considered to be complex and can strengthen or weaken, supplement or compete, further marginalize or neutralize each other, and do not always conform to expected negative consequences for the individual (Krekula, 2007).

Intersectionality theorists have also recognized the importance of identifying the levels of intersectionality and their interrelations as an important aspect of situating intersectionality studies. Intersectionality has been referred to as a framing approach (Anthias, 2013) and a theory (Hancock, 2007). The framing approach to intersectionality has been proposed as an alternative to both a deconstructionist approach to identity - that suggests researchers cannot begin an analysis from a social identity or set of social identities - as well as an individualisation approach - that views individuals' lives as so unique that they do not share experiences due to their social location (Anthias, 2012). Instead, according to the framing approach, social location is theorized in a dialectical way; it proposes that an analysis cannot dispense with the categories of social identity in order to do an intersectional analysis of those categories. Additionally, the approach promotes an analysis of the groupings that exist at the social imaginary, organizational, juridical and legal levels. It thereby emphasizes that intersectional analysis not solely focus on "groupings" but also the process of group constitution (Anthias, 2012). For instance, it has been argued that social

locations are constituted within the context of power relations and the state (Anthias & Yuval-Davis, 1992; Brah, 1996).

In addition to being defined as a theoretical approach, intersectionality has also been defined as an empirical paradigm (Hancock, 2007). Indeed, researchers have applied the approach to empirical research. A review of the empirical literature reveals some evidence that background factors intersect with one another in their associations with other stressors, and mental health and well-being, thereby supporting the intersectionality approach. When it comes to informal caregivers, some of the most important factors include gender, age, socio-economic status and marital status. Therefore, below, I review literature relevant to the stress process model and mental health and well-being outcomes among informal caregivers. This includes reviewing literature on the intersections of: (a) gender and age; (b) gender and socio-economic status; (c) gender and marital status; (d) age and marital status; (e) age and socio-economic status; (f) socio-economic status and marital status; and lastly (g) three-way interactions involving gender, age, socio-economic status and marital status.²

² Studies that focused on the intersections of race, ethnicity and/or immigrant status were not reviewed in depth as the proposed study focuses on the intersections among age, gender, marital status, and socio-economic status. The author is aware of primarily U.S. research on informal caregiving at the intersections of race/ethnicity and gender (Alpass et al., 2013; Cohen, Cook, & Sabik, 2016; Flippen & Tienda, 2000; Mitchell, 2014; White, Townsend, & Stephens, 2000), race, ethnicity, age and gender (Mackinnon, 2009; Zajicek et al., 2006), immigrant status, social class and race/ethnicity (Brodin, 2018; Dworzanowski-Venter, 2017), and immigrant status, social class and gender (Wong, 2014).

2.1 Gender and Age

Research is only just beginning to assess the joint implications that gender and age may have for the mental health and well-being of informal caregivers. Much of the focus to date has been on gender differences within an age group. According to Calasanti (2010), care work is gendered such that women maintain primary responsibility for unpaid domestic labor, even as they engage in paid work and this has implications in later life. For example, women face greater financial insecurity in old age evident in their higher rates of poverty and lower rates of income as well as poorer housing conditions than older men (Calasanti, 2010; Ontario Human Rights Commission, n.d.). A qualitative study of informal caregivers at the end of life found that older women were expected to provide unpaid care to their spouses whereas older men were not expected to provide such care (Williams et al., 2017).

On the other hand, some have focused on age differences within one gender. For example, King and Calasanti (2013) have argued that older men do more care work than younger men, with less recognition, and suffer the effects of declining social status that had privileged them in earlier years. Older men may also experience caregiving differently than younger men (Giesbrecht et al., 2016). However, there are indications that involvement in caregiving differs depending on both gender and age. For example, a study in the UK found that men aged 70 and older were more likely to be caregivers and provided more hours of care than women carers in the same age group – the reverse was found among carers under the age of 70, lending some support to the intersectionality of age and gender (Dahlberg, Demack, & Bamba, 2007).

To date, only two studies have assessed the impact of intersections of age and gender on mental health or well-being outcomes. In a study of informal caregivers of family

members with dementia, age was found to be negatively associated with self-esteem for both men and women (Chappell, Dujela, & Smith, 2015). A recent literature review concluded that women report higher rates of depression than men regardless of age (not exclusively among informal caregivers) (Girgus, Yang, & Ferri, 2017). Although these results provide some support for the intersectionality of age and gender when it comes to the mental health and well-being of informal caregivers, more studies addressing a broader range of mental health and well-being outcomes among non-condition specific informal caregiver samples are needed.

2.2 Gender and Socio-economic Status

Only a few studies have assessed the intersectionality of gender and socio-economic status in influencing the mental health and well-being of informal caregivers. There is some evidence to support the notion that lower socio-economic status women are more likely to be informal caregivers than higher socio-economic status women and men regardless of socio-economic status. For example, García-Calvente, Mateo-Rodríguez, and Eguiguren (2017) found that unemployed, less educated women constituted the largest group of informal caregivers. They also argued that working class women experience an elevated cost in their lives in terms of health, quality of life, access to employment and professional development, social relations, availability of time for themselves, and economic repercussions. Whether the amount of care provided varies as well is less clear. For example, Williams et al. (2003) reported finding that there was no gender difference between the amounts of care provided across income groups.

There is also some evidence that gender and socio-economic status intersect in their associations with the mental health and well-being outcomes of informal caregivers. For instance, Marks et al. (2008) found that education was negatively associated with depression among women but not men caregivers, education was positively associated with psychological well-being for both men and women, and household income was positively associated with women's well-being but not men's. As well, Chappell (2016) found that among caregivers of family members with dementia, men with low SES were particularly vulnerable to low quality of life compared to other groups at the intersection of SES and gender.

However, there is also evidence to suggest that gender and socioeconomic status may not intersect to impact the mental health and well-being of informal caregivers. In a study that did not focus exclusively on caregivers, those reporting the highest to lowest self-rated mental health were: high income men, high income women, middle income men, middle income women, low income men, and low income women (Gustafsson, San Sebastian, & Mosquera, 2016). Similarly, Ghosh et al. (2019) found that irrespective of education and employment status, women informal caregivers reported greater burden than men. Thus, studies to date have reported mixed findings for whether gender and socio-economic status intersect to impact the mental health and well-being of informal caregivers.

2.3 Gender and Marital Status

To date, no studies have assessed whether gender and marital status intersect in their associations with the mental health and well-being of informal caregivers. Previous studies have been limited to assessing how the impact of marital status on stress varies within one

gender. For instance, Litvin et al. (1995) found that married women informal caregivers were more likely to experience family conflict than non-married women. Additionally, married women had more informal social support (from husband and children) than non-married women (Litvin et al., 1995). In another study, separated or divorced and never married women informal caregivers experienced more financial strain and less socio-emotional support due than married or remarried women (Brody et al., 1995). Studies have also reported that married women had lower levels of depression than non-married (separated/divorced, widowed, and never married) women (Brody, 1992; Brody et al., 1995). Married men have also reported having more access to social support from their wives and children when compared to unmarried men (Gerstel & Gallagher, 2001).

Another group of studies have assessed how the impact of gender on stress process factors varies within one marital status group. One study reported that never married women had higher life satisfaction than never married men (Barrett, 1999). Among married informal caregivers, wives caring for husbands reported higher levels of depression than husbands caring for wives (Sigiura et al., 2009). Also, among married couples, Lin, Fee, and Wu (2012) found that wife caregivers were less likely to report positive experiences with caregiving compared to husband caregivers. More studies are certainly needed in the area in order to address whether gender and marital status intersect to impact the mental health and well-being of informal caregivers.

2.4 Age and Marital Status

To date, no studies have assessed whether age and marital status intersect in their associations with the mental health and well-being of informal caregivers. Studies to date

have been limited to looking at how relationships between marital status and mental health and well-being vary within an age group in samples not exclusively focused on informal caregivers. For example, studies have reported that older adults who are married report less loneliness and better physical health and quality of life than other marital status groups in old age (Gutiérrez-Vega et al., 2018; Peters & Liefbroer, 1997). Among younger adults (aged 22 to 26), however, marital status has been found not to be associated with life satisfaction (Uecker, 2012). One study found that among 15 to 24 year olds, the highest suicide rate was reported by widowed, followed by divorced, single and married individuals whereas among those aged 65 and older, the highest suicide rate was reported by divorced, followed by widowed, single, and married individuals (Kreitman, 1988). However, this study did not use multivariate analyses. More studies are needed in the area in order to address whether age and marital status intersect to impact the mental health and well-being of informal caregivers.

2.5 Age and Socio-economic Status

To date, no studies have assessed whether age and socio-economic status intersect in their associations with the mental health and well-being of informal caregivers. Previous studies have been limited to looking at how the relationship between socio-economic status and mental health and well-being vary within an age group. For instance, Majeed et al. (2016) reported that young informal caregivers (aged 11 to 16 years old) who belonged to the low income group were more likely to report anxiety and depressive symptoms than young caregivers from middle and high income groups. As well, another study found that older high income caregivers were less likely to experience loneliness and social isolation than older low income caregivers (Ysseldyk et al., 2019). More studies are also needed in the area in

order to address whether age and socio-economic status intersect to impact the mental health and well-being of informal caregivers including across age groups.

2.6 Socio-economic Status and Marital Status

There are also no studies to date that have assessed whether socio-economic status and marital status intersect in their associations with the mental health and well-being of informal caregivers. Studies to date have been limited to looking at how the relationship between socio-economic status and mental health and well-being vary within marital status groups. For instance, Neri et al. (2012) found that among older spousal caregivers, those with low family incomes were more likely to report depression than those with high family incomes. More research is certainly needed to address the intersectionality of SES and marital status.

2.7 Three or More Intersections

There has also been a lack of studies that have assessed whether informal caregivers' mental health and well-being are associated with the intersection of more than two social identities. A recent unpublished study found evidence that age, gender and SES intersect to impact the life satisfaction and self-rated mental health of family caregivers when controlling for primary stressors, secondary stressors, and stress mediators (Browning & Penning, 2018). The study found that younger low SES women and older low SES men were most vulnerable to poor life satisfaction and low self-rated mental health compared to other groups at the intersection of age, socio-economic status, and gender.

2.8 Summary

In summary, studies applying an intersectionality framework to the study of informal caregiving have focused on some intersections more than others (i.e., gender x age and gender x SES). A few studies have suggested that gender and age do not intersect in their association with the mental health and well-being of informal caregivers. However, at the intersection of gender and SES, there are mixed findings. There are no studies that have assessed whether marital status intersects with gender, age, or SES in their associations with the mental health and well-being of informal caregivers. This is also the case for age and socio-economic status. Therefore, this study assesses whether there is evidence to support the notion that these social location factors intersect in their associations with the mental health and well-being of informal caregivers.

It is important to recognize that explanations of the impact of social location are incomplete unless a connection is made to macro-level contexts, including the role of social policies in stratifying and shaping lives (Zimmerman, 2012). For instance, social policies may be more or less likely to reinforce whether women are the primary and sole providers of informal care and these policies may also provide differential levels of support for informal caregivers, thereby having implications for social inequalities and the stress process model. Chapter 3 introduces the welfare state and family care regime approaches as relevant when considering the role that macro-level factors have in influencing the mental health and well-being of informal caregivers.

Chapter Three: The Welfare State and Family Care Regimes

This chapter discusses the development of macro-level theoretical approaches that hold promise for improving care provision and informal caregiver outcomes. It begins with a discussion of an ‘Ethics of Care’ (EoC) approach that argues for the importance of valuing and supporting informal caregivers and the differential role that social policies can have in organizing care provision and supporting caregivers. Building on EoC theoretical arguments, ‘Welfare State Regime’ and ‘Family Care Regime’ frameworks are then introduced as approaches that can be used to assess the differing social policy contexts that have implications for informal caregivers.

3.1 An Ethics of Care Approach

Researchers have adopted a variety of theoretical approaches to caregiving that have shifted over time. Traditionally, caregiving was viewed as a “labour of love” that involved intense and important relationships within the family (Luxton, 1980). This conceptualization of care viewed caregiving as unpaid and performed in the family home. It also viewed care provision as private and natural (Luxton, 1980). According to Luxton (1980), this mode of caregiving depends on a form of labour segregation (primarily gendered) where there are two distinct and unrelated spheres: the public world of work based on economic relations and the private world of the family household based on affective relations.

Luxton (1980) critiqued this model of caregiving as misrepresenting reality, given that what women did in the home was the basis of the production of both family subsistence and labour power that underpins the public sphere of formal economic relations. As well,

dual income families do not necessarily conform to this gendered division of labour. Consequently, care conceptualized as a “labour of love” has been widely criticized for shifting the focus away from improving the working conditions and fair wages of informal caregivers. Since at least the 1970s, feminists have campaigned against the notion that care should be viewed as a voluntary “labour of love”, instead struggling for wages for housework in recognition of women’s contributions (i.e., Dalla Costa & James, 1975). Thus, in addition to the roles stress process factors and intersecting social locations play with regard to the mental health and well-being outcomes of caregivers, the EoC approach draws our attention to the degree to which informal caregiving is valued as work and the degree to which social policies support it.

The contributions of Gilligan (1982), Noddings (1984), and Tronto (1993) were important theoretical developments in the approach in at least two respects. First, they maintained that the practice of providing care has a moral value (emphasizing solidarity, community and relationships) that is just as important as paid work. Second, they put forward a notion of relational ethics as an alternative to the assumption regarding separate private/public spheres. Gilligan (1982) recognized the interdependency of human life (e.g., caregiver/care recipient, wife/husband in heterosexual relationships).

It is important to note that while EoC theorists argued for a concept of care that problematized the private/public spheres, they did not deny the importance of the affective components of caregiving. In order to understand the roles that different policy contexts have assumed towards the social organization of care and differential caregiver outcomes therein, the following sections outline some of the main components in the EoC approach: the

relationship between care and justice; independence vs. interdependence; responsibility and solidarity; commodification vs. citizenship rights; and distributive justice.

An important discussion in the literature has been over the relationship between care and justice. Hankivsky (2006) and Held (2004) have pointed out that the principles of care - sensitivity, empathy, responsiveness, and taking responsibility - serve as a point of departure from a tradition of justice emphasizing individual rights, equality and universal law. These authors have argued that approaches to justice have often been inattentive to context and relationships (Hankivsky, 2006). Moore (1999) notes that justice theorists often relegate care to the personal sphere since “as long as women were invisible to political theory, the patriarchal presuppositions of the justice tradition’s emphasis on the autonomous rational adult individual ... could be universalized” (p. 12). Instead, EoC theorists generally view care and justice as co-existing and reciprocal and do not agree with opposing care and justice in terms of private/public spheres.

If informal care provision is viewed as an equally valuable practice to other forms of work, one implication is that informal caregiving should be able to gain equal access to rights and support. Furthermore, relegating care provision to the so-called private sphere has policy implications. Reflecting on political debates about health care in the United States, Fraser and Gordon (1994) noted that conceiving of care for others as a private choice locates the problem of welfare with the individual and/or family rather than with the economic and structural conditions in which social welfare and care provision operate. Thus, from a perspective that views there to be no collective responsibility for care provision means that the state and/or community have no responsibility for providing support for informal

caregivers. It also means that such work is devalued, having wide implications for gender inequality, caregiving practice and outcomes among caregivers and care recipients.

Underpinning their critique of the private/public sphere, EoC theorists also assert the importance of taking a relational approach to care provision. Indeed, some have argued that “relationships between care providers and recipients are the real essence or heart of the health care experience” (Cloutier, Martin-Matthews, Byrne, & Wolse, 2015, p.766). EoC theorists have proposed that human beings and their interactions take place within conditions of interdependence. This position is viewed as being in stark opposition to health care policy frameworks that are underpinned by a characterization of human beings and their interactions as independent (Lloyd, 2004).

Tronto (1993) cites two examples of human interdependence: the impossibility of reaching adulthood without care from others and the elevated levels of care needed when experiencing vulnerability. The notion of “loss of self” in stress process model research also serves as an example of human interdependence. Indeed, interdependence reflects the experiences that we all have as caregivers and care receivers, along with the experience of vulnerability (Brannelly, 2016). EoC theorists tend to view vulnerability as a positive characteristic of human beings rather than as a character deficit. For instance, Kittay, Jennings, and Wasunna (2005) argue that neutralizing the burden of dependency is only part of conceiving of human dependency because the process of meeting dependency needs offers opportunities for connection and solidarity. They elaborate that “need” is not simply a lack or something that should be overcome; instead, assistance should be viewed as a resource (Kittay et al., 2005). Similarly, Caputo (2002) argues that the perception of dependence as a character-destroying condition of loss of autonomy ought to be abandoned and replaced by a

view of interdependence as a character-enhancing condition. Furthermore, according to Robinson (2011), relations and responsibilities of care are central to human life, and care is a public value that must be negotiated at a variety of levels, from the household to the international community. Approaches to how care is negotiated at a variety of levels have had consequences for who becomes responsible for care provision.

Debates over how care provision is valued often revolve around whether and to what degree individuals, families, communities, markets, and/or the state are responsible for the provision of care (Beasley & Bacchi, 2005). For instance, many countries have endorsed “community care” approaches as an alternative to institutionalized care. However, as Dalley (1983) argues, so called “community care” approaches do not emphasize social solidarity. Rather than taking a collective approach to care that emphasizes solidarity, community care has been noted to often endorse the family and community as idealized versions of all that is good and appropriate for care (Dalley, 1983). Consequently, Stoller (1993) has argued, that American caregivers are expected to exhaust their physical and emotional resources before formal in-home services become available.

Ideological assumptions about responsibility often underpin different policy approaches to care provision. For instance, Stoller (1993) has pointed out that community care can be seen as a type of care advocated by those who support fiscal conservatism and government non-intervention. Kittay (2001) has also critiqued community care models by recognizing an underlying communitarian approach that relies on individualism, volunteerism, and individual rights despite the fact that familial arrangements lock individuals into duties and obligations. Furthermore, communitarian approaches have also been identified as patriarchal and classist insofar as they increase the role of the nuclear

family and the gendered division of labour as well as insist that care provision rely heavily on individuals'/families' unequal income generated through wage labour (Kittay, 2001). Consequently, a greater reliance on "the family" is viewed as often endorsing a greater reliance on women: "programs that support the family without simultaneously seeking to alter gender relationships within it reinforce women's subordinate position" (Abel, 1986, p. 487).

An alternative approach to the community care model is the model of "social care". Tronto (1996) defined social care broadly as "the sum of practices by which we attend to/care for ourselves, others, and the natural world" (p. 147). What is important about Tronto's (1996) definition is that it emphasizes the collective level of care. Social care turns our attention to the social institutions, social rights, and collective responsibilities that organize and impact the practices of caregiving. More recently, Daly (2013) has specified that social care works at "revealing the aspects of private and public welfare, micro and macro phenomena, paid and unpaid work, formal and informal arrangements, and sets of relationships" (p.76). Hence, the strength of adopting a social care model is that it implies a multi-level institutional and policy-oriented analysis of care that is attentive to issues of relational ethics, social solidarity and social justice. Furthermore, adopting a social care approach provides a framework for the critical analysis of health and social policies that endorse individualized approaches as a "solution" to recent demographic and epidemiological changes and their implications for social and health care systems. Such an approach is important to understanding the policy contexts in which informal caregiving takes place and has the potential for improving outcomes for informal caregivers. It is also important for understanding the role of social inequalities among informal caregivers.

In recent years, one direction of care provision policy has been to increasingly commodify care by extending market relations into care provision and reducing public provision of social support (Lawson, 2007). Paradoxically, the commodification of caregiving has brought care into public view but also risks perpetuating its marginalization. The principles of market-based economies' extension into non-market areas such as care has been said to result in individualization and increased inequalities, especially gender inequalities (Caputo, 2002). According to Held (2002), childcare, education, healthcare, culture, and protecting the environment are practices in which market norms should not prevail. They argue that even if the market were fair and efficient, it is unable to express and promote many of the values and desired outcomes in these areas. For instance, Held (2002) provides examples of the intrinsic value of caregiving to provide basic necessities, personality development, and social connectedness that can be undermined with market based approaches. For example, understaffing and limited time to spend socializing with residents in long-term care homes can fail to promote their well-being. Attesting to the intrinsic value of caregiving, Healy (2008) found that caregivers operate best in a network of collective recognition and support from social policies that promote health care resources in order to generate a sufficient response to the care needs of recipients.

There have been some social policy alternatives proposed to the commodification of caregiving. For example, Hooyman and Gonyea (1999) argued that restructuring the distribution of care, work, and resources is essential to move toward a society where individuals are able to receive and to give to others the care that they need and where women experience equity with men in both their employment and care responsibilities. As well, Stoller (1993) suggested that when it comes to transformative social policy in the area of care

provision, both the short-term goals of alleviating the stress on caregivers and enhancing the quality of life of care recipients and the long-term goal of changing the structural arrangements that generate both the division of domestic labour and women's experience of obligation are necessary components.

The notion that there is equality among individuals as citizens by virtue of their humanness or national identity does not hold much weight when considering that equality in the distribution of the benefits and burdens of care still needs to be achieved (Caputo, 2002; Lloyd, 2004; 2010). Instead, Caputo (2002) argues that a social justice approach offers a democratic political and social agenda that can aid in meeting care needs and contribute to transforming the gender roles traditionally associated with care. Thereby, caregiving would be viewed as a basic set of primary goods that individuals, as citizens, can claim as rights within liberal democratic states with a more equitable distribution of benefits and burdens (Caputo, 2002).

An alternative approach to the commodification of care is that of granting care provision as a citizenship right. Tronto's (2013) concept of 'caring democracy' promotes an inclusive citizenship approach to caregiver rights that acknowledges that not all individuals are able to ascribe to an a priori universal notion of citizenship assumed in market dominant approaches to care provision. This is due in part to different labour market positions. Similarly, Brannelly (2016) has critiqued the notion of a non-inclusive citizenship as an 'ideal' as it excludes and marginalizes all groups unable to meet this ideal, including young people and people with disabilities. In their study with people who have dementia, Brannley (2016) concluded that instead of viewing "inactive" citizenship as an individual problem, it is the responsibility of society to create a space and place for people with dementia through

endorsing a democratic approach to citizenship rights. Proponents of the inclusive citizenship rights approach have often been critical of the social policies affecting care provision that are being pursued by contemporary governments. For example, in the United Kingdom, Sevenhuijsen (2000) has argued that the Labour Party's policies need to be more grounded in a view of care as a democratic practice and that democratic citizenship supposes that everybody should be guaranteed equal access to the giving and receiving of care.

The EoC approach asks us to reconsider what justice, responsibility, and citizenship are in the context of informal caregiving. Engster (2004) has argued that the quality and quantity of care capacities of individuals may be lacking because the collective caring institutions are not in place to encourage and coordinate caring activities. Consequently, Lawson (2007) has proposed that we need to focus our attention on *the social*, how it is constructed through unequal power relations, and move beyond critique toward the construction of new forms of relationships, institutions, and actions that enhance mutuality and well-being that are central to an inclusive approach to care provision. Indeed, Robinson (2011) similarly argued that caregiving “[r]elationships ... do not simply arise naturally” but rather, are “...constructed by material, discursive, and ideological conditions in a given context” (p.5). Who is available to provide care, who receives care, and the resources and capabilities available to provide care, are contingent on political factors. Additionally, norms surrounding the giving and receiving of care are related to economic and political circumstances (Kittay, Jennings, & Wasunna, 2005). Indeed, Lappalainen and Motevasel (1997) found that organizational, political and ideological relationships affect the content and quality of care provision. Hence, understanding care provision requires taking a broader perspective on care provision as relationships take place within the structures of political

economy and are thus never only about the two people directly involved in the practice of caregiving and care receiving (Yeates, 2009).

The ethics of care approach provides an understanding of the policy choices that can differentially impact informal caregivers including the character of legal rights and responsibilities, assumptions about public and private spheres, levels of financial support, and work/life balance policies. In the following sections, I discuss the welfare state regime and family care regime approaches that have been used for the cross-national comparison of such social policies. Drawing on insights from the ethics of care approach, gender regime and family care regime approaches have provided alternatives to the analysis of the welfare state that is attentive to caregiving related policies.

3.2 Welfare State Regimes

A welfare state is often defined as part of a nation state that "...modifies the impact of the market, by providing some sort of minimum guarantee (mitigating poverty); covering a range of social risks (security), and providing certain services (health care, child care, etc.)" (Andersen, 2007, p.4). Yet, they may also differ with regard to the generosity and mix of benefits and services provided. Welfare states were first introduced in Western European countries, beginning with Germany under the rule of Chancellor Otto von Bismarck with statutory health insurance (1883) and in Britain with the creation of the 'Beveridge social insurance system' (1942) near the end of World War II (Moisidou, 2007). At the end of World War II, these and other Western countries began to commit more to social policies that recognized that labour rights were critically important to ensure that the workforce had economic security (Bonoli, 2005; Esping-Andersen, 1990). After World War II, it has been

argued that all Western welfare states developed, in large part, to protect family (male) breadwinners from the consequences of losing their ability to extract an income from the labour market (Bonoli, 2005). One consequence of this was that women received marginal direct benefits from all Western post-WWII welfare states except in the event of widowhood or when a male breadwinner was not present in a household (Bonoli, 2005).

By the early 1950s, however, social security systems began to cover more groups than solely breadwinners and the benefits paid began to increase. For example, public care and services for children and older adults played an increasing role as did public support of sport, culture and leisure (Hansen & Silva, 2000). Bonoli (2005) has noted that a number of socio-economic trends transformed society so that the ability of the father to extract an income from the labor market was no longer the sole issue or even the most important one as was the case during the industrial period of capitalism in Western countries. They argue that the shift to post-industrial labour markets in Western countries is characterized by higher wage inequality and employment that does not guarantee a poverty-free existence (Bonoli, 2005). Along with labour market changes, increases in divorce, single parenthood, and women's entry into the labour force have reduced the dependence of households on the male breadwinner.

Yet, Western welfare states have taken different paths to address the new social risks beyond the risk of the market to a breadwinner's employment security (Bonoli, 2005). These new social risks included precarious employment, long-term unemployment, being working poor, single parenthood, and/or the inability to reconcile work and family life (Bonoli, 2005). Bonoli (2005) argues that Nordic countries fared much better in adapting their welfare states to the new social risks in contrast to Continental and Southern European countries that

continued with the breadwinner model, and largely failed to take into account the changing nature of social risk. The political values underlying the Nordic model are said to include equality, solidarity and universalism (Lister, 2009). More specifically, this includes a commitment to “equality of condition” and not just “equality of status”, meaning an equitable distribution of material resources to promote well-being and to enable all citizens to flourish (Lister, 2009). However, many countries in Europe and elsewhere, such as the United Kingdom and the United States, pursued monetarist policies in the 1980s that were in opposition to the approach taken to address new social risks in Nordic welfare states (Fraser, 1994).

Researchers have used a variety of approaches to understand the differences between welfare states. Alber (1995) identified four different theoretical approaches to welfare state research: (1) functionalist; (2) conflict; (3) institutionalist; and (4) configurational. First, until the 1970s, functionalism served as the leading paradigm, with researchers analysing the determinants of different social spending levels and asserting that cross-national variations were best explained by the amount of people in the population receiving benefits. Second, in the later 1970s and early 1980s, conflict approaches gained prominence, asserting that differences in the social policies of the Organization for Economic Co-operation and Development (OECD) member countries may instead be best explained by the balance of power between organized labour and liberal-conservative forces. Third, starting around the mid-1980s, institutionalist approaches became prominent, focusing on the autonomous role of state bureaucracies which were seen as having an active role in social policy formation rather than as merely reacting to social pressures. Fourth, a configurational approach became prominent that asked which of these variables (i.e., the proportion of the population receiving

benefits, the balance of power between labour and liberal-conservative forces, and the role of public institutions and their policies), explained the greatest proportion of cross-national variations.

Alber (1995) has argued that Esping-Andersen's (1990) work on "welfare state regimes" represented one of the most ambitious attempts to link specific institutional arrangements to specific political determinants as well as to their social impact. A "regime" is an array of policies that are combined and are internally consistent according to a principle (Adams & Padamsee, 2001). For Esping-Andersen (1990), the principle that determines the welfare state type is the commodification of labour power, which also defines the relationships between the state, market and family and their relative character and role in social provision. Thus, Esping-Andersen (1990) argues that welfare state regimes reflect coalitions among social classes and distinctive class-linked ideologies. Within this approach, "decommodification" is used to describe the amount of social rights available and citizens' degree of protection from market dependency (Esping-Andersen, 1990). For Esping-Andersen (1990), social rights are 'exit out of work' rights with which it has been possible to undo the commodity nature of labour power (i.e. the dependence of wage earners on the market).

Using this framework, Esping-Andersen (1990; 1993; 1999) developed a typology of welfare state regimes that included three major types: liberal (characterized by means-tested assistance and modest universal or insurance transfers, with the free market seen as the best way for distributing resources with residual state support as evident in countries such as Canada, Britain, Ireland, Australia and the United States); conservative (with state-led social policy reflecting occupational group privileges and also including a breadwinner model, such

as in Germany, Italy, France and Austria); and social democratic (emphasizing universalism and decommodification through the establishment of social rights, such as in Denmark, Sweden, The Netherlands, and Norway). Esping-Andersen (1990) operationally defined the typology by developing an index based on data that measured social welfare factors at the state level such as eligibility rules, rates of income replacement for pensions, and unemployment and sickness benefits.

Subsequent research has found some support for Esping-Andersen's (1990; 1993; 1999) typology. For example, Kammer, Niehues, and Peichl (2012) found that patterns of socio-economic outcomes among Western European welfare states generally fit the typology well with the exceptions of Belgium and The Netherlands (which they suggest are hybrid cases sharing characteristics of the social democratic and conservative types). As well, Bamba (2006) found that most countries aligned with the model but that there was evidence of a few borderline cases (such as Japan, the UK, and Ireland). However, they also noted that their analysis was limited to a decommodification index and did not directly measure the other parts of the typology (social stratification and public-private sector mix).

Despite some empirical support for the typology, a debate that has been raised is whether countries are so heterogeneous internally that typologies lead to classification errors (Berthoud & Iacovou, 2004). In line with this reasoning, Kasza (2002) has argued against the regime concept, instead suggesting that most countries practice a disjointed set of welfare policies and hence policy-specific comparisons may be more useful. Consequently, some argue that comparisons should solely focus on particular policy fields (Kasza, 2002; Seeleib-Kaiser, 1995). This approach has been identified elsewhere as historical nominalism and suggests that classifications, generalizations, and ultimately comparisons, are artificial

constructions and differences should be looked at through a fine-grained detailed case analysis (Ferragina & Seeleib-Kaiser, 2011).

In contrast, Ferragina and Seeleib-Kaiser (2011) have pointed out that Esping-Andersen's typology is indebted to Max Weber's and Emile Durkheim's works that emphasized the importance of deduction to develop sociological theory, thereby utilizing an ideal type approach as a starting point for empirical research. Ferragina and Seeleib-Kaiser (2011) contended that much of the early nominalist and technical critiques of the welfare state regime approach did not fully grasp its theoretical foundations. In turn, these authors concluded that typologies are a fundamental heuristic tool for comparison by welfare state scholars - even for those who claim that an in-depth analysis is more suited to capturing the complexity of different social policy arrangements (Ferragina & Seeleib-Kaiser, 2011).

Somewhat related to the debate over heterogeneity between countries is the critique that the welfare state regime model has underestimated the role of culture. Esping-Andersen's original work (1990) emphasized the importance of material, institutional and structural factors, especially the social class composition within countries and the capacity for working class people to mobilize. Some have argued that cultural meanings of social provision including "the intellectual and cultural elements that precede and accompany institutionalized and social-reform practices" are important as well (Steinmetz, 1993, p.41).

A topic of debate within welfare state research is whether the international economy has transformed to such an extent that it is misdirected to analyze national characteristics in a vacuum. An example of such a critique is found in the notion of "methodological nationalism" that defines approaches to the analysis of the nation state as the sole unit of analysis or a container for social processes. Indeed, Esping-Andersen (1990) viewed the

welfare state as a nationally-bounded system. Myles and Quadagno (2002) evaluated the historical development of welfare state debates over the relative importance of industrialization, economic growth, and social classes for explaining welfare state differences with contemporary claims about the role of globalization, post-industrialism and gender relations taking a prominent explanatory role. They concluded that the empirical literature supports scepticism towards the view that nations have no other choice than to adopt economic liberalism with lower taxation and less public spending. However, they also concluded that there have been several changes including: (1) the left-right composition of government matters less than the presence of corporate decision making; (2) traditional working class organizations are not as central as they once were due to changes in the class structure; and (3) new social movements are having more of an impact on welfare states than ever before (i.e., women's rights, environmentalism).

There is extensive debate over the assumptions of globalization scholars (Adams & Padamsee, 2001). Adams and Padamsee (2001) have argued that national-level factors matter and that instead, the issue is mistakingly trying to identify a policy regime with a single internal determining principle, whether it be social class or nationality. Economic globalization has had impacts on social solidarity and the development of new social risks, including exploitation and the widening of social inequalities within and between nation-states as well as creating new inequalities and social divisions (Estes & Phillipson, 2002). However, international political economy scholars have argued that we shouldn't reify the ideological assumption that economic globalization automatically precludes universalist/social democratic policies (Estes & Phillipson, 2002; Navarro, 2000). Navarro (2000) critiques the widely held belief that economic globalization inevitably leads to a

weakening of the welfare state and that internal full-employment policies are not flexible and will penalize countries as a result of pressure from international markets. Navarro (2000) has argued that even the Spanish socialist party adopted such assumptions, facilitating devastating effects with an unemployment rate increasing from 9 percent in 1982 to 22 percent in 1996. Using international data, Navarro (2000) has shown that both within and outside the EU, the degree to which countries continue to follow social democratic policies is correlated with working class forces that enable the development of fuller employment policies. Similarly, Hudson and Kühner (2009) concluded that arguments of a paradigm shift in which all welfare states have shifted to so-called “competition states” in which the state further constrains social rights in the face of an increasingly competitive global economy, are exaggerated.

Two issues often raised in welfare state research are: (1) what nation states should be included/excluded?; and (2) how do they (or don't they) fit into Esping-Andersen's (1990; 1993) typology of welfare states? Bambra (2007) has pointed out that subsequent empirical studies have raised questions about the empirical accuracy of the typology by identifying four or even five types of welfare states. For instance, some have proposed that there is a distinct “Confucian” or “Asian” type of welfare state that includes Singapore, South Korea, Taiwan, and pre-unification Hong Kong (Jones, 1990; 1993). However, others have argued that many of these countries' welfare states could be characterized as either conservative or liberal (Kodate & Timonen, 2017; Koh & Koh, 2008; Ochiai, 2009; Shang & Wu, 2011; Sung, 2003). There is also debate pertaining to how well the typology applies to Europe. Recent research lends some support to a typology with four types instead of three: liberal, conservative, social democratic and Mediterranean. Researchers arguing for the fourth type

distinguish Greece, Spain, Portugal and Italy from countries with conservative welfare states and instead, consider them as part of a Mediterranean or Southern European welfare regime (Papadopoulos, 1998; Pitruzzello, 1999). A less frequent suggestion has been to widen the group so that Mediterranean welfare states be extended to include Cyprus, Greece, Israel, Italy, Malta, Spain, Portugal and Turkey (Gal, 2010).

While some researchers contend that Mediterranean welfare states are a sub-group of conservative welfare regimes (i.e., Esping-Andersen, 1999), and others that there is too much intra-group difference among Mediterranean countries to comprise a type (i.e., Castles, 2006), there has been some evidence to support the notion that the Mediterranean welfare state is a distinct type of welfare state. The argument has been made that what characterizes the Mediterranean type as distinct from the others is that it is ‘familialistic’ similar to conservative welfare states. However, it is also considered distinct from conservative welfare states as it is characterized by very low public support for families in terms of transfers and services. In contrast, conservative welfare states do provide a greater amount of public support to families although access is granted through occupational group privileges and the male-breadwinner model (Albertini & Kohli, 2013).

Esping-Andersen and others have tended to combine Mediterranean and conservative welfare states based on the role of the Catholic Church in shaping social policies. The Catholic Church is viewed as having played a central role in shaping social insurance funds (old age pension, health, unemployment) as accessed through work performance and status. Consequently, female spouses only gained access through male breadwinners, meaning that the traditional notion of the gendered division of labour persisted. Grassman (2004) has pointed out that the essence of the conservative welfare state type lies in its blend of social

status hierarchies and familialism. In terms of social status hierarchies, occupational groups have privileged access to social benefits and thus, in the context of familialism, breadwinners have primary access to these social benefits (Grassman, 2004). Thus the Catholic Church is seen to have played a role in developing a welfare state that promotes hierarchy within the family and the economy.

Others have argued that the Catholic Church played a different role in Mediterranean welfare states. In conservative welfare states, social benefits are accessed by the male breadwinner whereas the state assumes a much more minor role in providing benefits in Mediterranean welfare states that rely more heavily on the private and voluntary sectors (including a large role of religious organizations in service provision). Indeed, Calzada and Brooks (2013) have argued that Mediterranean welfare states are characterized by a fragmented system of income maintenance with severely underdeveloped areas (basic security, family and care policies) that differentiate them from the conservative type.

There is also evidence to suggest that normative family living arrangements are quite different in Mediterranean welfare states when compared to countries exemplifying the other three types. Indeed, some studies have also found support for the existence of a North-South gradient, with Mediterranean welfare states (albeit Spain and Italy more so than Greece) having the most traditional family structures (Kohli & Albertini, 2008), the highest levels of intergenerational cohabitation and spatial proximity of family members, and greater involvement of family members in care activities than the others (Attias-Donfut, Ogg, & Wolff, 2005). As well, adult children provide personal care (e.g., with activities such as dressing, bathing, and eating) to their elders much more frequently in Mediterranean welfare states, whereas professional service providers take on a greater share of these tasks in other

welfare state types (Brandt, Haberkern, & Szydlik, 2009). Similarly, Bettio and Plantenga (2004) found that if the attention of welfare state research is shifted from the labour market to the care sector, including informal care, a different grouping of countries emerges. In particular, Mediterranean welfare states form a distinctive cluster where the management of care is delegated almost entirely to the family and voluntary sectors.

An additional factor that lends some support to the notion of a distinct Mediterranean type is the character and the degree of reliance on migrant care workers (Michel & Peng, 2012). However, it is important to note that reliance on migrant care workers is also currently increasing in other countries such as Germany, especially in accordance with the degree of privatization of the long-term care (LTC) sector (Lutz & Palenga-Möllnbeck, 2010). The private sector appears to play a greater role in LTC in Mediterranean welfare states than conservative welfare states. Bettio, Simonazzi, and Villa's (2006) review found that among Mediterranean welfare states, research has supported the notion of a transition from a 'family' to 'migrant in the family' model of care. Large numbers of immigrant (primarily women) workers (primarily from the Eastern Bloc countries) reflect a Southern European immigration pattern and a specific model of care in the Mediterranean welfare state.

Da Roit and Weicht (2013) assessed migrant care work in 12 European countries, finding that migrant care workers exist in all countries, even the Nordic ones. However, their findings also suggest that the position and character of migrant care workers varies greatly. They found that in France, Sweden, The Netherlands, and Norway, a large public sector has led to migrants predominantly being employed in the formal care sector, whereas the private sector seems to be crucial in the United Kingdom, and the family more prevalent in Austria, Germany, and the Mediterranean countries (Da Roit & Weicht, 2013). It has been suggested

that in conservative welfare states, the “migrant-in-the-family” outcome results from a combination of limited formal services, cash-for-care programs (i.e., state-funded programs providing a cash allowance for caregivers to pay informal caregivers), and an employment regime resulting in the segregation of migrants into low-skilled jobs (Da Roit & Weicht, 2013). In Mediterranean welfare states, the outcome is the result of even fewer formal services, more lenient and directed immigration policies, and in many cases, either an underground economy as opposed to cash-for-care schemes or very unregulated cash-for-care schemes (Da Roit & Weicht, 2013). For instance, in Spain, the outcome is not solely determined by the presence of uncontrolled cash-for-care schemes but rather, a low level of regulation of migration flows along with the importance of work-related migration, and the underground economy (Da Roit & Weicht, 2013).

In a later study, Da Roit and van Bochove (2017) assessed migrant care in The Netherlands, finding that the Dutch LTC system was experiencing restructuring emphasising informal care which was also pushing a migrant care market. However, this market remained small compared to countries such as Italy and Spain. In another study, Di Rosa et al. (2012) found that widespread employment of migrant care workers in Mediterranean countries was being supported by unregulated public care allowances. Degiuli (2010) assessed the reasons why families in Italy choose immigrant caregivers to provide care for their disabled aging family members. They found that they did not choose immigrant home eldercare assistants solely for economic reasons but also to be consistent with cultural, moral, and traditional understandings of family responsibilities and care. However, Daatland (2001) has also noted that familialist assumptions about the role of the family are being challenged by an increasing desire for the development of formal care services within Mediterranean welfare

states. Indeed, several studies have found that the majority of respondents in Mediterranean countries advocated for a stronger role for the welfare state in helping people cope with increasing LTC needs (Bofill-Poch, 2018; Deguili, 2010; Valarino, Meil, Rogero-Garcia, 2018). Within Italian families, Saraceno (1994) had previously referred to this phenomenon (of the family being largely responsible for care provision but desiring more public care) as a form of “ambivalent familialism”.

In summary, the ethics of care approach has played an important role in drawing our attention to the role of macro-level policies in differentially impacting informal caregivers through the rights, responsibilities, public provisions and formal supports they endorse. Countries have tended to adopt different approaches to the rights and responsibilities to provide and receive care and the levels of public provision. The welfare state regime approach holds some promise for a comparative analysis of the different social policy approaches taken by liberal, social democratic and conservative welfare states in relation to informal caregivers. Additionally, welfare state research has provided some evidence that the Mediterranean welfare state is a distinct type based on three features: (1) the underdevelopment of formal services and lack of access to equivalent benefits attached to formal employment; (2) living arrangements (e.g., intergenerational cohabitation) and family structure (e.g., intergenerational family structure as opposed to a nuclear family); and (3) the larger role of the private and voluntary sectors than of the social benefits provided by the conservative welfare states to privileged occupational groups and male breadwinners.

3.3 Gender Regimes

The welfare state regime approach has also confronted calls for the need to incorporate a gender dimension in the analysis of welfare states. Thus, Esping-Andersen's (1990, 1993) prioritization of the conflict between capital and labour (and decommodification therein) has been critiqued as ignoring other social inequalities (Adam & Padamsee, 2001). Indeed, Esping-Andersen (1990) asserted that "the class-related dimensions of regimes determine gender outcomes" (p.20). Yet, other researchers have pointed out that class-based stratification is not the only, or even a major concern for children, older adults, or caregivers, suggesting that the focus should be turned towards issues of generations, the distribution of care work, and gender relations, in addition to class and labour market disparities (Adams & Padamsee, 2001).

To address these issues, feminist researchers have developed a "gender regime" approach. It criticizes the welfare state regime approach for having a masculinist bias that ignores family and gender dimensions, including defamilialization, and leaves unpaid work, including informal care, invisible (Benoit & Hallgrimsdottir, 2011; Bettio, Simonazzi, & Villa, 2006; Guo & Gilbert, 2006; Jegermalm & Grassman, 2012). Orloff's (1993) critique of the welfare state regime approach is particularly relevant as it recognizes how the provision of welfare through families (e.g., supporting a male breadwinner model) resulted in differential effects of the decommodification of labour for women and men, as caring and domestic work have been historically assumed and practiced predominately by women. The gender regime approach has been defined as a way of acknowledging that "what counts as feminine and masculine organizes the relations among individuals, groups, organizations and other agents authorized to operate on the field of power" (Adams & Padamsee, 2001, p.2). It

is worth considering that the gender regime approach is limited to the analysis of the traditional gender binary and the role that policies have in differentially impacting men and women. Thus, analyzing the role the welfare state has had in differently impacting gender non-conforming and transgender identities is absent in the approach.

The term “defamilialization” was originally coined by Lister (1994) and was intended to be a complementary component to decommodification. This is in line with gender regime theorists also adopting Esping-Andersen’s (1990) emphasis on the notion of class coalitions underpinning regime types (O’Conner, Orloff, Shaver, 1999). This complementary dimension recognizes decommodification as a limited measure of economic independence because, it is argued that it is not dependency on the market but dependency on the family that causes problems for women under patriarchal social structures (Lister, 1994). Hence, similar to the relationship between wage labour and decommodification, defamilialization has been defined as the extent to which welfare states facilitate women’s autonomy and independence from the male breadwinner model of the family (Bambra, 2007).

The complementary nature of the concept would suggest that freedom from dependency on the market and family would bring about economic independence for working class women. In light of the welfare state and gender regime approaches, O’Connor (1993) has proposed an approach to citizenship that attempts to address class and gender inequalities. Additionally, Orloff (1993) and O’Connor (1993) have also argued that the concepts of “decommodification” and “defamilialization” be replaced by that of “personal autonomy” which they view as more encompassing of both social class and gender. An example of a welfare state that promotes a high level of personal autonomy for women has been proposed to include women’s political activity, strengthening their labour market

position, and reconciling caregiving and wage labour by upgrading the service system to meet their needs (Anttonen & Sipilä; Hernes, 1987).

In order to respond to such critiques, Esping-Andersen (1999) differentiated between familialistic and defamilialistic welfare states and assumed that informal care and housework were more prevalent in Mediterranean and conservative welfare states, more moderate in liberal welfare states, and less common in social democratic welfare states. However, the assumption of the welfare state regime approach (Esping-Andersen, 1999) that informal caregivers in social democratic welfare states, typically women, tend to be fully integrated into employment activity is not well supported. For example, Norway, whose welfare state is characterized as social democratic, has relatively low levels of women's employment, whereas France, exemplifying a conservative welfare state, has high state support for women's employment (Hoefler & Vejgaard, 2011; Pfau-Effinger, 2005a). The United Kingdom, Norway, The Netherlands, and Germany - that reflect different types of welfare state regimes - have continued to emphasize the male breadwinner model based on the premise of a fundamental separation of the public and private spheres, and correspondingly gendered spheres (Pfau-Effinger, 2005b). These studies suggest that Esping-Andersen's (1999) reduction of gender regimes to welfare state regimes is problematic and that a multi-dimensional analysis of the welfare state is required.

Gender scholars have pointed out that definitions of femininity and masculinity have a formative role in state development and administration (Adams & Padamsee, 2001). Bolzendahl and Brooks (2007) assessed women's political power on welfare state development within 12 capitalist democracies, finding evidence that women's political representation (as indicated by proportion of national legislative presence) was positively

correlated with levels of social expenditure. In a study across four liberal welfare states (Australia, Canada, the United Kingdom, and the United States), a pattern of class-related social policy was found that privileges market solutions over social provision. However, the degrees to which policies emphasized gender differences, female autonomy or dependence, the privileging of particular family arrangements (i.e., male breadwinner vs. dual carer-worker model), and political regulation of biological reproduction varied considerably across these liberal welfare states (O'Connor, Shaver, & Orloff 1999). Indeed, even in liberal and social democratic welfare states concerned with equity, “the welfare state is largely produced and consumed by women, though typically under the control of, and in the interests of, men” (Pierson, 1998, p.67).

Historians Koven and Michel (1990) assessed the origins of welfare states in France, Germany, the UK and the US from 1880-1920. They noted the connection between the emergence of welfare state programs, including maternal and child welfare, and the success of women’s social movements in all four countries. Reiterating the issue of gender disparities among social democratic welfare states, Borchorst and Siim (2002) have noted that social democratic welfare states were unevenly receptive to women’s social movements. The diverse approaches to family policy taken up by countries have been influenced by the historical participation and resistance of women in influencing the development of “state feminism” (Hernes, 1987). Hernes (1987), Fraser (1994), and Orloff (1993) have argued that the degree to which countries have adopted a breadwinner or universal caregiver model (wherein the gender opposition between breadwinner/caregiver is eliminated in favour of a model where everyone is both a worker and carer) is the result of the combined impact of a broad political mobilization of women from below (social movements) and the

institutionalization of gender equality from above (legislation). Hernes (1987) defines “women-friendly states” as those that “would not force harder choices on women than on men, or permit unjust treatment on the basis of sex” (p.15). Thus, the model endorses social policies that include income security systems to ensure people can take time to care equitably regardless of gender, have access to care services, and are not negatively or inequitably impacted by work leaves. Orloff (1993) notes that the dependence of so many women on men’s employment in the absence of a reliable safety net, or supports for caregiving, points to possible avenues for the development of more successful feminist policy alternatives. Pascall and Lewis (2004) concluded that an inclusive citizenship model such as a dual earner–dual carer model would create a policy environment encouraging gender equality in paid work, care work, income, and access to social support for care and for work.

The relative incorporation of a universal caregiver model in the social policies of welfare states varies greatly and has been found to have several implications for the well-being of caregivers. For instance, research suggests that gender differences in care provision are greater in conservative welfare states that adopt a male breadwinner model. Morel (2007) examined policy reforms across conservative welfare states (i.e., France, Germany, Belgium and The Netherlands), finding that although conservative welfare state social policies have aimed at raising women’s employment, care policies have not attempted to modify the traditional gendered division of labour in the household and in the family. Consequently, these policies have resulted in low-income women being encouraged to make use of long, low-paid parental leave schemes or to withdraw from the labour market whereas higher income women use private forms of childcare. Similarly, Geist (2005) assessed the division of household labour across 10 countries (Australia, Austria, Canada, Great Britain, Italy,

Japan, Norway, New Zealand, Sweden, United States), finding that equal sharing of housework among both partners (women and men) is rare in conservative welfare states, regardless of their relative resources, time availability, and personal gender ideology. Their study suggests that the division of household labour is not only negotiated by two partners, but also shaped by contextual factors. In another study, Boje (2007) assessed the varying patterns of women's employment associated with the gendered division of paid work, unpaid work, and care work obligations across Denmark, The Netherlands, Sweden and the United Kingdom. They found that the relationship between the three work spheres was gendered in all four countries: men's employment allowed for more flexibility to balance work and family obligations, more secure positions, more involvement in unpaid voluntary activities other than care work, more integration in the society, a higher level of civic participation, and less likelihood of providing informal unpaid care. They also found that these patterns vary across the countries. In Denmark and Sweden, the rates of employment for women were higher and the majority were working full-time along with more generous parental leave and full-day public day care.

Research has continued to find evidence that social democratic welfare states incorporate a universal caregiver model into their social policies to a greater extent than do other welfare state types. Cho (2014) assessed defamilialization levels (in terms of the gender employment gap, gender wage gap, father-specific leave, spending on childcare, and spending on long term care) across several countries. They found evidence for four types of defamilialization: weak (Greece, Italy, Japan and Spain), limited (Australia, Belgium, and Germany), moderate (Australia, Finland, France, Ireland, Netherlands, New Zealand, Portugal, Switzerland, the United Kingdom and the United States), and strong (Denmark,

Sweden and Norway). In another study, Bonke and Koch-Weser (2004) examined the gendered allocation of time use patterns from a welfare state perspective among working age populations in Sweden, Denmark, France, and Italy and found that in Italy and France (a Mediterranean and a conservative welfare state), women's time allocated to family obligations was higher than in the social democratic welfare states (Denmark and Sweden). The authors concluded that this contributed to women's working-life and family-life dilemma (Bonke & Koch-Weser, 2004). Indeed, Kotsadam's (2011) study assessing working women's employment outcomes from 1994-2001 in European countries, found that the negative association of informal caregiving with women's employment was stronger in Southern European countries, weakest in Nordic countries, and in-between in central European countries. As well, in a later study, Kotsadam (2012) found that being an informal caregiver in Norway entails substantially less cost in terms of forgone formal employment opportunities than in non-Nordic welfare states.

There is also evidence that gender inequalities in preferences regarding caregiving responsibility vary across welfare states. Mair et al. (2016) investigated whether there is a gender gap in preferences for family-based or state-based support for older adults across 20 European countries. They found that overall, women are less likely to agree that adult children have a duty to provide care, more likely to agree that government should have a responsibility to provide care, and more likely to prefer that government pay for care instead of the family or the individual when compared to men. However, they also found that this varies cross-nationally, with women's preference for family-based care greater, and slightly closer to men's, in countries with welfare states with less developed formal services (Mair et al., 2016).

In general, these studies suggest that gender inequalities in care provision and employment are more prevalent in welfare states that adopt family policies more in line with the traditional breadwinner model. Empirical studies present a picture that welfare states that are closer to supporting the universal caregiver model have better outcomes for women and informal caregivers. However, the model has been noted to have its limitations in terms of gender equality. Lister (2009) contends that even in Nordic welfare states with a commitment to defamilialization, power and influence are not divided equally between women and men, they do not in practice share the same rights, obligations, and opportunities, and the aspiration to gender equality does not translate into a society that is free of gender-related violence. Additionally, they argue that minority ethnic and immigrant women have not been incorporated into the Nordic model of gender-inclusive citizenship (Lister, 2009). Lister (2009) presents a critical analysis of the optimism that Nordic states have achieved the title of “women-friendly states” noting that we should take seriously how much work still needs to be done to transform even the relatively progressive Nordic states so that they are able to meet the goals of universal social citizenship and gender equality therein.

3.4 Family Care Regimes

Thus far, the importance of including a gender dimension in the analysis of welfare states for understanding the different contexts within which informal caregiving occurs has been discussed. Although gender regime theorists have pointed out the importance of defamilialization and the role of the universal caregiver model and the male breadwinner model in differentially affecting informal caregivers, the approach does not provide an in-depth analysis of social care services. Yet, Pascall and Lewis (2004) argue that researchers

need to consider family care regimes even in the most “women-friendly” welfare states. This means the inclusion of the different aspects of caring into a broader concept of social citizenship, by recognising unpaid work and care equally to paid work.

A more recently developed framework for studying the welfare state than conventional welfare regime approaches and the gender regime approach is the family care regime approach. Family care regime scholars have examined how diverse care arrangements are associated with different expectations and outcomes in terms of gender inequalities (Lutz & Palenga-Möllnbeck, 2010; Pfau-Effinger, 1998). Kilkey, Lutz and Palenga-Möllnbeck (2010) have noted that the approach developed out of feminist critiques of welfare regime approaches, turning our attention to the gendered division of labour and later “models of care”, “care regimes” and “care cultures” (Anttonen & Sipilä, 1996; Lister et al., 2007; Pfau-Effinger, 2005b).

A general definition of the concept of “family care regime” is the way in which “a complex web of institutional, regulatory, political and cultural factors manifest in the ways in which the financing and provision of care are organised” (Simonazzi, 2009, p.216). The origins of the family care regime approach are often attributed to the work of Anttonen and Sipilä (1996). They argued that social care services ought to be incorporated into the welfare state debate as they represent an expanding component of the welfare state that are important for women, older adults, children, and caregivers’ well-being (Anttonen & Sipilä, 1996). Expanding on critiques noted by the gender regime approach, they argue that the dependence on social class as the foundation for the definition of social rights and citizenship in the development and organization of the welfare state is limited. Anttonen and Sipilä (1996) defined social rights as including those that make women less dependent on the family as

well as those that provide social care services for children and older adults. Similarly, Albertini and Kohli (2013) have noted that family care regime approaches are mostly concerned with the institutions of family allowances, parental leave, and social care services (especially childcare and long-term care for older adults). Anttonen and Sipilä's (1996) study concluded that social care services are an essential component of comparative social policy research and that incorporating them into analyses improves our understanding of the implications the welfare state has for informal caregivers' and care recipients.

In their work, Anttonen and Sipilä (1996) created a typology of care regimes by distinguishing between state and family responsibility and by using eligibility criteria and the level of state support as policy dimensions. Through cross-national comparison, they found that the intensity of state support and the emphasis on family over professional care services were key characteristics of between country differences. For instance, they found that Sweden was characterized by universal public support and more comprehensive professional services; Germany was characterized by less public support and unregulated cash-for-care benefits, with affordable but limited professional care services; and Italy was characterized by universal and unregulated cash payments and limited professional services based on means testing with live-in migrant care workers in the family context as the leading pillar of care services.

The welfare state specifically impacts older people and informal caregivers through financing and support schemes that determine whether, how and with whom the care of older adults is shared (Bertogg & Strauss, 2018). In recent years, welfare states have taken a variety of approaches to care organization, ranging from according it formal social rights (Doulia rights) and public compensation to the familialization and commodification of care

(Theobald, 2011). Indeed, studies have also shown that Doulia rights – the “social responsibility to care for the caregiver” - vary across welfare states (Kittay, 2001, p. 533).

Typically, the way caregiving has been treated by welfare state policies has been through a capitalist framework strengthening the role of economic principles and of “consumer choice” by introducing or strengthening care markets and cash-for-care systems (Bode, 2007; Da Roit & Le Bihan, 2010; Rummery, 2009; Theobald, 2011, Ungerson & Yeandle, 2006; Vabø, 2006). Cash-for-care (CFC) systems provide public provision, in the form of a monetary payment to dependent older adults to purchase care or directly to designated caregivers themselves. Previously, welfare states constructed social rights as attached to formal employment whereas the development of LTC policy has recognized care with pay and the right to provide care (Frericks, Jensen, & Pfau-Effinger, 2014).

The main characteristics of the family care regime approach are: “the degree of family members' legal rights in their care work with regard to the amount of pay, conditions on the eligibility for pay, protection against dismissal, and the level of social security rights with respect to unemployment, pensions, and sickness provisions” (Frericks, Jensen, & Pfau-Effinger, 2014, p.67). Frericks and colleagues’ (2014) research led to the development of a typology identifying three types of family care regimes: informal, semi-formal, and formal.

Informal family care regimes promote care work by family members that is provided on an informal basis and that is not defined as work but instead, is based on the institutional regulation principle of family solidarity. Pay is not offered for care; instead, the regime upholds a division of labour between the homemaker (often female) and breadwinner (often male), social security is derived from the employment of the husband, and neither

employment rights nor social rights are connected with the informal care work provided for family members.

Semi-formal family care regimes, in contrast, treat care that is provided by family members as a kind of work, with the care recipient designating a family member as carer who is thereby publicly paid. In these regimes, care work is framed as contract work, meaning that pay is not based on standards of formalized employment and minimum income legislation. Semi-formal care regimes often assume that women act as caring family members, and that their subsistence and social security is at least in part financed by the income of a male breadwinner. Semi-formal care regimes often endorse CFC schemes.

Lastly, *formal family care regimes* are regimes where welfare state institutions offer family members the possibility to provide care for other family members through a formal employment relationship, based on a contract with a public employer. The rate of pay is specific to the skills involved in providing care, and care providers have rights to the level of pay, social security and protections of the workplace standards of a normal employment relationship outlined by the country's labour standards.

There is evidence that family care regime type impacts social care service availability and use. There is variation in regards to availability and access to publicly funded social care services. Regarding the availability of social care services, Haberkern and Szydlik (2010) found that intergenerational care depended on the need for care, the adult child's resources and opportunities to care, family structure, formal care arrangements, and cultural norms. At the extremes, they found that countries with excessive filial obligations accompanied by minimal social care infrastructures had a high prevalence of informal intergenerational care. However, in Nordic countries with more developed state-funded care services and minor

obligations to provide care, intergenerational care was less frequent. Similarly, Theobald and Luppi (2018) compared long-term care policies in Sweden, Germany and Italy and found that the three countries differed substantially in the amount of state support for care and the relative dominance of family care or professional services.

Family care regimes have also been found to be associated with social care service use. Lamura et al. (2008) assessed informal caregivers' use of support services in Germany, Greece, Italy, Poland, Sweden, and the UK. They found that service utilization was considerably higher in Germany, Sweden, and the UK than in Poland, Greece and Italy. Although there is evidence that family care regimes type is associated with the accessibility and usage of formal social care services, it does not necessarily imply that this is a trade-off with informal care provided. For example, Daatland and Herlofson (2003) assessed the role of family care regimes in long-term care in Norway, England, Germany, Spain and Israel. They found that family support was greatest in Spain and lowest in Israel but still substantial in Norway, England and Germany. In greater service-based systems, older parents receive less medically-demanding and time-consuming care but receive more support with organisational tasks and housekeeping (Brandt, Haberkern & Szydlik, 2009). In fact, Motel-Klingebiel, Tesch-Roemer, and von Kondratowitz (2005) assessed the role of family and public support for long-term care in Norway, England, Germany, Spain and Israel. They reported that the total quantity of care (informal and formal) received by older people was greater in counties with a strong infrastructure of formal services. Conversely, Suanet, Brose van Groenou, and van Tilburg (2012) found that in countries with fewer home-based services, less residential care, more informal care support and women working full-time, older adults were more likely to receive informal care only.

There is also some evidence to support the case that stress process factors vary across countries in a way that appears consistent with their welfare state and family care regime characteristics. In terms of primary stressors, for example, one study found that 11.4 per cent of the variance in subjective overload was accounted for by between-country differences evident among 14 European countries (Schneider et al., 1999). They found that the lowest levels of subjective overload were reported in Ireland, Denmark and Belgium, whereas the highest were reported in France, Portugal and Greece. These findings are consistent with what would be expected from a welfare state regime approach as those residing in social democratic and liberal welfare states reported less subjective overload than those residing in conservative and Mediterranean welfare states. There is also some evidence that the relationship between objective and subjective overload varies across countries among caregivers of those with dementia. Konerding et al. (2018) found that caregivers who spent less time doing non-caregiving activities reported less overload in England, more overload in Greece, with no significant difference evident in Finland.

Family care regimes may also function to reduce, or consolidate and reproduce, gender and other social inequalities in employment (Frericks et al., 2014). For instance, different family care regimes have been found to have implications for income, pension and social insurance gaps, and ultimately can contribute to sustaining or increasing inequalities in older age (Frericks et al., 2014). Blackman (2000) assessed long-term care in Ireland, Italy, Greece, Denmark, Norway, and England. They found that the different levels of provision available through social care services were predictive of social inequalities within and between countries. Principi et al. (2014) examined work restrictions (i.e., reduction of working hours, giving up working, difficulties in career development, and forced occasional

work) of midlife informal caregivers of older people in Germany, Greece, Italy, Poland, Sweden, and the United Kingdom. They found that work restrictions were greater in the United Kingdom, Germany and Greece, less so in Italy, and seldom evident in Poland and Sweden. Naldini, Pavolini and Solera (2014) assessed whether caring for an older family member impacts mid-life women's employment across 21 European countries. They reported that for women living in Scandinavian countries, beginning caregiving for older persons rarely resulted in changes to their labour market participation. In contrast, in Southern and Eastern European countries, mid-life women's employment was negatively impacted to a greater extent. For example, one study found that gender and social class disparities in informal care provision to older adults were much larger in France than in Sweden (Jönsson et al., 2011). This study suggests that the association of social location (gender and social class) with caregiving hours in a conservative formal care regime may be stronger than in a social democratic semi-formal care regime.

Lastly, there is evidence to support the notion that informal caregivers' mental health and well-being varies across welfare state/family care regimes. Verbakel (2014) found that informal caregivers had lower levels of well-being (happiness) than non-caregivers but that this relationship varied across 18 European countries. Caregivers in social democratic (Norway and Denmark) care regimes reported the highest levels of happiness and those in Mediterranean and conservative (Spain and Germany) care regimes reported the lowest. In another study, across 12 European countries, poor self-reported health status was directly associated with residing in predominantly conservative and Mediterranean (Austria, Germany, Spain, France, Belgium and the Czech Republic) care regimes compared to

predominantly social democratic (Sweden, Netherlands, Denmark, Switzerland, Luxembourg, and Slovenia) care regimes (Calvo-Perxas et al., 2018).

There is also some evidence to support the notion that the relationship between family care regime and informal caregivers' mental health and well-being is mediated by stress process and social location factors. One study found that the negative impact of living in an informal care regime compared to a formal care regime on health was mediated by training and other types of support (included unpaid leave, flexible work arrangements, training/education, respite care, and counselling) (Calvo-Perxas et al., 2018). There is also some support for the notion that the associations of social location factors with informal caregivers' mental health and well-being vary by regime type. For example, a recent study found that middle-aged daughter caregivers reported higher depression levels in Mediterranean semi-formal care regimes compared to Central and Northern European care regimes as a group (Brenna & Di Novi, 2016). Lastly, Arnsberger, Lynch and Li (2012) assessed the joint impact of gender and socio-economic status on self-reported health among informal caregivers in the United Kingdom as well as China and the United States. Informal caregivers in the UK, a semi-formal liberal care regime, had better self-reported health than those in the United States (an informal liberal care regime) and China.³

To summarize, the literature on family care regimes points to the importance of formal social care services for understanding social inequalities among informal caregivers. The literature on welfare state approaches has provided support for arguments that welfare

³ As per my brief review on "Asian/Confucian welfare states" there is some debate over what type of a welfare state China has. Additionally, I did not review literature on the family care regime characteristics of China's welfare state.

state research ought to include a family care regime approach to understand the implications for informal caregivers as well as the social inequality implications.

3.5 An Integrated Model of Welfare State/Family Care Regimes

The preceding discussion points to the need for an integrated approach to welfare state regime analysis that incorporates the insights of welfare state regime and family care regime approaches. Studies have shown that defamilialization levels, the implementation of the universal caregiver model, and family care regime components sometimes vary across and within welfare state regime types. Additionally, further developments in welfare state research point to the need for welfare state regime analysis to consider the Mediterranean model as a distinct type. Accordingly, this study proposes to compare countries using a typology that identifies twelve ideal types of welfare state/family care regimes: (1) formal social democratic care regimes; (2) semi-formal social democratic care regimes; (3) informal social democratic care regimes; (4) formal conservative care regimes; (5) semi-formal conservative care regimes; (6) informal conservative care regimes; (7) formal Mediterranean care regimes; (8) semi-formal Mediterranean care regimes; (9) informal Mediterranean care regimes; (10) formal liberal care regimes; (11) semi-formal liberal care regimes; and (12) informal liberal care regimes (Figure 2).

Figure 2: An Integrated Typology of Welfare State and Family Care Regimes

Welfare State	Formal Care Regime	Semi-Formal Care Regime	Informal Care Regime
Social Democratic	Denmark	Sweden Norway Netherlands	
Conservative	France	Germany Austria	
Mediterranean		Spain Italy	Greece Portugal
Liberal		United Kingdom (Britain, Scotland, Wales) Ireland	

Countries that represent a *formal social democratic care regime* are characterized by a welfare state that includes a high level of decommodification, comprehensive social rights, and low social stratification. They also include a formal care regime that provides Doulia rights (i.e., employment protections for informal caregivers) and compensation for care such as wage replacement for informal caregivers or comprehensive direct formal care services. Currently, the only European country that could be categorized as having a *formal social democratic care regime* is Denmark. Rauch (2007) compared three social democratic welfare states in terms of their social policies, social welfare systems, and social services. They found that, at the time the data were collected, Denmark complied most with the ideal type of a universalist welfare state, whereas Norway and Sweden deviated significantly as neither were universalistic or defamilializing of childcare and old age care services. A study that compared the formal care regime of Denmark to the informal care regime of Germany (discussed below) found that since care is formalized in Denmark, family members providing care have rights to social security and job protection as in any standard employment relationship (Pfau-Effinger, Och, & Jensen, 2011). The authors concluded that although there is tension caused for people who decide to take over the daily care of a family member in

both regime types, the formal social democratic care regime (Denmark) produces much less risk to caregiver well-being compared to the conservative informal care regime (Germany) (Pfau-Effinger, Och, & Jensen 2011).

Countries that can be said to represent a *semi-formal social democratic care regime* are characterized by a welfare state that includes a high level of decommodification, comprehensive social rights, and low social stratification. They also include a semi-formal care regime that provides minimal Doulia rights often limited to compensation for care in the form of a relatively small financial support compared to formal care regimes. This could include providing care recipients or designated family caregivers with a direct payment to purchase or provide care. Examples include Sweden, Norway and the Netherlands.

The Swedish welfare state continues to have lower levels of social stratification and higher levels of public expenditure when compared to liberal and conservative welfare states (Wulfgramm, Bieber, & Liebfried, 2016). As well, Sweden's post-World War II program, entitled *Home Help*, provided home care services funded by taxes and provided on the basis of citizenship rights (Morel, 2007). However, Sweden has since transformed its formerly universal LTC system into a highly selective and partially familialistic one (Rauch, 2007).

In the early 1990s, economic stagnation in the country led policy makers to endorse large cuts to public spending and benefits, including *Home Help* under a conservative led coalition, and these policies continued under social democratic governments (Bergmark, Thorslund, & Lindberg, 2000). The 1992 *Community Care Reform* bill (Ädel reform) outlined that the state has primary responsibility for meeting old age care needs, but if families want to care for their own members, they should receive the best possible support from municipalities (Johansson, Long & Parker, 2011). Community Care Reform has been

recognized as leading to difficulties for municipalities that resulted in more restrictive access and cuts in the number of formal care services available (Johansson et al., 2011). Jegermalm and Grassman (2012) found that since the late 1990s there has been a dramatic increase in the extent of informal help, concluding that recent changes in Sweden reflect “re-familialization”. Davey, Malmberg, and Sundström (2014) found that public spending on *Home Help* stagnated in the 1980s and then declined in the 1990s but as of 2011, levelled off to early 1990s levels. There has also been an increase in private care services as well as an increase in care by voluntary organizations (Dahlberg, 2005; 2006; Johansson et al., 2011). Lastly, over the period from 2008-2016, Sweden introduced a cash-for-care benefit called the *Attendance Allowance*, consisting of a flat-rate monthly sum (of €487) paid by municipalities to persons with severe disabilities to cover the costs of personal assistance. However, this policy has recently ended (Giuliani & Duvander, 2016).

The welfare state in Norway provides more generous welfare benefits and high levels of service provision compared to liberal and conservative welfare states (Hansen & Lorentzen, 2018). Recent welfare state reforms have also made attempts to improve accessibility to social services for vulnerable groups (Hansen & Lorentzen, 2018). However, similar to Sweden, during economic downturns public policy in Norway has put an increasing emphasis on the voluntary sector to provide services instead of the welfare state (Loga, 2018). Additionally, there is evidence to suggest that the number of people in stable employment in Norway has been decreasing over the 1994-2014 period (Hansen & Lorentzen, 2018). With regards to Norway’s family care regime, informal caregivers have been found to better balance formal employment with informal care than in other welfare state types (Kotsadam, 2012). Norwegian law outlines that the state has legal responsibility

to guarantee care in the community for older people regardless of their level of need (Sundström et al., 2008). However, Norwegian family members who are employed as informal caregivers receive wages that are quite minimal (Sundström et al., 2007).

Furthermore, informal caregivers and care recipients do not have rights to such allowances and instead, this is left to the discretion of municipalities (Sundström et al., 2008).

Norwegian caregivers can receive the *Care Wage* which is a direct monthly payment (with an average of kr. 4600 a month - not enough to cover the cost of rent) to informal caregivers based on care recipient needs (BCLI, 2010).

Lastly, The Netherlands continues to have lower social stratification and higher public expenditure when compared to European liberal welfare states but only some conservative welfare states (OECD, 2017). The Netherlands is typically viewed as a social democratic welfare state (Esping-Andersen, 1993; 1999; Van Kersbergen & Becker, 1988). In 1991, the Netherlands introduced the *Personal Care Allowance* scheme that was extended in 1995 to become part of the national LTC insurance scheme (Pijl & Ramakers, 2007). Long-term care in the Netherlands provides the choice of cash for care services or formal home care services (OECD, 2013). The personal care allowance is set at a lower amount than the amount provided when formal care is chosen (OECD, 2013). Based on the number of hours of the specific care needed, a corresponding number of hours of formal service or a monetary sum based on a yearly budget with a cap of €11,500 in 2005 is provided (Da Roit & Le Bihan, 2010). This level of financial support appears to be quite a bit lower than that provided to informal caregivers in Denmark who received about €2,200 a month in 2007 (European Network of Economic Policy Research Institutes, 2010). Arksey and Morée (2008) assessed caregivers' Doulia rights in both England and The Netherlands. They found that both have a

limited commitment to such rights, and neither have entitlements to help reconcile work and caregiving. Both have rights to a care assessment, but carers risk dependence on care recipients for income. This suggests that despite representing different welfare state regime characteristics (liberal and social democratic), they represent similar semi-formal care regime characteristics.

Countries that can be said to represent a *informal social democratic care regime* are characterized by a welfare state that includes high levels of de commodification, comprehensive social rights, and low social stratification along with no Doulia rights and very limited (in the form of yearly tax credits) or no financial support for informal caregivers. To my knowledge, there are no countries in Europe or elsewhere that represent an informal social democratic care regime.

Countries that represent a *formal conservative care regime* are characterized by a welfare state that includes a low level of de commodification, rights based on occupational group membership, and greater social stratification than social democratic and liberal welfare states. They also include a formal care regime that provides Doulia rights (i.e., employment protections for informal caregivers) and compensation for care such as wage replacement for informal caregivers or comprehensive direct formal care services. They tend to assume the natural role of caregivers (often women) and often emphasise the importance of the family for the provision of care. The only European country that can be said to represent a *formal conservative care regime* is France. In 1997, the *Prestation Spécifique Dépendance* (PSD) was introduced, that was replaced in 2002 by the *Allocation Personnalisée à l'Autonomie* (APA). The latter is a payment made directly to older people enabling them to purchase their own care directly, either from a professional or a relative (but not from a spouse). If a

relative is providing care they must receive assistance from a third party (European Commission, n.d.). The monthly amount provided is €1,121.92 (European Commission, n.d.). It is most commonly used to purchase services from formal, not-for-profit care organizations, rather than directly employing individuals. Although services are not provided directly as in Denmark, the rate and conditions of the payment are seen as relatively good at protecting the employment rights of caregivers but also, as continuing to reinforce gendered divisions of low-paid formal and informal labour (Le Bihan & Martin, 2010).

Countries that represent a *semi-formal conservative care regime* are characterized by a welfare state that includes low levels of decommodification, rights based on occupational group membership, and greater social stratification than social democratic and liberal welfare states. They also include a semi-formal care regime that provides minimal Doulia rights often limited to compensation for care in the form of a relatively small financial support compared to formal care regimes. They tend to assume the natural role of caregivers (often women) and often emphasise the importance of the family for the provision of care. Countries that can be said to represent a *semi-formal conservative care regime* include Germany and Austria.

In the case of Germany, up until 1995, older people were taken care of by unpaid informal care providers with a minor role played by formal professionals and formal care settings indicative of an informal care regime (Eichler & Pfau-Effinger, 2009). In 1995, the *Long-Term Care Insurance Act (LTCIA)* somewhat formalized the care system with the government providing financial assistance to care recipients depending on both the level of need for care and on household employment contributions and income assessments. However, these cash payments fell far below the hourly rate required in standard employment relationships indicative of semi-formal care regimes (Eichler & Pfau-Effinger,

2009). This resulted in the introduction of care markets and consumer choice in Germany as individuals could choose to pay family members or non-family members to provide care, thereby shifting responsibility for care from families to the market (Eicher & Pfau-Effinger, 2009). Despite the emphasis of the LTCIA on the market, family members overwhelmingly continue to provide care with no decrease in levels of family care evident since its introduction (Eicher & Pfau-Effinger, 2009).

In the case of Austria, the LTC allowance *Pflegegeld*, a tax-financed, non-means-tested benefit, is paid directly to the disabled or older person (Österle, 2001). The allowance is generally used to purchase care from the market. Austrians have tended to use the fund for informal care or migrant labour, reinforcing traditions of low-paid migrant women with very little employment protection while also reinforcing gendered divisions of labour (Österle, 2001; Österle & Bauer, 2012).

Countries that represent an *informal conservative care regime* are characterized by a welfare state that includes low levels of de-commodification, rights based on occupational group membership, and greater social stratification than social democratic and liberal welfare states. They also include no Doulia rights and very limited (in the form of yearly tax credits) or no financial support for informal caregivers. They tend to assume the natural role of caregivers (often women) and often emphasise the importance of the family for the provision of care. To my knowledge, there are no countries in Europe that represent an *informal conservative care regime* as they have transitioned to semi-formal care regimes (Frericks, Jensen, & Pfau-Effinger, 2014).

Countries that represent a *formal Mediterranean care regime* are characterized by a welfare state that includes low levels of de-commodification and greater social stratification

than social democratic and liberal welfare states similar to conservative welfare states. However, the rights available in Mediterranean welfare states are much less developed as there is a lack of social benefits and services available compared to conservative welfare states. *Formal Mediterranean care regimes* also include a formal care regime that provides Doulia rights (i.e., employment protections for informal caregivers) and compensation for care such as wage replacement for informal caregivers or comprehensive direct formal care services. To my knowledge, there are no countries in Europe that currently represent a formal Mediterranean care regime.

Countries that represent a *semi-formal Mediterranean care regime* are characterized by a welfare state that includes low levels of decommodification and greater social stratification than social democratic and liberal welfare states. However, the rights available in Mediterranean welfare states are much less developed as there is a lack of social benefits and services available compared to conservative welfare states. *Semi-formal Mediterranean care regimes* include a semi-formal care regime that provides minimal Doulia rights often limited to compensation for care in the form of a relatively small financial support compared to formal care regimes. Countries characterized as *semi-formal Mediterranean care regimes* include Italy and Spain.

In the case of Italy, The *Indennità di Accompagnamento* is a non-means-tested benefit that provides direct payments to dependent older adults to privately employ caregivers. Often a home eldercare assistant, known as a *badante*, is employed, who is a subcontracted migrant (female) worker from another country (such as Nigeria, Peru, Romania, Philippines, Albania, Poland, Bulgaria, Chechnya or Moldavia - Degiuli, 2010; Di Rosa et al., 2012). The main form of support available to informal caregivers in Spain is the *In-Home Help Service*

(HHS), designed to meet the needs of dependent older adults. The HHS is the only publicly provided and funded in-home service available in the Spanish public network of general social services to provide respite for informal caregivers of dependent older adults offering services that do not usually exceed five hours per day on one to two days per week (Garcés et al., 2010). Since 2006, the *Personal Autonomy and Dependent Care* law came into effect, which has promoted cash-for care benefits to family members in Spain (Gomez & Barbadillo, 2015).

Countries that represent an *informal Mediterranean care regime* are characterized by a welfare state that includes low levels of decommodification and greater social stratification than social democratic and liberal welfare states. However, the rights available in Mediterranean welfare states are much less developed as there is a lack of social benefits and services available compared to conservative welfare states. They also include no Doulia rights and very limited (in the form of yearly tax credits) or no financial support for informal caregivers. Countries characterized as informal Mediterranean care regimes include Greece and Portugal.

Authors point out that informal caregivers in Greece receive little support (Konerding et al., 2018). Informal caregivers are not entitled to any direct benefits or allowances for the services they provide but may be eligible to claim some income tax relief (Mestheneos, Triantafillou, & Kontouka, 2004). Additionally, they are not entitled to paid time off work or flexible working hours, but public sector employees can take up to six unpaid work days a year to fulfill their caring obligations (Mestheneos et al., 2004).

In the case of Portugal, publicly-funded formal services to support care for older adults are very limited (Martin, de Oliveira, & Duarte, 2013; Santana et al., 2011). There are

no direct payments or tax benefits to informal caregivers. Rather those who need assistance apply for the country's LTC supplement (*Complemento Por Dependência*) which provides a supplement to care recipients based on level of dependency and the amount of pension they already receive (European Commission, 2013). If their pension exceeds €600 per month, and their level of dependency is an inability to perform the essential activities of daily living, they are not eligible for the supplement (European Commission, 2013). If their pension exceeds €600 per month, and they have the additional situation of being confined to a bed or "seriously demented", then they are eligible for the LTC supplement (European Commission, 2013, p. 35).

Countries that represent a *formal liberal care regime* are characterized by a welfare state that includes a low level of decommodification, prioritizes individual rights over social rights, and has more social stratification than social democratic welfare states. They also include a formal care regime that provides Doulia rights (i.e., employment protections for informal caregivers) and compensation for care such as wage replacement for informal caregivers or comprehensive direct formal care services. To my knowledge, there are no countries in Europe that represent a formal liberal care regime.

Countries that represent a *semi-formal liberal care regime* are characterized by a welfare state that includes a low level of decommodification, prioritizes individual rights over social rights, and has more social stratification than social democratic welfare states. They also include a semi-formal care regime that provides minimal Doulia rights often limited to compensation for care in the form of a relatively small financial support compared to formal care regimes. European examples include the United Kingdom (Britain, Scotland, and Wales) and Ireland.

In Britain, disabled and older people can apply for payments through the *Direct Payments* scheme put forward in the Community Care Act of 1996. In lieu of directly-provided services, the Direct Payments scheme provides older adults in need of care with a monetary payment to purchase care (as long as it is not from family members). There is little formal protection for caregivers and there is considerable regional variation in criteria, eligibility, and access (Rummery, 2009). In regard to such arrangements, the British state has been said to see care as a free resource and to be more concerned with sustaining the role of unpaid caregivers than with supporting paid work to the degree of wage replacement (Arksey & Kemp, 2006). Moffatt et al. (2012) assessed variations in United Kingdom welfare state policy across Scotland, Wales, and England, concluding that the three do not diverge enough to substantiate welfare regime diversity; yet there are debates over choice and consumerism in LTC in the three countries.

In the case of Ireland, compensation for caregivers includes the *Carer's Allowance*, *Carer's Benefit* and the *Carer's Support Grant* (formerly known as the Respite Care Grant). The *Carer's Allowance* is a means-tested direct payment ranging from €214 - €378 weekly (as of March 2018) to a carer of someone who is in need of support because of age, a physical or learning disability or illness, including mental illness (Citizens Information, 2018a; Health Service Executive, n.d.). The *Carer's Benefit* is also a means-tested direct payment ranging from €215.00 - €322.50 depending on number of dependents (Department of Employment Affairs & Social Protection, 2018). Lastly, the *Carer's Support Grant* is a respite care non-taxable benefit offering €1,700 (as of June, 2018) paid to designated caregivers once per year (Citizens Information, 2018b).

Countries that represent an *informal liberal care regime* are characterized by a welfare state that includes a low level of de commodification, prioritizes individual rights over social rights, and has more social stratification than social democratic welfare states. They also include no Doulia rights and very limited (in the form of yearly tax credits) or no financial support for informal caregivers. To my knowledge there are no European countries that would represent a liberal informal care regime.

3.6 Summary

In summary, this chapter has discussed the importance of understanding informal caregiving through a macro-level approach that is attentive to the social policy context within which informal caregiving takes place. In particular, drawing on ethics of care approaches, it argued that how informal caregiving is valued, what rights and supports informal caregivers have access to, who is expected and assumed to provide care, and what role collective responsibility for care provision has in social policies, all play a crucial role in the caregiving context. These macro-level social policy factors have implications for the character of social structure and how social location is experienced by informal caregivers. For example, whether a welfare state reduces social stratification would be expected to have implications for the social class and socio-economic situation of informal caregivers. Likewise, whether a gender regime supports a relatively more dual-carer/dual-earner model and whether the family care regime supports a more formal family care model would be expected to have implications for the gender, age, and the stress of informal caregivers.

The family care regime approach offers a promising critique of the welfare state regime approach that is attentive to the social policy context of the welfare state beyond

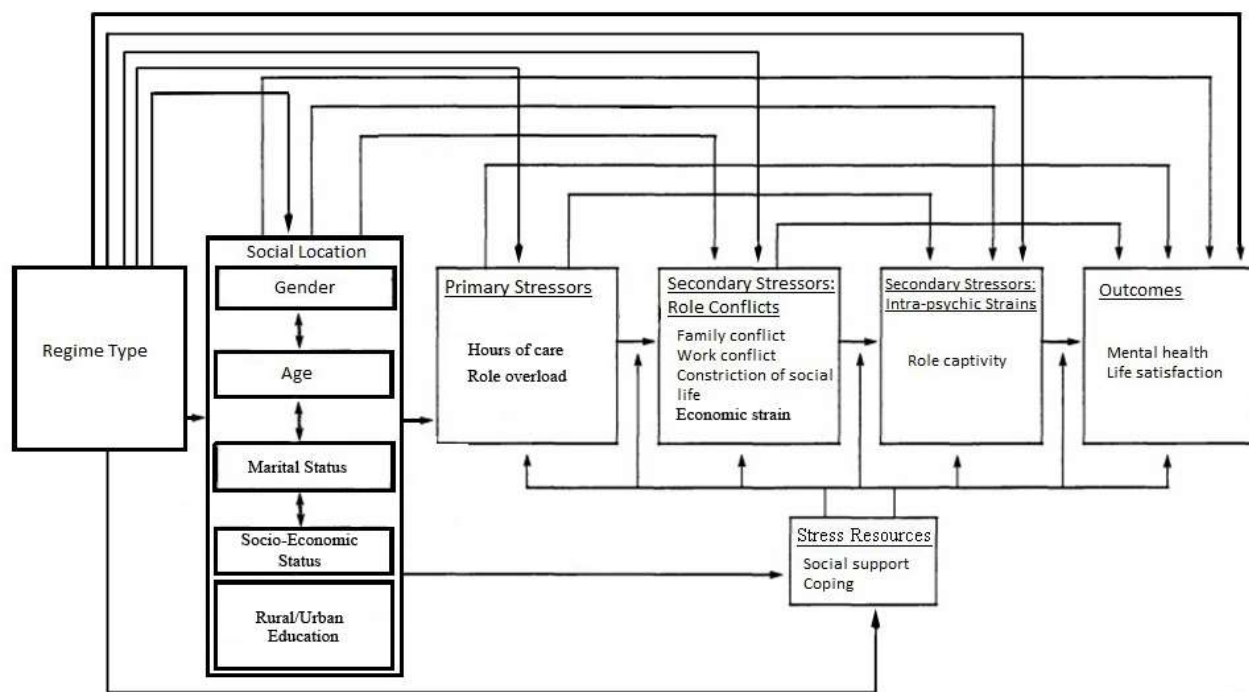
solely labour market, social class and socio-economic factors. The theoretical approach along with recent studies provides some support for the notion of an integrated approach to the cross-national study of social policies that have implications for informal caregivers.

Linking welfare state and family care regime approaches generates a 12-item typology that can be used to consider the role that macro-level social policy context may have in the stress process model. To date, very few studies have incorporated both the stress process model and regime type approaches. This is also the case for intersectionality approaches. This study addresses these gaps in the literature, focusing on the roles that regime type, social location and stress process factors play in shaping the diverse experiences of informal caregivers and thereby influencing their mental health and well-being. The conceptual framework and research objectives are outlined in the following chapter.

Chapter Four: Conceptual Framework and Research Objectives

To date, studies have suggested that regime type (welfare state/family care regime), social location, and stress process factors (including primary stressors, secondary stressors, and stress resources) are independently associated with the mental health and well-being of informal caregivers. However, only a few studies have assessed whether social location factors intersect in their associations with the mental health and well-being of informal caregivers. Additionally, only a few studies have assessed whether and/or which stress process factors mediate these associations. Furthermore, no studies have assessed whether the impact of regime type on mental health and well-being is mediated by intersecting social locations and stress process factors. In order to address the lack of research linking regime type, intersectionality theory, and the stress process model, this study assessed an integrated model that includes components of all three approaches. This model is outlined in Figure 3.

Figure 3: A Modified Stress Process Model of Informal Caregiving



In order to assess the utility of the proposed modifications to the SPM, the research questions to be addressed in this study are:

- 1.) Is regime type associated with the mental health and well-being of informal caregivers?
- 2.) Are social location factors and their intersections associated with the mental health and well-being of informal caregivers?
- 3.) Is there evidence that social location factors and their intersections mediate the relationships between regime type and the mental health and well-being of informal caregivers?
- 4.) Do stress process factors mediate the relationships between regime type and the mental health and well-being of informal caregivers?

- 5.) Do stress process factors mediate the relationships between social location factors and their intersections and the mental health and well-being of informal caregivers?

Addressing these research questions is not intended to test the model as a whole, but rather, the potential utility of incorporating welfare state/family care regime type and/or intersectionality analyses into a modified stress process model of caregiving.

In terms of the first research question, consistent with theory and research addressing regime types, it is expected that there will be evidence of a direct association of regime type with informal caregivers' mental health and well-being. In particular, informal caregivers in formal social democratic care regimes are expected to have the best mental health and well-being outcomes. Whether a semi-formal social democratic care regime or a formal conservative care regime would have the next best outcome is unclear. From the perspective of the welfare state regime approach, a semi-formal social democratic care regime would likely result in better outcomes for informal caregivers than a formal conservative care regime. The opposite would be expected from the family care regime perspective. It is also expected that a Mediterranean informal care regime would have the worst outcomes for informal caregivers, followed by a Mediterranean semi-formal care regime. The premise is that if a welfare state regime type endorses more social integration and inclusion with lower levels of social stratification and more social rights, then all informal caregivers will benefit. Additionally, if a family care regime endorses more social rights and support for caregivers, then informal caregivers will benefit even more so.

Consistent with theory and research addressing intersectionality, it is expected that there will be some evidence that age, gender, marital status, and/or socio-economic status

and/or their intersections are associated with differences in the mental health and well-being of informal caregivers across a variety of regimes. The second research question is exploratory as the theory itself does not lead to specific hypotheses and only a few studies to date have assessed their associations with the mental health and well-being of informal caregivers. Additionally in some cases, there are mixed findings for whether they intersect or not.

It is expected that some of the associations between regime type and informal caregiver mental health and well-being will be mediated by age, gender, marital status, socioeconomic status and/or their intersections as assessed by the third research question. One might expect that these associations will be stronger among those residing in a liberal rather than a social democratic welfare state, whether it be accompanied by a formal or semi-formal care regime. Social democratic welfare states are said to provide more universal social coverage that would be less likely to exclude or minimize the benefits available to citizens on the bases of gender, age, marital status, or socio-economic status. As well, the disparity in mental health and well-being between Mediterranean and conservative care regimes and social democratic and liberal care regimes may be mediated by gender, given that the former rely heavily on a breadwinner model. If so, such regimes may have more negative implications for women than men caregivers. Additionally, unmarried and divorced women may be particularly vulnerable to poor mental health and well-being in Mediterranean welfare states. Socio-economic status is expected to be negatively associated with the mental health and well-being of informal caregivers. However, lower SES older adult caregivers may be most vulnerable in informal Mediterranean care regimes where there is a less developed social service sector, thereby suggesting that the intersection of age and

socio-economic status may mediate in the regime type and mental health and well-being associations.

In terms of the fourth research question, it is expected that stress process factors (i.e., primary stressors, secondary stressors, and stress resources) will mediate in the relationships between regime type and mental health and well-being. As social democratic welfare states have lower levels of social stratification and greater social rights (including various levels of Doulia rights and compensation for care depending on care regime), they would be expected to reduce or limit exposure to the negative implications of these stressors for caregivers' mental health and well-being. For example, hours of care may be more likely to be negatively associated with mental health and well-being in informal and semi-formal family care regimes where there is low financial compensation as opposed to wage replacement in formal care regimes.

Finally, it is expected that stress process factors will play a role in mediating the relationships between social locations and their interactions and the mental health and well-being of informal caregivers as assessed by the fifth research question. For example, work/family conflict may play a mediating role in the relationships between gender and the mental health and well-being among informal caregivers.

Although the empirical literature review informs some of the expectations, there is a lack of research to date that has incorporated the three approaches to the study of informal caregivers' mental health and well-being. Indeed, previous research has provided only limited support for connecting the welfare state/family care regime with both the stress process model and an intersectionality approach. Given that there is a gap in the research incorporating components of all three approaches into the same study, the goal of this

research is to assess the viability of combining these approaches for our understanding of informal caregivers' mental health and well-being. The following chapter outlines the research design and methods used in this study to address the five research questions.

Chapter Five: Research Design and Methods

5.1 Methodology

This research is informed by a critical realist approach to social science. Critical realism has been identified as a post-positivist alternative to the “paradigm wars” of the 1980s (Bhaskar, 1998; Brown, Fleetwood, & Roberts, 2002; Cruickshank, 2012; Denzin & Lincoln, 2011; Fletcher, 2017). Departing from positivism, it excludes a view of causality as reflected in laws, law-like, or functional relations and also, positions itself against what its proponents view as a naïve realism that conceives of empirical reality as self-evident (Losch, 2009). Instead, critical realists have tended to view reality as broader and stratified into three levels: (1) the “empirical level”, which is the realm of events as we experience them; (2) the “actual level” where events occur whether or not we experience or interpret them; and (3) the “real level” where causal structures or causal mechanisms exist and act as causal forces that produce events (Danermark et al., 2002).

In this study, regime type, and social locations and their intersections, are seen as historical snapshots. The diversity among informal caregiver populations, as well as disparities in mental health and well-being, are conceived of as resulting from both regime type and social structural contexts. Assessing the roles that regime type and social location factors have in informal caregiving can help us refine and improve our knowledge about informal caregiving over time and to make claims about the role macro-level contexts have that are relatively justified while still being historical, contingent, and changing (Archer et al., 2016; Danermark et al., 2002). This knowledge can then be used to understand the ways in which regime types and social locations have differentially impacted the mental health and

well-being of informal caregivers and can be used to reduce mental health and well-being inequities. This knowledge can also be used to contribute to the transformation of regime type and social structural factors that have negative implications for informal caregivers.

Critical realists often ascribe to “realist constructionism”. Realist constructionism is defined as a synthesis of a realist social ontology (that the social world is an objective reality) and moderate social constructionism that focuses on the roles of the material, structural, and discursive world in constructing the social world (Cromby & Nightingale, 1999; Elder-Vass, 2012; Sims-Schouten, Riley, & Willig, 2007). Critical realists tend to depart from approaches that view reality as solely perspectival leading to an interrogation into reality limited to epistemological questions of interpretation (Scott, 2005). Furthermore, anti-realist positions are often rejected and are seen as having played a major role undermining any assertion to the real existence of social structures that perpetuate inequalities (Gergen, 1998; Gunnarsson, 2013; Sweet, 2018).

In this study, regime types and social locations are viewed as having a historically contingent ontological status. The “policy packages” that comprise the regime construct are seen as having differential rules that constrain or enable the possibilities for informal caregivers. This raises questions about the relationships between the micro, meso, and macro levels and the agency of informal caregivers. I adopt Archer’s (2000) dualistic view of social structure and agency. Archer (2000) mapped three common contemporary approaches to agency in sociology: (1) downward conflation involving over-socialized personhood where persons are conceived as no more than “society’s being” (i.e., post-structuralism); (2) upward conflation involving methodological individualism that reduces society to the individual and denies any emergent powers at the societal or cultural level (i.e. rational actor theory); and

(3) central conflation – where structure is only evidenced in its enactment in the present (i.e. structuration theory). Instead, Archer (2000) proposed an analytical dualism which recognized that the dynamics between the individual and society is the central issue of social theory. Furthermore, rather than ultimately solving the structure/agency debate, their historical interplay is the focus and is ultimately situational, contextual, and informed by the subject of research (Poutanen, 2007). To suggest that there is a link between regime type, social location, and informal caregivers' well-being implies an interrogation into this dynamic. As briefly noted in the literature review, the degree to which regimes have transformed towards more supportive policies for workers, women, older adults and their caregivers has been impacted by individuals and groups with their participation in social movements.

This study's focus on caregiving at the intersections of age, gender, marital status and socio-economic status raises questions about the diverse experiences of informal caregivers in society. One of the major developments in critical realism has been the introduction of feminist critical realism. Feminist critical realism is closely associated with feminist standpoint theory. Feminist standpoint theory argues for the necessity of various different vantage points so that those vantage points to reality may be better represented, including the importance of women's situated knowledge (Gunnarson et al., 2016; Hekman, 1997; New, 1998b). Feminist critical realism and transformations within standpoint theory seem to have led to some convergence over epistemology and ontology (Assiter, 1996; Flatshart, 2017; Harding, 2003; Hekman, 1997; Miller, 2000; New, 1998; Sayer, 1997; Stoetzler & Yuval-Davis, 2002; Sweet, 2018; Yuval-Davis, 1994; 2000). Theorists have argued that subjects from diverse social locations and identities can have transformatory dialogues. For example,

the term “transversal politics” has been used to define how different experiences across social identities (e.g., ethnicity, sexual orientation, gender) are not essentialist, exclusive or fixed (Dincer, 2019). Instead, proponents of the term suggest that: “It answers to a need to conceptualise democratic practice of a particular kind, a process can on the one hand look for commonalities without being arrogantly universalist, and on the other affirm difference without being transfixed by it” (Cockburn & Hunter, 1999, p. 88). A related term, “epistemological community” has been used to suggest that individuals can share a common value system despite differences in social identity (Yuval-Davis & Stoetzler, 2002). Thus, there is a view of identity as being more than situational differences while not denying the diversity in experiences (Assiter, 1996). There is also an emphasis on social locations as representing structural positions and not solely experiences (Martinez Dy, Martin, & Marlow, 2014).

Turning to methods, critical realists tend to adopt methodological pluralism that does not foreclose the use of any particular method or require a set, sequence, or primacy of methods, instead adopting a broad view on what counts as “data” in social science research (Ackroyd & Karlsson, 2014; Brown, Fleetwood, & Roberts, 2002; Fletcher, 2014). For example, critical realists have suggested that ethnography, case study and social survey research approaches all provide valuable information that allows for drawing inferences from empirical regularities and patterns (Downward, Finch, & Ramsay, 2002; Scott, 2005).

This study is informed by the pragmatic approach adopted by methodological pluralism. It views method determination as being dependent on the social phenomenon itself, its theoretical and conceptual frameworks, what is known empirically in the field(s) of interest, and the research questions of interest. Theory is said to play an important role in the

empirical research process, in analysing empirical findings, and re-interpreting them through theory (Archer et al., 1998; Danermark et al., 2002; Fletcher, 2014). In this study, theories about the role of the welfare state and family care regimes in differentially impacting informal caregivers led to an investigation of informal caregiving from a comparative population approach. Thus, research methods drawing on secondary social surveys were adopted for the following reasons: representative national samples have an advantage for inferences in cross-national research; a larger sample is needed to address the different components (variables) of the three approaches (stress process model, intersectionality and regime type approaches) and whether there is support for their integration; existing secondary survey data have collected some (albeit limited) information covering the constructs of interest; and primary data collection at the population level across a 12-item regime typology is impractical in terms of time and resources. Due to the use of cross-sectional secondary data, inferences were limited to discussion of associations rather than causation.

5.2 Data Sources

This study pooled data from two secondary cross-sectional surveys: the third European Quality of Life Survey (EQLS-3, 2012) and the fourth European Quality of Life Survey (EQLS-4, 2016). When compared to other recent surveys including the European Social Survey (ESS, Round 1 - 2002, ..., Round 9 - 2018) and the Survey of Health, Ageing and Retirement in Europe (SHARE, Wave 1 -2004, ..., Wave 7 - 2017), the EQLS was found to be the most appropriate for this study as it included a sample of all adult informal caregivers aged 18 and older, thereby allowing for a broader assessment of the role of age

and its intersections among informal caregivers than was possible in the other surveys. The rationale for using two cycles of the EQLS is that doing so provided a larger sample of informal caregivers and thus, the statistical power needed to address variability among informal caregivers and include the interaction terms necessary to address the research questions pertaining to intersectionality. These datasets also had the most comprehensive measures of caregiving stressors, stress resources, and mental health and well-being outcomes across European countries available at the time of the study.

The European Quality of Life Survey (EQLS) has been carried out every four to five years since its inception (2003, 2007, 2012, 2016). The survey is conducted by Eurofound, a European Union (EU) agency, to provide knowledge to assist in the development of better social, employment, and work-related policies. The EQLS examines both the objective circumstances of European citizens and how they perceive and feel about those circumstances. It focuses on a range of issues including employment, income, education, housing, family, health, and work-life balance, as well as happiness, life satisfaction and quality of life.

Fieldwork for the third EQLS took place from the end of September 2011 to early February 2012 in 27 EU member states, and May 2012 to August 2012 in seven non-EU countries. The data files were released in November 2012 (Eurofound, 2012a). The survey included a total of 46,636 people interviewed in 34 countries. The target population included all residents of the 34 countries aged 18 years and older. Samples ranged from 1,000 to 3,000 respondents in each country and were drawn using a multi-stage, stratified, random sampling design. Each country was divided into sections based on region and degree of urbanization from which a number of primary sampling units (PSU) was randomly drawn. Subsequently,

a random sample of households was drawn in each PSU. Finally, in each household, the person chosen for the interview was the one who had their birthday next (Eurofound, 2012b). Structured interviews were conducted face-to-face in people's homes in the national language(s) of the country (Eurofound, 2012b).

Fieldwork for the fourth EQLS took place from September 2016 to March 2017 in 33 countries, including 28 EU member states and 5 non-EU countries (Eurofound, 2016a). The target population included all residents of the countries aged 18 years of age and older. Depending on country size, the EQLS-4 sample size ranged from 1,000 to 2,000 respondents in each country. Once again, a multi-stage, stratified, random sampling method was used. Similar to the EQLS-3, each country was divided into sections based on region and degree of urbanization; in each, a number of primary sampling units (PSU) was drawn randomly. Subsequently, a random sample of households was drawn in each PSU. Finally, in each household, the person chosen for the interview was randomly selected (Eurofound, 2016b). Structured interviews were carried out face-to-face in people's homes using computer-assisted personal interviewing (CAPI). In each EQLS survey, a new random sample of adult population members was selected for the face to face interview.

5.3 Sample

Drawing on the EQLS, this study utilized subsamples of informal caregivers providing care to recipients with age-related needs or disabilities living in Denmark, Sweden, France, Germany, Greece, Italy, and the United Kingdom (see pages 82 to 92 for the rationale for the decision to focus on these specific countries). A subsample of countries was selected a priori based on previous research that established that they represented particular

welfare state/family care regime types. Many of the countries included in the EQLS did not have sufficient research on their welfare state/family care regime characteristics based on the literature review to support including them. To avoid misspecification errors, countries with the most consistent support for their inclusion as a particular type were included.

Furthermore, only one country was selected to represent a type rather than combining countries. This is consistent with the majority of previous studies. This also ensured greater homogeneity within types. Another issue is that some types could be combined whereas others could not (i.e., Denmark being the only formal social democratic regime and Norway and Sweden being semi-formal social democratic regimes). The total sample from the EQLS-3 and EQLS-4 for these countries was 22,151 respondents.⁴

In the EQLS-3, informal caregivers were identified based on a question asking respondents: “How often are you involved in any of the following activities outside work? ... “caring for elderly or disabled relatives?” with response categories: (1) “Every day”; (2) “Several days a week”; (3) “Once or twice a week”; (4) “Less often”; and (5) “Never” (Q36A). Respondents who selected categories 1 through 4 were combined in order to generate the informal caregiver sample. The EQLS-4 sample was drawn based on a modified version of the same question: “In general, how often are you involved in any of the following activities outside of paid work?” (1) “Caring for disabled or infirm family members, neighbours or friends under 75 years old” and (2) “Caring for disabled or infirm family members, neighbours or friends aged 75 or over” (Q42DE). The response categories were: (1) “Every day”; (2) “Several days a week”; (3) “Once or twice a week”; (4) “Less often”,

⁴ The counts by country and EQLS version were $n=12,842$ in EQLS-3 and $n=9,309$ in EQLS-4 and included: $n=2,044$ [1,024;1,020] from Denmark; $n=2,060$ [1,007;1,053] from Sweden; $n=3,448$ [2,250;1,198] from France; $n=4,686$ [3,055;1,631] from Germany; $n=4,257$ [2,250;2,007] from Italy; $n=2,100$ [1,004;1,096] from Greece; and $n=3,556$ [2,252;1,304] from the United Kingdom.

and (5) “Never”. Categories 1 through 4 were combined for each question. In order to generate the informal caregiver sample, respondents needed to answer 1 through 4 on either of the two questions. The final study sample included $n=6,007$ informal caregivers from Denmark ($n=600[190; 410]$), Sweden ($n=707[290; 417]$), France ($n=1,293[706; 587]$), Germany ($n=762[459; 303]$), Italy ($n=1,326[698; 628]$), Greece ($n=377[170; 207]$), and the United Kingdom ($n=942[574; 368]$).

5.4 Measurement

The dependent variables included in this study were mental health and well-being. Informed by regime type approaches, the study included an independent variable for regime type. In addition, reflecting the role that social structural factors are said to have on the mental health and well-being of informal caregivers within the SPM, the study focused on gender, age, marital status and household income (as an indicator of socio-economic status). As well, informed by Pearlin et al.’s (1990) model and based on their availability within the data sets, the study included primary stressors (caregiving hours and role overload), secondary stressors (constriction of social life, work/family conflict, economic strain, and role captivity), and stress resource (informal social support, formal social support, and coping) variables. Lastly, rural/urban residence, and education were included as control variables in the analyses as prior research had reported that rural/urban residence and education were associated with the mental health and well-being of informal caregivers.

Dependent Variables

The first dependent variable assessed in this study was mental health. Mental health was defined as distinct from mental disorders (Bertolote, 2008; Grundberg et al., 2012;

Muntaner, Eaton, & Diala, 2000; Wakefield, 1992). Most researchers endorse the World Health Organization (WHO) definition of health as “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity” (WHO, 1948, p.1).

Furthermore, researchers have defined mental health as more than the absence of psychopathologies. It also refers to positive mental health, including positive individual functioning in terms of self-realization, and positive societal functioning in terms of being of social value (Bertolote, 2008; Braidwood, 2000; Westerhof & Keyes, 2010).

This study drew on the World Health Organisation five indicator index of mental well-being (WHO-5) to assess informal caregivers’ mental health. The measure reflects the positive definition of mental health and does not directly measure mental disorders. In each survey, respondents were asked to: “Please indicate for each of the five statements which is closest to how you have been feeling over the last two weeks: (A) “I have felt cheerful and in good spirits”; (B) “I have felt calm and relaxed”; (C) “I have felt active and vigorous”; (D) “I woke up feeling fresh and rested”; and (E) “My daily life has been filled with things that interest me” (Q45 in EQLS-3 and Q51 in EQLS-4). Respondents were provided with the response categories: (1) “All of the time”; (2) “Most of the time”; (3) “More than half the time”; (4) “Less than half the time”; (5) “Some of the time”; and (6) “At no time”. Each variable was reverse coded (from 0 to 5) so that a higher number indicated better self-reported mental health. Next, the five items were summed so that a total index score was calculated for respondents ranging from 0 (“At no time” for all five statements) to 25 (“All of the time” for all five statements) ($\alpha = 0.85$). The total score (ranging from 0 to 25) was then multiplied by four based on the World Health Organisation (WHO) protocol, so that respondents’ mental health was a percentage out of 100 (Topp et al., 2015).

The second dependent variable assessed in this study was subjective well-being. Subjective well-being is often conceptualized in terms of two types: eudaimonic and hedonic well-being. Eudaimonic well-being is conceptualized as living a virtuous and flourishing life (Haybron, 2008; La Placa, McNaught & Knight, 2013), focusing on growth and meaning and excludes affective and pleasure-based aspects of well-being (La Placa et al., 2013; Ryan & Deci, 2001). In contrast, hedonic well-being refers to the positive feelings and emotions that are currently experienced (e.g. happiness, enjoyment, joy, and comfort) and emphasizes pleasure (Duan, Guan, & Gan, 2016; La Placa, McNaught, & Knight, 2013). Additionally, well-being is often conceived of as having both subjective and objective dimensions (Andrews, Chen, & Myers, 2014; Deneulin & McGregor, 2010; Halleröd & Seldén, 2013; Sointu, 2005). Psychological well-being is concerned with eudaimonic well-being: self-acceptance, purpose in life, autonomy, positive relations with others, environmental mastery and personal growth (Ryff, 1989; Ryff & Keyes, 1995). On the other hand, subjective well-being is concerned with hedonic well-being, including positive and negative affect as reflected in levels of happiness and life satisfaction (Campbell, Converse, & Rodgers, 1976; Cummins et al., 2003; Diener & Lucas, 1999; Dodge et al., 2012; Eger & Maridal, 2015; Forgeard et al., 2011; White et al., 2017). The objective dimensions of well-being are also known to play an important role (Biswas-Diener & Diener, 2001; Deneulin & McGregor, 2010) and include location within the distribution of economic wealth and resources (White, 2010); levels of socializing and adjustment (Larson, 1996; McDowell & Newell, 1987); social processes and social change (Andrews et al., 2014; Atkinson, 2013; White, 2017); collective resources (Atkinson, 2014; Wyn, Cuervo, & Landstedt 2014); ecological and

society interactions (Andrews et al., 2014); and a multi-level emphasis [individual, family, community, society] (La Placa, McNaught, & Knight, 2013).

This study included life satisfaction as a measure of subjective well-being as it is concerned with the mental health and well-being of informal caregivers. Additionally, economic well-being is assessed in the model as a stressor rather than an outcome. Indeed, life satisfaction is a commonly used measure of subjective well-being (Diener et al., 1985; 2009; Nima et al., 2020; Pavot et al., 1985; 2010; Ruggeri et al., 2020; VanderWeele et al., 2020; van Beuningen, van der Houwen, & Moonen, 2014). The EQLS-3 and EQLS-4 asked respondents “All things considered, how satisfied would you say you are with your life these days? Please tell me on a scale of 1 to 10, where 1 means very dissatisfied and 10 means very satisfied” (Q30 in EQLS-3 and Q4 in EQLS-4). This coding was retained for the analyses to keep the direction similar to that of self-reported mental health, and that many studies on life satisfaction used a similar 1 to 10 scale. Single item life satisfaction measures have been found to have construct validity when assessed in relation to multi-item life satisfaction measures such as the Satisfaction with Life Scale (9-point scale – Atroszko et al., 2017; 4-point scale - Cheung & Lucas, 2014; 10 point scale - Jovanović & Lazić, 2020). However, greater test-retest reliability with longitudinal data has been reported for the Satisfaction with Life Scale when compared to single item life satisfaction measures (see Jovanović & Lazić, 2020 for a review).

Regime Type

In order to examine regime type, a nominal-level variable based on the 12-item typology (page 83) used with seven countries representing seven welfare state/family care regime types: (1) social democratic formal (Denmark); (2) social democratic semi-formal

(Sweden); (3) conservative formal (France); (4) conservative semi-formal (Germany); (5) Mediterranean semi-formal (Italy); (6) Mediterranean informal (Greece); and (7) liberal semi-formal (United Kingdom) care regimes.

Social Location

Four components of social location were formally examined: gender, age, marital status, and socioeconomic status. The EQLS-3 and the EQLS-4 asked respondents “Could you please tell me whether you’re male or female?” providing response categories (1) “Male” and (2) “Female” (HH2A in each and renamed from “gender” to “sex” in 2016). For the purposes of this study, both variables were coded as 0 for men and 1 for women. Given that the EQLS did not distinguish between women, men, and other gender identities (e.g., non-binary, transgender, two-spirited, agender), the study was not able to address gender non-conforming identities. Additionally, neither survey provides variables distinguishing between sex and gender; thus the variables are treated as a proxy for gender (e.g., male = man and female = woman).

Age is often defined as a multi-dimensional concept including physiological, biochemical, psychological, chronological, and sociological aspects (Ayalon et al., 2014; Mendoza-Núñez, 2013; Vivaldo Martinez, 2008). As well, recent conceptualizations often include an emphasis on the heterogeneity of aging and old age (Martinez-Maldonado, 2016), and how age and aging are socially constructed (Ayalon, 2014; Twigg, 2004). In order to address the sociological aspect of age - age as a social location - a variable for chronological age was used. The EQLS-3 and the EQLS-4 asked respondents: “what was your age on your last birthday?” (HH2B in both). In line with the literature on age categorization, the variable is coded to reflect sub-groupings within three broader categories: “young adulthood” is

defined as the period in the life course that precedes middle age often ranging from the late teens or early 20s to the mid-40s (Levinson, 1986). “Middle age” is often defined either as 40 to 64 or 45 to 64 following the period of young adulthood (Erikson & Erikson, 1998). Lastly, “old age” is often defined as 65 and older (Erikson & Erikson, 1998). However, an approach to diversity in old age oftens applies sub-groupings among older adults. For instance, “old” (75 to 84), “old-old” (85 to 94) and “oldest-old” (95 and older) (Cohen-Mansfield et al., 2013), or “old” (75 to 89) and “oldest-old” (90 and older) (Ouchi et al., 2017). The variable used in this study is informed by notions of diversity within young adulthood, middle age, and old age, including “younger adulthood” (18-34); “young adulthood” (35-44); “early-middle age” (45-64) “later middle-age” (55-64), “old” (65-74), “old-old” (75-84), and “oldest-old” (85 and older). An additional rationale for using age categories rather than age in years was to simplify the interpretation of the interactions of age with other social location factors. Thus the following age categories were used in the analyses: (1) “18 to 34”; (2) “35 to 44”; (3) “45 to 54”; (4) “55 to 64”; (5) “65 to 74”; and (6) “75 and older”. Age groups were combined in the youngest and oldest age groups given their smaller *ns*.

The literature review revealed that marital status is an important predictor of informal caregivers’ mental health and well-being. In order to address marital status, the EQLS-3 asked respondents: “Which of the following descriptions best applies to you? Are you...: (1) “Married or living with a partner”; (2) “Separated or divorced and not living with a partner”; (3) “Widowed and not living with a partner”; or (4) “Never married and not living with a partner?” (Q31). The question was modified in the EQLS-4 to “reflect legal marital status” and included the response categories: (1) “Never married”; (2) “Married”; (3) “Separated”, (4) “Widowed”, and (5) “Divorced” (Q37). The variable was recoded so that separated and

divorced respondents in the EQLS-4 were combined similar to the response categories in the EQLS-3: (1) “Married”; (2) “Separated or divorced”; (3) “Widowed” and (4) “Never married”.

The role of socioeconomic status as a measure of social location was also assessed. Conceptualizing and measuring socioeconomic inequality (SEI) is commonly distinguished by a focus on either socioeconomic status (SES) or social class (Wohlfarth, 1997). The more common approach to studying SEI uses socioeconomic status, which reflects a notion of a stratified society ranked by the unequal distribution of goods that individuals possess, including prestige, education, income, or other valued commodities (Wohlfarth, 1997). This likely reflects the fact that social surveys often include measures of socioeconomic status while excluding questions pertaining to social class. Social class is “...defined in terms of relations within production that are based on control over the means of production” (Wohlfarth, 1997, p. 400). Additionally, this approach to SEI is said to view social stratification as reflecting conflictual relations rather than a functional social gradient (Wohlfarth, 1997). However, the identification of different types and measures of SEI does not imply a level of agreement with their distribution. Overall, studies on the association of SEI with mental health and well-being have found that socioeconomic status and social class have independent relationships with these outcomes in studies including both (Darin-Mattsson, Fors, & Kåreholt, 2017; Grundy & Holt, 2001; Kim & Park, 2015; Kim, Park & Yoo, 2015; La Torre et al., 2018; Wolfar, 1997). Given the secondary nature of the EQLS data, this study was limited to investigating the socioeconomic aspects of SEI (Grundy & Holt, 2001; Wohlfarth, 1997). In the EQLS-3 (Q63) and EQLS-4 (Q96) respondents were asked “Please can you tell me how much your household’s NET income per month is? If you

don't know the exact figure, please give an estimate." Furthermore, an equivalized household income variable that takes into account differences in household size and composition using the Eurostat standard (equivalence) scale was used (Eurostat, 2020; U.K. Dataservice, n.d.).

Primary Stressors

In the stress process model (SPM), primary stressors refer to hardships and problems related directly to caregiving, including care recipients' cognitive status, problematic behaviour, abilities with regard to basic activities of daily living as well as instrumental activities of daily living, caregiver overload and relational deprivation (Pearlin et al., 1990). The EQLS included some questions pertaining to primary stressors.

Pearlin et al. (1990) did not explicitly discuss objective overload as a primary stressor, focusing instead on subjective overload. However, subsequent researchers have defined objective overload as "the frequency of assistance and supervision within the routine care for the patient and also changes in the life routine" (Borghi et al., 2013, p.878). Others have pointed out that caregivers often spend many hours per day providing care and that the time required to do should be seen as a stressor (Vitaliano et al., 2004). Studies have assessed objective overload in terms of hours of care including average hours per day (Au et al., 2010; Kim, 2017; Mitrani et al., 2006), average hours per week (Robards et al., 2015; Sinha, 2012), and number of years (Mitrani et al., 2006; Penning & Wu, 2016) spent on caregiving. Pertaining to the hours of care, the EQLS-3 asked respondents "On average how many hours per week are you involved in caring for elderly or disabled relatives outside paid work?" (Q37C). The question was modified in the EQLS-4, with respondents being asked: "On average how many hours per week are you involved in any of the following activities outside of paid work?" including both "caring for disabled or infirm family members,

neighbours, or friends under 75 years old” (Q43D) and “caring for disabled or infirm family members, neighbours, or friends aged 75 and older” (Q43E). The hours reported for both EQLS-4 questions were added together and combined with responses to the one variable used in the EQLS-3.

This study also assessed subjective overload as a primary stressor. Pearlin and colleagues (1990) conceptualized role overload as a primary stressor that is directly experienced by caregivers as a result of the caregiving situation. They measured subjective overload using an index that asked “How much does each statement describe you? (A) “You are exhausted when you go to bed”; (B) “You have more things to do than you can handle”; (C) “You don’t have time just for yourself”; and (D) “You work hard as a caregiver but never seem to make any progress” with response categories: (1) “Not at all”; (2) “Somewhat”; (3) “Quite a bit”; and (4) “Completely” ($\alpha=.80$). Recent studies among informal caregivers have also used the same index (Mitchell & Knowlton, 2012: $\alpha=.81$) while others have used a 9-item scale (Pioli, 2010: $\alpha=.90$). The EQLS-3 (Q29D) and EQLS-4 (Q7E) asked respondents: “In my daily life, I seldom have time to do the things I really enjoy” with response categories: (1) strongly agree; (2) agree; (3) neither agree nor disagree; (4) disagree; and (5) strongly disagree. Responses were reverse-coded so that a higher number reflected greater role overload. The EQLS did not include questions pertaining to other components of role overload. Thus, a limitation of the single-item variable used is that it only measured one component of role overload (personal time constraint) while excluding the other components included in previous studies.

Secondary Stressors

In the SPM, secondary stressors refer to stressors that are brought about by exposure and vulnerability to primary stressors, and include secondary role strains such as family conflict, work/family conflict, economic strain, and constriction of social life, as well as secondary intra-psychoic strains such as self-esteem, mastery, loss of self, role captivity, competence, and gain (Pearlin et al., 1990). Variables available for the study in the EQLS were work/family conflict, constriction of social life, economic strain, and role captivity.

Pearlin et al. (1990) and other researchers have suggested that caregivers who are employed outside the home frequently experience cross-pressures and dilemmas at the juncture of caregiving and work (Scharlach & Boyd, 1989). Pearlin et al. (1990) utilized a 5-item scale for work/family conflict that asked “From your own personal experience, how much do you agree or disagree with the following statements about your present work situation? In the last 2 months or so: (A) You have had less energy for your work; (B) You have missed too many days; (C) You've been dissatisfied with the quality of your work; (D) You worry about your (relative) while you're at work; and (E) Phone calls about or from your (relative) interrupt you at work” with response categories: (1) “Strongly disagree”; (2) “Disagree”; (3) “Agree”; and (4) “Strongly agree” ($\alpha=.75$). The EQLS asked respondents “Are you working as an employee or are you self-employed?” Those who selected yes to either employment status were then asked to indicate how often each of the following happened to them in the last 12 months: (A) “I have come home from work too tired to do some of the household jobs which need to be done.”; (B) “It has been difficult for me to fulfil my family responsibilities because of the amount of time I spend on the job”; (C) “I have found it difficult to concentrate at work because of my family responsibilities.” The response

categories included: (1) “Several times a week”; (2) “Several times a month”; (3) “Several times a year”; (4) “Less often/rarely”; and (5) “Never” (Q12B in EQLS-3 and Q20B in EQLS-4).

Previous research has sometimes made a distinction within work/family conflict where “work interferes with caregiving” (WIC) and “caregiving interferes with work” (CIW) although they note it is expected that the two are correlated and that the similarity of the items might create problems for respondents in distinguishing the direction of the influence (Gordon et al., 2012). Pearlin’s (1990) index items (D) and (E) appear to reflect to the CIW concept. This is also the case for (C) in the EQLS question, whereas (A) and (B) in the EQLS more closely reflect the WIC concept. Pearlin et al’s (1990) items (A), (B), and (C) don’t appear to explicitly discuss the work/caregiving conflict. This study used a single-item measure drawing upon (B) in the EQLS that is more related to the CIW side of work/caregiving conflict. Furthermore, since many informal caregivers are unemployed, those who selected “no” to employment were included as an unemployed category in order to keep them in the study. As well, work/family conflict may be experienced by employed informal caregivers as well as those unemployed who are providing care rather than working. This study was more interested in the difference between unemployed and working informal caregivers and informal caregivers experiencing conflict and all other caregivers (employed or not). Thus, instead of using a continuous variable among working informal caregivers, this study used a 3-level categorical variable: (0) no conflict (score of 5), (1) conflict (scores from 1 to 4), and to ensure the inclusion of those who were not employed, (2) unemployed.

It is expected that informal caregivers’ mental health and well-being may be compromised when they are unable to participate in or maintain previous levels of social

activities. In order to address the potential implications of the constriction to social life, this study used two variables based on questions about participation in social activities and volunteering. For the social activities variable, the EQLS asked respondents: “How frequently do you ... participate in social activities of a club, society, or an association?” and “How frequently do you ... attend religious services, apart from weddings, funerals or christenings”? The response options for each question included: (1) “Everyday or almost everyday”; (2) “At least once a week”; (3) “One to three times a month”; (4) “Less often”; and (5) “Never”. Given the skewed nature of the responses (skew = -0.971; kurtosis = 2.91), a dichotomous variable was used: (0) “Not constricted” including those who participated in social activities and/or religious services and (1) “Constricted” including those who did not participate in either type.

For the volunteering variable, the EQLS asked respondents “How often did you do unpaid voluntary work through the following organizations in the past 12 months?": The organizations included: “Community and social services”; “Educational, cultural, sports or professional associations”; “Social movements”; “Political parties, trade unions”; and “Other voluntary organizations”. The response categories included: (1) “Every week”; (2) “Every month”; (3) “Less often/occasionally”; and (4) “Not at all” (Q22 in EQLS-3 and Q29 in EQLS-4). A combined variable was developed and coded so that those who responded “Not at all” to all five questions were coded as (1) “Constricted” and those who responded in any other combination (i.e. occasionally for at least one of the organizations) were coded as (0) “Not constricted”. A dichotomous variable was used as the five category variable had high skew (-1.34) and kurtosis (3.72) whereas the dichotomous variable had an acceptable level of skew (-0.07) and kurtosis (1.00).

Pearlin and colleagues (1990) proposed that economic strains as a result of caregiving are important secondary stressors. They identified three types of economic strain: reductions in household income, increases in expenditures related to the care and treatment of the care-recipient, and whether there is enough money to make ends meet (Pearlin et al., 1990). Pearlman et al. (1990) noted that it is important to measure change in economic status over the period of caregiving and that each of the three types be considered separately. However, others have used a 2-item index of economic strain that included: “In general, how do the finances in your household work out at the end of the month?” with three possible responses (1) “Some money left over”; (2) “Just enough money to make ends meet”; (3) “Not enough to make ends meet” and “Do you consider the amount of money you have to spend on caring for your (relative) each month to be?,” (1) “About what you can afford” (2) “Somewhat more than you can afford” (3) “Much more than you can afford” (Aneshensel et al., 1995; Liu et al., 2019: alpha = .63).

The EQLS asked participants the question: “When you compare the financial situation of your household 12 months ago and now would you say it has become: (1) “Better”; (2) “The same”; or (3) “Worse?” (Q65 in EQLS-3 and Q98 in EQLS-4). This study used a single-item variable that was recoded so that those who reported their financial situation as “better” or “the same” were coded as (0) “No economic strain” and those who reported that it was “worse” were coded as: (1) “Experiencing economic strain”. One limitation of the measure used in this study is that it measures overall economic strain rather than specific types such as changes in household income or expenditures on caregiving. Another issue is that the variable is unable to disentangle whether the level of financial strain changed as result of caregiver status change. The economic status of the household may have

changed over the past 12 months due to something other than caregiving. Furthermore, those in the sample may have begun caregiving several years before being surveyed or several weeks before being surveyed.

Lastly, in order to address role captivity, Pearlin and Schooler developed a scale with three items (1978). This scale has been used as a benchmark to measure role captivity (Parkman, 2020). Applying the scale to caregivers, Pearlin et al. (1990) and Aneshensel et al. (1992) originally measured role captivity using a 3-item scale: “How much does each statement describe your thoughts about your caregiving? How much do you: (1) Wish you were free to lead a life of your own; (2) Feel trapped by your (relative's) illness; (3) Wish you could just run away” with response categories: (4) “Very much”; (3) “Somewhat” (2) “Just a little”; and (1) “Not at all”. The EQLS did not include these three items but did include an item similar to the first. This variable was based on an item in Ryan and Deci’s (2000) autonomy scale. It asked EQLS respondents how strongly they agreed or disagreed with the statement: “I feel free to decide how to live my life.” There were five response categories ranging from: (1) “Strongly agree” through (5) “Strongly disagree” (Q29D in EQLS-3 and Q7D in EQLS-4). The original 5-level response categories were retained as well as the direction of the coding to reflect role captivity (e.g., 1 = lowest role captivity, ..., 5 = highest role captivity).

Stress Resources

Stress resource variables included in the study were informal social support, formal social support, and coping. In order to address informal social support, four dichotomous variables were used in this study. The EQLS asked respondents “From whom would you get support in each of the following five situations: (A) “If you needed help around the house”;

(B) “If you needed advice about a serious personal or family matter”; (C) “If you needed help when looking for a job”; (D) “If you were feeling a bit depressed and wanting someone to talk to”; and (E) “If you urgently needed to raise money to face an emergency?”.

Respondents could select *either*: (1) “A friend, neighbour or someone else who does not belong to your family or relatives”; or (2) “A member of your family/relative”; or (3) “A service provider, institution, or organization”, or (4) “No one” (Q35 in EQLS-3, Q40 in EQLS-4). For the current study, four dichotomous variables were created that included whether or not the respondent had access to friends, neighbours or relatives for: (1) support around the house; (2) personal support; (3) depression support; and (4) financial support. Each was a dichotomous variable coded so that: (1) “Has access to informal social support” and (0) “Has no informal social support”. Job support was excluded from the variables considered as it would only apply to informal caregivers who were employed whereas the other four types of support would be applicable to all informal caregivers.

The same question was used to assess formal support. Those who reported that they had access to support from “a service provider, institution, or organization” in any one of the four situations described above were coded as (1) and contrasted with those who reported that they did not have access to such support in any of the four areas (coded as 0). The decision to use a single variable was based on findings pointing to the low level of formal social support available to respondents.

Pearlin et al. (1990) defined coping as a “...response to life problems as having three possible functions: management of the situation giving rise to stress; management of the meaning of the situation such that the threat is reduced; and management of the stress symptoms that results from the situation” (p.590). The EQLS asked respondents whether

“life has become so complicated today that I almost can’t find my way”. The five response categories ranged from: (1) “strongly agree” through (5) “strongly disagree” (Q29 in EQLS-3 and Q36 in EQLS-4). The statement is part of Eurofound’s perceived social exclusion index (Eurofound, 2016a). Although there is no published evidence of its validity or reliability as a measure of coping, it appears to have face validity as an indicator of the coping resources available to manage stress. The variable coding was retained as those responding “strongly disagree” to life becoming more complicated were considered to be coping best.

Control Variables

Control variables included in the study were rural/urban residence and education level. Previous studies have found some evidence to suggest that rural/urban residence plays a role in the stress process among informal caregivers (Bédard, Koivuranta, & Stuckey, 2004; Bien, Wojszel, & Sikorska-Simmons, 2007; Bouldin et al., 2018; Crouch, Probst, & Bennett, 2017; Kim et al., 2006; Wang et al., 2020). In the EQLS, respondents were asked: “Would you consider the area in which you live to be...”: (1) “The open countryside”; (2) “A village/small town”; (3) “A medium to large town”; or (4) “A city or suburb” (Q49 in EQLS-3 and Q53 in EQLS-4). In order to control for rural/urban residence, categories 1 and 2 were recoded into (0) “rural” and categories 3 and 4 into (1) “urban”.

In order to control for education in this study, a variable was used based on a question asking respondents: “What was the highest education that you completed?” There were eight response categories: (1) “No education completed (ISCED 0)”; (2) “Primary education (ISCED 1)”; (3) “Lower secondary education (ISCED 2)”; (4) “Upper secondary education (ISCED 3)”; (5) “Post-secondary education including pre-vocational or vocational education but not tertiary (ISCED 4)”; (6) “Tertiary education – first level (ISCED 5)”; (7) “Tertiary

education – advanced level (ISCED 6)”, and (8) “completed education abroad” (Q48). In this study, the variable was recoded into a 4-category variable: (1) “Less than secondary education completed (ISCED 0 to 2); (2) “Secondary education completed (ISCED 3)”; (3) “Post-secondary education less than bachelors completed” (ISCED 4 and 5); and (4) “Bachelor or equivalent and above (ISCED 6 or above)”. The variable was recoded in this way as there were relatively few respondents in some of these education levels (i.e., no education, primary education, and post-secondary tertiary). Respondents (n=10) who had completed their education abroad were recoded as missing.

5.5 Data Analysis

Regression techniques were used to assess the relationships of interest in this study. These included: (1) ordinary least squares (OLS) regression with survey weights and (2) ordered logistic regression with survey weights. Both OLS and ordered logit models were used because the dependent variables were ordinal-level variables. It is worth noting that OLS still appears to be a commonly used method in studies on single-item ordinal-level measures of life satisfaction (Flavin, Pacek, & Radcliff, 2010; Headey, 2006; Niedzwiedz et al., 2014; Orru et al., 2016; Radcliff, 2001) while others use ordered logit models (Bjørnskov, Drehe, & Fischer, 2008; Schwarze & Harpfer, 2007; Selim, 2008; Sorensen, 2011). The results section reports findings for the analyses using the OLS weighted models (approach 1). The OLS results are reported for ease of interpretation (especially with interactions) by treating the dependent variables as continuous variables (Headey, 2006; Menard, 2002). Furthermore, OLS models are known to be robust although it is good practice to use both approaches (Menard, 2002). Although using OLS regression for an

ordinal level measures may violate the continuous assumption, there was evidence that many of the independent variables violated the main assumption of the ordered logit model (the proportional odds assumption) according to a Brant test (Brant, 1990).⁵ Discrepancies between the two approaches are reported in the results chapter and discussed in more detail in the discussion chapter.

For each dependent variable, the regression analysis followed the same modeling strategy. In order to begin addressing the first research question: “Is regime type associated with the mental health and well-being of informal caregivers?”, the first model assessed the bivariate relationship between regime type and the dependent variable. In the second model, social location variables were added in order to assess the relationship between social location and the dependent variable as well as whether social location factors mediate the regime type/dependent variable relationship. The third model included the interactive effects of social location to assess their relationship with the dependent variable as well as whether the interactions mediated the regime type/dependent variable relationship. The second and third models address the second research question: “Are social location factors and their intersections associated with the mental health and well-being of informal caregivers?” These models addressed the third research question by comparing the results (i.e., the coefficients associated with regime type) to those observed in Model 1: “Is there evidence that social location factors and their intersections mediate the relationship between regime type and informal caregiver mental health and well-being?” The fourth model includes socio-demographic and socio-economic control variables expected to be associated with the

⁵ Several variables violated the Brant test of the proportional odds assumption for ordered logit in the final model for both dependent variables. For instance, country, gender, income, education, role overload, work/family conflict (volunteering), role captivity, instrumental social support – help around the house, and coping. Note: the test is only available for the non-imputed data, unweighted data.

dependent variable, thereby allowing a determination of whether the results remain when controls were introduced.

The fifth, sixth, and seventh models add primary stressors, secondary stressors and stress resources (sequentially) to the model in order to address the fourth research question: “Do stress process factors mediate the relationship between regime type and informal caregiver mental health and well-being?” These four models also allowed for an analysis of the fifth research question: “Do stress process factors mediate the relationships between social location factors and their intersections and informal caregiver mental health and well-being?” All analyses were conducted using Stata 13 software.

5.6 Model Assumptions and Adjustments

Given the decision to use OLS regression analyses for this study, several assumptions were also tested prior to the analyses. They included: assumptions regarding linearity, heteroscedasticity, multicollinearity, and normality. Adjustments were made where the assumptions may have been violated.

Scatterplots were assessed to test the linearity of all non-categorical independent variables with the two dependent variables. After assessing the scatterplots, the relationships appeared to be linear with the possible exception of age (U-shaped). Next, a regression model assessed whether the relationships between quadratic age (squared) and our dependent variables were significant. Quadratic age did not have a significant association with either dependent variable so the study proceeded using a non-quadratic age variable.

In order to assess whether the data were homoscedastic, plots of residuals by fitted values were assessed and revealed a potential heteroscedastic pattern for models with both dependent variables. Additionally, Breusch-Pagan Cook-Weisberg Chi-square tests revealed that the null hypothesis of constant variance (an indicator of homoscedasticity) was rejected. The main consequence of having heteroscedastic data is that OLS estimators of variance (and thus standard errors) of the coefficients can be biased, thereby leading to biased inferences and either type 1 or type 2 errors in hypothesis tests. However, OLS coefficients are not biased, meaning that OLS will provide an unbiased estimate of the relationships between the predictor variables and the outcome. This is the primary focus of this study. In addition, heteroscedasticity issues have been noted elsewhere to often be overreacted to at the expense of a good model and only concerning in extreme cases (Fox, 1997). Nevertheless, to address this issue, the analyses utilized heteroscedasticity-consistent standard errors (HCSE). HCSEs are known to still be biased but improve upon OLS estimates without altering the values of coefficients (White, 1980).

Multicollinearity is known to be an issue with linear models as strong linear associations among independent variables can lead to unreliable and unstable estimates of regression coefficients. To address this issue, initially, a correlation matrix was assessed with all variables included in the study. The strongest correlation among independent variables included in the model was between age and work/family conflict – unemployed (0.41). Thus, our correlations appeared to be well below the guidelines for potential collinearity provided in the literature (0.50 - Donath et al., 2012; 0.80 – Berry & Feldman, 1985). A correlation coefficient of 0.90 or higher almost always signifies multicollinearity (Chen & Rothschild, 2010; Dohoo et al., 1997). As well, multicollinearity was diagnosed post hoc in each final

model (Model 7) by assessing the variance inflation factors (VIFs). The results revealed VIFs of less than 3.0 for all variables in the model with the exception of several of the interaction terms. However, it has been suggested elsewhere that interaction terms are expected to have high VIFs (Allison, 2012b). The literature indicates that variance inflation factors ranging from 5.0 or 10.0 and above indicates a multicollinearity problem (Lin, 2008; O'Brien, 2007). The assessment indicated that there were not any issues with multicollinearity.

In order to test for normality of the data, skew and kurtosis statistics were assessed. All of our independent variables had acceptable levels of skewness (less than 0.85 or more than -0.85) and kurtosis (less than 2) with the exception of household income (19.17 skew and 653.17 kurtosis) and hours of care (2.39 skew and 8.23 kurtosis) (both skewed right/positive). Skew and kurtosis for household income (-0.86 skew and 9.98 kurtosis) and hours of care (0.88 skew and 2.71 kurtosis) were reduced using log transformations. The logged variables were used in all analyses. The dependent variables were moderately skewed (-0.63 for self-reported mental health and -0.89 for life satisfaction) with slightly high kurtosis statistics (3.03 for self-reported mental health and 3.77 for life satisfaction). These variables were used in the analysis as the skew (for life satisfaction) and kurtosis (for both) being slightly outside the bounds were not seen to necessitate transforming the dependent variables.

5.7 Additional Procedures

Cluster-Robust Standard Errors

Robust standard errors were used to correct for the issue of clustering since the data were drawn from multiple countries. Traditional standard errors assume that random error

terms are correlated within clusters such as geographical space (i.e. country) and time periods, but uncorrelated across clusters (MacKinnon, 2019). A consequence of relying on default standard errors is that they can overstate estimator precision leading to more biased inferences than those based on cluster-robust standard errors (Cameron & Miller, 2015). The number of countries included in the study was not enough to meet the minimum requirement to use multi-level modelling (more than 50 cases at level 2 - Mass & Hox, 2005; Moineddin, Mateson, & Glazier, 2007). However, using robust standard errors has been suggested as an alternative to correct for clustering in single-level cross-national analyses (Moody & Marvell, 2018). There is some debate regarding how many clusters are needed for cluster-robust standard errors to be effective, with some suggesting clusters with 50 or more being ideal (Pustejovsky, 2020). In the current study, the “vce robust” command available in the Stata software was used since it has been said to avoid the biased standard errors issue specific to smaller clusters (Cameron & Miller, 2015).

Weighting

The EQLS survey documentation recommendation that the design weight be used for regression analysis was followed in this study (Eurofound, n.d.). The other weights included in the EQLS are used for country level estimates. The design weight takes into account selection probability - the unequal selection probabilities at the primary sampling unit, household, and respondent levels. In the EQLS, different units of analysis (households, individuals) have different probabilities of inclusion in the sample due to different factors such as variation in the number of addresses selected, the selection of one household in multi-household dwellings and the selection of one respondent in each household (Eurofound, 2017). The design weight also takes into consideration differential response

rates between different geographical units (e.g., differences in responses between regions or between different types of neighbourhoods) and between subgroups with different demographic and socioeconomic characteristics including age and gender. In order to avoid problems associated with artificially increasing the sample size (e.g., impact on statistical significance tests), the design weights were rescaled so that the sum of the final weights equaled the actual sample size (Eurofound, 2012c; 2017).

Missing Data Strategy

Out of the sample of 6,007 informal caregivers included in the EQLS (2012, 2016), there were no missing cases on country, age or gender. Additionally, most variables had a low percentage of missing cases, ranging from less than 1 per cent (0.01%) to 3 per cent. However, the one exception was equivalized household income, with 1,094 missing cases (18.2%). Missing data can fall under three broad categories: (1) missing completely at random – meaning that there is no relationship between the missingness of the data and any values, observed or missing; (2) missing at random – meaning that there is a systematic relationship between the propensity of missing values and the observed data but not the missing data; and (3) missing not at random – meaning that there is a relationship between the propensity of a value to be missing and its values (Allison, 2001). “Missing completely at random” (1) and “missing at random” (2) are both considered “ignorable” because we don’t have to include any information about the missing data itself when we deal with the missing data. On the other hand, missing not at random is considered “non-ignorable” because the missing data mechanism itself has to be modeled (Allison, 2012a). Previous studies have shown that those with the lowest and highest household incomes are less likely to report their income, thereby suggesting that those missing on household income data are missing not at

random (Giusti & Little, 2011; Ryder et al., 2011). Additionally, a preliminary test model of the EQLS data showed that those missing on equivalized household income reported better self-reported mental health ($p=0.013$) and life satisfaction ($p=0.001$) than those not missing. This suggests that excluding the cases missing on household income would bias the estimates.

Rather than use listwise deletion or single imputation methods, multiple imputation methods were used to address missing data on all variables with missing data with the exception of the dependent variables. Dropping missing cases on the dependent variable is an option instead of including good auxiliary variables (Enders, 2010; Johnson & Young, 2011; White et al., 2010). Additionally, if an imputation model imputes to the missing cases on the dependent variable without good auxiliary variables, it can add unnecessary random variation into the imputed values (Allison, 2012a). Thus, the few cases of those missing on the dependent variables were dropped pre-imputation as the dataset did not include enough good auxiliary variables and the risk of the potential negative implications has been outlined elsewhere. Thus, 10 cases were dropped on life satisfaction and 31 cases dropped for self-reported mental health. However, the dependent variables were included in the multiple imputation procedure so that the imputation model and the analysis model were congenial.

One common approach to multiple imputation uses the Markov Chain Monte Carlo (MCMC) procedure. MCMC is a class of algorithms used in statistics to generate pseudorandom draws from probability distributions that are used to estimate the imputation values. The 'Markov Chain' denotes the procedure in which a sequence of random variables in the distribution of each variable depends on the previous variable (Suhaimi et al., 2017). The procedure assumes that all variables in the imputation model have a joint multivariate

normal distribution (Allison, 2012; Azur et al., 2011). It has been noted elsewhere that it may be acceptable to include binary dummy variables in place of nominal categorical variables so that the parameter estimates for each level can be interpreted in MCMC (Allison, 2012).

However, an alternative algorithm used in multiple imputation is known as multivariate imputation using chained equations (MICE), also known as a fully conditional specification (FCS) (Azur et al., 2011; Raghunathan, 2016). Within the MICE/FCS algorithm a series of regression models are run whereby each variable with missing data is modeled conditional upon the other variables in the imputation model. This allows the MICE/FCS procedure to model each variable according to its own distribution unlike the MCMC procedure that requires a joint normal distribution. Thus, MICE/FCS allows for each type of variable to be modeled using its specific type of distribution and estimates to be calculated according to its specific type of regression (i.e., logistic for binary, OLS for continuous, multinomial logit for categorical, Poisson for count variables) rather than solely OLS with a normal distribution in MCMC (Azur et al., 2011; Enders, Keller, & Levy, 2018; Liu & De, 2015). Additionally, an advantage of MICE/FCS is that the estimates are based on an iteration process that accounts for possible dependence of the estimated parameters on the imputed data itself by estimating each imputed variable as predicted by the other variables in the imputation model (Lee & Carlin, 2010; Raghunathan, 2016).

The MICE/FCS procedure was used instead of the MCMC procedure for the following reasons: (1) there would be a large amount of dummy variables for all levels of the categorical variables in our regression models required to meet the normal distribution assumption for MCMC; and (2) the literature suggested that the estimates based on the iteration process used by MICE/FCS are less biased than the sequential process used by

MCMC. The completed multiple imputation models using MICE/FCS resulted in $n=5,997$ complete cases for the life satisfaction analyses and $n=5,976$ complete cases for the self-reported mental health analyses.

Chapter Six: Results

6.1 Descriptive Statistics

Table 1 presents descriptive statistics for all variables used in the regression models. The largest number of informal caregivers was from Italy (22.11%), representing a semi-formal Mediterranean care regime, and France (21.50%), representing a formal conservative care regime. Somewhat fewer caregivers were from the United Kingdom (15.66% - semi-formal liberal), Germany (12.62% - semi-formal conservative), Sweden (11.80% - semi-formal social democratic) and Denmark (10.01% - formal social democratic). The smallest caregiver subsample resided in Greece (6.31%), representing an informal Mediterranean care regime.

With regard to social location, over 40 per cent of the informal caregivers studied were middle-aged (aged 45-64). Over one-third were younger adults (aged 18-44) and about one-fifth were older adults (aged 65 and older). In terms of the age groups used in the analyses, the distribution was as follows: 18 to 34 (17.10%), 35 to 44 (18.75%), 45 to 54 (23.91%), 55 to 64 (20.43%), 65 to 74 (13.45%), and 75 and older (6.39%). There were more women than men in the sample (59.78%). Household income levels ranged from € 0 to € 111,881.40 per month with a median of € 1,281.99. Married caregivers were the largest marital status group (59.76%), followed by those who were never married (19.99%), separated or divorced (12.98%), and widowed (7.26%). Just fewer than one-half (49.04%) of the informal caregivers resided in relatively rural settings and 50.96 per cent resided in urban settings. In terms of education levels, close to one-third had completed less than a secondary level of education (30.46%), one-third had completed secondary level of education (32.95%),

with the remainder reporting some post-secondary education (less than a bachelor's degree = 25.12%) or a bachelor's degree or equivalent and above (11.47%).

Turning to care related stressors and stress resources, the median number of hours of care provided per week was quite low (1.04, mean = 7.36). Yet, a sizable minority (18.99%) of caregivers were providing 10 or more hours of care per week. The mean for role overload was 2.97 out of 5 ("Neither agree nor disagree"). Overall, 39.74 per cent of the informal caregivers surveyed strongly agreed or agreed with the statement that "In my daily life, I seldom have time to do the things I really enjoy" whereas 40.44 per cent either strongly disagreed or disagreed with the statement. In regards to constriction of social activities, 21.58 per cent of informal caregivers reported that they never participated in the social activities of a club, society, or an association. Also, in regards to constriction of volunteering, over one-half (52.46%) of informal caregivers reported that they had not volunteered in the past 12 months.

Almost half of the informal caregivers were unemployed (46.76%), and among the employed caregivers, 40.37 per cent reported experiencing work/family conflict. Economic strain was reported by 31.07 per cent of the informal caregivers. Most informal caregivers did not experience role captivity (as 72.32 per cent reported that they either "agreed" or "strongly agreed" with the statement that "I feel free to decide how to live my life"). The mean score for role captivity was 2.15 out of 5 ("agree"). The majority of informal caregivers had informal social support they could rely on: when feeling depressed (91.90%), when needing advice (91.72%), when needing money (80.78%), and when needing help around the house (93.56%). However, a minority of informal caregivers had formal social support resources they could rely on (17.57%). Lastly, informal caregivers reported quite

high levels of coping with a mean of 3.71 out of 5 (“disagree”) when asked “life has become so complicated today that I almost can’t find my way”.

Finally, in regards to the dependent variables in the study, informal caregivers reported a mean of 61.95 out of 100 for self-reported mental health and 7.19 out of 10 for life satisfaction. A 61.95 on the self-reported mental health scale is equivalent to a 3.09 out of 5, suggesting that informal caregivers reported on average positive feelings of mental health “more than half the time”, slightly on the good mental health side. Assuming a self-rating of 5 out of 10 on life satisfaction is the mid-point between “very dissatisfied” and “very satisfied”, informal caregivers on average reported being satisfied with their lives.

Table 1. Descriptive Statistics of the Variables Used in the Regression Models: Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	M or %	S.D.
Mental Health (Range: 0 - 100)	61.95	20.32
Life Satisfaction (Range: 1 - 10)	7.19	2.04
Welfare State/Family Care Regime		
Formal SD (Denmark)	10.01%	
Semi-Formal SD (Sweden)	11.80%	
Formal C (France)	21.50%	
Semi-Formal C (Germany)	12.62%	
Semi-Formal M (Italy)	22.11%	
Informal M (Greece)	6.31%	
Semi-Formal L (UK - reference)	15.66%	
Social Location		
Age Group (Range: 1 - 6)	3.13	1.47
Gender (Female = 1)	59.78%	
Household Income (In Euros)	7.11	0.78
Marital Status		
Married (Reference)	59.76%	
Separated or Divorced	12.98%	
Widowed	7.26%	
Never Married	19.99%	
Controls		
Rural/Urban (Urban = 1)	50.96%	
Education (Range: 1 - 4)	2.17	0.99
Primary Stressors		
Hours of Care (In hours)	1.04	1.24
Role Overload (Range: 1 - 5)	2.97	1.21
Secondary Stressors		
Social Constriction (Did not participate = 1)	21.58%	
Social Constriction (Did not volunteer = 1)	52.46%	
Work/Family Conflict (Unemployed = 1)	46.76%	
Work/Family Conflict (Conflict = 1)	40.37%	
Economic Strain (Worse = 1)	31.07%	
Role Captivity (Range: 1 - 5)	2.15	1.06
Stress Resources		
Informal Social Support depressed (Yes = 1)	91.90%	
Informal Social Support advice (Yes = 1)	91.72%	
Informal Social Support money (Yes = 1)	80.78%	
Informal Social Support house help (Yes = 1)	93.56%	
Formal Social Support (Yes = 1)	17.57%	
Coping (Range: 1 - 5)	3.71	1.19
<i>N</i>	6,007	

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal
Weighted means or percentages, unweighted *N*.

Source: The 2012 and 2016 EQLS Survey

Table 2 presents the descriptive statistics for the variables used in the regression models by regime type. According to the Chi-square and ANOVA results, all variables differed significantly across welfare state/family care regimes. For self-reported mental health, informal caregivers in formal (Denmark: 69.64) and semi-formal (Sweden: 65.93)

social democratic care regimes had the highest average scores, and those in the semi-formal liberal (UK: 58.96) and informal Mediterranean (Greece: 54.39) care regimes had the lowest average scores. Similarly, informal caregivers in formal (Denmark: 8.29) and semi-formal (Sweden: 8.11) social democratic care regimes had the highest levels of life satisfaction. As well, informal caregivers in the informal Mediterranean (Greece: 5.16) care regime reported the lowest life satisfaction levels, followed by those in the semi-formal Mediterranean (Italy: 6.69) care regime.

Informal caregivers were youngest in France (2.88) and oldest in Sweden (3.36). There were more women than men informal caregivers in all regime types. However, this ranged from lows of 52.19 per cent in Sweden and 54.92 per cent in Denmark to highs of over sixty percent in Germany (61.76%), Italy (66.04%) and Greece (68.97). Informal caregivers in Greece (64.99%) and Italy (63.99%) had the highest percentages of married caregivers and the lowest percentages of those who were separated or divorced (Greece: 9.28%; Italy: 8.04%). On the other hand, informal caregivers residing in Denmark (56.02%) and France (56.25%) reported the lowest percentages of married caregivers and the highest percentage of separated or divorced caregivers (Denmark: 14.72%; France: 18.39%). Greece (9.02%) and Germany (9.09%) had the highest percentages of widowed caregivers, whereas Sweden (6.52%) and France (5.90%) had the lowest. Never married caregivers comprised the highest percentage of caregivers in Denmark (22.74%) and Sweden (21.67%) and the lowest in Germany (18.18%) and Greece (16.71%).

Informal caregivers' household income levels also varied across regime types. The lowest average levels were evident in Greece (6.63) and Italy (6.92) whereas the highest levels were evident in Denmark (7.37) and Sweden (7.41). Informal caregivers in Denmark

(63.48%) and Sweden (64.21%) also included the highest percentage of urban residents, whereas those in Italy (37.29%) and France (48.37%) had the lowest. Lastly, similar to household income levels, informal caregivers in Italy (1.91) and Greece (1.99) reported the lowest levels of education whereas caregivers in Denmark (2.55) and Sweden (2.54) reported the highest levels.

Table 2 also indicates that stress process factors vary by regime type. In regards to primary stressors, informal caregivers in Sweden (0.50) and Denmark (0.62) reported providing the fewest log hours of informal care when compared to caregivers residing in Greece (1.71) and the UK (1.38). Similarly, informal caregivers in Sweden (2.69) and Denmark (2.55) also reported the lowest levels of role overload whereas those in Italy (3.23) and Greece (3.07) reported the highest.

Turning to secondary stressors, reports regarding the constriction of social activities were most prevalent in France (35.59%) and the UK (25.05%) and least prevalent in Greece (6.97%) and Sweden (14.31%). Constriction of volunteering was highest in Greece (73.87%) and the UK (57.10%) and lowest in Denmark (42.03%) and Sweden (39.94%). Informal caregivers' unemployment was highest in Greece (64.80%) and Italy (53.41%) and lowest in Denmark (39.87%) and France (41.07%). Among those who were employed, work/family conflict was most common in Denmark (44.22%) and Sweden (44.52%) and least common in Greece (30.67%) and Italy (38.24%). Although work/family conflict was most common in the social democratic care regimes, economic strain was the lowest in Denmark (12.75%) and Sweden (16.50%) and highest in Greece (81.17%) and the UK (38.79%). Lastly, role captivity also varied by regime type. Informal caregivers in Greece (3.16) and France (2.29) reported the highest role captivity whereas those in Sweden (1.59) and Denmark (1.80)

reported the lowest. Overall, these bivariate comparisons suggest that informal caregivers in formal (Denmark) and semi-formal (Sweden) social democratic care regimes reported the lowest levels of secondary stressors with the exception of work/family conflict. On the other hand, informal caregivers in the informal (Greece) and semi-formal (Italy) Mediterranean care regimes reported the highest levels of secondary stressors with the exception of work/family conflict. However, the social constriction of activities variable did not reveal a similar pattern by regime type.

Finally, turning to stress resources, with the exception of informal caregivers in the UK (87.73%) who reported having the lowest amount of informal social support available when dealing with depression, informal caregivers residing in Denmark and France reported the lowest levels of access to informal social support for each of the four circumstances (depression, advice, money, and house help). On the other hand, informal caregivers in Sweden, Germany, Greece, and Italy were the most likely to report having informal social support available for each of the four circumstances (depression, advice, money, and house help).

In regards to formal social support, more informal caregivers in Denmark (37.04%) and France (25.06%) reported having formal social support available whereas informal caregivers in Greece (4.79%) and Italy (8.91%) were the least likely to have such access to support. Overall, informal caregivers in both formal (Denmark and France) care regimes reported the highest levels of formal social support available and lowest levels of informal social support available whereas those in the informal and semi-formal Mediterranean (Greece and Italy) care regimes reported the lowest access to formal social support and highest access to informal social support available. Interestingly, informal caregivers also

reported the highest coping levels in Denmark (4.33) and Sweden (4.33) and the lowest levels of coping in Greece (3.07) and Italy (3.30).

Table 2. Descriptive Statistics of the Variables Used in the Regression Models by Country: Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Denmark		Sweden		France		Germany		Italy		Greece		UK		Chi-Square/ANOVA (by Country)
	M or %	S.D.	M or %	S.D.	M or %	S.D.	M or %	S.D.	M or %	S.D.	M or %	S.D.	M or %	S.D.	
Mental Health	69.64	17.57	65.93	18.46	61.89	20.35	63.10	18.97	60.20	20.23	54.39	21.36	58.96	21.69	195.35***
Life Satisfaction	8.29	1.64	8.11	1.64	7.11	1.82	7.21	2.13	6.69	1.80	5.16	2.40	7.39	2.05	804.95***
Social Location															
Age Group	3.24	1.47	3.36	1.65	2.88	1.36	3.17	1.49	3.17	1.39	3.33	1.40	3.09	1.55	61.11***
Gender (Female = 1)	54.92%		52.19%		56.50%		61.76%		66.04%		68.97%		58.79%		64.38***
Marital Status															
Married (Reference)	56.02%		61.19%		56.25%		58.76%		63.99%		64.99%		58.87%		91.27***
Separated or Divorced	14.72%		11.47%		18.39%		13.97%		8.04%		9.28%		13.25%		
Widowed	6.52%		5.67%		5.90%		9.09%		8.19%		9.02%		7.05%		
Never Married	22.74%		21.67%		19.47%		18.18%		19.79%		16.71%		20.83%		
Household Income	7.37	0.59	7.41	0.64	7.09	0.78	7.19	0.65	6.92	0.83	6.63	0.75	7.04	0.89	588.93***
Controls															
Rural/Urban (Urban = 1)	63.48%		64.21%		48.37%		49.80%		37.29%		60.74%		52.68%		203.37***
Education	2.55	0.98	2.54	0.90	2.23	0.97	2.09	0.95	1.91	0.88	1.99	0.99	2.10	1.10	299.13***
Primary Stressors															
Hours of Care	0.62	0.93	0.50	0.90	1.01	1.17	0.96	1.22	1.18	1.23	1.71	1.47	1.38	1.40	313.72***
Role Overload	2.55	1.20	2.69	1.33	3.02	1.27	2.88	1.22	3.23	1.05	3.07	1.15	3.03	1.14	164.95***
Secondary Stressors															
Social Constriction (Did not participate = 1)	15.69%		14.31%		39.59%		17.17%		14.78%		6.97%		25.05%		377.45***
Social Constriction (Did not volunteer = 1)	42.03%		39.94%		54.62%		44.47%		57.02%		73.87%		57.10%		177.69***
Work/Family Conflict (Unemployed = 1)	39.87%		42.53%		41.07%		44.69%		53.41%		64.80%		46.84%		107.93***
Work/Family Conflict (Conflict = 1)	44.22%		44.52%		40.30%		42.18%		38.24%		30.67%		40.64%		27.01***
Economic Strain (Worse = 1)	12.75%		16.50%		31.65%		20.37%		32.95%		81.17%		38.79%		674.02***
Role Captivity	1.80	0.96	1.59	0.81	2.29	1.10	2.09	1.01	2.26	0.95	3.16	1.23	2.11	0.96	562.23***
Stress Resources															
Informal Social Support depressed (Yes = 1)	93.57%		92.31%		88.58%		95.23%		93.88%		96.82%		87.73%		72.10***
Informal Social Support advice (Yes = 1)	87.65%		95.03%		86.21%		96.29%		95.67%		94.68%		88.83%		136.35***
Informal Social Support money (Yes = 1)	69.78%		88.79%		73.80%		91.04%		83.01%		86.21%		77.74%		180.34***
Informal Social Support house help (Yes = 1)	88.26%		98.16%		90.55%		93.67%		95.60%		93.10%		94.89%		83.25***
Formal Social Support (Yes = 1)	37.08%		13.64%		25.06%		9.09%		8.91%		4.79%		22.47%		364.56***
Coping	4.33	0.99	4.33	0.98	3.60	1.25	3.93	1.04	3.30	1.15	3.07	1.20	3.67	1.09	675.78***
<i>N</i>	6,007		6,007		6,007		6,007		6,007		6,007		6,007		

Weighted means or percentages, unweighted *N*.

Pearson's chi-square reported for categorical variables (based on observed and expected values). ANOVA (Bartlett's test for equal variances) reported for interval variables.

Kruskal-Wallis one-way ANOVA on ranks reports the H-value for interval variables. *** = less than a 0.1% chance that there is no difference in the medians.

Source: The 2012 and 2016 EQLS Survey

6.2 Self Reported Mental Health

Table 3 presents the bivariate OLS regression coefficients (unstandardized) for regime type as a predictor of self-reported mental health with each of the countries used as a reference group. Informal caregivers residing in Denmark reported significantly higher levels of self-reported mental health when compared to those living in all of the other countries. Informal caregivers in Sweden reported the second highest levels, which were also significantly higher than those in all countries other than Denmark and the third highest country, France. Informal caregivers in France, in turn, reported significantly better self-rated mental health than those in Italy, Greece or the UK but not Germany. Germany reported the fourth highest levels of self-reported mental health but although these levels were significantly higher than those of caregivers in Italy or Greece, they were not significantly different from those in the UK (the country with informal caregivers reporting the fifth highest self-reported mental health). Lastly, informal caregivers in Italy did not differ significantly in terms of self-reported mental health from those in Greece. In general, the OLS results were consistent with the ordered logit analyses with two exceptions: in the latter, residence in Sweden was not associated with significantly better SRMH than residence in Germany and residence in France was not associated with better SRMH than residence in the UK (Appendix A).

Table 3. Ordinary Least Squares Regressions of Mental Health on Welfare State/Family Care Regime with Varying Reference Categories (Model 1, no controls): Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Denmark	Sweden	France	Germany	Italy	Greece	UK
Welfare State/Family Care Regime							
Formal SD (Denmark)		4.622***	5.992***	7.872***	13.516***	14.826***	9.384***
Semi-Formal SD (Sweden)	-4.622***		1.370	3.249*	8.893***	10.204***	4.762**
Formal C (France)	-5.992***	-1.370		1.879	7.524***	8.834***	3.392*
Semi-Formal C (Germany)	-7.872***	-3.249*	-1.879		5.644**	6.954**	1.512
Semi-Formal M (Italy)	-13.516***	-8.894***	-7.524***	-5.644**		1.310	-4.131**
Informal M (Greece)	-14.826***	-10.204***	-8.834***	-6.954**	-1.310		-5.442**
Semi-Formal L (UK)	-9.384	-4.762**	-3.392*	-1.512	4.131**	5.442**	
Intercept	70.712	66.09	64.72	62.84	57.196	55.886	61.328
R ²	0.026	0.026	0.026	0.026	0.026	0.026	0.026
N	5,976	5,976	5,976	5,976	5,976	5,976	5,976

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized beta coefficients reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS

Table 4 reports the OLS regression results for the association of regime type (UK as the reference group), social location (age, gender, marital status and household income), control variables, and stress process factors with SRMH. The analyses began with an examination of the bivariate relationship between regime type and the SRMH of informal caregivers and then proceeded to include social location, control variables and stress process variables.

The bivariate model (Model 1) once again revealed a significant association between regime type and SRMH. Informal caregivers in Denmark, followed by Sweden, and France reported significantly better SRMH than those in the UK whereas informal caregivers in Italy and Greece reported significantly lower SRMH than the reference group. There was no significant difference when comparing caregiver self-reported mental health in Germany and the UK. These results were consistent with those evident in the ordered logit analyses with the exception that the latter revealed no significant difference in SRMH between informal caregivers residing in France and the UK (Appendix B).

Table 4. Ordinary Least Squares Regressions of Mental Health on Welfare State/Family Care Regime, Social Location and Stress Process Indicators: Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Welfare State/Family Care Regime							
Formal SD (Denmark)	9.384***	8.243***	8.104***	7.867***	6.409***	5.286***	4.311**
Semi-Formal SD (Sweden)	4.762**	3.708*	3.228*	2.542	1.451	-0.756	-2.488
Formal C (France)	3.392*	3.391*	3.232*	3.712*	3.353*	5.988***	5.722***
Semi-Formal C (Germany)	1.512	0.834	0.805	1.530	0.887	0.885	-0.456
Semi-Formal M (Italy)	-4.131**	-3.245*	-3.079*	-2.066	-1.826	-0.552	-0.194
Informal M (Greece)	-5.442**	-3.894	-3.356	-3.544	-3.621	6.386**	5.549**
Semi-Formal L (UK - reference)							
Social Location							
Age Group		-0.474	-8.735**	-8.245*	-8.024*	-5.936*	-6.318*
Gender (Female = 1)		-4.579***	-4.569***	-4.540***	-4.266***	-3.857***	-3.837***
Marital Status							
Married (Reference)							
Separated/Divorced		-3.705*	-3.913*	-4.054**	-3.868*	-3.989**	-2.567
Widowed		0.540	-6.934	-6.403	-6.187	-7.217	-6.530
Never Married		-1.662	-3.234*	-3.444*	-3.287*	2.599	-1.411
Household Income		2.768***	3.039***	2.557**	2.385**	0.791	0.321
Age x Household Income			1.152*	1.121*	1.045*	0.764	0.803*
Age x Marital Status							
Married (Reference)							
Separated/Divorced			1.528	1.561	1.628	1.789	1.589
Widowed			4.996*	4.893*	4.453*	4.675**	4.514**
Never Married			-0.863	-1.074	-0.657	-0.107	0.176
Controls							
Rural/Urban (Urban =1)				2.122*	2.021*	1.904*	2.179*
Education				1.640***	1.588**	1.055*	0.526
Primary Stressors							
Hours of Care					-0.420	-0.404	-0.267
Role Overload					-2.314***	-1.415**	-1.138**
Secondary Stressors							
Social Const. Participation						-2.636*	-2.325
Social Const. Volunteering						-2.641**	-2.803**
Work/Family Conflict (Unemp.)						-5.780***	-4.676**
Work/Family Conflict (Conflict)						-5.346***	-4.837**
Economic Strain						-6.481***	-5.536***
Role Captivity						-5.529***	-4.429***
Stress Resources							
Informal Social Support (Dep.)							3.749*
Informal Social Support (Emo.)							-0.845
Informal Social Support (Money)							0.778
Informal Social Support (House)							0.368
Formal Social Support							-3.291*
Coping							3.542***
Intercept	61.328	45.308	43.355	41.672	50.701	79.595	63.589
R ²	0.026	0.055	0.065	0.075	0.092	0.200	0.239
N	5,976	5,976	5,976	5,976	5,976	5,976	5,976

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized beta coefficients reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS

Model 2 presents the results of the OLS regressions of SRMH on regime type and social location (age, gender, marital status and household income). When accounting for the association of regime type with SRMH, women, separated or divorced, and lower income informal caregivers reported worse SRMH than informal caregivers who were men, married,

or had higher incomes. These results were consistent with the ordered logit results (Appendix B).

With these factors taken into account, the relationship between regime type and SRMH was mediated somewhat, with the SRMH of caregivers in Greece no longer significantly different from that associated with residence in the UK. The results obtained with regard to the impact of welfare state/family care regimes (but not gender, marital status or household income) differed somewhat when using OLS and ordered logit procedures. Similar to Model 1, in the ordered logit results, caregivers in France did not differ significantly in SRMH compared to those in the UK (Appendix B). As well, in the ordered logit results, the relationship between residence in Greece (compared to the UK) and SRMH was not mediated when social location factors were included in the model (Appendix B). On the other hand, the relationship between residence in Sweden and SRMH was mediated in the ordered logit results but not the OLS results (Appendix B).

Models 3 and 4 present the OLS regression results for equations that include the interactions of age and household income, and age and marital status on SRMH without and then with controls included for rural or urban residence and education level. Initially, all combinations of two- and three-way interactions (age, gender, marital status, socio-economic status) were tested for their associations with SRMH. Interactions that were not significant ($p < 0.05$) were dropped from subsequent analysis. Both urban residence and education level were positively associated with SRMH (Model 4). When including these controls, the interaction of age x household income was significantly associated with SRMH. This is also evident in the ordered logit analyses (Appendix B). The results are depicted graphically in Figure 4. The figure indicates that as household income increases, informal caregivers'

SRMH increases in all age groups with the exception of those aged 18 to 34. Conversely, informal caregivers aged 18 to 34 reported worse SRMH as household income increased. Figure 4 also suggests a crossover effect in the interaction as those aged 35 and older with the lowest income reported the poorest SRMH, whereas those aged 35 and older with the highest income reported the highest SRMH. Conversely, those under 35 with the lowest income reported the highest SRMH, whereas those with the highest incomes reported the lowest SRMH. It should be noted however, that the confidence intervals overlap, suggesting that the difference between these specific groups is not statistically significant despite a significant relationship reported for the interaction term as a whole.

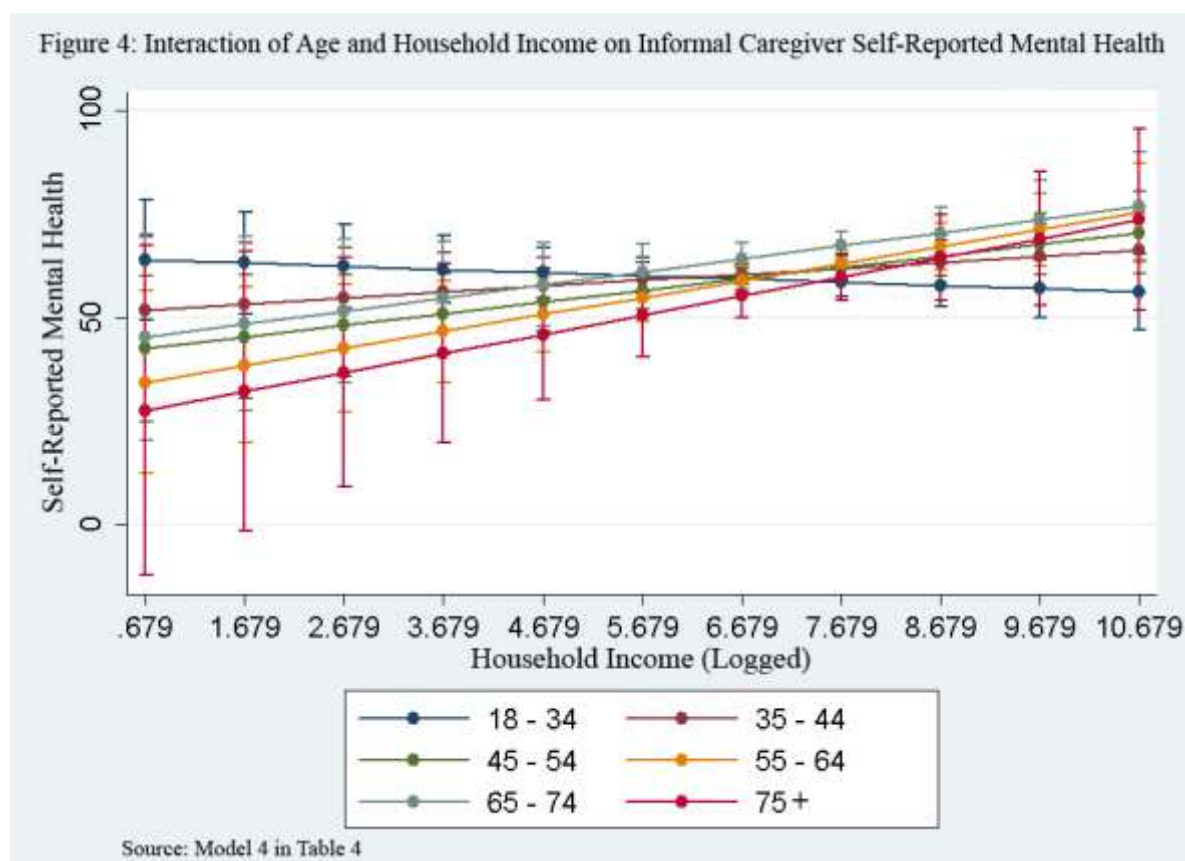
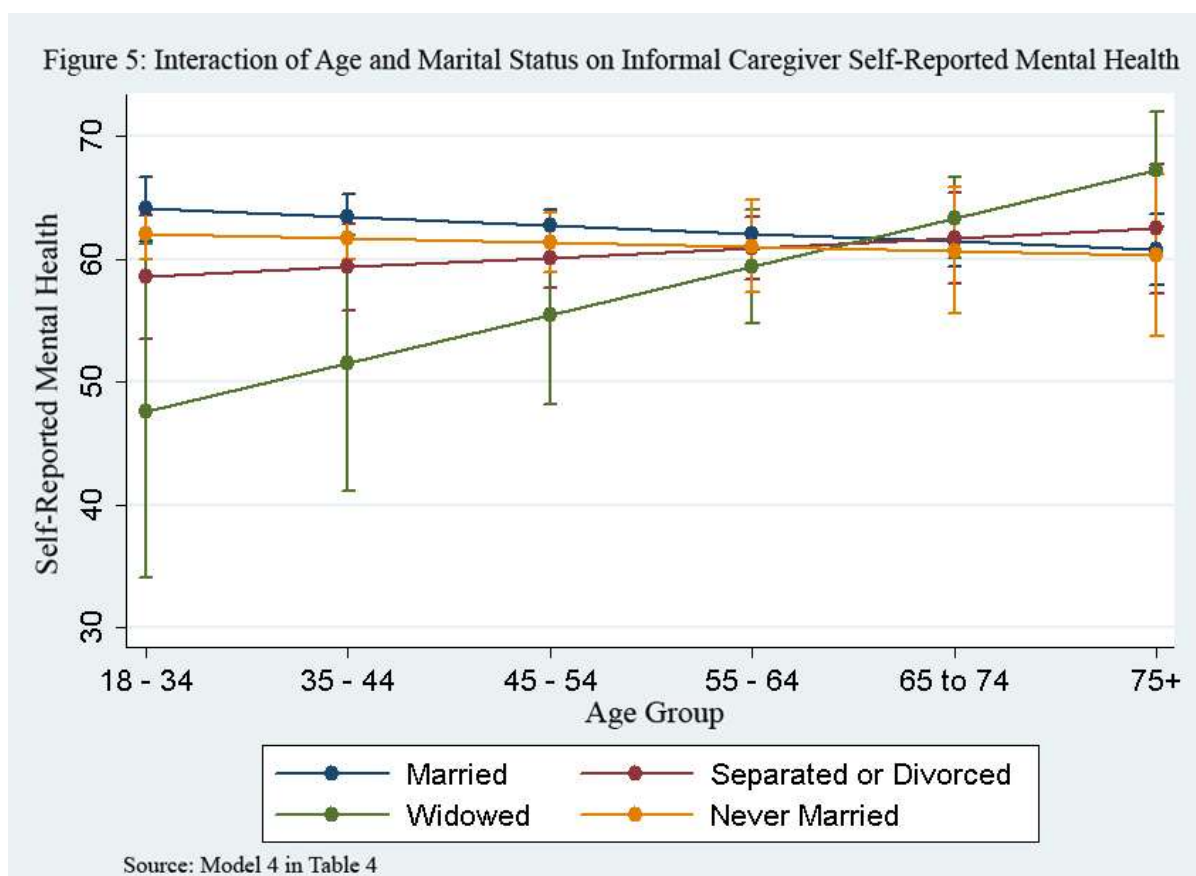


Table 4 also reveals that the interaction between age and marital status explains a significant amount of the variance in SRMH. Specifically, Model 4 indicates a significant

difference across age groups when comparing widowed and married informal caregivers' SRMH. Figure 5 shows that widowed informal caregivers aged 18 to 54 had lower SRMH than widowed caregivers aged 55 and older and informal caregivers with other marital statuses. Among those aged 55 to 74, the disparity in SRMH between widowed and other marital statuses converged. Widowed informal caregivers aged 75 and older had better SRMH than those with other marital statuses. The confidence intervals overlap, suggesting that the difference between these specific groups is not statistically significant despite a significant relationship reported for the interaction term as a whole. However, in the ordered logit results, the age x marital status interaction was not significant (Appendix B).



Overall, the results of Models 2 through 4 provide some evidence that some social location factors and their interactions explained a significant amount of the variance in the

SRMH of informal caregivers. Irrespective of age, household income, and marital status, women informal caregivers reported lower SRMH than men. Indeed, the interaction between gender and the other social location factors assessed did not explain a significant amount of the variance in SRMH. As well, the interaction between age and marital status did not explain a significant amount of the variance in SRMH. However, there did appear to be some evidence for the notion that the interactions between age and socio-economic status, and age and marital status explained a significant amount of the variance in the SRMH of informal caregivers.

With the inclusion of the interaction terms in Model 3 and the addition of control variables in Model 4, the association between regime type and SRMH was somewhat attenuated, at least in the OLS analyses. Specifically, with the inclusion of the interaction terms, the differences evident between caregivers in the UK and all other regime types were attenuated somewhat, but not to the point of non-significance (Model 3). However, when the control variables were included, informal caregivers residing in Sweden no longer had significantly better SRMH than those residing in the UK, and those residing in Italy no longer had significantly worse SRMH than those in the UK. The attenuation of the relationship between residing in Italy compared to the UK and SRMH was also evident in the ordered logit results (Appendix B). However, the finding that the relationship was attenuated when comparing Sweden and the UK in the OLS results was not evident in the ordered logit results (where the relationship was instead attenuated in Model 2).

Model 5 presents the OLS regression results that include regime type, social location and control variables, as well as the primary stressors (hours of care and role overload). In this context, the total number of hours of care provided was not significantly associated with

the SRMH of informal caregivers whereas role overload was negatively associated with SRMH. Thus, regardless of regime type or social location, caregivers reporting greater role overload also reported poorer SRMH. These findings were also evident in the ordered logit results (Appendix B).

Comparing the results evident in Model 5 to those obtained in Model 4 suggests that including primary stressors in the model did not fully attenuate either the regime type and SRMH relationships or the social location and SRMH relationships. All previously significant variables remained significant. There was one exception in the ordered logit results where informal caregivers residing in France reported better self-reported mental health than those in the UK (Model 4) but this was mediated in Model 5 (Appendix B).

Model 6 presents the OLS regression results that include the secondary stressors. All secondary stressors were negatively associated with the SRMH of informal caregivers. Informal caregivers with constricted social activities and volunteering, who were unemployed, and who experienced work/family conflict, economic strain, and role captivity all reported lower SRMH. This was also evident in the ordered logit results with the one exception of social constriction of volunteering being not significant (Appendix B).

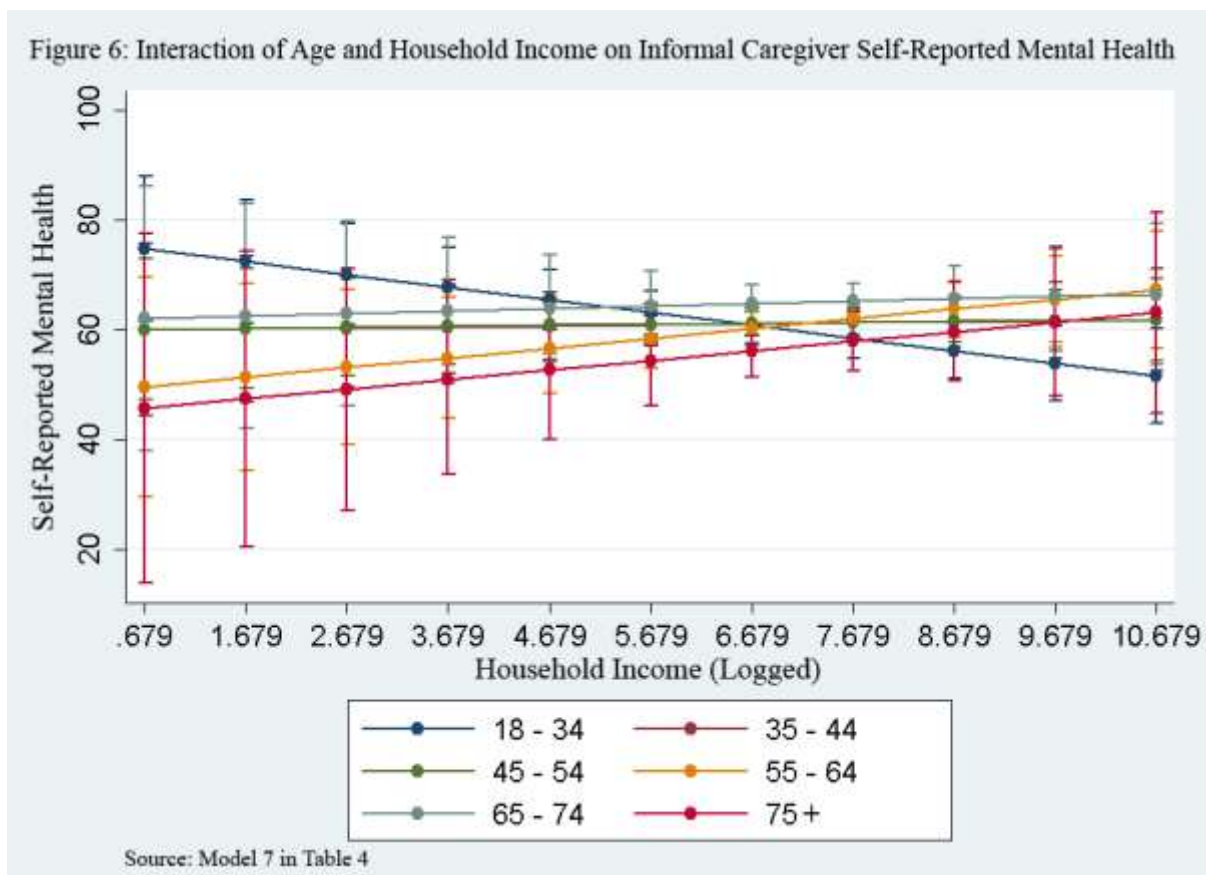
Comparing the coefficients in Model 6 to those in Model 5 suggests that secondary stressors are more strongly associated with SRMH than are primary stressors. In fact, adding primary stressors to the model increased the model R^2 from 7.5 to 9.2 percent whereas adding secondary stressors increased it from 9.2 to 20.0 percent. However, it is worth noting that a broader array of secondary stressors were included in the analyses compared to primary stressors. Similar results are reported for the ordered logit analyses (Appendix B).

Furthermore, when regime differences in secondary stressors are taken into account, the disparities in SRMH evident when comparing informal caregivers residing in several countries (i.e., France and Greece) to those in the UK are highly significant. The associations between these regime types and SRMH are also positive in direction, suggesting that differences in levels of exposure to secondary stressors appear to suppress the otherwise more positive SRMH of caregivers in these countries when compared to those in the UK. These findings were also evident in the ordered logit results (Appendix B). As well, comparing Model 6 to Model 5 suggests that the association between the age x household income intersection and SRMH is mediated by secondary stressors. This was also the case in the ordered logit results (Appendix B).

Model 7 presents the OLS regression results that include stress resources. Having informal social support to rely on when dealing with depression was positively associated with SRMH. However, this was not the case in the ordered logit results (Appendix B). Additionally, with such support and other factors taken into account, having informal social support available for emotional support, financial support, and with help around the house did not have significant associations with informal caregivers' SRMH. Finally, having formal social support to rely on for at least one of these four circumstances was negatively associated with informal caregivers' SRMH. This was the case in the ordered logit model as well (Appendix B). Lastly, coping was positively associated with SRMH in both the OLS and ordered logit results. Those who disagreed that "life has become so complicated today that I almost can't find my way" also reported having better SRMH than those who did not. Comparing the results in Model 7 to those in Model 6 reveals that the relationships previously observed between regime type and SRMH changed relatively little (although

some of the coefficients were reduced in magnitude). One exception in the ordered logit results was evidence of suppression in which Swedish caregivers reported worse SRMH than those residing in the UK with the inclusion of stress resources. There was also some indication that these stress resources suppressed a somewhat stronger association between the intersection of age and household income and SRMH. This finding was also evident in the ordered logit model (Appendix B).

Figure 6 shows the association of the age x household income interaction based on the results reported in Table 4, Model 7. Once again, the findings reveal that as household income increases, informal caregivers' SRMH increases in all age groups with the exception of those aged 18 to 34 for whom SRMH decreased as household income increased. There also continues to be some evidence of a crossover effect in the interaction. Again, it should be noted however, that the confidence intervals overlap, suggesting that the differences between these groups does not explain a significant amount of the variance in SRMH.



Overall, the findings suggest that regime type has a strong association with the SRMH of informal caregivers. Regardless of social location and stress process factors, informal caregivers residing in Denmark and France had better self-reported mental health, and German informal caregivers showed no difference in SRMH, when compared with those residing in the UK. However, the association of regime type and SRMH among informal caregivers does not remain completely unchanged in the models that include social location (main and interactions), controls (Models 2 through 4), and stress process factors (Models 5 through 7). This was most evident in the differences in SRMH reported by those residing in Sweden, Italy, and Greece compared with those in the UK. Additionally, when social location and stress process factors were considered, informal caregivers who were women,

younger and widowed, younger with high incomes, older with low incomes, rural residents, who reported higher levels of role overload, secondary stressors, and a relative lack of coping resources reported worse SRMH. Taken together, regime type, intersecting social locations, and stress process factors accounted for 23.9 per cent of the variance in levels of SRMH among the informal caregivers studied.

6.3 Life Satisfaction

Table 5 presents the OLS regression models for life satisfaction on regime type with varying reference groups. Informal caregivers residing in Denmark reported the highest life satisfaction when compared to those in all countries other than Sweden. Similarly, informal caregivers in Sweden reported the second highest levels, which are also significantly higher than those in all countries other than Denmark. Informal caregivers residing in the UK reported the third highest levels of life satisfaction, followed by those in Germany but there is no significant difference between them. However, the life satisfaction of those in the UK was significantly higher than that of those living in France, Italy and Greece. Informal caregivers residing in France reported the fifth highest life satisfaction and although these levels were not significantly different from those of caregivers in Germany, they were significantly better than those of caregivers in Italy and Greece. Lastly, informal caregivers in Greece reported greater life satisfaction than those in Italy. These results are consistent with the ordered logit analyses with the three exceptions: in these analyses, Swedish caregivers reported worse SRMH than those residing in Denmark, German caregivers reported worse SRMH than those residing in the UK, and French caregivers reported worse SRMH than those residing in Germany (Appendix C).

Table 5. Ordinary Least Squares Regressions of Life Satisfaction on Welfare State/Family Care Regime with Varying Reference Categories (Model 1, no controls): Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Denmark	Sweden	France	Germany	Italy	Greece	UK
Welfare State/Family Care Regime							
Formal SD (Denmark)		0.209	1.160***	0.872***	1.751***	3.718***	0.544***
Semi-Formal SD (Sweden)	-0.209		0.951***	0.662***	1.542***	3.509***	0.335*
Formal C (France)	-1.160***	-0.951***		-0.289	0.591***	2.558***	-0.616***
Semi-Formal C (Germany)	-0.872***	-0.662***	0.289		0.879***	2.846***	-0.328
Semi-Formal M (Italy)	-1.751***	-1.542***	-0.591***	-0.879***		1.967***	-1.207***
Informal M (Greece)	-3.718***	-3.509***	-2.558***	-2.846***	-1.967***		-3.174***
Semi-Formal L (UK)	-0.544***	-0.335*	0.616***	0.328	1.207***	3.174***	
Intercept	8.250	8.041	7.089	7.378	6.499	4.532	7.706
R ²	0.102	0.102	0.102	0.102	0.102	0.102	0.102
N	5,997	5,997	5,997	5,997	5,997	5,997	5,997

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized beta coefficients reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS

Table 6 presents the OLS regression results for the associations of regime type, social location (age, gender, marital status and household income), control variables, and stress process factors on the life satisfaction of informal caregivers. The analysis begins with an examination of the bivariate relationship between regime type and life satisfaction among informal caregivers and then proceeds to introduce social location, controls and stress process variables into the equation.

Table 6. Ordinary Least Squares Regressions of Life Satisfaction on Welfare State/Family Care Regime, Social Location and Stress
Process Indicators: Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Welfare State/Family Care Regime							
Formal SD (Denmark)	0.544***	0.369*	0.382*	0.348*	0.252	0.164	0.047
Semi-Formal SD (Sweden)	0.335*	0.202	0.204	0.131	0.051	-0.188	-0.338**
Formal C (France)	-0.616***	-0.643***	-0.638***	-0.617***	-0.643***	-0.387**	-0.389**
Semi-Formal C (Germany)	-0.328	-0.451**	-0.438**	-0.364*	-0.414*	-0.382*	-0.452**
Semi-Formal M (Italy)	-1.207***	-1.176***	-1.159***	-1.082***	-1.081***	-0.931***	-0.828***
Informal M (Greece)	-3.174***	-3.055***	-3.049***	-3.040***	-3.042***	-2.027***	-2.002***
Semi-Formal L (UK - reference)							
Social Location							
Gender (Female = 1)		0.079	0.093	0.092	0.110	0.146	0.141
Age Group		-0.052	-0.025	0.006	-0.008	-0.012	-0.028
Marital Status							
Married (Reference)							
Separated/Divorced		-0.659***	-3.609*	-3.623*	-3.694*	-2.575	-2.155
Widowed		-0.383*	1.343	1.609	1.596	2.823	2.306
Never Married		-0.160	-0.336	-0.334	-0.326	-0.170	-0.064
Household Income		0.372***	0.341***	0.267**	0.256**	0.155*	0.113
Marital Status x Household Income							
Married (Reference)							
Separated/Divorced			0.423	0.427	0.439	0.278	0.233
Widowed			-0.312	-0.343	-0.339	-0.524*	-0.443
Never Married			-0.008	-0.011	-0.010	-0.211	-0.023
Marital Status x Age							
Married (Reference)							
Separated/Divorced			0.014	0.013	0.018	0.041	0.031
Widowed			0.267	0.282	0.255	0.266	0.265
Never Married			-0.211*	-0.217*	-0.194*	-0.109	-0.095
Controls							
Rural/Urban (Urban = 1)				-0.389	-0.043	-0.053	-0.025
Education				0.246***	0.242***	0.207***	0.159***
Primary Stressors							
Hours of Care					-0.046	-0.049	-0.039
Role Overload					-0.119**	-0.024	0.005
Secondary Stressors							
Social Const. Participation						-0.142	-0.099
Social Const. Volunteering						-0.183*	-0.200*
Work/Family Conflict (Unemp.)						-0.296*	-0.190
Work/Family Conflict (Conflict)						-0.321*	-0.271*
Economic Strain						-0.567***	-0.484***
Role Captivity						-0.604***	-0.506***
Stress Resources							
Informal Social Support (Dep.)							0.115
Informal Social Support (Emo.)							0.008
Informal Social Support (Money)							0.102
Informal Social Support (House)							0.255
Formal Social Support							0.051
Coping							0.344***
Intercept	7.706	5.206	5.406	5.353	5.875	8.102	6.362
R ²	0.102	0.143	0.153	0.172	0.179	0.297	0.331
N	5,997	5,997	5,997	5,997	5,997	5,997	5,997

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized beta coefficients reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS

The bivariate model (Model 1) once again shows that informal caregivers in Denmark and Sweden have significantly greater life satisfaction than those in the UK (the reference category). In contrast, informal caregivers in all other countries except Germany (i.e., France, Italy, Greece) reported significantly lower levels of life satisfaction than those in the UK.

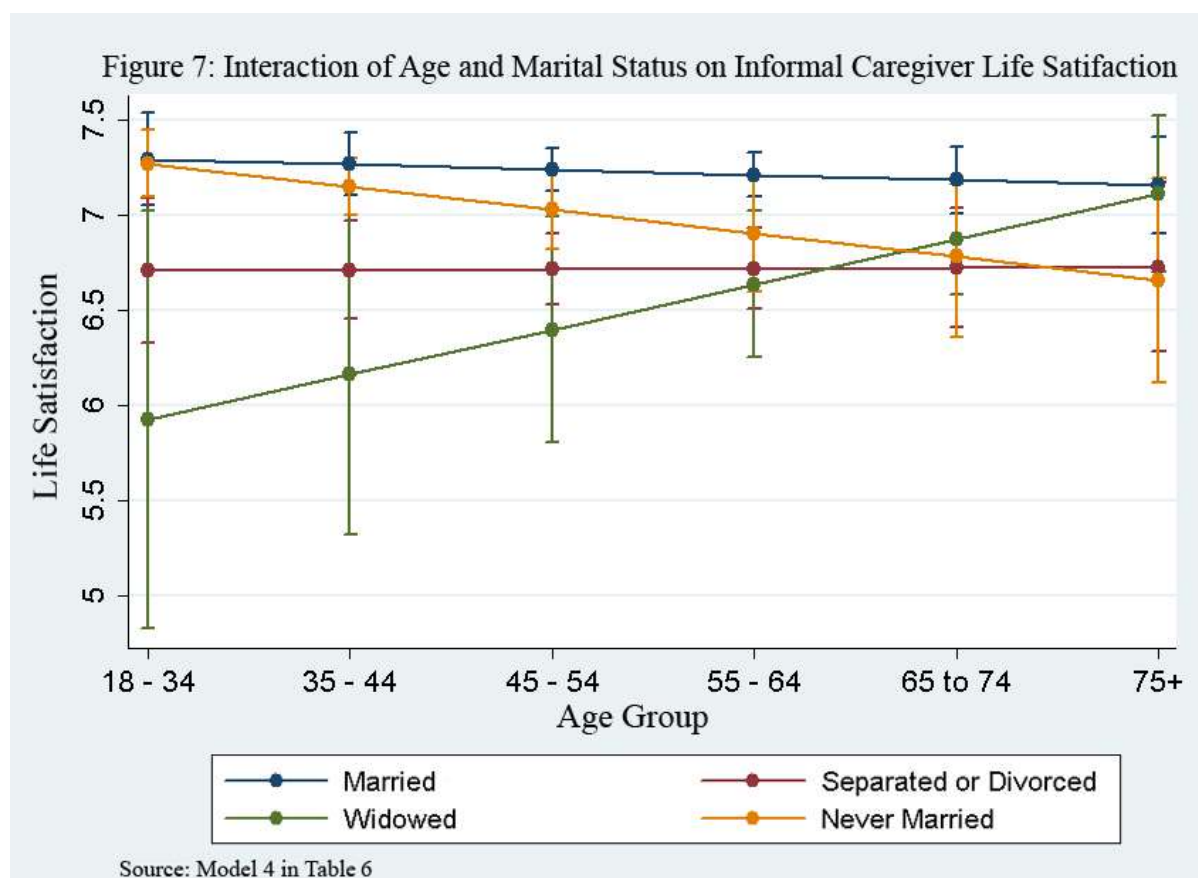
Similar results are evident in the ordered logit results with the exception that those residing in Germany are also found to report significantly worse life satisfaction than those in the UK (Appendix D).

Model 2 presents the OLS regression results for regime type and social location (age, gender, marital status and household income) as predictors of the life satisfaction of informal caregivers. When accounting for regime type, widowed, separated or divorced, and lower income informal caregivers reported lower life satisfaction than higher income and married informal caregivers. This is consistent with the findings obtained in the ordered logit analyses (Appendix D). With these factors taken into account, age and gender were not associated with the life satisfaction of informal caregivers, a finding evident in both sets of analyses.

Models 3 and 4 present the OLS regression equations that included the associations of the interactions of marital status and age, and marital status and household income, on life satisfaction without and then with controls included for rural/urban residence and education level. Initially, all combinations of two-way interactions were tested for their associations with life satisfaction to assess whether they explained a significant amount of the variance in life satisfaction. There was no evidence that gender intersected with age, marital status, or household income, or that household income intersected with age in their associations with the life satisfaction of informal caregivers. The interactions that were non-significant ($p < 0.05$) were dropped from the analysis.

In regards to the controls, education level was positively associated with life satisfaction whereas rural/urban residence was not significant (Model 4). This was also the case in the ordered logit analyses (Appendix D). When including these control variables in

the equation, the interaction between age and marital status accounted for a significant amount of the variance in life satisfaction. This was also the case in the ordered logit analyses (Appendix D). However, in the ordered logit results, there was also a significant interaction evident between widowhood and age (Appendix D). Figure 7 shows that the life satisfaction of never married informal caregivers was similar to that of those who were married (highest) among those aged 18 to 34 but declined in relation to married informal caregivers among each older age group. Among the informal caregivers aged 75 and older, never married informal caregivers had the lowest life satisfaction among the marital status groups. It should be noted, however, that the confidence intervals overlap despite the significant interaction. There was no evidence that these interactions mediated the association between regime type and life satisfaction.



Model 5 presents the OLS regression results with primary stressors (hours of care and role overload) included. Other things being equal, the total number of hours of care provided was not significantly associated with life satisfaction. This was also the case in the ordered logit analyses (Appendix D). With hours of care taken into account, however, those reporting greater role overload had lower levels of life satisfaction in both the OLS and ordered logit analyses. Comparing Model 5 to Model 4 reveals that with primary stressors taken into account, those living in Denmark no longer had significantly greater life satisfaction than those residing in the UK. The ordered logit analyses also revealed evidence of mediation but not to the point of non-significance (Appendix D). As well, there was evidence of suppression involving the impact of residence in Germany (vs the UK) and life satisfaction that was not present in the OLS results (Appendix D). There was no evidence that primary stressors attenuated the associations of social location or the interactions with life satisfaction in either the OLS or ordered logit analyses (Appendix D).

Model 6 presents the OLS regression models including the secondary stressors. All secondary stressors with the exception of constriction of social activities were negatively associated with the life satisfaction of informal caregivers. This was also the case in the ordered logit analyses (Appendix D). Those who reported constricted volunteering, who were unemployed, who experienced work/family conflict, who experienced economic strain, and those reporting role captivity also reported lower life satisfaction. Comparing the results of Model 6 to those in Model 5 reveals little change in the significance of the coefficients associated with regime type. However, all the coefficients are slightly smaller with the exception of Sweden. This was consistent with the results of the ordered logit analyses. With the secondary stressors included, the widowed x household income interaction was

significant whereas the never married x age interaction was non-significant. This suggests that secondary stressors appeared to in some degree influence associations between social location interactions and life satisfaction. Both findings were also evident in the ordered logit analyses (Appendix D).

Model 7 presents the OLS regression analyses that add stress resources (social support and coping) to the equation. Neither informal nor formal social support were associated with the life satisfaction of informal caregivers in both the OLS and ordered logit analyses (Appendix D). However, coping ability was positively associated with life satisfaction. Caregivers who disagreed that “life has become so complicated today that I almost can’t find my way” also reported having better life satisfaction. The finding was consistent with the ordered logit analyses (Appendix D). When differences in coping levels across regimes were taken into account (i.e., comparing Model 7 to Model 6), the non-significant relationship between residence in Sweden and life satisfaction was then significant, with poorer life satisfaction reported by caregivers in Sweden compared to those in the UK. This was also evident in the ordered logit analyses (Appendix D). As well, when stress resources were included in the regression equation (Model 7), the relationship between the marital status (being widowed) and household income interaction and life satisfaction was no longer significant, suggesting that the relationship reflects differences in coping ability. This was also the case in the ordered logit analyses (Appendix D).

Overall, the findings suggest that regime type has a strong association with the life satisfaction of informal caregivers. Informal caregivers residing in Denmark and Sweden reported better life satisfaction than those in the UK in the bivariate model. However, once social location and stress process factors were accounted for, informal caregivers residing in

all countries with the exception of Denmark (no difference), reported worse life satisfaction than those residing in the UK. Thus, the association of regime type and life satisfaction among informal caregivers did not remain completely unchanged in the models that included social location (main and interactions) and controls (Models 2 through 4), and stress process factors (Models 5 through 7). Additionally, when regime type, social location, and stress process factors were considered, those with higher levels of formal education and better coping resources reported better life satisfaction whereas those with constricted volunteering, work/family conflict, economic strain and role captivity have worse life satisfaction. Taken together, regime type, intersecting social locations, and stress process factors accounted for 33.1 per cent of the variance in levels of life satisfaction among the informal caregivers studied.

6.4 Summary

Overall, the findings indicated that regime type has a strong association with the self-reported mental health and life satisfaction of informal caregivers, although the differences between the countries were not the same before and after including social location and stress process factors in the models. Initially, informal caregivers residing in Denmark, Sweden and France reported better SRMH than those in the UK, with those in Italy and Greece reporting poorer SRMH, and those in Germany reporting no difference. However, in the final model, informal caregivers residing in Denmark, France and Greece reported better SRMH than those residing in the UK whereas those residing in Germany, Sweden or Italy did not differ in SRMH from those in the UK. With regard to life satisfaction, initially informal caregivers residing in Denmark and Sweden reported better life satisfaction than those in the UK, with

those in France, Italy and Greece reporting poorer life satisfaction and those in Germany reporting no difference. However, in the final model, caregivers residing in the UK reported better life satisfaction than those residing in all other countries with the exception of Denmark (no difference).

Turning to social location, differences were also reported across the two outcomes when including regime type and stress process factors. Informal caregivers who were women, younger and widowed, younger and high income, older and lower income, or rural residents reported lower levels of self-reported mental health. In contrast, those with higher levels of formal education reported better life satisfaction. Social location factors appeared to mediate some of the associations of regime type and both outcomes. Social location factors also mediated the regime type and outcome variable associations differently. For self-reported mental health, the relationship between residing in Greece versus the UK was mediated by gender, marital status and household income, and the relationships between residing in France or Italy versus the UK was mediated by rural/urban residence and education. On the other hand, for life satisfaction, the relationship between residing in Sweden versus the UK was mediated by marital status and household income.

Stress process factors had similar associations with both outcome variables when accounting for regime type and social location. Role overload, secondary stressors, and formal social support were negatively associated with informal caregivers' self-reported mental health. Informal social support when dealing with depression and coping were positively associated with informal caregivers' self-reported mental health. Several secondary stressors were also negatively associated with informal caregivers' life satisfaction and only coping was positively associated with their life satisfaction. Stress process factors

also appeared to play a role in the relationships of regime type and the outcome variables. For self-reported mental health, none of the stress process factors mediated the relationships instead they suppressed several relationships. On the other hand, for life satisfaction, primary stressors mediated the relationship between residing in Denmark versus the UK. Additionally, stress process factors also appeared to play a role in the relationships between social location and both of the outcome variables. For self-reported mental health, the interaction between age and household income was partially accounted for by secondary stressors. On the other hand, for life satisfaction, the interaction between marital status and age was partially due to secondary stressors. Also for life satisfaction, the interaction between marital status and household income was mediated by stress resources.

The results of this study found that regime type, social location factors, and stress process factors were directly associated with the mental health and well-being of informal caregivers. However, both direct and indirect associations were not always consistent across the outcomes. In the next chapter the result of the study are discussed in relation to the five research questions as well as the theoretical, research, and policy and practice implications.

Chapter Seven: Discussion

This study was conducted in order to assess the mental health and well-being of informal caregivers. It was informed by three theoretical approaches previously identified in the literature as potentially offering explanations for the diverse situations of informal caregivers and their mental health and well-being outcomes. The theoretical approaches included the stress process, intersectionality and welfare state/family care regime approaches. The research was informed by a critical realist approach to issues in epistemology and ontology, structure and agency, and methodology. Critical realism was used to support the case that social research ought to address questions in social ontology including the role of social policy contexts and social structural factors in the lives of informal caregivers. It was also used to suggest that a pluralist approach to methods, including quantitative methods, is useful for empirical research. This study's goal was to empirically assess the utility of integrating the three theoretical approaches to understand the diverse situations of informal caregivers and their implications for their mental health and well-being outcomes. In order to address the overall question of integrating the three approaches, five specific research questions were addressed (as outlined on pages 97 to 98). In this chapter, the implications of the results are discussed with respect to each of the five research questions.

7.1 Research Question 1

“Is regime type associated with the mental health and well-being of informal caregivers?”

The results of this study provided some support for the argument that the mental health of informal caregivers is associated with regime type. Informal caregivers residing in social

democratic welfare states (Denmark and Sweden) reported the highest levels of self-reported mental health, followed by conservative (France and Germany), liberal (the United Kingdom), and lastly, Mediterranean (Italy and Greece) welfare states. This was expected according to the welfare state regime approach (although it was unclear where conservative and liberal welfare states would fall in the middle). Also supporting the welfare state regime approach is the finding that the self-reported mental health of informal caregivers residing in the Mediterranean welfare states (Italy and Greece) was significantly poorer than that of those residing in social democratic, conservative and liberal regime types. This finding also supports arguments for the need to acknowledge a fourth welfare state regime type (Albertini & Kohli, 2013; Calzada & Brooks, 2013).

Overall, the results also support the utility of adopting an integrated welfare state/family care regime typology. For example, the findings indicate that informal caregivers' mental health and well-being vary within welfare state types in line with what would be expected from the family care regime approach. The significant difference in self-reported mental health between informal caregivers residing in formal social democratic (Denmark) and semi-formal social democratic (Sweden) care regimes may be an indication of the poorer social care services provided to informal caregivers residing in Sweden's semi-formal care regime. These findings align with those obtained in Rauch's (2007) study of three social democratic welfare states (Denmark, Sweden, and Norway). Rauch found that only Denmark complied with the ideal type of a universalist or defamilializing welfare state in terms of either childcare or old age care and that Sweden in particular has transformed its formerly universal long-term care system into one that is more market-based as noted by

others (Bergmark, Thorslund, & Lindberg, 2000; Jegermalm & Grassman, 2012; Johansson, Long, & Parker, 2011).

Another finding that supports the integrated welfare state/family care regime approach is that there was no significant difference in associations with self-reported mental health between caregivers in the semi-formal social democratic (Sweden) care regime and the formal conservative (France) care regime. This finding is in line with the argument that France's long-term care model is quite good at supporting informal caregivers (Le Bihan & Martin, 2010). In fact, as far as self-reported mental health is concerned, the benefits expected from residing in a semi-formal social democratic (Sweden) care regime are less apparent when compared to those associated with residing in a formal conservative (France) care regime. Although conservative welfare states are characterized as being more exclusive and hierarchical in terms of access to public services and social benefits in general compared to social democratic welfare states, informal caregivers may be able to gain access to benefits through France's formal care regime. Furthermore, informal caregivers residing in France's formal care regime reported better self-reported mental health than those in the UK, whereas those residing in Germany did not differ significantly from those in the UK.

These findings go against research suggesting that informal caregivers in Germany and France along with other "family-based systems" tend to have poorer self-reported health than those in Sweden or other "service-based systems" (Calvo-Perxas et al., 2018). However, the difference in results may well be attributable to the different health outcomes studied (self-reported health vs. self-reported mental health). Nevertheless, one implication of this finding is that an integrated welfare state/family care regime approach is needed to

understand why informal caregivers residing in a conservative welfare state (France) and a social democratic welfare state (Sweden) would have similar mental health outcomes.

Also supporting the value of an integrated approach is the lack of difference evident between those residing in the semi-formal conservative (Germany) care regime and the semi-formal liberal (UK) care regime with regard to self-reported mental health. Despite their different welfare states, informal caregivers in both semi-formal care regimes revealed similar levels of self-reported mental health. Furthermore, with the impact of intersecting social locations and stress process factors taken into account, those residing in the semi-formal social democratic (Sweden) care regime and the semi-formal Mediterranean (Italy) care regime did not differ significantly from those residing in the semi-formal liberal (UK) care regime. These findings suggest that, other things being equal, residing in a semi-formal care regime had similar impacts on the mental health of informal caregivers regardless of welfare state (although limited to comparisons with the UK).

An unexpected finding was that those residing in the informal Mediterranean (Greece) care regime went from having the lowest self-reported mental health initially to having among the highest levels when differences in stress-related exposures were taken into account. This finding is inconsistent with what would be expected from the integrated regime type model. However, there are reasons to suspect that the finding may be impacted by the small number of informal caregivers ($n=377$) residing in Greece that were included in the study sample.

Although almost all of the findings were consistent across the OLS and ordered logit results, there were two minor exceptions. First, in the bivariate and initial ordered logit models (models 2 and 3), informal caregivers residing in the formal conservative (France)

care regime did not report better self-reported mental health than those residing in the semi-formal liberal (UK) care regime (as it did in the OLS analyses). This suggests slightly less support for an integrated approach than do the OLS results. However, with the inclusion of control variables (Model 4) and secondary stressors and stress resources (Models 6 and 7), the results were consistent with the OLS results. Second, with the inclusion of control and stress process factors (Models 4-7) the better self-reported mental health of Swedish informal caregivers was not significant in the OLS but changed direction in the ordered logit analyses (Model 7).

Overall, this study found that welfare state/family care regime is associated with the self-reported mental health of informal caregivers. Additionally, more support was found in favour of an integrated welfare state/family care regime approach than not. Although there were some contradictory findings, these were relatively minor and may reflect borderline significance level disparities across the OLS and ordered logit results and small sample size issues. One implication is that future research ought to adopt an integrated approach to an analysis of the impact that welfare state and family care regime characteristics have on the mental health of informal caregivers. Future studies would also benefit from assessing more mental health outcomes than solely self-reported mental health as well as including larger samples for those residing in Mediterranean care regimes. The results of this study also attest to the need for theories of informal caregiving to also take into account the role of macro-level forces considering the independent association of regime type with the mental health of informal caregivers when considering several stress process and social location factors. Thus, the results provide some support for integrating welfare state/family care regimes into the stress process model.

The results obtained for life satisfaction as an outcome also provided some support for the argument that regime type is associated with the well-being of informal caregivers. This study found that informal caregivers residing in social democratic welfare states reported the highest levels of life satisfaction and were followed by those living in liberal, conservative, and Mediterranean welfare states, respectively. However, unlike the results for self-reported mental health, there was no evidence of family care regime differences among the social democratic welfare states. Additionally, in the initial comparisons, caregivers in the conservative semi-formal (Germany) care regime reported better life satisfaction than those in the conservative formal (France) care regime.

Similar to the findings for self-reported mental health, the findings for life satisfaction also support arguments for considering the Mediterranean welfare state as a fourth type of welfare state. Additionally, among the two Mediterranean welfare states assessed in this study, informal caregivers residing in the semi-formal Mediterranean (Italy) care regime reported higher levels of life satisfaction than those residing in the informal Mediterranean (Greece) care regime, thereby providing evidence to support the importance of considering family care regime characteristics. Previous research identifies Greece as a country offering relatively low levels of support for informal caregivers (Konerding et al., 2018; Mestheneos, Triantafillou, & Kontouka, 2004).

The finding that informal caregivers residing in the formal social democratic (Denmark) care regime had higher levels of life satisfaction before but similar levels of life satisfaction as those residing in the semi-formal liberal (UK) care regime after primary stressors were included in the model suggests that the life satisfaction advantage of informal caregivers in Denmark is attributable to differences in their reported levels of role overload

(lower in Denmark). Thus, role overload is an important mediator in the life satisfaction disparity between the two regime types. This finding provides some support for the integrated regime type model as a formal care regime is expected to reduce the level of role overload among informal caregivers. Additionally, integrating the regime type approach and the stress process model helps to identify which care related stressors explain the disparities in caregiver well-being between the two regimes.

As well, those residing in the semi-formal social democratic (Sweden) and semi-formal conservative (Germany) care regimes reported poorer life satisfaction than those in the semi-formal liberal (UK) care regime once social location and stress process factors were taken into account. In the case of Sweden, informal caregivers' life satisfaction advantage over those in the UK appears attributable to household income (higher in Sweden) and marital status differences (e.g., more likely to be married in Sweden). The finding regarding income is in line with what would be expected from an integrated model as higher average incomes among informal caregivers residing in a social democratic welfare state should enhance life satisfaction and reduce the negative implications of caregiving. It could also be the case that policies related to Swedish informal caregivers are more supportive of the continuity of marital unions. Although both semi-formal care regimes have promoted cash-for-care schemes, in the UK the benefit cannot be paid to a family member whereas it can be in Sweden. Thus, it could be the case that the cash-for-care scheme in the UK leads to more tension between spouses in the UK.

Poorer life satisfaction among informal caregivers residing in the semi-formal (Germany) care regime compared to residence in the UK was suppressed by marital status and household income. There were slightly more widowed and slightly less never married

informal caregivers in Germany than in the UK. German informal caregivers also had higher average household incomes than those in the UK. This suggests that German informal caregivers who were widowed and who had higher incomes reported poorer life satisfaction than their UK counterparts.

In conclusion, the study found that there is support for the argument that regime type is associated with both the mental health and life satisfaction of informal caregivers and that there is support for using an integrated approach to regime analysis that combines welfare state and family care regime characteristics. Indeed, welfare state/family care regime type had a direct impact on both the self-reported mental health and life satisfaction of informal caregivers over and above social location and stress process factors and this association is in line with an integrated approach. However, given the disparities in findings across the two outcomes, future studies should address multiple mental health and well-being outcomes. Theories addressing the association of regime type and mental health and well-being among informal caregivers should also be attentive to what particular regime type factors are expected to impact particular outcomes in order to further understand the disparities. For instance, it is unclear why informal caregivers residing in France reported worse life satisfaction and better self-reported mental health than those in the UK. It could be that formal care regime characteristics are better at supporting the self-reported mental health of informal caregivers than their life satisfaction.

7.2 Research Question 2

“Are social location factors and their intersections associated with the mental health and well-being of informal caregivers?”

The results of the study provide some support for the argument that the mental health of informal caregivers is associated with social location factors. Consistent with the majority of previous studies, the results revealed that with regime type and other social locations taken into account, women informal caregivers had poorer self-reported mental health than men informal caregivers (Arai et al., 2014; Burnette et al., 2017; Collins et al., 2016; Pillemer et al., 2017; Pinguart & Sorensen, 2006; Sallim et al., 2015). On the other hand, there was no association between age and the self-reported mental health of informal caregivers, a finding that is in line with a number of previous studies (De Fazio et al., 2015; Liang et al., 2016). Previous studies documenting an age association with mental health have been primarily based on either condition specific (De Fazio et al., 2015; Liang et al., 2016; McCullagh et al., 2005; McPherson et al., 2011; Morimoto et al., 2003; Provencher et al., 2003), community-based (Andrén & Elmståhl, 2007), or older adult (Chow & Ho, 2015) samples. Additionally, researchers have tended to focus on psychological distress, anxiety and depression as outcomes rather than self-reported mental health, which may also explain the discrepancy.

Consistent with Brody et al. (1992), our results also indicated that separated or divorced informal caregivers had poorer self-reported mental health than married informal caregivers. However, this study did not find that widowed caregivers also reported worse mental health than married informal caregivers as suggested by some previous studies (Brody, 1992; Legg et al., 2013). Again, this could be explained by the focus on depression in previous studies whereas this study assessed self-reported mental health. It could be the case that depression measures encompass only a specific aspect of informal caregivers' mental health.

Finally, this study also found that those reporting lower adjusted household incomes reported poorer self-reported mental health, a finding that is generally consistent with previous research (Andre et al., 2014; Andrén & Elmståhl, 2006; Arai, 2014; Choi et al., 2016; Covinsky et al., 2003; Cummings & Kropf, 2015; De Fazio et al., 2015; Ekwall et al., 2005; Williams et al., 2003; Zunzunegui et al., 1999).

The results also provided mixed support for the argument that gender, age, marital status and income intersect to influence the mental health of informal caregivers. For example, the results provided no support for the argument that gender intersects with age, marital status, or household income to explain a significant amount of the variance in the self-reported mental health of informal caregivers. Instead, similar to other studies, gender was negatively associated with the mental health of informal caregivers regardless of age (Girgus et al., 2017). The results were also similar to those reported by Gustafsson and colleagues (2016) who found no evidence of an interaction between gender and income in explaining variance in self-rated mental health, although their sample was not exclusive to informal caregivers. Finally, in the absence of previous studies, this study also explored whether marital status and socio-economic status intersected in their association with the self-reported mental health of informal caregivers. The results revealed that irrespective of marital status, lower income informal caregivers had poorer self-reported mental health and irrespective of income, separated and divorced informal caregivers had poorer self reported mental health than married caregivers.

However, other findings supported an intersectionality approach. The literature review found no studies that had assessed whether the intersections of age with household income or marital status explained a significant amount of the variance in the SRMH of

informal caregivers. However, this study found that age intersected with household income and marital status such that younger high income, older low income, and younger widowed caregivers had poorer SRMH than others. The findings with respect to the interactions of age and household income and age and marital status were consistent across the OLS and ordered logit results. Although the results also support the need to target young widowed caregivers who appear particularly vulnerable to poorer self-reported mental health, the small number of young widowed informal caregivers included in the study sample ($n=18$) suggests that this finding should be considered with caution. The results suggest that in addition to interventions to reduce gender disparities that are associated with differences in the SRMH of informal caregivers, there is a need for policy interventions to address age, marital status, and socio-economic inequalities that are associated with SRMH among these informal caregivers. Policy interventions that focus upstream on reducing these social inequalities are expected to reduce SRMH disparities among informal caregivers and improve the outcomes of those particularly vulnerable to poor SRMH.

Turning to the results for life satisfaction, other things being equal, gender was not associated with the life satisfaction of informal caregivers. This departs from previous literature concluding that women report lower subjective well-being among dementia carers (Pinquart & Sörensen, 2006) and lower life satisfaction among cancer carers (Li et al., 2013). Considering that previous studies have tended to focus on specific sub-samples of informal caregivers, it could be that gender is not a significant correlate among informal caregivers in general but is among specialized caregivers and/or those providing more intensive care. This finding also differs from the results obtained for self-reported mental health, suggesting the importance of using multiple mental health and well-being outcome measures. It also

suggests the need for explanations of the difference in the results obtained for different measures. In this study, it could be the case that gender is more directly associated with the mental health of informal caregivers when controlling for regime type and stress process factors as all regime types have not addressed gender disparities in mental health among informal caregivers. On the other hand, when controlling for regime type differences in life satisfaction, gender differences were not evident which could suggest that regime type differences have played a greater role in reducing gender-based life satisfaction disparities among informal caregivers. However, it could also be the case that men may be less likely to report their mental health problems. Thus, women's mental health appears relatively worse. Gender-based disparities among informal caregivers may also be greater for mental health than for life satisfaction as women tend to provide more care in general and more hands on care that could have disproportionate negative implications for their mental health. Although caregiving appears more negatively associated with their SRMH, the same gender disparity may not be present for life satisfaction as the concept is an evaluation of one's life in general (including job satisfaction, satisfaction with one's economic situation and family life, etc.) and is not limited to one's mental state.

Similar to the findings obtained for self-reported mental health, age was not associated with the life satisfaction of informal caregivers. Whereas some researchers have found age to be associated with the subjective well-being of informal caregivers aged 56 to 90 (Chow & Ho, 2015), the results of this study appear more consistent with Chappell and Dujela (2008) who found no association between age and quality of life in a sample of informal caregivers providing high intensity care to older adults. The results are also consistent with a previous study finding that separated or divorced and widowed informal

caregivers had worse well-being outcomes (positive affect) than married informal caregivers (Brody, 1992). Lastly, the findings are consistent with previous studies reporting that lower socio-economic status is associated with poorer well-being outcomes (Andre et al., 2014; Arai, 2014; Covinsky et al., 2003; Cummings & Kropf, 2015; De Fazio et al., 2015; Lahaie et al., 2013; Zunzunegui et al., 1999).

Similar to the results obtained for self-reported mental health, there was also no evidence that gender intersected with age, marital status, or household income to explain a significant amount of the variance in life satisfaction among informal caregivers. Once again, this supports the conclusion reached by Girgis et al. (2017) that women caregivers tend to report poorer well-being (greater depression) than men regardless of age. The literature review found that no studies had assessed the interaction of marital status and gender on the life satisfaction of informal caregivers. One study found that among caregivers to family members with dementia, gender and socio-economic status intersected so that men with low SES were particularly vulnerable to low quality of life compared to other groups at the intersection (Chappell, 2016). The findings here contradicted this finding. Possible reasons for this difference could be that that study focused on a dementia specific sub-sample whereas this study focused on a general informal caregiver sample, that the well-being outcome used in the two studies was different, or that the studies were carried out in different countries (i.e., Canada vs. seven Western Europe countries).

The results also revealed no evidence that the interaction of age and household income explains a significant amount of the variance in the life satisfaction of informal caregivers, suggesting that regardless of age, lower household income is associated with lower life satisfaction. As well, there was no support for the view that the interaction

between marital status and household income explains a significant amount of the variance in the life satisfaction of informal caregivers. Thus, separated or divorced and widowed informal caregivers reported worse life satisfaction than married informal caregivers irrespective of household income, and informal caregivers with low socio-economic status reported lower life satisfaction irrespective of marital status. These findings were consistent across the OLS and ordered logit results.

Finally, similar to the results obtained for self-reported mental health, there was once again some evidence that the interaction of marital status and age explained a significant amount of the variance in life satisfaction of informal caregivers. Specifically, younger widows and older never married caregivers reported the poorest life satisfaction. However, the findings are necessarily tentative given the small number of younger widows (aged 18 to 34) and older never married (75 and older) caregivers included in the study sample.

Overall, with respect to the second research question, there does appear to be evidence that social location factors are associated with the mental health and well-being of informal caregivers. Socio-economic status and marital status were significantly associated with both mental health and life satisfaction, gender was only associated with mental health, and age was not associated with either mental health or life satisfaction. However, there is less support for arguments to the effect that their intersections are associated with a significant amount of the variance in the self-reported mental health or life satisfaction of informal caregivers. The exceptions included age x household income and age x marital status for self-reported mental health and age x marital status for life satisfaction. It could be the case that gender intersects with other social location factors not addressed in this study (including relationship, race, ethnicity, immigrant status and/or sexual orientation) to explain

a significant amount of the variance in the dependent variables. Future research attending to these intersections is needed to be more conclusive. Interestingly, the finding that age intersected with household income and marital status to explain a significant amount of the variance in SRMH, and with marital status to explain a significant amount of the variance in life satisfaction, suggests that future research should attend to the intersectionality of age with social location factors to explain the variance in these mental health and well-being outcomes. This is particularly important given that the main effect of age was not significant for either outcome, thus potentially underestimating the importance of age in the stress process model. Therefore, based on this study, there is a case to be made for integrating intersectionality into the stress process model as applied to caregiving.

7.3 Research Question 3

“Is there evidence that social location factors and their intersections mediate the relationships between regime type and the mental health and well-being of informal caregivers?”

The findings provide some evidence that social location factors and/or their intersections mediate the relationships between regime type and the mental health of informal caregivers. In several care regimes (i.e., formal social democratic [Denmark], semi-formal social democratic [Sweden], and semi-formal Mediterranean [Italy]), the differences evident when comparing the mental health of caregivers to those of the reference category (semi-formal liberal, UK) were reduced in magnitude (although they remained significant) when gender, age group, marital status, income and their interactions were included in the analyses, thereby suggesting partial mediation. In addition, however, when comparing

caregivers in both Sweden and Italy to those in the UK, the relationships were fully attenuated when such factors (including rural/urban residence and education) were added to the model. Finally, in the informal Mediterranean (Greece) care regime, informal caregivers reported worse self-reported mental health than those residing in the semi-formal liberal (UK) care regime but this was found to be fully mediated by differences associated with social location factors.

The findings also suggest that structural inequalities involving gender, marital status, socio-economic status and other social locations (education, rural/urban residence) fail to account for differences in the mental health status of informal caregivers across several other (France, Germany) care regimes. Across all sets of analyses, there was no evidence that either of the significant interactions evident among social location factors (age x household income or age x marital status) mediated any of the regime type and self-reported mental health relationships. However, the lack of evidence for mediation when comparing caregivers in both conservative (France and Germany) care regimes (despite France having a formal care regime) to those in the semi-formal liberal (UK) care regime is not particularly surprising. Social location factors would be expected to impact informal caregivers similarly in the two regime types as neither is committed to universal coverage to the same extent as care regimes embedded within social democratic welfare states. Instead, both welfare states include characteristics that restrict access to social benefits – the conservative welfare state based on occupational group privileges and the liberal welfare state based on individual rights and a residual approach to accessing benefits.

Turning next to the implications of social location factors and/or their intersections for the relationship between regime type and the life satisfaction of informal caregivers, there

were a few instances in which the social location variables mediated the relationships. There was evidence that social location variables suppressed associations between regime type and life satisfaction. Informal caregivers residing in the semi-formal conservative (Germany) care regime reported significantly worse life satisfaction than those residing in the semi-formal liberal (UK) care regime only once social location factors were added to the model. In particular, marital status and/or household income inequalities appeared to play a role in suppressing differences in life satisfaction between informal caregivers residing in the two regime types. Despite similar semi-formal care regimes, the life satisfaction of informal caregivers residing in the conservative welfare state is worse than that of those in the liberal welfare state when taking into account marital status and household income. It is unclear from the analysis whether this is attributable to either household income or marital status, or both. German and UK informal caregivers reported similar levels of household income (7.19 vs. 7.04) and the marital status differences are not particularly large either.

With the inclusion of the social location variables, the advantage in life satisfaction that informal caregivers residing in the semi-formal social democratic (Sweden) care regime reported over those residing in the semi-formal liberal (UK) care regime disappeared. This suggests that marital status and/or household income differences mediate the difference in life satisfaction levels evident between informal caregivers residing in the two regimes. Swedish informal caregivers were more likely to be married and reported higher household incomes than those in the UK. Indeed, there was more variation between Sweden and the UK than Germany and the UK on these variables. This suggests that the life satisfaction advantage reported by informal caregivers in Sweden is attributable to their higher income and higher percentage of married caregivers.

Finally, with the inclusion of the social location variables, the advantage in life satisfaction that informal caregivers residing in the formal social democratic (Denmark) care regime reported over those residing in the semi-formal liberal (UK) care regime was partially attenuated. Household income appears to play a large explanatory role in the disparity between the two regime types (although it is not fully mediated until stress process factors are included). Again, similar to Swedish informal caregivers, Danish informal caregivers reported higher average incomes than those in the UK. This suggests that the life satisfaction advantage reported by informal caregivers in Denmark is partially attributable to their higher income levels.

Overall, therefore, social location does appear to play an important role in influencing the relationships between regime type and both self-reported mental health and life satisfaction among informal caregivers. In the case of self-reported mental health, gender, marital status, household income, education and rural/urban residence all appeared to play a role. On the other hand, in the case of life satisfaction, marital status and household income appeared to be particularly important in mediating the regime type and life satisfaction association. Age did not mediate the regime type relationship with either dependent variable. Intersecting social location also did not mediate the relationships. Thus, whereas both marital status and household income appear to be mediators for both outcomes, there is also evidence to suggest that different social location factors may play different roles depending on the specific regime types as well as the mental health or well-being outcome measures being assessed.

Future studies addressing the mental health and well-being of informal caregivers should consider both regime type and social location factors, as well as the mediating role

that social location factors play in regime type and mental health and well-being relationships. Future studies should also consider the role of other intersections than those addressed here that may be expected to mediate the regime type and mental health and well-being associations. Although this study did not find any support for the notion that the intersections assessed mediated the associations, it could be the case that other intersecting social locations play a role in explaining some of the associations.

7.4 Research Question 4

“Do stress process factors mediate the relationships between regime type and the mental health and well-being of informal caregivers?”

The findings attest to the importance of stressors and stress resources for the mental health and subjective well-being of informal caregivers. In general, those reporting greater role overload, social constriction, work/family conflict, economic strain, and role captivity as well as poorer coping ability also reported poorer mental health and life satisfaction. However, the findings also point to their importance in mediating some of the relationships evident between the different regime types and these outcomes.

Before the inclusion of stress process factors and particularly of secondary stressors in the model, caregivers residing in the informal Mediterranean (Greece) care regime reported poorer SRMH compared to those in the semi-formal liberal (UK) care regime. However, following their inclusion, the relationship reversed and informal caregivers residing in the informal Mediterranean (Greece) care regime reported better self-reported mental health than those in the semi-formal liberal (UK) care regime. On the one hand, these results suggest that the poorer SRMH of caregivers residing in this informal Mediterranean care regime appear

to be attributable to their greater exposure to various care-related stressors. However, the fact that their SRMH was actually better than that of caregivers in the reference group (the UK) once such differences were controlled for, was unexpected and may reflect differences between these care regimes other than those considered here. For example, religious affiliation could have played a role as 81 to 90 per cent of the population identifies as Greek-Orthodox (Indexmundi, 2020a). The UK population is less homogenous in terms of religious identity (59.5% Christian) (Indexmundi, 2020b). Furthermore, 5 to 16 per cent reported no or unspecified religion in Greece, whereas 32.9 per cent reported no or unspecified religion in the UK (Indexmundi, 2020a; 2020b). It could be the case that those with a theistic world view perceive stress appraisals differently (i.e. "It's God's plan"), whereas those with a more secular world view may perceive stress and mental health assessments as less fatalistic.

Secondary stressors also appeared to play a role in partially suppressing a stronger positive relationship between residing in a conservative formal (France) care regime compared to a semi-formal liberal (UK) care regime and the self-reported mental health of informal caregivers. This result is consistent with expectations that a conservative formal care regime would be more effective at mitigating the negative implications that exposure to secondary stressors would have for the self-reported mental health of informal caregivers (e.g., by supporting a better work/family balance).

Although secondary stressors appeared to suppress the relationship between regime type and self-reported mental health, primary stressors appeared to play a mediating role in the regime type and life satisfaction relationship. Role overload appeared to mediate the disparity in life satisfaction between informal caregivers residing in the formal social democratic (Denmark) care regime compared to the semi-formal liberal (UK) care regime.

Informal caregivers in Denmark reported lower role overload than those in the UK, suggesting the importance of reductions in role overload to the higher life satisfaction of informal caregivers in the formal social democratic care regime when compared to the semi-formal liberal care regime (UK). This makes sense considering that informal caregivers in Denmark either receive a high level of direct care services or wage replacement when providing informal care. On the other hand, in the semi-formal care regime of the UK, care recipients receive a monthly payment to purchase care from the market that cannot be provided to caregivers who are family members. Thus, given that the majority of informal caregivers are family members, the majority of informal caregivers in the UK do not receive the benefit.

Coping resources appeared to suppress an association between regime type and life satisfaction when comparing caregivers residing in the the semi-formal social democratic (Sweden) care regime and the semi-formal liberal (UK) care regime. With the inclusion of coping abilities in the model, informal caregivers residing in Sweden reported poorer life satisfaction than those in the UK. This suggests that caregivers in Sweden would have poorer life satisfaction than those in the UK were it not for such resources. Why informal caregivers in Sweden would have lower levels of life satisfaction than those in the UK is unclear. Also, the greater importance of coping abilities to the well-being of caregivers in Sweden would seem to contradict expectations that both semi-formal care regimes would support the coping abilities of informal caregivers to a similar extent. It could be that recent changes implemented in the Swedish semi-formal care regime has meant that the individual coping resources of informal caregivers have become increasingly important for sustaining their well-being.

Overall, with respect to the fourth research question, the study found some support for the notion that stress process factors mediated some of the associations between regime type and the mental health and life satisfaction of informal caregivers. There was evidence that secondary stressors suppressed relationships with self-reported mental health and stress resources suppressed relationships with life satisfaction. Future studies should include stress process factors into cross-national regime type analyses of informal caregivers' mental health and subjective well-being in order to begin to understand some of the mechanisms leading to disparities in mental health and life satisfaction among informal caregivers residing in different regime types. On the other hand, the fact that many of the associations between regime types and both mental health and subjective well-being remained when including the stress process factors also suggests that studies using the stress process model ought to include regime type as a background factor. Future studies will also want to consider the mediating role of stress process factors that were not included in this study to explain regime type and mental health and well-being associations. For example, greater program availability in Denmark may play a mediating role that explains the disparity in SRMH with caregivers residing in the UK.

7.5 Research Question 5

“Do stress process factors mediate the relationships between social location factors and their intersections and the mental health and well-being of informal caregivers?”

For self-reported mental health, women, younger high income, older low income and younger widowed informal caregivers reported poorer SRMH. There was only minor evidence that the association between gender - the only social location factor not involved in

an interaction term - and self-reported mental health was mediated by stress process factors and this result was consistent across the OLS and ordered logit results.⁶ Thus, regardless of differences in exposure to care-related stressors (primary and secondary) as well as stress resources, women caregivers reported poorer mental health than men caregivers. However, there was some evidence that stress process factors mediated the association of the interaction of age and household income and SRMH. This was not evident however, with regard to intersections between age and marital status.

Although gender, age, marital status and income were the primary social location factors focused on in this study, there was evidence of mediation with regard to the relationship between rural/urban residence and SRMH (partial), and the relationship between education and self-reported mental health (full). For example, although caregivers with higher levels of education reported better SRMH, this was accounted for by differences in exposure to secondary stressors and stress resources (coping). These findings suggest that stress process factors do play a mediating role in the socio-economic status and self-reported mental health relationship among informal caregivers. There was also some evidence that stress resources (particularly coping) suppressed the association of the age by household income interaction with SRMH.

The life satisfaction results revealed that the association with gender was not significant and there was no evidence of mediation once the stress process factors were added to the models. However, there was some evidence that both interactions were mediated by stress process factors. Secondary stressors appeared to suppress an association

⁶ It could be the case that stress process factors also mediate the main effects of household income, marital status and age on SRMH but this was not assessed in this study.

of the interaction of marital status x age with life satisfaction, whereas stress resources appeared to mediate the relationship between the marital status x household income interaction and life satisfaction (evident in both the OLS and ordered logit results). That is, findings indicating that the life satisfaction of never married informal caregivers aged 75 and older was significantly lower than that of married caregivers in the same age group (the reference) were no longer significant once differences in exposure to various stressors (including social constriction, economic strain and role captivity) were taken into account. This suggests that the reason that older never married caregivers reported lower levels of life satisfaction than others had to do with differential exposure to care-related stressors.

Overall, the study found some, albeit limited, support for the notion that stress process factors mediate associations between social locations and their intersections with the self-reported mental health and well-being of informal caregivers.

7.6 Summary

To summarize, the results of this study suggest that regime type is associated with the mental health and life satisfaction of informal caregivers. Additionally, the associations support an integrated welfare state/family care regime approach to the analysis of the role of regime type in studies on the mental health and subjective well-being of informal caregivers. With respect to the second research question, the results indicate that some social locations are associated with the mental health and subjective well-being of informal caregivers. This was the case for gender, marital status and household income for self-reported mental health and marital status and household income for life satisfaction. Findings indicating that age x marital status and age x household income intersect to explain some of the variance in

SRMH, and marital status x age explain some of the variance in life satisfaction provide some evidence to support adopting an intersectionality approach within the stress process model. With respect to the third research question, social location did appear to mediate the regime type and mental health and well-being relationships: gender, marital status, household income, education and rural/urban residence were mediators for self-reported mental health whereas only marital status and household income were mediators for life satisfaction. Pertaining to the fourth research question, stress process factors were found to play an important role in mediating the relationship between regime type and the mental health and well-being outcomes of informal caregivers. Lastly, with respect to the fifth research question, the findings also revealed some, albeit limited, support for arguments that stress process factors mediate associations between social location factors and their intersections with the mental health and well-being of informal caregivers.

The interpretation of the results has been based on the standard that a *P* value of less than 0.05 suggests that the null hypothesis of no difference can be rejected with 95% confidence and therefore the results should be reported. However, the *P* value only informs us whether an effect exists and not the size of the effect (Sullivan & Feinn, 2012). Additionally, the use of larger samples (10,000 observations or more) can lead to rejecting the null hypothesis when the effect size is extremely small, thus reporting a false positive (a type 1 error) (Colquhoun, 2017; Lin, Lucas, & Schmueli, 2013). Thus, some researchers have proposed focusing on effect size (Lin et al., 2013; Sullivan & Feinn, 2012) and lower *P* values based on the greater confidence they reflect (Colquhoun, 2017).

In the current study, if the sample size of 6,007 is considered large enough to cause an issue with reporting the *P* value at 0.05 or 0.01, then the results would need to be

interpreted with caution. Based on an interpretation of *P* value, the null hypothesis that there is no difference in the relationships between - for example – each of residence in Denmark and France (vs the UK), gender, education, role overload, most secondary stressors, coping and self-rated mental health can be more confidently rejected (at $p < 0.001$). Additionally, based on an interpretation of effect sizes, greater self-rated mental health (a greater mean of 9.38/100) was reported by informal caregivers residing in Denmark compared to those in the UK, and an increase in the mean of 3.54/100 was reported for each level of coping. As well, lower means for self-rated mental health were found for women (-4.58/100), for those experiencing economic strain (-6.48/100) and for those experiencing role captivity (-5.53/100).

On the other hand, based on the interpretation of *P* values, the null hypothesis that there is no difference in the relationships between – for example – residence in Sweden, Italy and Greece (compared to the UK), age x household income, age x marital status, rural/urban residence, informal and formal social support and self-rated mental health (where $p < 0.05$ and at $p < 0.01$) is less confidently rejected. Based on an interpretation of effect sizes, the variables of rural/urban residence, age x household income, informal social support when feeling depressed, constricted participation, constricted volunteering, formal social support had slightly weaker relationships with SRMH. Despite their lower *P* values, the effect sizes for residence in Sweden (4.67/100), Italy (-4.13/100), and Greece (-5.44/100) when compared to the UK, and the mean difference between widowed and married informal caregivers at the intersection of age (4.99/100) were somewhat stronger.

With regards to the analyses for life satisfaction and based on an interpretation of *P* values, the null hypothesis that there is no difference in the relationships between - for

example – each of residence in Denmark, France, Italy and Greece (vs the UK), education, economic strain, role captivity, coping and life satisfaction can be more confidently rejected (at $p < 0.001$). Additionally, based on an interpretation of effect sizes, greater life satisfaction was reported by informal caregivers residing in Denmark (a greater mean of 0.54/10), and less life satisfaction was reported by those residing in France (-0.62/10), Italy (-1.21/10) and Greece (-3.17/10) compared to those in the UK. As well, life satisfaction increased with each level of education (0.25/10) and coping (0.34/10), and decreased among those experiencing economic strain (mean of -0.57/10) and role captivity (mean of -0.60/10). These effect sizes suggest somewhat stronger relationships between these variables and life satisfaction.

On the other hand, based on the interpretation of P values, the null hypothesis that there is no difference in the relationships between – for example – residence in Sweden (compared to the UK), marital status x household income, age x marital status, role overload, social constriction – volunteering, work/family conflict, and life satisfaction (where $p < 0.05$ and at $p < 0.01$) is less confidently rejected. Based on an interpretation of effect sizes, the variables of residence in Sweden vs the UK, marital status x household income, age x marital status, role overload, social constriction – volunteering, and work/family conflict had slightly weaker relationships with life satisfaction.

Chapter Eight: Conclusions

The main objective of this research was to assess the role of welfare state/family care regimes, intersecting social locations and stress process factors in influencing the mental health and well-being of informal caregivers. In reviewing theoretical and empirical literature on the topic, it was concluded that an integrated regime type approach that included welfare state and family care regime characteristics as well as factors associated with intersectionality and stress process factors held some promise for providing insight into mental health and well-being disparities among informal caregivers. In particular, this led to a central focus on assessing the empirical utility of an integrated model that included components of all three approaches. To do so, five research questions were addressed. Each focused on specific relationships incorporated within the integrated model. Together, they were designed to address the overall question of whether there is support to modify the stress process model to include the insights of an intersectionality framework and an integrated welfare state/family care regime approach.

The results provided support for incorporating the integrated welfare state/family care regime approach and intersectionality into the stress process model as well as some further directions for research needed in the area. This included support for the argument that the mental health and subjective well-being of informal caregivers is associated with regime type. The study also found support for the main and interactive effects of selected social locations in influencing the mental health and well-being of informal caregivers. They also mediated some of the relationships evident between regime type and the outcome variables. Thus, there was support for the need to integrate both regime type and social location factors

and to do so from an approach that views social structures as both discrete (as in the SPM) as well as interactive (i.e., intersectionality). Depending on the social locations and the outcome measures assessed, social locations may play no role, an additive role, or an interactive role in influencing informal caregiver health and well-being. For example, in this study, gender was not associated with life satisfaction but it was associated with self-reported mental health when regime type and other social location factors were taken into account. Although gender was not found to intersect with age, marital status or household income to explain a significant amount of the variance in the dependent variables, others have found some support for the view that gender and race intersect to explain a significant amount of the variance in mental health and well-being outcomes among informal caregivers (Alpass et al., 2013).

The models that included the stress process factors (i.e., primary and secondary stressors and social resources) provided even more support for adopting an integrated approach. In some cases, the inclusion of stress process factors did not mediate associations between regime type and mental health and well-being outcomes. In others, they mediated these relationships, suggesting that differences in exposure to stressors and access to stress resources explained some of the inequities in self-reported mental health and well-being between regime types. Finally, they also suppressed some of these relationships. The importance of these findings is twofold. First, left unspecified, a focus on regime type provides only part of the picture as regime type characteristics have both direct (unexplained by the SPM) and indirect (explained by the SPM) associations with individual caregiver mental health and well-being outcomes. Secondly, not including the SPM in comparative

studies using regime type leaves a portion of the inequities between regime types unexplained.

This study had several limitations. Data restrictions were one of the main limitations to the study. First, the data were cross-sectional and therefore, the results are limited to a focus on associations and not causal relationships between the independent and dependent variables. Future studies will want to consider drawing on longitudinal data sources such as the Survey on Health, Aging and Retirement in Europe (SHARE) to address the issues raised in this study. However, the SHARE is more limited than the EQLS for accessing stress process measures as well as measures of the health and well-being of adults younger than 50 years of age.

In terms of sampling, another limitation of the study was the small number of cases available in selected subsamples; this may have resulted in biased estimates. For example, caution should be used when interpreting the results obtained for the informal Mediterranean (Greece) care regime (n=377), for widowed informal caregivers aged 18-34 (n=18), and never married informal caregivers aged 75 and older (n=17). Reliance on these small subsamples has implications for interpreting the results obtained regarding the interaction of marital status x age as well as the results pertaining to Greece (which did change drastically with the inclusion of more variables in the model). The 5th wave of the EQLS is expected to be available in 2021. One alternative to address the small sample issue for Greece and younger widows could be to pool the 2021, 2016, and 2012 samples. Another option would be to consider combining Greece with Portugal as both are characterized as informal Mediterranean care regimes. If the number of widows cannot be increased, another option

could be to combine separated or divorced informal caregivers with those who were widowed.

Another limitation of the study was that it did not identify and examine cases for several of the types in the welfare state/family care regime typology. Indeed, the study did not identify and thus analyze any welfare state/family care regimes that were informal social democratic, informal conservative, formal Mediterranean, informal liberal and formal liberal. Future research will want to consider whether there are cases that could be included that were not included in this study. The countries selected were also limited to Western Europe. Comparisons should be made with countries outside the Western European context where the majority of previous research applying regime typologies has been conducted. For example, Canada and the United States could be characterized as liberal welfare states with varying care regimes (i.e. semi-formal in Canada, informal in the United States).

Another limitation is that specific indicators or groups of indicators that directly measured regime type characteristics were not used. For instance, indicators that directly measure social protection expenditures of welfare states including total public benefits, in-kind benefits, and cash benefits as a percentage of GDP are available in other data sources such as OECD data (Castles, 2002; Richardson et al., 2019). Indicators have also been used to assess family care regime characteristics such as old age care coverage levels, intensity and affordability of formal care services, and availability and affordability of long-term care homes (Rauch, 2007).

As well, regime types were restricted to a single country. Increasing the number of countries within each regime type would have increased the sample size. Lastly, using country as a proxy for regime types comes with limitations. One limitation with using

country as a proxy is that it is difficult to ascertain whether what the variable measured was welfare state/family care regime characteristics or another macro-level factor. For example, were the results for Greece indicative of the implications of the regime type or of the economic recession beginning in 2010?

With regard to measurement, this study was limited to using two outcome measures: self-reported mental health and life satisfaction. Life satisfaction was a single-item measure. Yet, some studies have found single-item indicators of life satisfaction to be less valid than multi-item measures (Jovanović & Lazić, 2020). In future studies, multi-item measures should be used when available. In addition, while some research has utilized the same dependent variables as were assessed in this study, many others have focused on measures of depression, anxiety, psychological distress, affect, and quality of life. This study is somewhat limited when it comes to comparing the findings to those obtained in these studies. One advantage of self-reported mental health is that it provides a broader assessment than specific mental health diagnoses or symptoms. However, stress process factors could have a slightly different association with different components of mental health. At the same time, this study recognized the importance of using both a mental health and a subjective well-being measure. Indeed, the results attest to the importance of using different mental health and well-being outcomes to assess associations among stress process factors, intersecting social locations and welfare state/regime types with the mental health and well-being of informal caregivers.

This study was also restricted with regard to what specific social location factors could be included in the analyses. For example, data on social locations including race, ethnicity, immigrant status, sexual orientation, caregiver relationship (husband/wife,

daughter/son, etc.) and social class were not available within the EQLS surveys. Yet, such factors are likely to have an impact on caregiver mental health and well-being. Indeed, this study was limited to investigating the socio-economic aspects of SEI, and gender as a dichotomous variable, with only men and women included. Future studies interested in associations between social location and the mental health and well-being of informal caregivers may want to include variables for these social locations if/when they're available.

Although the EQLS included questions pertaining to each category of stressor (background, primary, secondary) and stress resources, there were also some stress process factors that were not accounted for. These included several contextual factors (caregiving history, family and network composition, program availability), primary stressors (cognitive status, problematic behaviour, basic activities of daily living and instrumental activities of daily living, and relationship deprivation) and secondary stressors (self-esteem, mastery, loss of self, competence, and gain). Additionally, some of the stress process variables used in the study were not validated (i.e., coping) whereas others assessed only some of the items included in previously used scales (e.g., only one out of three items of role captivity was assessed). Additionally, the measure used for economic strain assessed overall economic strain rather than specific types such as the strain associated with expenditures on caregiving. Another issue is that the variable is unable to disentangle whether the level of financial strain changed as result of caregiver status change. The economic status of the household may have changed over the past 12 months due to something other than caregiving. Furthermore, those in the sample may have begun caregiving several years or several weeks before being surveyed.

There were also some limitations to the analyses. The analysis was limited to a single level modelling strategy using robust standard errors instead of multi-level modelling. Although the approach is said to be appropriate for studies with less than 50 clusters (Cameron & Miller, 2015), future studies including more countries may want to consider multi-level modelling. As well, a more gradual approach to mediation analysis may be helpful for future studies to ascertain which social location or stress process factor in particular is the mediator of regime type and mental health and subjective well-being outcomes. For example, it is unclear to what extent education or rural/urban explain the disparity in self-reported mental health and life satisfaction evident when comparing caregivers residing in the semi-formal liberal (UK) and semi-formal social democratic (Sweden) care regimes.

In this study a quantitative methods approach using interaction terms was used to address intersectionality. The purpose of using this approach was to assess whether the intersectionality of age, gender, marital status and socio-economic status explained a significant amount of the variance in the dependent variables among informal caregivers. However, there is a lack of consensus over whether qualitative, quantitative, or mixed methods approaches are the most appropriate methods for conducting intersectionality studies (Evans, 2019; Fehrenbacher & Patel, 2019; Scott & Siltanen, 2017). There have also been concerns raised about what constitutes the best way to do qualitative (Abrams et al., 2020) and quantitative (Scott & Siltanen, 2017) intersectionality research. Within quantitative studies, regression analysis using interaction terms is still the most common method (Hankivsky & Grace, 2015). However, some argue that interaction terms treat

intersectionality as an add-on and instead prefer separate sub-group analyses such as by gender (Scott & Siltanen, 2017).

Furthermore, multi-level models are increasingly being promoted as useful for quantitative intersectionality studies as they are seen as better reflecting the conceptualization of social locations as being multi-level (situated within macro-level contexts) (Else-Quest & Hyde 2016; Evans, 2019). However, this does not appear to imply not using interaction terms. For example, recent studies using a multi-level approach have assessed the interaction of race x education within city sub-samples (Rouhani, 2014) and cross-level interactions of neighbourhood income and individual income within sub-samples of both men and women (Scott & Siltanen, 2017).

This study was attentive to the context of intersectionality with the focus on regime type but was limited to an individual level analysis due to the small number of cases. In particular, this study was interested in whether there were direct and indirect associations with informal caregivers' mental health and well-being when considering intersecting social locations and stress process factors. Further research could assess whether interactions vary across country sub-samples. As well, research employing enough countries or other contextual factors (regions, neighbourhoods) to warrant using multi-level models should consider doing so. Whether using interaction terms and/or stratifying by sub-sample is more adequate for the particular study is worth considering and may be more dependent on research questions. One development out of this study could be to assess a multi-level model with more countries as well as stratifying by gender. Perhaps marital status is differentially associated with the mental health and well-being of men and women informal caregivers. Furthermore, it could be that non-married informal caregivers in semi-formal conservative

welfare states are particularly vulnerable to poor outcomes only among women, suggesting a cross-level interaction of regime type and marital status.

Despite the limitations of this study, the results are promising for the argument to adapt the stress process model to include the integrated welfare state/family care regime type approach to better understand the mental health and well-being of informal caregivers. On the other hand, stress process factors accounted for some of the regime type and outcome variable associations, suggesting that cross-national research on informal caregivers' mental health and well-being using regime typologies should include stress process factors. The intersectionality findings appear somewhat less promising due to either overlapping confidence intervals or small sub-samples. More research is needed to address whether intersecting social locations among informal caregivers explain variance in their mental health and well-being.

To conclude, this research also has some potentially important policy and practice implications. First, the findings suggest that social democratic welfare states and formal care regimes (Denmark, followed by Sweden and France) are the best models for promoting the mental health and well-being of informal caregivers. Furthermore, social location and stress process factors explained several of the inequities between regime types, including those between social democratic and formal care regimes and the semi-formal liberal (UK) care regime. For example, UK policy makers should be particularly attentive to the negative implications of social location and role overload considering the results reported in this study pertaining to Denmark. Lastly, the findings point to the need for policy makers from all of the European countries assessed in this study to address the poorer mental health of women and rural informal caregivers. There is also some evidence that younger high income, older

low income, and younger widowed informal caregivers are particularly vulnerable to poor mental health outcomes. However, further research is needed to be more conclusive regarding younger high income, older low income, and younger widowed informal caregivers. There is also a need to address the poorer life satisfaction of informal caregivers with low levels of formal education. Addressing role overload, secondary stressors and improving coping resources can also be beneficial to informal caregivers' mental health in all of the regime types. Secondary stressors and coping resources are also important to the life satisfaction of all caregivers regardless of regime type residence. Overall, this study provides support for an intergrated approach that includes regime type, intersectionality, and stress process factors to understand the mental health and well-being disparities among informal caregivers.

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Appendices

Appendix A

Appendix A. Ordered Logistic Regressions of Mental Health on Welfare State/Family Care Regime with Varying Reference Categories (Model 1, no controls): Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Denmark	Sweden	France	Germany	Italy	Greece	UK
Welfare State/Family Care Regime							
Formal SD (Denmark)		1.562***	1.734***	1.961***	3.273***	3.661***	2.181***
Semi-Formal SD (Sweden)	0.640***		1.109	1.255	2.095***	2.344***	1.396*
Formal C (France)	0.577***	0.901		1.131	1.888***	2.112***	1.258
Semi-Formal C (Germany)	0.509***	0.797	0.884		1.669***	1.867***	1.112
Semi-Formal M (Italy)	0.305***	0.477***	0.529***	0.599***		1.118	0.666**
Informal M (Greece)	0.273***	0.427***	0.473***	0.535***	0.894		0.596**
Semi-Formal L (UK)	0.458***	0.716*	0.795	0.899	1.500**	1.679**	
<i>F</i> -test	20.85***	20.85***	20.85***	20.85***	20.85***	20.85***	20.85***
<i>N</i>	5,976	5,976	5,976	5,976	5,976	5,976	5,976

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized odds ratios reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS Survey

Appendix B

Appendix B. Ordered Logistic Regressions of Mental Health on Welfare State/Family Care Regime, Social Location and Stress Process Indicators: Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Welfare State/Family Care Regime							
Formal SD (Denmark)	2.181***	2.009***	2.002***	1.996***	1.769***	1.649***	1.538**
Semi-Formal SD (Sweden)	1.396*	1.289	1.234	1.176	1.079	0.874	0.751*
Formal C (France)	1.258	1.265	1.237	1.306*	1.262	1.668***	1.703***
Semi-Formal C (Germany)	1.112	1.053	1.046	1.113	1.057	1.055	0.929
Semi-Formal M (Italy)	0.666**	0.702**	0.710*	0.776	0.795	0.881	0.934
Informal M (Greece)	0.596**	0.654*	0.675*	0.676*	0.663*	1.699**	1.601*
Semi-Formal L (UK - reference)							
Social Location							
Age Group		0.989	0.478*	0.501*	0.495*	0.579*	0.547*
Gender (Female = 1)		0.717***	0.722***	0.721***	0.736**	0.737**	0.732**
Marital Status							
Married (Reference)							
Separated/Divorced		0.729*	0.723*	0.712*	0.721*	0.699*	0.790
Widowed		1.026	0.609	0.633	0.639	0.548	0.625
Never Married		0.909	0.803	0.785	0.794	0.836	0.932
Household Income		1.222**	1.258***	1.211**	1.199**	1.056	1.018
Age x Household Income			1.106*	1.102*	1.099*	1.075	1.083*
Age x Marital Status							
Married (Reference)							
Separated/Divorced			1.158	1.167	1.189	1.242*	1.225*
Widowed			1.402	1.394	1.370	1.451*	1.390*
Never Married			0.938	0.919	0.959	1.009	1.032
Controls							
Rural/Urban (Urban = 1)				1.219*	1.220*	1.212*	1.257*
Education				1.139**	1.137**	1.106*	1.049
Primary Stressors							
Hours of Care					0.971	0.963	0.974
Role Overload					0.810***	0.884**	0.905*
Secondary Stressors							
Social Const. Participation						0.766*	0.773
Social Const. Volunteering						0.826	0.810*
Work/Family Conflict (Unemp.)						0.597**	0.655*
Work/Family Conflict (Conflict)						0.604**	0.644**
Economic Strain						0.547***	0.588***
Role Captivity						0.587***	0.646***
Stress Resources							
Informal Social Support (Dep.)							1.365
Informal Social Support (Emo.)							0.870
Informal Social Support (Money)							1.060
Informal Social Support (House)							1.114
Formal Social Support							0.698*
Coping							1.397***
F-test	20.85***	13.18***	10.88***	10.49***	10.52***	15.75***	15.28***
N	5,976	5,976	5,976	5,976	5,976	5,976	5,976

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized odds ratios reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS Survey

Appendix C

Appendix C. Ordered Logistic Regressions of Life Satisfaction on Welfare State/Family Care Regime with Varying Reference Categories (Model 1, no controls): Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Denmark	Sweden	France	Germany	Italy	Greece	UK
Welfare State/Family Care Regime							
Formal SD (Denmark)		1.394**	4.068***	2.702***	7.010***	38.075***	1.918***
Semi-Formal SD (Sweden)	0.717**		2.917***	1.937***	5.027***	27.301***	1.375*
Formal C (France)	0.246***	0.342***		0.664**	1.723***	9.359***	0.471***
Semi-Formal C (Germany)	0.370***	0.516***	1.506**		2.594***	14.091***	0.709*
Semi-Formal M (Italy)	0.142***	0.199***	0.580***	0.385***		5.431***	0.273***
Informal M (Greece)	0.026***	0.037***	0.107***	0.071***	0.184***		0.050***
Semi-Formal L (UK)	0.521***	0.727*	2.121***	1.409*	3.655***	19.852***	
<i>F-test</i>	77.68***	77.68***	77.68***	77.68***	77.68***	77.68***	77.68***
<i>N</i>	5,997	5,997	5,997	5,997	5,997	5,997	5,997

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized odds ratios reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS

Appendix D

Appendix D. Ordered Logistic Regressions of Life Satisfaction on Welfare State/Family Care Regime, Social Location and Stress Process Indicators: Informal Caregivers (Age 18+), EQLS, 2012 and 2016

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Welfare State/Family Care Regime							
Formal SD (Denmark)	1.918***	1.639**	1.659**	1.654**	1.509*	1.433*	1.223
Semi-Formal SD (Sweden)	1.375*	1.222	1.213	1.156	1.081	0.830	0.667**
Formal C (France)	0.471***	0.456***	0.455***	0.469***	0.459***	0.588***	0.565***
Semi-Formal C (Germany)	0.709*	0.648*	0.652*	0.714	0.684*	0.705	0.633*
Semi-Formal M (Italy)	0.273***	0.273***	0.276***	0.301***	0.305***	0.331***	0.352***
Informal M (Greece)	0.050***	0.052***	0.052***	0.053***	0.052***	0.116***	0.109***
Semi-Formal L (UK - reference)							
Social Location							
Age Group		0.950	0.975	1.005	0.978	0.974	0.958
Gender (Female = 1)		1.059	1.068	1.067	1.091	1.138	1.148
Marital Status							
Married (Reference)							
Separated/Divorced		0.502***	0.036*	0.038	0.035	0.104	0.186
Widowed		0.611**	2.638	3.043	3.145	11.742	8.717
Never Married		0.818	0.786	0.841	0.829	1.194	1.503
Household Income		1.403***	1.383***	1.304***	1.287**	1.195*	1.155
Marital Status x Household Income							
Married (Reference)							
Separated/Divorced			1.453	1.446	1.467	1.244	1.161
Widowed			0.753	0.742	0.740	0.599*	0.632
Never Married			0.973	0.962	0.965	0.919	0.904
Marital Status x Age							
Married (Reference)							
Separated/Divorced			1.011	1.011	1.028	1.064	1.055
Widowed			1.364*	1.393*	1.361*	1.398*	1.400*
Never Married			0.821*	0.809*	0.837*	0.888	0.900
Controls							
Rural/Urban (Urban = 1)				0.978	0.971	0.948	0.981
Education				1.278***	1.277***	1.257***	1.196***
Primary Stressors							
Hours of Care					0.969	0.965	0.977
Role Overload					0.857***	0.964	0.992
Secondary Stressors							
Social Const. Participation						0.824	0.868
Social Const. Volunteering						0.821*	0.806*
Work/Family Conflict (Unemp.)						0.695*	0.779
Work/Family Conflict (Conflict)						0.632**	0.676**
Economic Strain						0.588***	0.633***
Role Captivity						0.502***	0.551***
Stress Resources							
Informal Social Support (Dep.)							1.190
Informal Social Support (Emo.)							0.994
Informal Social Support (Money)							1.077
Informal Social Support (House)							1.476
Formal Social Support							1.009
Coping							1.501***
<i>F-test</i>	77.68***	44.17***	29.71***	28.81***	26.26***	30.23***	26.38***
<i>N</i>	5,997	5,997	5,997	5,997	5,997	5,997	5,997

Note: Welfare State/Family Care Regimes: SD = Social Democratic; C = Conservative; M = Mediterranean; L = Liberal

Unstandardized odds ratios reported

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$ (two-tailed test)

Source: The 2012 and 2016 EQLS