Session B-3 Social Security and Elder Care

Depression and Social Support among Older Japanese in Long-term Care

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1. Introduction

1-1. Background

On average, Americans are living longer, and statistically, people in Hawaii are living longer than those in other states. After World War II, there was a spike in births from 1946 to 1964. This spike is now labeled as the "baby boomer" population. It has been predicted that by the year 2035, one out of three of individuals living in the State of Hawaii will be elderly (Executive Office on Aging, 2011). Additionally, it has been also found that among those who are older adults, the group of the oldest old, those who are age 85 and older, is expected to increase 12 times (1,157.5%) by 2035 due to aging population and longer life spans.

The largest older ethnic group is Japanese with 34.35% of adults over the age of 65, and 40% of adults over the age of 75, so my research will target this group (Hawaii Health Survey, 2010). However, there has not been much research on older Asian Americans, especially the older Japanese population in Hawaii. Consequently, although the focus of this study is older Japanese in Hawaii, the literature review will substitute studies from Japan about elderly Japanese or about elderly in general for variables to be studied that do not have literature directly related to the Japanese population in Hawaii.

Since the Hawaii baby boomer population in 2014 is now age 50-68, some are starting to enter the stages of needing more care and assistance with their tasks of daily living. A study by Kemper, Komisar, and Alecxih (2005) estimated that 79 percent of women and 58 percent of men over the age of 65 would need some type of long-term care assistance. With the growing needs of long-term care, the State of Hawaii initiated Act 224 to create a Long Term Care Commission in 2008 to find out what more needs to be done in Hawaii in preparation for the baby boomers.

The Hawaii Long Term Care Commission report (2012) concluded that Hawaii is not at all prepared for the future influx due to lack of long-term care supply and "catastrophic out-of-pocket costs" (p.14) for long-term care. Therefore, it is up to the State and community to find ways to finance and support long-term care in the next few years. Similarly, researchers in the field of gerontology should focus on community need and find out what works and what does not to develop and enhance long-term care programs to ensure a happy and healthy aging process.

So far, research shows that strong social support and morale are important to the aging population. Previous studies found that depression and lack of social support are linked to lower

quality of life, substance abuse, higher mortality rate, and high suicide rates (Wada et al., 2004; Culberson & Ziska, 2008; Takeshita et al., 2002; NPA, 2014). However, there have been few studies on depression among older adults in long-term-care in Hawaii.

Due to Hawaii's unique culture, population aging, and lack of data on this population, it is vital to discover factors associated with depression of older adults to aid in generation-appropriate, and culturally competent prevention and treatment. For these reasons listed above, I chose to focus this research study on depression and social support in older Japanese in long-term care in Hawaii.

1-2. Research Question

The research question for this study is "Is social support related to depression in older Japanese in long-term care?" The literature review will discuss what is known about the influence of Japanese culture on mental health stigma, negative consequences of depression, social support as a coping resource with older adults, and research already done in Hawaii related to the topic.

The data collected from this study examined the impact of social support on depression among older Japanese in long-term care using a questionnaire administered by surveyors. This study can assist social workers and other healthcare professionals in creating better programs to help older adults and their families by identifying the factors significant to well-being in the elderly population.

2. Literature Review

2-1. Japanese Culture and Mental Health Stigma

Culture is an important factor to consider when researching depression, because people of different cultures have varying levels of stigma towards mental health problems. Japan is one country that is known for their social stigma towards depression (Griffiths et al., 2006). Japan also has high elderly suicide rates related to depression. In 2013, 27,283 people committed suicide, with 11,034 of them age 60 or older (40.44%) (National Police Agency, 2014).

More than 60% of suicides in Japan were adults with a diagnosis of depression (Nakao & Takeuchi, 2006). To put this into perspective, the United States has an approximate rate of 12.03 suicides (American Foundation for Suicide Prevention, 2010) per 100,000 people (Central Intelligence Agency, 2014), while Japan has an approximate rate of 21.47 suicides (NPA, 2014) per 100,000 people (CIA, 2014).

A study was done comparing the values of Japanese elderly in Japan and Japanese American elderly and four values were common between both groups: "doryoku" - effort/exertion, "enryo" - caution/reserve, "gaman" - perseverance/patience, and "shikataganai" - It cannot be helped/Nothing can be done (Miyawaki, 2008). It is thought that the Japanese stigma towards mental health issues roots from the concept of "gaman", causing people to think of depression as a personal choice rather than something out of their control. "When Japanese experience depression, doctors say, they prefer

to imagine something is wrong with their character rather than their heads, and a cultural impulse known as "gaman," or the will to endure, takes precedence over medical care" (French, 2002).

Recently, Japan appears to have started "normalizing" depression as displayed by the Japanese government's recognition of suicide rates and approval of the use of SSRIs in mental health treatment (Vickery, 2006). After many years of mental health stigma, in 2003, when Japan's annual suicide rate hit 30,000 suicides per year, the Japanese Government officially recognized the problem and announced, “Suicide has become a national epidemic” (Goldsmith, 2003). From this time forward, studies of depression, suicide, and the elderly in Japan started to turn their focus more towards effective interventions, many of which included components of social support (Oyama et al., 2004; Oyama et al., 2006)

Although America and other western countries do not have as much stigma towards mental health illness such as depression, it is still an issue (Griffiths et al., 2006). Studies in the United States show that depressed adults believe that their diagnosis would negatively affect employment and insurance coverage due to stigma (Roeloffs et al., 2003). Reports from both countries appeared to show that the issue with talking about depression stemmed from the depressed themselves (self-stigma), rather than actual prejudice and discrimination from the community.

2-2. Depression and Cognitive Functioning

There are no specific study findings on depression and cognitive functioning for older Japanese in Japan or in the State of Hawaii. However, there have been several studies conducted in the mainland U.S. that discuss the correlation between cognitive functioning and depressive symptoms. Cognitive functioning is not only correlated with depression, but also can make depression difficult to diagnose in elderly populations.

According to Zastrow and Kirst-Ashman, depression is common in elderly – it is considered the “common cold of mental disorders for older persons” (Zastrow, Kirst-Ashman, 2013, p 648). Although it is a common problem, it is not something that should be swept under the rug. Unfortunately, depression is difficult to diagnose in older persons, especially those with degenerative cognitive or physical diseases or those on many medications. “Depression in the elderly is also frequently confused with the effects of multiple illnesses and the medicines used to treat them” (WebMD, 2012).

Those with degenerative diseases such as Alzheimer's or Parkinson's can also be difficult to assess due to physical and/or mental inabilities to ask for help or give clear answers to questions. “In the final stage of this disease (Alzheimer’s), individuals lose the ability to respond to their environment, to carry on a conversation and, eventually, to control movement” (Alzheimer’s Association, 2012). Most research on depression has been done with elderly with higher levels of cognitive functioning.

Byers and Yaffe (2011) summarized recent research in the area of depression and dementia, and found that data was inconsistent, although several longitudinal studies suggested depression as a risk

factor for the development of dementia in later life. The authors question whether or not depression alone causes dementia, or whether there are other factors involved in mental health that cause both depression and dementia. Another study from 2011 added that depressed elderly in long-term care with dementia physically declined more quickly than dementia patients without depression (Rapp et al., 2011). The results were unclear if the mental health condition of dementia or depression played more of a role in the physical decline.

2-3. Depression and Physical Functioning

Physical functioning can be measured in two ways – Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). ADL are tasks essential for sustaining life such as the ability to walk, get dressed, or eat. IADL on the other hand are not essential for life, but are needed to be able to perform socially – i.e. managing money, arranging transportation, or using the telephone. Studies find that depression, ADL, and IADL are interrelated, although it is not clear if depression or disability comes first, as depression is a predictive factor for quicker physical decline in older adults. (Ormel et al., 2002; Wada et al., 2004; Luber, 2001),

A community-based study was conducted between 2000 and 2001 in four Japanese towns – Hokkaido, Shiga, Kyoto, and Mie Prefecture (Wada et al., 2004). This study had a high survey response rate of 75 percent, indicating the results should be a good representation of the population surveyed. 5,363 elderly (age 65+) completed the 65-item questionnaire, which measured ADL (activities of daily living), subjective QOL (quality of life), and GDS-15 (a depression questionnaire). Patients (subjectively) measured their perception on their independence in activities of daily living, quality of life, and depression on scales.

The study showed that 33.5% of community-dwelling older people had mild depression. These numbers were consistent across the four towns, showing that the depression seemed to be age-related as opposed to town-related. The questionnaire also revealed that ADL and QOL were related to depression. Those elderly who reported that they were depressed had lower ADL and QOL scores than those who were not depressed. Researchers concluded that it is important to identify and help community-dwelling elderly because of its relation to their ability to live in the community and quality of life.

Another large study conducted by Luber (2001), surveyed 3,481 elderly patients in New York. They found that elderly with depression had more frequent doctor visits, lab tests, scans, and consultations than those elderly without depression. It is likely that psychosomatic symptoms caused by depression decrease quality of life by giving elderly physical problems such as pain and digestive issues. These findings are significant for the elderly population because of physical functioning, and are also important for the general population, as this is likely one of the contributing factors to doctor's office and emergency room overcrowding. It also stresses the importance of including mental health

as part of physical check-ups if possible, to prevent band-aiding more serious underlying problems.

Although results are inconclusive about the relationship between depression and disability, majority of research does suggest that depressive symptoms and suicide are very likely to increase soon after onset of a new disability or physical problem (Purcell et al., 1999; Ormel et al., 2002). It is plausible that the relationship between depression and physical functioning is cyclical, as physical disability causes depression, and depression causes further rapid decline. Overall, studies on physical functioning and depression all emphasize the importance of early intervention, which can be assisted via social support.

2-4. Social Support as a Coping Resource

There are a variety of coping strategies that people can use to deal with stressors in their lives. Social support is one of the most common strategies proven to benefit mental and physical health (Thoits, 2011; Umberson & Montez, 2010). Due to the epidemic of elderly depression and suicides in Japan, recent studies focus on causes and interventions to remedy the problem. One of the causes found for elderly depression and suicide was that elderly did not feel they were able to talk with others about their mental health issues (Ono et al., 2001).

To combat the problem of low social support for depressed elderly, many research studies and programs in Japan focus on social support as an intervention for depression in the elderly. Oyama et al. (2004) showed a dramatic decrease in elderly suicide rates in rural areas after hosting depression screenings, follow up therapy, and health education workshops for the community. Another longitudinal study done in an urban city of Japan observed the relationship between social support and depression and found it to be an important factor influencing depression development in later life (Koizumi et al., 2005).

Studies of older American also display the significant correlation between strong social support and lower levels of depression among older adults (Greenglass, 2006). A cross-cultural, cross-sectional study was conducted in 2002, comparing Japan and the United States to find the impact of different social support sources on depression in the elderly in both countries (Sugisawa et al., 2002). This study suggested that the spousal relationship had the largest impact on health of American elderly while the parental relationship was most influential for Japanese elderly.

Literature on family dynamics in Japanese and American elderly households differs in results. Some studies agree with Sugisawa (et al. 2002) in that social support from a spouse is the most influential relationship for good health because of the closeness of the spousal relationship (Okabayashi et al., 2004; Harris et al., 1998). Other studies disagree and find that the parental relationship between elderly and their children is the most significant to better health (Sugisawa et al., 2002). The relationship between generations can also be seen specifically in Hawaii as the state with the largest number of multigenerational homes in the United States (Lofquist, 2012).

A possible explanation for the difference in literature could be due to family structure differences. In the traditional Japanese role of a male, the father/husband figure is expected to be a breadwinner for the family while the mother/wife tends to the house and children (Williamson & Higo, 2007). In families with these roles, it is not unusual to find that men become depressed upon retirement as they do not fit into family life in the home since working was majority of their life (Sugihara et al., 2008). In fact, the highest suicide rates in Japan come from men of retirement age (NPA, 2014).

Many of the studies on family dynamic, social support, and depression have also discussed the currently changing value of family in Japanese culture. More frequently than before, children are moving out of parents' homes to live on their own (Sugisawa et al., 2002), and women are drifting away from the traditional housewife role by remaining single and not starting a family (Holloway, 2010). The culture of Japanese Americans in Hawaii cannot be described as entirely Japanese or entirely American, so impacts of the various sources of social support may or may not be different in Hawaii.

These studies described above show the cultural differences between Japan and the United States in terms of coping with depression and impacts of social support from the family structure. Healthcare providers should understand that not all families are the same, and that depression strategies that work for one group of people may not always work for another group or individual. Considering social support for Japanese elderly in Hawaii, it is important to look at long-term-care because the prior studies done on elderly and depression in Hawaii have excluded institutionalized persons. Social support within an institutionalized setting differs from the social support seniors would receive living independently or with family.

2-5. Research in Hawaii

Due to Hawaii's unique culture, mainly a combination of American and Asian/Pacific cultures, it cannot be assumed that research from prior studies in places outside of Hawaii will have the same results in Hawaii. Therefore, more research needs to be done specific to Hawaii in the areas of depression and elderly population. There were a few studies published that covered the areas of depression and social support in the elderly in Hawaii.

In a study in Honolulu County published in 1999, researchers analyzed 96 elderly suicides that occurred between the years of 1987 and 1992 (Purcell et al., 1999). It was found that 46 percent of older adults who committed suicide had a current diagnosis of mental illness, the most prevalent of which was depression at 78 percent. The data also showed 78 percent of those who committed suicide had received a diagnosis of a new medical problem within 6 months of their suicide. Other studies outside of Hawaii note that most stressors elderly face are dealing with loss – physical, social, or economic (Manfredi, 1987). Therefore, it is imperative to research elderly in long-term care/healthcare settings in order to prevent depression and suicide after a new diagnosis of a medical problem.

Another study performed in 2006 by the Hawaii Behavioral Risk Factor Surveillance System, funded by the CDC (Salvail et al., 2007). The study was the first of its kind in Hawaii to measure anxiety and depression in the Hawaii population. Data was collected using interviewers trained to use the Computer Assisted Telephone Interview (CATI) program. The requirement to participate in the survey was to be 18 year or older, non-institutionalized, and have access to a landline phone. 5,840 people participated and completed the study. The questionnaire covered basic demographics, health, alcohol/smoking consumption, social/emotional support, and the PHQ-8 (depression screening) form.

There appear to be some issues with the way this study was conducted, due to the choice of sampling via landline phone in the year 2006. Additionally, the study claims that elderly are the "least depressed" "probably due in part to the fact that these adults have survived the challenges of living", which is an example of ageism in research. Although it is plausible to say that elderly are still around because they are 'survivors', elderly face a completely different set of problems than younger adults do and express stress/cope differently than younger adults (Manfredi, 1987).

The way the researchers sampled the population did not make for a good representation of the elderly population because it excluded those who live in institutional settings and grouped everyone 65+ into one group, when there should have been three separate groups from this population. There is also a question the soundness of the survey overall (not just elderly) because it limits the surveyed population to those who have a landline phone in 2006. It assumes that people with depression and anxiety would be willing to answer their phone, participate in a survey, and answer honestly about personal health issues.

Although there are many issues regarding validity of the survey for the older population, it was a good attempt to start research in this area in Hawaii. The researchers started off by stating that depression is a large problem in the United States and is considered a disability that affects people's ability to function and participate in the growth of the economy and social life of their communities. Depression is an important topic to research, and this study is a good base to work from to pursue further research.

A longitudinal study in 2002 focused on depressive symptoms and mortality in elderly Japanese-American men in Honolulu (Takeshita et al., 2002). This study started with pointing out that depression appears to come with aging, yet diagnosis and treatment of it is inadequate (at least in the United States). This research was significant because it was the first community-based study of an Asian population comparing depression and mortality. From 1991 to 1993, the Honolulu Heart Program collected depressive symptom data from 3,196 Japanese American men between the ages of 71-93 living in Hawaii. They also did two follow up studies to measure the mortality rates of those who were originally surveyed at three and six years after the original tests.

Participants in the survey filled out depressive symptom scales, wrote down their demographic data, brought in current medications, and took a few simple health tests. 9.9% (317 men) of the

participants were considered “depressed” according to the scale that they filled out. Overall between the two groups, the study found that participants with depressive symptoms had a higher mortality rate than those who were not. They also found that those who were depressed were most likely: not married, lower BMI, and lower blood pressure. They did not find any correlation with age, education, anti-depressant use, cancer, diabetes, etc.

This study was one of few pertaining to depression in older Japanese in Hawaii. Although it is only for the male population, it was a significant step towards further research in this area. What was especially good about this study was that they attempted to control for medications and health conditions, which is not very common in most research. Additionally, this study is continuing to produce more reports measuring longitudinal data of other variables in Hawaii's older adult population that may prove to be very useful for the baby boomer generation.

3. Research Methods

3-1. Study Design

This study aimed to examine the relationship between social support and depression among older Japanese in long-term care. The survey design was cross-sectional with mostly quantitative measures. The main independent variable (IV) measured was social support and the dependent variable (DV), depression. Other independent variables measured in this survey were: socio-demographic, cognitive ability, and physical functioning measured by ADL and IADL abilities.

3-2. Hypothesis

Based on previous literature, this study hypothesized that social support is significantly positively associated with depressive symptoms. Additionally, this study hypothesized that other factors such as cognitive and physical functioning may be related to social support and/or depression.

3-3. Sampling

Selection criteria for participants were Japanese, age 65+ and in long-term care. Participants for this cross-sectional survey were chosen through convenience sampling of long-term care. For the purposes of this study, long-term care was defined as: residential or day facility servicing anywhere from independent living through nursing level care, and willing to participate.

Independent living facilities are living communities in which older adults can live together (usually an apartment building type setting but with an age requirement). Some adults in independent living receive physical assistance and some do not, and most facilities offer activities for socialization. Care homes are usually smaller than assisted living/nursing facilities, but are similar in that the older adult lives at the care home, and receives physical assistance and opportunities for socialization.

Adult Day Health Care centers are similar to live-in facilities in that the elderly spend most of

their waking hours in a community setting receiving physical assistance. The difference is that those who participate in Adult Day Health Care go home every night, usually with family, and only attend the program in the day. Regardless of the differences between the programs and facilities surveyed, I believe that this study observing social support and depression should yield similar results across settings due to spending majority of time in a location with other non-related older adults in a social setting receiving physical care.

3-4. Survey Procedure

As stated earlier, there has not been much published research about long-term care in Hawaii. In the following sections on survey procedure, data analysis, and discussion, I will share some things learned about research in long-term care in Hawaii through the process of implementing the study. This new information about research procedures with elderly in long-term care can assist researchers in creating future studies with this population by identifying difficulties and improving upon them.

The study received original IRB approval in September 2013, and amendment approval to add on Adult Day Care and Day Health programs in January 2014. All survey materials including recruitment script, screening consent script, consent form, and survey scales (listed in Section 3.3) were translated from English into Japanese, back translated, and checked by students in the Social Work department to ensure appropriate language and word meaning. Since all forms were translated and checked for consistency, all participants who took the survey in Japanese received a uniform version of the interview rather than a rough translation (which could differ between surveyors).

Surveys were completed with the aid of trained surveyors. Surveyors were selected among BSW students at Myron B. Thompson School of Social Work There were 9 surveyors, 1 of which was bi-lingual in Japanese and English. Each was trained in either a group or individual session with the PI and adviser to go over the research study topic, process of administering the questionnaire, and some guidance for potential problems.

Long-term care facilities and programs on Oahu were contacted a minimum of two times each by phone and/or email in September 2013 through February 2014 using information from the Senior Information and Assistance Handbook 2012/2014 (Elderly Affairs Division, 2012) from the sections: Nursing Facilities (p.14-16), Retirement and Assisted Living Residences (p.17-18), and Adult Day Care and Day Health (p.34-37). ARCH (Adult Residential Care Homes) facilities with 20 or more beds were also contacted using the online list from the Office of Health Care Assurance (2014). Each facility received a copy of the thesis proposal, survey materials, and IRB approval prior to any surveying.

In total, the following were contacted on the island of Oahu: 27 nursing facilities, 9 retirement and assisted living residences, 25 adult day care and day health programs, and 8 ARCHes. The following participated: 5 nursing facilities, 3 retirement and assisted living residences, 2 Adult Day

Health Care programs, and 1 ARCH. Only 16% of facilities contacted participated in the study. Surveys were completed on-site at facilities between September 2013 and February 2014.

Each facility that participated was different in the process of contact, survey set up and execution. Some facilities required approval from a chain of command. Other facilities, usually the smaller ones, were able to give the go-ahead sooner after contact. Some facilities required family approval for each participant, while others did not as the participants were able to sign for themselves.

Approval and point persons at facilities ranged from social workers, administrators, directors of nursing, and activities coordinators. At some facilities, it was easier to have a pre-set schedule for the surveyors to come in, usually with the more independent participants. In other settings, it was more convenient to send in a surveyor for a set amount of time and meet with participants, as they were available, usually in more skilled nursing settings.

3-5. Measures

All willing participants were interviewed in person using a paper survey questionnaire in English or Japanese (whichever was most comfortable for the participant). There were 69 Japanese elderly interviewed. Each interview had 6 parts, consisting of 136 questions in total, and estimated time taken for each interview was about 30-45 minutes.

3-5-1. Depression

GDS-15 is commonly used to measure depression specifically for use with the elderly population. Depression can be shown in a variety of ways, from sleepiness to agitation, so many depression scales do not ask just about someone's perception of mood, but also about physical manifestations of mood issues. This scale consists of 15 yes/no questions, and is good for elderly, including those who have difficulty understanding complex questions such as Likert scales (Greenberg, 2012). Some statements are phrased positively, and some negatively, to prevent a tendency for participants to completely agree or disagree. The GDS-15 was accepted by many previous studies (Iwamasa, Hilliard, & Kost, 2008; Morimoto et al., 2003; Umegaki et al., 2008; Wada et al., 2004).

3-5-2. Social Support

MOSS-E is short for "Measurement of Social Support in the Elderly". This scale separates social support into three categories: instrumental support, emotional support, and providing support. Instrumental support comes from others assisting with physical needs such as cooking and cleaning. Emotional support assists emotions and mental health. There are also questions about providing support to others, as that is important in social support as well. The MOSS-E scale was tested and accepted by previous studies on the Japanese population (Harada et al., 2001; Sakihara et al., 2000; Shima et al., 1985; Takizawa et al., 2006).

3-5-3. Cognitive Function

Part two, the MMSE, measures cognitive functioning on a 30-point scale. Questions ask about orientation to time, person, and place. It also tests ability to follow-multi-step instructions, write, and memorize words. Lower points indicate dementia or some other type of cognitive disability (Kurlowicz & Wallace, 1999). The MMSE was specifically tested for validity in the Japanese elderly population by previous studies (Gondo et al., 2006; Ikeda et al., 2001; Maki et al., 2000; Naramura et al., 1999).

3-5-4. Physical Function

ADL stands for "Activities of Daily Living". ADLs are physical abilities that are necessary for someone to do to sustain life. The Katz Index of Independence in ADLs is a 6-point questionnaire that asks about physical ability/independence in bathing, dressing, toileting, transferring, continence, and feeding. Previous studies on Japanese populations used Katz ADL and showed the scale was accepted (Ishizaki et al., 2006; Koyano et al., 1986; Miura et al., 1998).

IADL, not to be confused with ADL, stands for "Instrumental Activities of Daily Living". IADLs are physical abilities that are not necessary for someone to sustain life, but are necessary for social functioning. Lawson's IADL is an 8-point questionnaire that asks about ability to use the telephone, shop, cook, clean, launder clothing, use transportation, take medications, and handle finances. It was found that Lawson's IADL was used in previous studies on the Japanese population (Fujiwara et al., 2003; Ishizaki et al., 2006; Koyano et al., 1988).

3-5-5. Socio-demographic Variables

The socio-demographic information started with gender (0=male, 1=female), age, and marital status (0=single/divorced/widowed/separated, 1=married). Then, it asked culture questions regarding percentage of Japanese ancestry, generation (0=1st generation/immigrant, 1=2nd generation, etc.), length of time living in Hawaii, and primary language. The third group of questions measured socio-economic status – highest level of education completed (0=less than high school, 1=high school, 2=college, 3=graduate), occupation prior to retirement, and current monthly income (including retirement, social security, etc.).

There was also a question about religious affiliation. Religion was the only qualitative measure in the study and was not used in the bivariate or multivariate analyses. Lastly, participants were asked about their length of stay in the current facility/program measured in months.

3-6. Analysis

Data was input from paper survey to Excel spreadsheet and checked to ensure proper data entry.

Then, the research data was analyzed for descriptive statistics, and bivariate and hierarchical regression analyses using STATA/SE for Mac version 12.1. The hierarchical regression analysis created four models introducing independent variables in the following steps: (1) socio-demographic, (2) cognitive, (3) physical, and (4) social support.

4. Results

This section displays the results of the three kind of analyses performed on the variables measured. The first portion will show the characteristics of the sampled population as well as data gathered from scales regarding mental and physical functioning, social support, and depression. Next will be a table of the bivariate analysis of the data between two variables. A section follows this on hierarchical regression analysis of the data, showing the relationship between multiple variables.

4-1. Descriptive Statistics

4-1-1. Characteristics of the Sample

A total of 69 older Japanese adults from the island of Oahu in long-term care participated in the study. Table 1 shows the demographic variables measured from the sample. The average age of participants was 87 years old with a standard deviation of 6.54, meaning majority of participants were in the old old (75-85) or oldest old (85+) category of age. Three out of four participants were female (75.36%). Seventy percent of participants were married while 30 percent were unmarried, widowed or divorced.

Income averaged to $2,800 per month with a large standard deviation of $3,106. The n for income was 29 out of 69 because the 32 stated that they did not know their monthly income, and 8 declined to answer or were not specific numerically. The larger portion of the sample had a high school diploma/GED (45.59%), or undergraduate degree (30.88%). Religious affiliation differed with majority associating with Christian/Protestant (37.5%), Buddhism/Shinto (32.81%), or no affiliation (20.31%). There was a large range of time spent in facility/program, as the average was approximately 3 years with a standard deviation of about 4 years, and a range of 1 month to 20 years. The high end of the range, 20 years, is feasible considering the sample age ranged from 68 to 103.

Table 1 Characteristics of the Sample

Variable	**N**	**Percentage**
Age	N=69	
Range	68-103	
Mean (SD)	86.57 (6.54)	
Youngest old (65-74)	3	4.35
Old old (75-84)	17	24.64

Oldest old (85+)	49	71.01
Gender	N=69	
Male	17	24.64
Female	52	75.36
Marital Status	N=69	
Single (unmarried, widowed, or divorced)	21	30.43
Married	48	69.57
Monthly Income	N=29	42.02
Don’t know	N=32	46.38
Declined answer/not specific	N=8	11.59
Range	0-14,000	
Mean (SD)	2,800 (3,106)	
Education	N=68	
Less than High School	7	10.29
High School diploma/GED	31	45.59
Undergraduate degree	21	30.88
Graduate degree	9	13.24
Religion	N=64	
No affiliation	13	20.31
Christian/Protestant	24	37.50
Catholic	2	3.13
Buddhism/Shinto	21	32.81
Mix Christian/Buddhist	4	6.25
Months in facility/program	N=62	
Range	1 mo – 20 yrs	
Mean (SD)	35 mo. (47.70)	

4-1-2. Cognitive Functioning

Cognitive functioning was measured using the MMSE. The range of scores on the MMSE was 10-30 out of a possible 30 points, and the mean was 25 with a standard deviation of 4.74 meaning majority of participants fell into the "normal" cognition range.

Table 2 Cognitive Functioning

Variable	**N**	**Percentage**
Cognitive Functioning (MMSE)	N=69	

Range	10-30
Mean (SD)	25 (4.74)

4-1-3. Physical Functioning

Two aspects of physical functioning were measured using the Katz ADL and Lawson IADL scales. The results of ADL are listed in Table 3 below, with the detailed data from each scale arranged in order of least able to most able. The Activities of Daily Living mean was 5.22 (maximum score of 6) with a standard deviation of 1.48, indicating that most participants had high physical functioning. Feeding was the only ADL that all participants indicated ability to do (mean = 1, SD = 0).

IADL was reported in Table 4 below, with abilities ordered from least to most able to do. Instrumental Activities of Daily Living averaged 5.45 (out of 8) with a standard deviation of 2.42, indicating that there was a wide range of IADL in the population sampled. There was no IADL variable measured that all participants were able or unable to do.

Table 3 Physical Functioning – Activities of Daily Living (ADL)

Variable	**N**	**Percentage**
Katz Activities of Daily Living (ADL)	N=69	
Range	1-6	
Mean (SD)	5.22 (1.48)	
Bathing		
Range	0-1	
Mean (SD)	0.78 (0.42)	
Transferring		
Range	0-1	
Mean (SD)	0.81 (0.39)	
Toileting		
Range	0-1	
Mean (SD)	0.84 (0.37)	
Dressing		
Range	0-1	
Mean (SD)	0.85 (0.35)	
Continence		
Range	0-1	
Mean (SD)	0.93 (0.39)	

Feeding	
Range	0-1
Mean (SD)	1 (0)

Table 4 Physical Functioning – Instrumental Activities of Daily Living (IADL)

Variable	**N**	**Percentage**
Lawson Instrumental Activities of Daily Living (IADL)	N=69	
Range	0-8	
Mean (SD)	5.45 (2.42)	
Food preparation		
Range	0-1	
Mean (SD)	0.42 (0.50)	
Laundry		
Range	0-1	
Mean (SD)	0.52 (0.50)	
Shopping		
Range	0-1	
Mean (SD)	0.54 (0.50)	
Housekeeping		
Range	0-1	
Mean (SD)	0.67 (0.47)	
Responsibility for medications		
Range	0-1	
Mean (SD)	0.72 (0.45)	
Ability to handle finances		
Range	0-1	
Mean (SD)	0.75 (0.43)	
Mode of transportation		
Range	0-1	
Mean (SD)	0.90 (0.30)	
Ability to use telephone		
Range	0-1	
Mean (SD)	0.93 (0.26)	

4-1-4. Social Support

The Measurement of Social Support in the Elderly (MOSS-E) scale measures social support in three categories: instrumental support, emotional support, and providing support. Table 5 shows the results of the ten questions asked, broken down by type of social support. Overall social support was moderate with a mean of 7.68 out of 10 points. Social support is highest in the category of emotional support with a mean of 2.72 out of possible 3 points, and lowest for providing support with a mean of 1.53 out of 3 points. Specific questions are listed under each category of social support, listed from least to most support.

Table 5 Social Support

Variable	**N**	**Percentage**
Total Support (IS + ES + PS)	N=68	
Range	0-10	
Mean (SD)	7.68 (2.28)	
Instrumental Support (IS)	N=68	
Range	0-3	
Mean (SD)	2.72 (0.83)	
Someone to help with cooking and shopping		
Range	0-1	
Mean (SD)	0.90 (0.31)	
Someone to help with gardening, cleaning, washing		
Range	0-1	
Mean (SD)	0.91 (0.29)	
Someone to help with other chores		
Range	0-1	
Mean (SD)	0.91 (0.29)	
Emotional Support (ES)	N=68	
Range	0-4	
Mean (SD)	3.43 (1.07)	
Someone who cares for you when you are in difficulty		
Range	0-1	
Mean (SD)	0.81 (0.40)	
Someone to talk to when you are worried		
Range	0-1	
Mean (SD)	0.87 (0.29)	
Someone who encourages you when you feel depressed		
Range	0-1	

Mean (SD)	0.82 (0.38)
Someone concerned about your welfare	
Range	0-1
Mean (SD)	0.93 (0.26)
Providing Support (PS)	N=68
Range	0-3
Mean (SD)	1.53 (1.17)
Someone you help or do housework for	
Range	0-1
Mean (SD)	0.54 (0.50)
Someone you shop for or help	
Range	0-1
Mean (SD)	0.51 (0.50)
When your friend is sick, do you care for them	
Range	0-1
Mean (SD)	0.46 (0.50)

4-1-5. Depression

Depression was measured using the GDS-15 questionnaire. Majority (75%) of the elderly surveyed did not have depression, as the mean score of 2.97 falls into the “normal”, no depression category. However, approximately one of every four people surveyed showed signs of at least mild depression (24.64%). In Table 6, the results from each of the GDS questions are ranked according to prevalence of depressive symptom (0=not depressive, 1=depressive).

Table 6 Depression

Variable	**N**	**Percentage**
Depression	N=69	
Range	0-14	
Mean (SD)	2.97 (3.13)	
Normal (0-4)	52	75.36
Mild depression (5-8)	11	15.94
Moderate depression (9-11)	5	7.25
Severe depression (12-15)	1	1.45
Do you prefer to stay at home, rather than go out?		
Range	0-1	

Mean (SD)	0.42 (0.50)
Have you dropped many of your activities/interests?	
Range	0-1
Mean (SD)	0.35 (0.28)
Do you feel full of energy?	
Range	0-1
Mean (SD)	0.28 (0.45)
Do you feel that your life is empty?	
Range	0-1
Mean (SD)	0.25 (0.43)
Do you feel worthless the way you are now?	
Range	0-1
Mean (SD)	0.25 (0.43)
Do you think most people are better off than you are?	
Range	0-1
Mean (SD)	0.23 (0.43)
Do you often get bored?	
Range	0-1
Mean (SD)	0.20 (0.41)
Do you feel helpless?	
Range	0-1
Mean (SD)	0.20 (0.41)
Do you feel you have more memory problems than most?	
Range	0-1
Mean (SD)	0.17 (0.38)
Are you in good spirits most of the time?	
Range	0-1
Mean (SD)	0.14 (0.35)
Are you afraid something bad will happen to you?	
Range	0-1
Mean (SD)	0.13 (0.34)
Do you feel that your situation is hopeless?	
Range	0-1
Mean (SD)	0.12 (0.32)
Do you think it is wonderful to be alive now?	
Range	0-1

Mean (SD)	0.10 (0.31)
Do you feel happy most of the time?	
Range	0-1
Mean (SD)	0.08 (0.26)
Are you basically satisfied with your life?	
Range	0-1
Mean (SD)	0.07 (0.26)

4-2. Bivariate Analyses

Table 6 displays a bivariate analysis between the variables measured in this study using STATA/SE 12.1. The bivariate analysis shows the relationship between two variables. Looking at the main variables studied, social support and depression were negatively correlated and significant with a p value of less than .05. This means that the less social support a person has, the more depressive symptoms they reported.

Other factors very significantly correlated with depression (p value <.01) were: education, cognitive functioning (MMSE), ADL, and IADL. Meaning, those with higher education, higher cognitive functioning, and higher physical functioning from ADL and IADLs were less likely to be depressed. Additionally, the qualities of individuals most likely to have higher social support were: more educated ($p<0.01$), younger ($p<0.05$), higher cognitive functioning ($p<0.05$), and higher physical functioning in ADL and IADLs ($p<0.05$).

There were several other factors shown to be significantly correlated that were not related to social support and depression in this analysis. Younger age and higher education, younger age and higher cognitive functioning (MMSE), younger age and increased IADL ability, higher education and higher cognitive functioning (MMSE), and higher ADL and higher IADL were all very significantly correlated (p value <.01). Gender (maleness) and higher income as well as higher cognitive functioning (MMSE) and higher ADL were also correlated (p value <.05).

Table 7 Bivariate Analysis (N=69)

	1	2	3	4	5	6	7	8	9	10
1. Age	1									
2. Gender	0.0757									
3. Marital status	0.0964	0.0604								

4. Income	-0.2947	-0.4064*	0.1113							
5. Ed	-0.3440**	-0.1827	0.0331	0.2744						
6. Mo @ Prog.	-0.0783	-0.1715	-0.0110	0.1660	0.0442					
7. MMSE	-0.3759**	0.1573	0.0670	0.2544	0.5593**	-0.0391				
8. ADL	-0.2083	0.0615	-0.0307	0.1841	0.0755	-0.0287	0.2510*			
9. IADL	-0.3216**	-0.0051	0.0974	0.2925	0.1728	0.1178	0.1165	0.7251**		
10. Total SS	-0.2561*	0.0226	0.1016	-0.0899	0.3441**	-0.1986	0.2452*	0.2784*	0.2439*	
11. GDS	0.0777	-0.0270	-0.0264	-0.3582	-0.4657**	0.0161	-0.5109**	-0.3216**	-0.4114**	-0.2590*

$p<0.05$ * $p<0.01$**

4-3. Hierarchical Regression Analysis

A hierarchical regression analysis was performed to observe the effects of social support and other independent variables on depression. The hierarchical regression analysis shows the effects of multiple independent variables on the dependent variable. All variables were tested for multicollinearity. Variables that explain depressive symptoms in older Japanese in long-term care were evaluated in four steps: (1) Socio-demographic, (2) cognitive, (3) physical, and (4) social support. The analysis found social support to be significantly correlated with depression.

In Model 1, depression was the dependent variable and independent variables were socio-demographic variables: gender, age, marital status, generation, and months at facility/program. The socio-demographic variables measured in Model 1 accounted for 4% of the total variance. In this model, no variables were found to be statistically significant. Model 2 added the cognitive functioning MMSE variable, adding 21% to the explained variance. Model 2 suggested that cognitive functioning (β =-0.49, $p<0.01$) was significantly correlated with depression.

Model 3 added physical functioning through the physical ADL and IADL scales, adding another 6% of explained variance. Cognitive functioning (β=-0.37, p<0.01) remained significant. Lastly, Model 4 included the MOSS-E scale totals to represent social support, adding an additional 6% to explained variance. Model 4, including socio-demographic, cognitive, physical, and social support variables explained a total of 36% (p<0.01) of the variance in depressive symptoms. Cognitive functioning (β=-0.30, p<0.05), IADL (β=-0.41, p<0.05), and social support (β=-0.27, p<0.05) were all correlated with depressive symptoms. This affirms the hypothesis that social support and other variables correlate with depression.

Table 8 Hierarchical Regression: Correlation of Variables with Depression (N=59)

Variable		Model 1		Model 2	
		Beta (B)	T-value	Beta (B)	T-value
Socio-demographic variables	Gender	0.13(.87)	0.97	0.18(1.19)	1.48
	Age	0.03(.01)	0.19	-0.14(-.06)	-1.05
	Marital Status	-0.10(-.62)	-0.13	0.02(-.15)	-0.20
	Generation	-0.09(-.44)	-0.63	-0.07(-.37)	-0.59
	Mo. at facility	-0.06(-.00)	-0.42	-0.04(-.00)	-0.35
Cognitive	MMSE			-0.49(-.33)	-3.80**
Physical	ADL				
	IADL				
Social Support	MOSS-E Totals				
Model Fit Index	Constant	2.82	1.71	8.60	4.05
	R^2 (Adj.R^2)	0.04		0.25(.21)	
	F	F(5/54)=0.44		F(6/53)=2.87*	

p<0.05* p<0.01**

(Continued) Table 8 Hierarchical Regression: Correlation of Variables with Depression (N=59)

Variable		Model 3		Model 4	
		Beta (B)	T-value	Beta (B)	T-value
Socio-demographic variables	Gender	0.15(.99)	1.23	0.10(.68)	0.88
	Age	-0.18(-.08)	-1.36	-0.25(-.12)	-1.97

	Marital Status	-0.01(-.03)	-0.04	-0.02(-.11)	-0.15
	Generation	-0.11(-.55)	-0.89	-0.11(-.53)	-0.89
	Mo. at facility	0.02(.00)	0.14	-0.02(-.00)	-0.16
Cognitive	MMSE	-0.37(-.25)	-2.70**	-0.30(-.21)	-2.25*
Physical	ADL	0.20(.42)	1.11	0.28(.62)	1.63
	IADL	-0.39(-.47)	-1.99	-0.41(-.50)	-2.15*
Social Support	MOSS-E Totals			-0.27(-.40)	-2.24*
Model Fit Index	Constant	8.77	3.46	11.46	4.10
	R^2 (Adj.R^2)	0.30(.06)		0.36(.06)	
	F	F(8/51)=2.76*		F(9/49)=3.12**	

$p<0.05$* $p<0.01$**

5. Discussion and Implications

The goal of this study was to observe the effects of social support on depression in elderly Japanese in long-term care in Hawaii. As anticipated, social support and depression were found to correlate significantly in both the bivariate ($p<0.05$) and multivariate ($p<0.05$) analyses. Additionally, the multivariate analysis showed that taking into account socio-demographic, cognitive, physical, and social support variables, that cognitive functioning, physical functioning (IADL) and social support were all correlated with depressive symptoms.

This discussion section will further analyze the relationship between these three variables and depression, explore possible reasons for the results, identify how it relates to the previous literature in this research area, and discuss the implications for long-term care. Since this study surveyed those in long-term care, the focus of the implications of the results will be directed towards the long-term care setting.

5-1. Social Support and Depression

The bivariate analysis between social support and depression showed a negative relationship with $p<0.05$, indicating significance. The multivariate analysis also showed a negative relationship and $p<0.05$. This means that social support and depression are significantly correlated, and those with more social support are likely to have less depressive symptoms. Looking more in depth at the social support variable, scores were high for the categories of instrumental support and emotional support, but low for providing support. This suggests that the group of elderly surveyed could get emotional and instrumental support when needed, but had difficulty in providing assistance to others.

The results of the GDS-15 depression questionnaire add to the importance of thinking about providing support. Four of the five most common depression statements were: 42 percent "preferred to stay at home, rather than go out," 35 percent "dropped many of their activities/interests," 25 percent

"felt their life was empty," and 25 percent "felt worthless the way they are now". These four depression questionnaire statements demonstrate that older adults in long-term care under the “depressed” category may be depressed because they do not feel self-worth.

One cultural aspect to consider when thinking about self-worth, social support, and depression in older adults is the implication of retirement. In both Japanese and American cultures, work is central to life up until retirement age, upon which some individuals struggle to find purpose in life after work (Muslin, 2013; Sugihara et al., 2008). For those older adults with low social support and low participation in social and group activities, it is understandable that they may feel little self-worth.

To add to this issue, long-term care can have an alienating effect on older adults from their family and friends. Long-term care is linked to decreased autonomy (heteronomy) because the environment is most beneficial to healthcare, but not always to social and emotional care (Agich, 2003; Kane, 2001). Studies on the long-term care setting emphasize that facilities should attempt to create a home-like feeling rather than a hospital if possible by adopting more holistic approaches to care in providing things like activities and customizable living space (Cooney, 2010).

When transitioning to long-term care from home, many older adults need assistance adjusting to the new setting away from friends and family and having more limited options than before (Castle, 2001; Chao et al., 2008). Due to this change in social support, physical incapability, and heteronomy, long-term care participants are at an increased risk of depression than those living in community settings (Jongenelis, et al., 2004). Although support from outside friends and family is beneficial, support can also come from staff and other older adults in long-term care (Fessman & Lester, 2000), which shows the importance of a proactive transition experience and group activities.

These findings about social support and depression concur with previous research that suggests social support in long-term care is beneficial to mental health. Additionally, the findings support that social activities have more impact than solitary activities on depressive symptoms and overall physical well-being in older adults (Menec, 2002). Therefore, long-term care programs should attempt to provide social contact through group activities rather than individual solitary activities if possible, and take a holistic approach to providing care. Future studies should also focus on the sources of social support in older adults to identify the key relationships that influence depressive symptoms in long-term care.

5-2. IADL and Depression

The bivariate analysis between IADL and depression were strongly negatively correlated ($p<0.01$). The multivariate yielded similar results with a negative correlation and $p<0.05$. This suggests that those with higher IADL functioning have lower levels of depression. The descriptive statistics of IADL showed a large range of ability: 0-8 on a scale of 8, with a mean of 5.45 and SD of 2.42. The large range shows that some older adults were able to do all IADLs while others could not

do any.

The data collected on Instrumental Activities of Daily Living may be related to the low score of providing support and depression questionnaire statements discussed in the previous section, as older adults choose not to or are unable to perform social tasks such as providing support to others. Most participants had high physical functioning as shown by the average score of 5.22 out of 6 on the Activities of Daily Living scale, but Instrumental Activities of Daily Living was only an average of 5.48 on a scale of 8. If an adult has high levels of physical functioning, they should be able to do IADLs such as using the telephone or light housekeeping. However, this sample shows that although most participants had the ability to function physically, they were unable to perform some social activities.

The data implies there could be another variable impacting the sampled elderly population's perceived ability or motivation to perform socially, as they have proven they can perform general physical tasks. One possible explanation is that long-term care is not conducive to older adults providing support to others and being active participants in a community. Future studies should research if there are differences between elderly in institutional or program settings and those who live independently in the community to see if living situation has an impact on social performance, and if providing support and social performance influences depressive symptoms.

The results found regarding the negative relationship between IADL and depression agrees with previous literature (Kiosses & Alexopoulos, 2005). A study from 2002 found that the relationship between physical function and depression was cyclical with IADL/ADL influencing depression more than depression influencing ADL/IADL (Ormel et al., 2002). Considering the results found in this study that suggest a relationship between IADL and depression with the study on the cyclical relationship, it is key to maximize physical function in the long-term care setting to prevent or lessen the effects of depression.

5-3. Cognitive Functioning and Depression

Lastly, cognitive functioning and depression were negatively correlated in both the bivariate and multivariate analyses. The bivariate analysis displayed a significance of $p<0.01$ and multivariate of $p<0.05$. Majority of participants fell into the "normal" cognition range on the MMSE questionnaire with a mean score of 25 and SD of 4.74. The negative relationship between cognition and depression indicates that those with higher cognitive functioning have less symptoms of depression.

One possible reason for this correlation is the cyclical relationship that appears between physical and cognitive functioning with depressive symptoms. As described earlier, many older adults deal with loss, and loss of any function can cause depressive symptoms, in turn causing further decline. In order to prevent the cycle from causing further harm to older adults, long-term care programs and members of the older person's social network should attempt to provide support and encouragement

during times of difficulty.

This ties into the self-worth concept discussed in the social support and IADL sections because depressed elderly may become complacent with the heteronomous lifestyle provided in long-term care, and stop trying to take on new challenges. Research has identified that older adults need to continue "training" their brains in order to prevent dementia and cognitive decline, which includes participation in social activities such as playing board games and learning new skills (Verghese, et al., 2003; Winningham, 2011). Therefore, if elderly do not participate in social activities or challenge themselves mentally, they are at risk of cognitive decline and depressive symptoms.

Not much previous research has been done specifically in the area of cognitive function and depression in older adults, as shown in Section 2.2 of this paper. However, the results found in this study are similar to those found in Byers and Yaffe (2011) and Rapp et al. (2011) in that a correlation was found when looking at cognitive functioning and depression. These two studies both suggest that depression causes mental and physical decline, implying that depression should be prevented to promote better quality of life. Future studies should attempt to identify if this casual relationship found in previous studies applies to older adults in Hawaii and in long-term care.

6. Limitations and Recommendations

One of the limitations to this study was the difficulty that came along with surveying elderly participants in a long-term care setting. As stated earlier in the paper, each facility and program was contacted a minimum of two times by phone and/or email, but only 16 percent agreed to participate in the study. Many of the facilities and programs contacted did not return phone calls and/or emails. However, the few that did respond but chose not to participate gave at least one of the following reasons: do not have any participants that qualify due to advanced dementia, already involved in other research studies, and/or could not obtain approval from facility for participation.

Nearly every program that participated in the study had similar remarks about the participant qualifications. Many would say something as: "Japanese and elderly, no problem, but dementia..." This explains why even though 11 programs participated, there were only 69 participants. Although this study was low risk and majority of the scales were actually created to be able to work with elderly with some degree of cognitive decline, elderly with dementia were excluded from this study because it would be unethical to survey adults who may not understand what they are agreeing to with participation. Future studies that include elderly in the long-term care setting should think about ways to encourage participation from facilities and how to deal with the high percentage of adults with a diagnosis of dementia or other cognitive and physical restrictions.

It should also be noted that there was a possibility of selection bias caused by facilities and participants. Facilities had the choice of who to ask to participate, that was not completely regulated. Although it was requested to interview all participants over the age of 65, Japanese, and without severe

disability, it was ultimately up to the facility in how to approach residents with the proposed survey. It is possible that facilities could have excluded those with depression and/or only reached out to those who regularly participate in activities. Potential participants may have also biased the data, as those who declined participation may have done so due to the topic being research in the study.

Another limitation of this study was that there was no control for medications, substances, and diagnoses other than dementia. Many elderly, especially those in the long-term care setting, take a handful or more of pills each day for a variety of diagnoses. This issue will become more important in future studies as literature suggests that the baby boomer generation is even more likely than the current elderly to use prescription medications or alcohol to solve their problems (Gfroerer et al., 2003). Although it is difficult to measure or control for the effects of medications, substances, and diagnoses, future studies should take this into consideration when surveying elderly.

Another limitation associated with elderly in long-term care is the measurement of "income" or other socio-economic-status (SES) variables. A little under a half of participants (29/69) were able to answer the question regarding monthly income. The survey interviewers documented that participants (32 out of 69) who did not answer the question of monthly income on the survey did not due to the fact that they did not know.

I speculate from my experience working with elderly in Hawaii that income or SES are not easy variables to measure because of the complexity of financial factors in old age. Elderly, especially those in long-term care can have a variety of income, benefit, and welfare sources including retirement, investments, Medicaid, Medicare, Social Security Disability Insurance, private long-term care insurance and more. Additionally, some share resources and income with their children – the elderly could pay for their children's needs, or the children could pay for the elderly's needs.

On the opposite end of income, elderly also have many costs to cover such as medications and physical care services. The Long Term Care Commission report (2012) gives a detailed explanation of the costs of growing older in Hawaii, one of the most costly being long-term care at an average of $11,071 per month for nursing home services. If a senior in long-term care is on Medicaid due to low savings, their entire income goes to payment for their care each month and they keep only $50 per month for personal expenses like clothes. So, if a senior is on Medicaid, is their "income" the income that they normally receive that goes entirely to long-term care or is it the $50 per month stipend they collect from Medicaid? This gives one possible explanation why older adults may not have been sure how to answer the question about income. In the future, surveyor training should include education on the Medicaid system to be able to clarify this question for participants.

A further example of the difficulty of measuring socio-economic status is: an elderly person in long-term care could be low income and qualify for Medicaid to cover long-term care costs, but their children still provide items like new clothing, cable T.V. service, phone service, etc. that the elderly could not afford on their own $50 per month. Therefore, they do not truly live a "low-income" lifestyle.

As seen in these examples, when someone asks an older adult what their income or perceived SES is, it seems understandable that they may not be able to provide a definite answer. Future studies should attempt to find a proper measure for income/SES in the elderly population, especially in areas such as Hawaii where multi-generational households and sharing assets/income are commonly accepted practices.

Lastly, this study topic could be improved upon by making it longitudinal and larger scale. By expanding the population to include "Asian Americans" in Hawaii or including Japanese American elderly in the mainland, the results may be clearer than what was found in this study, since it had a small sample size. Additionally, because this study was cross-sectional, results show correlation, but not causation. This research topic could benefit from longitudinal study design.

7. Conclusion

Despite some limitations, this study showed that social support is correlated with depressive symptoms in older Japanese in long-term care. Other factors also related to depression were cognitive functioning (MMSE), and IADL. This study was also able to document the difficulties of surveying elderly in long-term care in Hawaii as well as provide guidance for areas that need continued study, in order to support researchers planning to survey similar populations in the future.

Due to the study findings, long-term care should emphasize social support in their programs by promoting group activities, and attempt to maximize IADL and cognitive functioning. Generally, the purpose of long-term care is to attend to the physical needs of older adults, but many programs and facilities already provide additional services such as activities and counseling for the elderly to care for their social and emotional aspects as well. The research findings from this exploratory study advocate that social and emotional supports are an essential part to good health and well-being in all long-term care settings. The focus of long-term care facilities should be to help older adults love life, and not just to live it.

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Diverse Types of the Earner-Carer Model – Proposing a New Theoretical Framework for Comparative Family Policy.

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1. Introduction

The rapid increase in women's employment and the emergence of new social needs and risks has been moving family policy to the centre stage of welfare policy debate. Against this backdrop, Earner-Carer (E-C) societies, where both women and men are encouraged to combine employment and caring activities, have widely been accepted as a normative direction within the European Union (EU) since the idea was put forward in the late 1990s. Among academics, the E-C model has also been popular. However, despite its prevalence as a conceptual term, some weaknesses remain when used as an analytical tool for comparative family policy research.

As will be reviewed below, Sainsbury (1999) and Gornick and Meyers (2008) have developed a blueprint for the E-C model in the light of institutional arrangements across several policy areas. But neither of them presented more than one type of policy package that could realise such a society. This provokes the question, is this an only and universal policy package, which can or should be applied to any countries that seek to move towards becoming an E-C society?

Given this question as a point of departure, this article argues for potentially diverse types of policy packages that would attain E-C model. The next section provides a brief overview of the definition of the E-C model and theoretical developments about it, with particular emphasis on the model as an analytical tool for comparative policy research. In section 3, a new theoretical framework is proposed, along with three ideal types of policy packages: 'continuous career/public care', 'intermittent career/family care' and 'flexible career/mixed care'. Afterwards, in section 4, the framework is applied to an empirical study of comparative family policy in the European context. Six countries – Finland, France, Germany, the Netherlands, Sweden and the UK[1] – are the focus of the analysis. Based on the results, section 5 explores the validity of the framework, focusing on the relationship between policy and outcome. Finally, in section 6, some additional values to suggesting the diverse types of E-C model are highlighted, which leads to the conclusion.

2. Theoretical framework

First, the definition of the E-C model needs to be clarified. Drawing largely on the literature, here I define it as institutional arrangements or policy packages that would enable both women and men to combine employment and caregiving activities. In one of the earliest works on the E-C society, Nancy Fraser (1994)[2] discussed it as a normative model for postindustrial welfare states, although in

a purely theoretical and political manner, stating that it was a sort of 'utopia'. Even so, the distinctive characteristics of the E-C model were articulated: (i) it considers not only women but also men as important agents with a view to gender equality; (ii) it underscores the importance of sharing and reconciling care work between various actors in civil society; and hence (iii) this model could transcend the long-established binary opposition between 'equality as sameness' and 'equality as difference'.

In the subsequent academic research, the E-C model has mainly been discussed in terms of the following three approaches. First, it has been used merely as a conceptual term. In this approach, the E-C model is often used to describe Scandinavian social and family policies (Ellingsæter 2014; Ellingsæter and Leira 2006; Eydal and Rostgaard 2011). Second, it is also used as a theoretical framework for empirical comparative study of single policies, including cross-national comparisons of parental leave or childcare services (Ciccia and Bleijenbergh 2014; Ciccia and Verloo 2012). Third, the E-C model has been discussed in relation to policy package. This is a more holistic approach that draws attention to policy designs across several policy areas, such as tax and social security systems, parental leave, childcare services and labour market policies, and goes on to specify a policy package that would realise the E-C model (Sainsbury 1999; Gornick and Meyers 2003, 2008). This third approach has contributed significantly to the development of the E-C model in two ways. First, these works clarified that the E-C society could not be attained by a single policy. Second, the purely theoretical concept of the E-C model was made more concrete by presenting a blueprint for an E-C policy package. We shall now look at the above two works more closely.

Within the rising tide of feminist critiques of mainstream welfare state research, Sainsbury (1999) developed an analytical framework to unveil gender regimes in social policy. The three ideal types – 'male breadwinner', 'separate gender roles' and 'individual earner-carer' regimes – were specified and applied to compare the policy arrangements of four Nordic countries (Denmark, Finland, Norway and Sweden) around 1980. As a result, some key features of policy arrangements that would support the individual earner-carer regime were identified: (i) individual based tax and social security systems; (ii) entitlements based on citizenship or residence (both sexes are entitled to work-related and care-related benefits); (iii) state responsibility for caring tasks in a society; and (iv) gender equality in access to paid work.

Gornick and Meyers (2003) also illustrated institutional arrangements that would support the 'dual-earner/dual-caregiver' society. Subsequently, a more concrete blueprint for a policy package was presented, drawing on six European countries (Denmark, Finland, Norway, Sweden, Belgium and France) as exemplars. The suggested policy package includes: (i) generous paid family leaves with individual entitlements given to each parent; (ii) regulations in the labour market to limit long full-time working hours and to improve availability and fairness of part-time work; and (iii) publicly financed, affordable and high-quality Early Childhood Education and Care (ECEC) services with

universal entitlements for all children (Gornick and Meyers 2008).

These works are certainly valuable as comprehensive discussions in terms of the E-C model and concrete policies have been surprisingly limited. However, this article claims that there is a significant drawback common to these works. In both Sainsbury (1999) and Gornick and Meyers (2008), only one ideal type of the E-C model is presented; therefore, potentially diverse ways of approaching the E-C model have not been sufficiently explored. This has twofold disadvantages, especially when applied to empirical research.

Firstly, an empirical comparative study based on one ideal type would result in a 'league table' of countries. In other words, some countries would be seen as 'leaders' and others as 'laggards'. Some East Asian countries, with strong 'familism' traditions, would always be seen as 'laggards' when compared with Nordic countries, for example. This stems largely from viewing the path towards the E-C model as a linear continuum. In consequence, most countries would fall somewhere between the two ends of the spectrum: what Morgan terms a 'partial transformation' (Morgan 2008). These types of analyses may serve the purpose of measuring *the degree* of each country's policy development, but gives little account of *the potential qualitative variations* in policy arrangement as a way of approaching the E-C society.

The same holds for empirical studies based on the concept of 'defamilialisation' (Esping-Andersen 1999), or on more recently proposed frameworks such as 'individualisation – familisation' (Daly 2011) and 'degenderisation – genderisation' (Saxonberg 2012), as these also tend to place policies or countries in a dichotomy.

Secondly, having only one ideal type of E-C model fails to take 'path dependence' (Pierson 1994) into account. The policy designs suggested by Sainsbury (1999) and Gornick and Meyers (2003, 2008) are largely inspired by Nordic experiences (particularly those of Sweden). However, it is highly questionable whether this can or should be received as a universal model, precisely because it may not be feasible in other countries in specific time, socio-political and cultural contexts (Bonoli 2007). And even if it were feasible, whether people in those countries desire it is another question. For example, expanding full-time public childcare facilities may not necessarily raise the enrolment rate of children in some countries since it is more or less affected by circumstances such as socio-cultural norms, historical legacies and labour market conditions.

In order to overcome these drawbacks, this article proposes a new theoretical framework, with a view to comparative family policy analysis. This framework is underpinned by the following speculations: there would be no singular universal route towards the E-C model; policy choices made in each country would be more or less prescribed by its 'path-dependence'; while bound by path dependence to some extent, each country should seek ways in which family policy arrangements help society move closer to the E-C model. The salient feature of this approach is, therefore, constructing an analytical framework to examine cross-national variations in policy arrangements as a way of

approaching the E-C society.

3. A new framework – the three ideal types

3-1. Policies to promote earning and caring roles of parents

Against this background, the three ideal types of the E-C model shall be presented here in a new framework [Table 1]. First of all, I chose five policy areas that consist of different policy packages, drawing on insights from literature on feminist social policy research. These are: (i) tax and social security systems; (ii) ECEC services; (iii) cash provisions for childcare; (iv) parental leave (including maternity, paternity, parental and extended leaves); and (v) labour market policies.

Each policy area has certain implications for promoting the earning and caring roles of parents. For example, individualised tax and social security systems are prerequisites for incentivising labour market participation of the second earner in the household (the mother in most cases). Affordable and good-quality ECEC services are also an essential support for parents to go into work. It is crucial that there should be no gap between the end of parental leave and the start of ECEC services (legal entitlements for children). Thus, these policy areas are to promote the earning role of parents (especially the mother).

On the other hand, parental leave gives parents an opportunity to get involved in the first developmental stages of the child and hence help the parent-child intimate relationship grow. Guaranteeing a right to return to the same (or equivalent) job and have adequate compensation are essential, as these enable parents to engage with caring activities without facing severe financial or career hardships. In addition, some labour market policies, such as adjusting working patterns/hours, allow parents to balance work and family by distributing their time from workplace to home. To ensure fairness in the labour market, equal treatment for such diverse working patterns is absolutely necessary. In sum, these policy areas are to promote the caring roles of parents while keeping them attached to the labour market. It is particularly important that these policies are also directed at fathers in order to encourage their caring role.

Finally, cash provisions for childcare are important as a means of sharing the costs of childcare broadly in a society. But this policy instrument has a dual function. Both the earning and caring roles of parents can be promoted, depending on whether the provisions are aimed at purchasing out-of-home-care services or providing home-care by parents themselves.

All of these five policy areas are thus crucial for the achievement of the E-C model. Nevertheless, the weight and instruments that each policy area carries can be diverse, which would distinguish one ideal type from another. In the following, we shall take a closer look at the diverse ways in which these five policy areas contribute to policy packages for the three ideal types.

3-2. Type 1: Continuous career/public care

The first ideal type is what I have named the ‘continuous career/public care’ model. This model resembles what has been presented by the literature, as reviewed in the previous section. This model, in principle, supports both mother and father in continuing to work full-time after having a child. Therefore, publicly-funded, affordable and good-quality ECEC services, which guarantee a place for all children after parental leave, play a significant role. Both parents are individually entitled to a medium length parental leave (about 6 months each).

In this model, while substantial ECEC services enable parents to return to the labour market, working full-time may not give them enough time to meet the demands of caring tasks at home. In cases where such needs are not met, labour market policies including working time adjustment would help them balance work and family life to some extent, especially while the child is young. Overall, the distinctive characteristic of this ideal type can be described as a state-service-oriented model of the E-C policy package.

3-3. Type 2: Intermittent career/family care

The second ideal type is the ‘intermittent career/family care’ model. In this, parents are allowed a longer respite from the labour market for family caregiving activities, and eventually return to full-time work again. Therefore, extended parental leave is the most distinctive policy of this model. It allows parents to look after the child by themselves (mostly until the child turns three) with some cash allowance. But publicly-funded, affordable and good-quality ECEC services, which guarantee a place for all children from the end of parental leave (and before the start of extended leave) are equally important. Creating no gap between parental leave and ECEC, thus, offers parents a real choice between out-of-home-care and home-care for children.

What needs to be emphasised here is that ‘family care’ means having the choice of a temporal withdrawal from the labour market, ensuring parents a ‘right to care’ and children a ‘right to be cared for’ by parents (Knijn and Kremer 1999), rather than having no alternative but to do so. However, in order for an intermittent career to be a prevailing career pattern, some ingenuity in policy design would be of key importance. This would include guaranteeing that jobs can be returned to and a substantial level of allowance, as will be discussed more in detail in section 6.

In sum, this ideal type can be described as a state-service-plus-cash-provision model of the E-C policy package, which enables the ability to shift one’s centre of life from employment towards caring activities for a certain period of a long working life.

3-4. Type 3: Flexible career/mixed care

I have named the third ideal type the ‘flexible career/mixed care’ model. This model encourages both mother and father to stay in the labour market while being involved in caregiving activities.

Substantial labour market policies enable this model. For example, a working hour adjustment that is aimed at all workers and ensures the employee's right to both decrease and increase working hours would give parents greater autonomy in the ways in which work and family responsibilities are reconciled. For such a system to function well in the labour market, it would be essential for diverse working patterns to be treated equally and to be included in the social security system.

Parental leave can be short as long as it is flexibly combined with employment and the use of ECEC services. Moreover, in this model, the ECEC services are financed by public-private collective contributions. The market-based provision of ECEC is more prevalent, and the role played by employers in terms of financial support for parents to purchase care services is also more significant, compared with the other two models.

Hence, the characteristic of this ideal type can be described as model of the E-C package where various actors share contributions. This means that meeting the care needs in a society is neither only the state's responsibility nor the family's (individual's); the government, employers and family (individuals) function to supplement one another with the aim of reconciling earning and caring activities.

4. Comparative analysis of six European countries

In this section, the new framework presented above is applied to an empirical study within the European context. Based on this framework, comparative policy analysis of six countries at the present time (around 2012/13) is conducted. Finland, France, Germany, the Netherlands, Sweden and the UK were the focus of analysis, which broadly covers the three welfare regime types classified by Esping-Andersen (1999): social democratic, conservative, and liberal countries. The detailed results are shown in Table 2.

4-1. Continuous career/public care: Sweden

Sweden is the only country among the six that is classified as having a 'continuous career/public care' type. In Sweden, the tax and social security system was mostly individualised as early as the 1970s. Medium length parental leave and publicly-funded ECEC services, with no gap between them, support parents' employment. Whereas one part of parental leave is exclusively entitled to the individual (in the form of 'quotas'), the other part of the parental leave is entitled to the family. Even though, a 'gender equality bonus' gives parents an incentive to share the transferable part of the leave equally with an additional cash benefit[3]. In addition, Swedish parents can reduce their working hours until the child turns eight or completes the first grade of school. In spite of the strong rationale of gender equality behind the Swedish social and family policy, a cash provision for child home-care has been very controversial (Earles 2011; Hiilamo and Kangas 2009). Since 2008, the decision as to whether to implement this scheme or not has been left up to municipalities.

4-2. Intermittent career/family care: Finland, Germany and France

The most typical country classified as having the 'intermittent career/family care' type is Finland. Germany and France also fit this type. In Finland, individualisation of tax and social security systems started somewhat later than in Sweden, but at present they are largely individualised. In contrast to Sweden, Finland has an extended parental leave (‘child home-care leave’), which allows a parent to look after the child (and siblings) at home until the child turns three. This scheme was introduced in 1985, but still enjoys a good deal of popularity, despite its low flat-rate allowances[4]. All children are entitled to the publicly-funded ECEC from the end of parental leave. On top of that, there is also a ‘private day-care allowance’ that provides financial support to parents who use childcare services other than municipal day-care. Finnish parents are also able to reduce their working hours until the child completes the second grade of school. In sum, Finnish parents are offered a variety of options in terms of the way in which the child is taken care of.

Germany and France have had similar policy arrangements. Tax and social security systems are yet to be individualised completely, particularly the tax system. ECEC services are publicly-funded or subsidised in both countries. Parental leave is three years for both, with a flat-rate benefit for three years in France[5] and an earning-related benefit for one year in Germany[6]. The attributes of French family policy have a fairly long history, dating back to the 1970s and 1980s. However, in terms of family policy, the recent German transformation is striking.

In 2013, legal entitlement to ECEC was extended to all one-year-old children (previously it started from the age of three). At the same time, a ‘child home-care allowance’ was introduced for parents who wish to look after their child at home. This is exactly what happened in Finland in 1985. Thus from these changes, Germany can be said to be transforming closer towards the ideal type of intermittent career/family care. Interestingly, however, all workers in Germany (not strictly limited to parents with caring responsibilities) have gained a right to reduce their working hours since 2001. Therefore in Germany, a facet of flexible career/mixed care can be seen as well.

4-3. Flexible career/mixed care: the Netherlands and the UK

The Netherlands is the most typical example of a country classified as having the 'flexible career/mixed care' type. The UK also uses with this model. There are some common characteristics in these countries: tax and social security systems have recently become more and more individualised; ECEC services are provided in the mixed economy with strong emphasis on market-based childcare provisions; cash provisions for childcare purchase; and promotion of flexible work. Although these policy instruments are similar, there is a considerable degree of differences in policy settings in these countries.

For example, though it is mandatory for Dutch employers to share the costs (equally with the

government and parents) for childcare purchase, it is optional for British employers. The Dutch parental leave scheme is fully individualised and gender neutral, whereas the UK offers the longest maternity leave among the EU member states (52 weeks, although only 6 weeks are well-paid), and only short paternity leave for fathers with a flat-rate benefit. In the Netherlands, all workers have gained the right to change full-time jobs to part-time, and vise versa since 2000. However, in the UK workers with caring responsibilities are only entitled to a 'right to request' a reduction in their working hours[7].

5. Validity of the framework – policy and outcome

Now, we shall turn our attention from policies to outcomes, in order to demonstrate the validity of the new framework. By referring to the Gender Equality Index (GEI), I shall attempt to illustrate how close each county has come towards the E-C society in effect. GEI is an index developed by the European Institute for Gender Equality (EIGE) for a systematic and consistent measurement of gender equality at the EU member states level (EIGE 2013). GEI has eight domains which make up the multidimensional index for gender equality, but in this article only three of them are taken into consideration, those which are the most relevant in terms of the E-C model: work, money and time[8].

Figure 1 shows the GEI score of the six countries. The higher the score is, the greater gender equality is achieved in each domain. Thus, the larger and more balanced the triangle is, the closer the country is to the E-C model. Clear differences in the size of the triangles, that is to say 'the distance to the E-C model', can be seen even among the countries that were grouped together as the same type in the above empirical analysis. Finland, closest to the ideal type of intermittent career/family care model, shows a much larger triangle than Germany or France, for example. The triangle of the Netherlands, using the flexible career/mixed care model, is also larger than that of the UK. More importantly, however, all of the three representative countries of each ideal type – Sweden, Finland and the Netherlands – show similarly well-balanced triangles, despite the fact that the policy packages for each ideal type have considerable differences, as shown above. This makes a good case for more than one type of E-C model existing.

Moreover, Finland's score for the domain of work (82.0) is striking, as it is the highest among the EU-27 countries. A large proportion of Finnish women working full-time can partly account for this. Interestingly, on one of the indicators in the domain of work, namely 'workers having undergone training paid for or provided by their employer', Finnish women also show the highest proportion (54.8%) in the EU-27. The figure is outstanding compared with Finnish men (47.4%) or women in Sweden and the Netherlands (48.8% and 48% respectively) (EIGE 2013). It indicates that ensuring adequate support for returning to the former career track could mitigate the potential risk attached to the intermittent career pattern.

In addition, the Netherlands scoring best among the EU-27 countries in the domain of time

(71.3) does seem to reflect its substantial labour market policies. On top of that, the score for the domain of money (82.5) is the second best, and also higher than Sweden and Finland. It shows that the risk of being exposed to great financial hardship is relatively low in the Netherlands despite the fact that part-time work is predominantly popular among women.

As the GEI illustrates, at present, an E-C society is still an unmet goal for all these countries. Also, the relationship between policy and outcome is not so straightforward, and further in-depth examinations will be required. Nevertheless, these figures are convincing enough to confirm the validity of diverse types of the E-C model. Not only that, these figures are thought-provoking as they implicate potential compatibility between traditionally female career patterns – intermittent career and flexible career – and gender equality in the domains of work, money and time, which form the kernel of the E-C model.

6. Added value of the new framework

The new framework proposed in this article overcomes the drawbacks of the E-C model presented in previous research. In particular, this framework with three ideal types of E-C models enables comparative policy analyses to capture qualitative variations in policy arrangement as a way of approaching an E-C society, avoiding a plain league-table result.

However, I acknowledge that there would be some concerned voices regarding certain aspects of the ideal types, particularly of the intermittent career/family care and flexible career/mixed care models. For example, some feminists have adopted a critical stance towards extended parental leave (‘child home-care leave’), primarily concerned with its gendered utilisation and potential harm to women’s career development (Daly 2011; Earles 2011; Mahon 2002; Morgan 2008; Morgan and Zippel 2003). Other feminists have shown skepticism about the promotion of flexible work, arguing that it would only help women’s work-family-balance and hence would lock them into the sphere of care (Bergmann 2008; Morgan 2008). In addition, as far as mixed care is concerned, some misgivings have been expressed about the cost and quality of childcare provided by the private sector (Lloyd and Penn 2009).

Such concerns interpret part of the present situation accurately. Surprisingly, though, most literature only criticises; very few possible measures to improve the situation are discussed. This article therefore will attempt to consider possible solutions addressing such concerns, and then underline the noteworthy added value in claiming diverse types of the E-C model.

Solutions involving intermittent and flexible careers have a twofold direction. The first direction is to minimise the detrimental effect on the role of earner potentially caused by such career patterns. Specifically, with respect to extended parental leave, more attention should be devoted to support of all kinds that can be provided to people returning to work. This includes the strong legislative measures to ensure a right to return to the same (or equivalent) position after leave and to

eliminate all forms of unfavourable treatment and discrimination. Expanding access to training programmes can also be of great consequence, as seen above in the case of Finland.

As far as flexible work is concerned, ensuring 'decency' in diverse forms of working patterns would be the key. That is to say, not only should equal treatment in every aspect of work, such as wage, benefits and career opportunities be ensured, but also diverse working patterns should be included in the social security systems, such as pension schemes. Moreover, it is essential for employees (not employers) to have greater autonomy in adjusting working patterns. In this context, entitling employees to a right to adjust working patterns (not a right to 'request' it) and a right to increase as well as decrease hours is a crucial measure.

The second direction is to promote transformation of men's behavior in terms of obtaining such diverse career patterns. As discussed above, minimisnig the potential risk would support men in choosing such career patterns in some degree, but further ingenuity in policy settings may encourage more active engagement of fathers in caring activities. For example, to grant additional financial incentives for a more gender-equal utilisation of extended parental leave is an option. Changing the allowance level depending on the degree of gender equilibrium in utilisation would meet this aim. With respect to flexible work, on the other hand, a right to choose such working patterns should not be given only to parents with caring responsibilities but to all employees across various industries and occupations. Transforming flexible careers into a normative working pattern for men as well as women can be facilitated by such policy settings.

As far as the potential risk attached to mixed care is concerned, the ways in which the cost and quality of ECEC are managed would be the focal point. For example, the approximate proportion of the costs borne by parents and the quality standard of care should be regulated and monitored by an authoritative body. Demand-side subsidies for parents to cover childcare costs, in the form of cash benefits, vouchers or tax relief, are also necessary in order to ease the burden on the family. Given this perspective, we can see that mixed care does not necessarily eliminate the government's responsibility towards caring tasks in society. Rather, the role of the government shifts from the provider of care service as such, to that of supervisor and supporter with the cooperation of other actors.

Furthermore, it is equally important to be aware of the inherent ambiguity at the heart of 'quality of ECEC service provision'. Although basic quality standards such as child-staff ratio and the level of staff qualifications can be regulated, not noticing that there are many more aspects in the quality of care which are mostly unmeasurable would be a significant oversight. As Folbre (2009: 113) argues, care services are 'often "co-produced" by care providers and care recipients'. In the case of childcare, for example, it is extremely difficult to determine to what extent out-of-home-care services, whether funded or provided by the public or private sector, have affected the child's development or well-being.

Against the backdrop of the above argument, three points need to be highlighted as the added value of the new framework. Firstly, approving diverse career patterns as a respectable form of paid

work would potentially *de-centre the long-standing norm of the male career pattern*. Having only one ideal type with the continuous career model cannot fully embody the core meaning of the E-C concept, which is not only to encourage and support women to work as men do, but also for men to be able to provide care as women do (Fraser 1994).

Secondly, the framework puts more recognition and value on *caring as an indispensable activity in our society*. If we regard care as a 'universal human need' (Nussbaum 1999), the efforts to 'defamilialise' care to the utmost extent, as seen in recent trends, should be called into question. It would be more relevant to seek ways in which more actors get involved in supporting caring activities in society. By clarifying the rationale for cooperative contributions to caring tasks, the issue of high public expenditures can be overcome as well. Revenue shortages are a particularly urgent and crucial issue in this 'age of austerity' (Pierson 2011). Also, in some countries where public expenditure for families with children has historically been low, the dramatic expansion of public spending is difficult to justify.

Thirdly, this framework takes path dependence more seriously, which attaches a significant added value to it. The ultimate goal of constructing a new framework is not to classify countries according to typologies, but to establish a platform for further research on more dynamic paths chosen by each country. This addresses questions of how each country has been or is transforming or persisting; and what creates such variations in policy arrangements. Typology as a methodological approach is not equipped as such to answer these questions directly, but this framework can be a cornerstone for comparative policy analyses that shed light on the dynamism behind the diverse types of the E-C model. Even when focusing on case studies of individual countries, a common framework is necessary for more refined comparative family policy research.

7. Conclusion

This article has argued for a new theoretical framework of the E-C model, proposing three ideal types: continuous career/public care, intermittent career/family care, and flexible career/mixed care. In conclusion, I will refer to the two main tasks ahead. First, as mentioned above, more in-depth case studies are required to unravel dynamic paths towards the E-C model. Obtaining a better understanding of the motivations and processes in each country would make an important contribution towards making the E-C model even more concrete and attainable. Second, the relationship between policy and outcome needs to be elaborated on further. How do we measure the progress of the E-C model? This article referred to the Gender Equality Index, as I think this is the most relevant outcome index as it now stands. However, whether it gains a broad consensus and is applicable to other geographical contexts is open to debate.

Although a great majority of discussion in this article focused on families with childcare responsibilities, the linchpin of my argument could easily be applied to broader 'caring activities'. The

need for care in a society will only increase from now on, with the rapid growth of an aging population. Such circumstances will increasingly call for a more prevailing norm of the E-C model in our society, where caring is valued as an indispensable human activity and not a burden to gainful employment. Pursuing diverse and attainable ways of working towards an E-C society, therefore, will continue to be an overarching mission for comparative family policy research.

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Notes

[1] In this article, the UK mainly refers to England.
[2] Although Fraser (1994) calls it ‘universal caregiver model’, it is synonymous with ‘earner-carer model’.
[3] Parents get a 50 SEK (€6) daily bonus. It is worth a maximum of SEK 13,500 (€1,573) when parents share the leave equally (Duvander and Haas 2013).
[4] The basic allowance is €336.67 a month, with supplements for siblings (Salmi and Lammi-Taskula 2013).
[5] This is only paid for six month for parents with only one child (Fagnani, Boyer and Théveron 2013).
[6] The benefit may be spread over two years with a halved level of the monthly benefit (Blum and Erler 2013). In addition, some periods (while the child is 15 – 36 months old) can be covered by the CHCA introduced in 2013 (European Commission/EACEA/Eurydice/Eurostat 2014).
[7] This has expended to all workers since 2014.
[8] The each domain has some sub-domains. ‘Work’ consists of participation, plus segregation and quality of work. ‘Money’ consists of financial resources and economic situation. ‘Time’ consists of care activities and social activities (see EIGE 2013, for the details).

		Continuous career /public care	Intermittent career /family care	Flexible career /mixed care
Promoting earning role	**Tax and social security**			
	Base of obligations and rights	Individual	Individual	Individual
	ECEC services			
	Starting age of legal entitlement	When parental leave ends	When parental leave ends	When parental leave ends
	Finance	Public	Public	Public and Private
	Time coverage	Full-time	Full-time	Full/Part-time
	Formal childcare cost (on parents)	Low	Low	Low/Moderate
	Quality management	○	○	○
↕	**Cash provision for childcare**			
	For purchase out-of-home-care	×	○	○
	For parental home-care	×	○	×
	Parental leave			
Promoting caring role	Job protection	○	○	○
	Duration	Medium	Long	Short
	Entitlement	Individual	Individual	Individual
	Compensation	High	High/Moderate	High
	Labour market policy			
	Working hour regulation	○	○	○
	Protection of part-time workers	○	○	○
	Working hour adjustment	Moderate	Moderate	High

[Table 1: The three ideal types]

*The shaded are the most distinctive policy areas in each ideal type.

	Sweden	Finland	Germany	France		The Netherlands		The UK	
Tax and social security									
Base of obligations and rights	Individual	Individual	Family + Individual	Family + Individual		Individual		Individual	
ECEC services									
Starting age of legal entitlement	From the age of 1	From the end of parental leave (9-10 months old)	From the age of 1	From the age of 3		From the age of 4		From the age of 3	
Finance	Public	Public	Public	< 3 years old Public	3 - primary education Public	< 4 years old Private	4 - primary education Public	< 3 years old Private	3 - primary education Public
Time coverage	40 hours/week	40 hours/week	40 hours/week	Full/Part-time	24 hours/week	Part-time	n.a.	Part-time	15 hours/week
Formal childcare cost (on parents)	Low	Low	Low/Moderate	Low/Moderate	Free of charge	Low/Moderate	Free of charge	High	Free of charge
Quality management	○	○	○	○		○		○	○
Cash provision for childcare									
For purchase out-of-home-care	×	○	○	○		○		○	
For parental home-care	△	○	○	△		×		×	
Parental leave									
Job protection	○	○	○	○		○		○	
Duration	1.5 years	3 years	3 years	3 years		26 × the number of working hours per week		1 year	
Entitlement	Individual + Family	Individual + Family	Family	Individual		Individual		Individual	
Compensation	High	High/Moderate	High/Moderate	Moderate/Low		Moderate/Low		Low	
Labour market policy									
Working hour regulation	○	○	○	○		○		○	
Protection of part-time workers	○	○	△	○		○		△	
Working hour adjustment	Moderate	Moderate	Moderate	Moderate		High		Moderate	

[Table 2: Policy packages of six European countries in 2012/13]

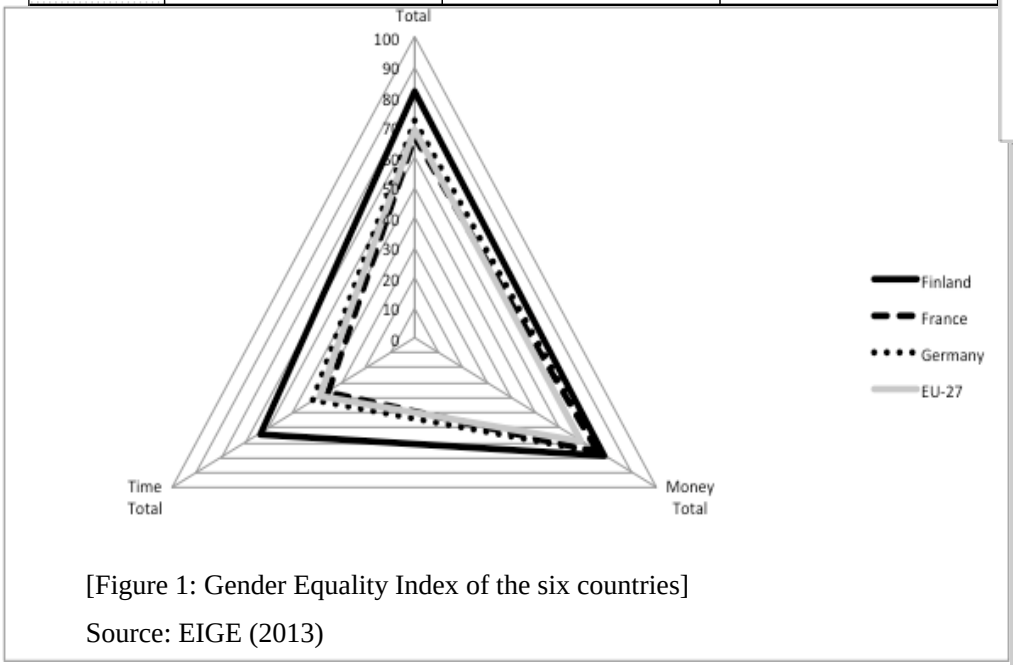
*Formal childcare costs (on parents): Low: less than 30%, Moderate: 30~40%, High: more than 40%.

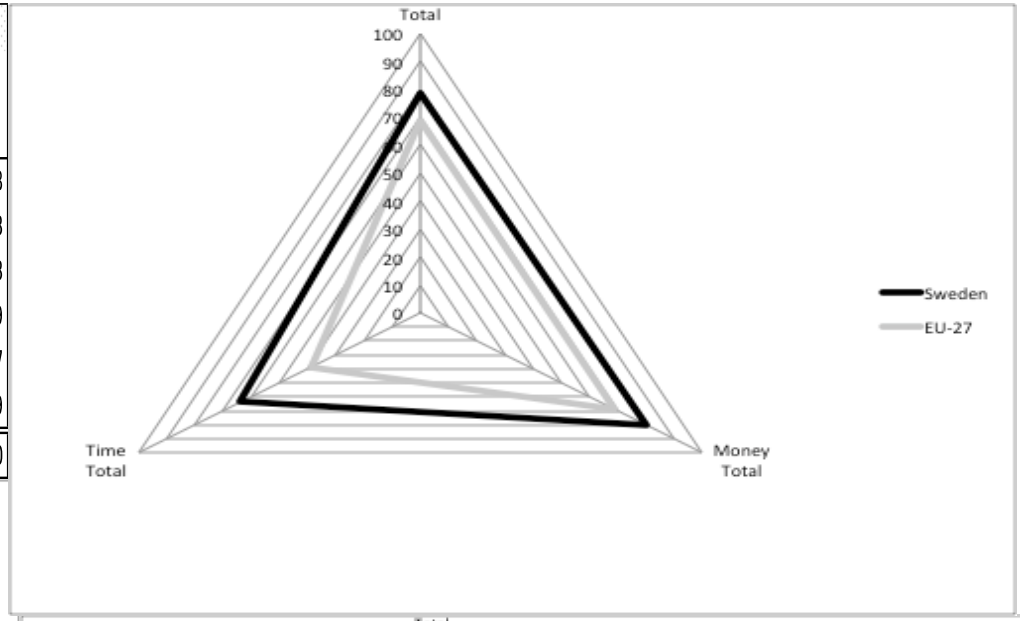
*Compensation: Low: more than 66% of previous earnings for less than 4 months + flat-rate benefit or unpaid, Moderate: more than 66% of previous earnings for 4-5 months, High: more than 66% for over 6 months.

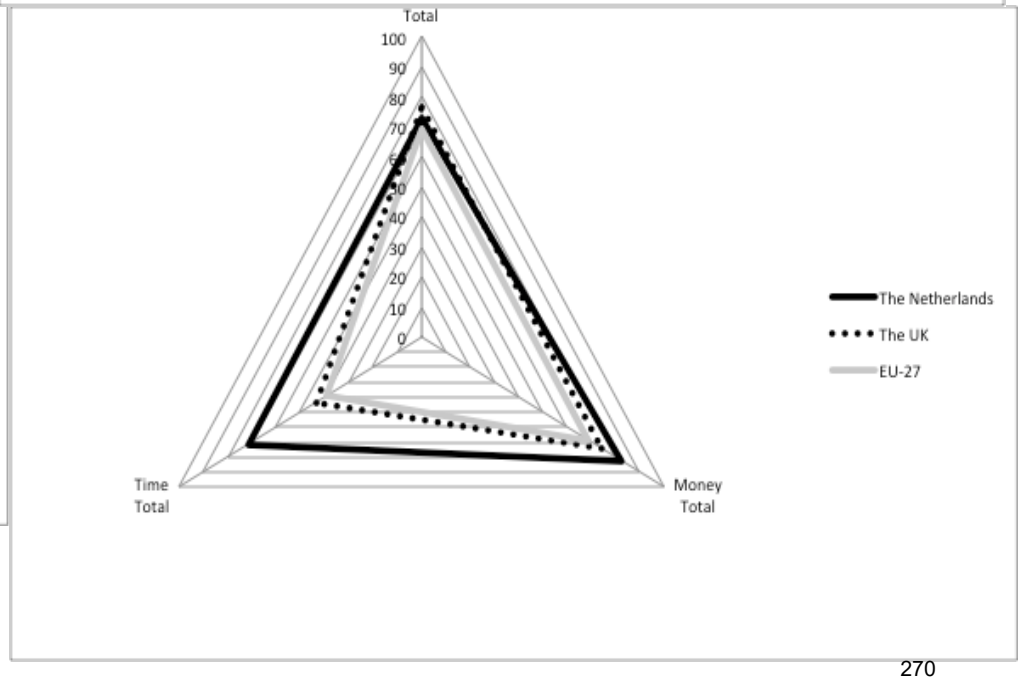
*Working hour adjustment: Low: a right to ‘request’ adjust working hours, Moderate: Restricted to parents with caring responsibilities only, High: Avaliable to all employees + a right to ‘decrease’ and ‘increase’ working hours.

Sources: Burri and Aune (2013); European Commission/EACEA/Eurydice/Eurostat (2014); Lindeboom and Buiskool (2013); Moss (ed.) (2013); OECD (2013); Social Security Programs Throughout the World (2012), Europe; Asia and the Pacific.

	Work			Money			Time		
	Total	Participation	Segregation and quality of work	Total	Financial resources	Economic situation	Total	Care	Social
Finland	82.0	88.3	76.1	78.4	66.3	92.7	63.8	54.4	74.8
France	67.0	76.1	59.1	75.9	67.0	86.1	35.8	43.6	29.3
Germany	72.5	76.7	68.6	76.3	70.6	82.6	41.6	40.1	43.3
The Netherlands	73.1	77.6	68.8	82.5	71.8	94.8	71.3	70.7	71.9
Sweden	78.6	91.2	67.7	80.2	67.7	95.1	63.9	69.7	58.7
The UK	76.6	79.7	73.7	74.3	72.7	76.0	43.2	56.6	32.9
EU-27	69.0	76.6	62.2	68.9	59.5	79.6	38.8	45.5	33.0







[Figure 1: Gender Equality Index of the six countries]

Source: EIGE (2013)