

# Journal of Human Services: Training, Research, and Practice

---

Volume 1  
Issue 2 *Teaching Students, Faculty, and Clients  
Across the Life-Span of Development*

Article 4

---

10-31-2016

## Singled in Later Life: Interaction Effects on Family Relations and Health

Hyunsook Kang Ph.D.  
*Stephen F Austin State University, kangh@sfasu.edu*

Follow this and additional works at: <https://scholarworks.sfasu.edu/jhstrp>



Part of the [Community-Based Research Commons](#), [Counseling Commons](#), [Health Psychology Commons](#), [Marriage and Family Therapy and Counseling Commons](#), and the [Other Social and Behavioral Sciences Commons](#)

[Tell us how this article helped you.](#)

---

### Recommended Citation

Kang, Hyunsook Ph.D. (2016) "Singled in Later Life: Interaction Effects on Family Relations and Health," *Journal of Human Services: Training, Research, and Practice*: Vol. 1 : Iss. 2 , Article 4.  
Available at: <https://scholarworks.sfasu.edu/jhstrp/vol1/iss2/4>

This Article is brought to you for free and open access by the Human Services at SFA ScholarWorks. It has been accepted for inclusion in *Journal of Human Services: Training, Research, and Practice* by an authorized editor of SFA ScholarWorks. For more information, please contact [cdsscholarworks@sfasu.edu](mailto:cdsscholarworks@sfasu.edu).

## Introduction

This study examines the relationship between people's marital status and their health and social relations. In particular, the paper explores family relations of never-married older adults, namely family criticisms and family demands. Is a never married person's health associated with their impressions of how often family members criticize them and place demands upon them? Life-long single or never married people currently comprise 4% of Americans 65 and older (U.S. Bureau of the Census, 2015). This cohort is expected to grow to 6% by 2040 and their numbers will likely impact social security policy in the US (Tamborini, 2007). Interestingly, there is limited research of never married older adults' life style and their social relations, especially around how the latter may be associated with their health, despite that "a growing body of economic, sociological, and demographic research has highlighted an association between marital status and well-being [and health]" (Tamborini, 2007, p. 25).

To develop this idea, the article begins with a discussion of social relations of older and never married older adults, and family relations of older and never married older adults (including family criticisms and family demands), followed with an overview of the Convoy Model (theoretical framework).

## Literature Review

### Social Relations of Older Adults

Social relations are understood to be relationships and interactions between two or more people, and involve relationships between people and their social world. People can have social relations with their immediate and/or extended family and with non-family members (e.g., friends, co-workers, and community members). The concept encompasses social networks, social

ties, and social integration all of which affect health and well-being. This influence is possible due to the affective, emotional and psychological components of social relations (Antonucci, Ajrouch, & Birditt, 2014). Social relations can be “permanent or fleeting; organized or unorganized; keeping their particular sense all the time or changing the subjective sense; emerging spontaneously or agreed upon; communal, associative, or conflictual; open or closed” (Mucha, 2003, p. 20).

Regarding the social relations of life-long singled or never married older adults, Barrett (1999) found that that this marital status has benefits (relative to married adults) in that they can develop individual resources (e.g., health, education, income) that provide an independent life style. Conversely, Tamborini (2007) noted that "unmarried older adults are generally at a disadvantage compared with married persons, in terms of economic security but also in health areas" (p. 26). Gorden, Holmberg, and Heisey (1994) observed that never married people are not involved in gender-specific household responsibilities, which may offer them self-sufficient life patterns. In addition, Pudrovska, Schieman, and Carr (2006) found that never married older adults do not experience the emotional stress of marital change like their widowed or divorced counterparts, and they can maintain stable social engagements in their later life. Finally, never married older adults can have high quality social relations, including members such as close family or friends (Hooyman & Kiyak, 2011).

### Family Relations of Older Adults

Evidence suggests that marital status is strongly related to the family relations of older adults. Previous studies have found that older adults are strongly embedded in their family contexts, which provide emotional or material support in varying degrees (Cicirelli, 2004). Specifically, the majority of older adults may maintain social interactions with family members

in exchange for help (Rook, Mavandadi, & Sorkin, 2007). However, there is limited research of never married older adults' life style (including health) and their family relations.

Family relationships in later life are complex and contradictory, especially those of never married older adults. Pudrovska et al. (2006) examined singlehood strain in later life. Never married single adults were more likely to live alone than divorced or widowed older adults. They were less frequently engaged in family relationships and less likely to have family support. In fact, singled older adults were more likely to depend on siblings and other types of kin or paid helpers than were married older adults. Not surprisingly then, Pudrovska et al. (2006) concluded that never married single adults have lower quality family relations than their divorced or widowed older counterparts.

#### Family Criticism and Family Demands

Of especial importance to this study is the need to examine the phenomenon of family criticism and demands on never married older adults because marital status might contribute to family relationships and behaviors (Antonucci & Akiyama, 1987). Criticisms are negative evaluations of a person. Criticism in close relationships can pertain to "personal characteristics, behavior, performance, skills, physical appearance, relationship-related issues, and decision making" (Trees, 2009, p. 356). Demands on relationships encompass stress, strain, anxiety, burdens and hassles. Demands can be forceful requests that are hard to ignore or deny. They can involve urgent and/or persistent calls for actions that require resources (time, money, energy). Demands can also come in the form of being forcefully asked to answer a question or justify an (in) action. Both criticisms and demands shape social relations and family relations, with a myriad of consequences (Trees, 2009).

### Health Status of Older Adults

Physical and emotional health may be the most important factors for determining life quality in later life (Wurm, Tesch-Römer, & Tomasik, 2007). According to Hooyman and Kiyak (2011), health status reflects the individual's perception of functioning in the absence or presence of physical or emotional diseases. Poor health is associated with less life satisfaction in older adults (Flouri, 2004). Because health encompasses life-course development (Spiro & Bossé, 2000), and becomes important for daily functioning as people age (Staudinger, Freund, Linden, & Maas, 1999), older adults are more likely to be aware of their health than are younger adults.

Whereas healthy older adults may have more active social relationships, less healthy older adults may limit their social relations (Guiaux, van Tilburg, & van Groenou, 2007). Similarly, Nussbaum, Pecchioni, Robinson, and Thompson (2000) found that physically healthier individuals reported more frequent engagement in activities than did less healthy individuals. This inclination for less healthy older adults to have a smaller social network is compounded by the fact that the majority of them suffer from chronic illness or depression. Regarding the former, they struggle with heart health issues, cancer, arthritis, visual or hearing impairment, diabetes, and hypertension (National Center for Health Statistics, 2015). Regarding the latter, Nussbaum et al. (2000) reported that about 1% of a sample of older adults' aged of 60-70 suffered from mental problems such as depression, dementia, and Alzheimer's disease (meaning 99% did not, but the 1% is problematic due to the far reaching implications for one's entire family and friend network). Among these, mental problems and depression comprised the largest portion of the elderly mental health decline.

Despite that many older adults have suffered from physical decline and chronic illness, the average life expectancy has been increased dramatically. The National Center for Health

Statistics (2015) revealed that life expectancy for U.S. residents has increased to 80 years. Given the increase in the size of the older adult population and their life expectancy, it is necessary to study the association between health and its influence on later life. Given that social isolation may contribute to a decline in emotional (e.g., depression and loneliness) and physical health for older adults, it is possible that active engagement in family relations through family leisure and daily events may improve the quality of life for older adults such as reducing the possibility of disability and chronic disease.

Previous research has studied the role of marital status as it relates to health. Wilcox et al. (2003) noted that, compared to married women, singled women are more likely to have poorer physical health. Regarding never married older adults, contrary to the commonly held image of loneliness or social isolation, they do report good physical and emotional health (Hooyman & Kiyak, 2011). Conversely, Tamborini (2007) found that never-married elderly Americans are more likely to experience health difficulties than other marital groups. This may be offset by the fact that relatively higher numbers of never married older adults have had lifelong employment and are more likely to have stable financial resources compared to widowed and divorced older adults (contributing to improved health and well-being) (Hooyman & Kiyak, 2011; Tamborini, 2007).

Never married older adults may have frequent social activities with people and be more satisfied with their lives (Hooyman & Kiyak, 2011). However, it is important for them to have support from family when they are in need. In fact, never married older adults are more likely to depend on siblings and other types of kin or paid helpers than are non-singled older adults (Pudrovskaya et al., 2006), who have their spouses and children to turn to in times of need. Contacts with family members may facilitate exchanges of emotional/instrumental support and

improve older adults' psychological and physical health (Hobfoll, 2002).

Having positive family relations is a crucial factor for health status in later life, regardless of marital status. The nature of family relations (positive or negative) may influence the frequency and intensity of family criticisms and demands on the never married older adults. Conversely, the health of never married older adults may influence the criticism and demands they levy on their family. More detailed research should be conducted to explore these relationships. This study is concerned with the former, and is guided by one hypothesis: Hypothesis: Life-long singled (never married) older adults' health will differentially influence family criticism and family demand (quality of relationships) more so than non-singled older adults' health.

#### Theoretical Framework: Convoy Model

Nearly 35 years ago, Kahn and Antonucci (1982) developed the basic concept of the convoy model to explain social relationships their longitudinal characteristics. The convoy metaphor serves to provide a simple representation of highly complex human circumstances. Convoys provide support and protection by providing help, socialization and guidance with life's challenges. Kahn and Antonucci (1982) used the metaphor to represent social relations supporting people throughout their life course. Although these relationships vary in quality, function, and structure, the convoy model lets researchers place close and important people into three concentric circles representing three levels of closeness. The inner circle contains people who are so important that the person cannot imagine their life without them. The two outer circles contain relations that are not as close but are still important (e.g., friends and extended family members) (Antonucci et al., 2014; Antonucci, Fiori, Birditt, & Jackey, 2010). "Current gerontological research increasingly recognizes the importance of the convoy model for

understanding the present circumstances and future projections of the lives, health, and well-being of older people” (Antonucci et al., 2014, p. 83).

The convoy model moves with the individual through time, social circumstance, and each individual’s ability to cope with life challenges. The basic tenet of the convoy model is that social relationships are dynamic in nature; in other words, members of a social network change over time. Individuals join or leave social networks, moving into and out of relationships over the course of their lifetime. Each individual’s social relationships with close people, such as family and friends, may influence their lives positively or negatively. In addition, while some social relationships are consistent in the patterns and quality, most social relationship patterns and quality change with time. Accordingly, the convoy model proposes that each individual’s social relationships may change in frequency and quality based on that individual’s changing social needs and roles (Antonucci, 2001).

Antonucci and Akiyama (1987) noted that convoy model concepts include interpersonal and intrapersonal aspects of social relationships in which differences in marital and health status might contribute to family relationships and behaviors. In terms of the inter-individual aspect, people’s family relationships are evolving, developing, and changing with the individual’s development over time. In respect to the intra-individual perspective, family relationship changes are related to the changes in each individual’s personal and social resources (e.g., health, age, income, and social contexts). With the convoy model, family relations in later life are important for interaction and support (Antonucci, 2001). As noted, improvements in older adults’ psychological and physical health may occur if contacts with family members facilitate exchanges of emotional/instrumental support (Hobfoll, 2002). The convoy model supports the hypothesis guiding this study.



## Methods

### Participants

The National Social Life, Health, and Aging Project (NSHAP) (Waite et al., 2015) was used for this secondary data analysis. The NSHAP examined older adults' health and social factors on a national scale. The unit of observation was community dwelling older adults aged 57-85 (n=3005). Part of their data collection included face-to-face interviews, which took place in participants' homes from 2010 to 2011. These data were employed in this current study. The research design and research protocol for the NSHAP study are available at Waite et al. (2015).

### Measurement

The study entailed two independent variables. *Marital status* was a nominal level of measurement (e.g., 1="married", 2= "divorced", 3= "widowed", 4="never married"). *Physical health* was measured with a self-reported Likert type scale (1= "poor", 2= "fair", 3="good", 4= "very good", 5= "excellent"), with a higher score reflecting the higher level of health.

One dependent variable was used. The *family relations* variable was operationalized as how frequently did participants feel and engage in a series of family criticisms and family demands. *Family demands and criticism* were assessed with two questions in this study: "How often does family make too many demands?," and "How often does family criticize you" These were calculated as ordinal variables, a score consisting of a 1-3 Likert type scale for each question: 1= "often, 2= "some of the time seldom, and 3= "hardly ever or never". Cronbach's alpha reliability for this sample was .82, and validity was .78. This information is reported in the methods section here because the information pertains to the NSHAP study parameters.

Design and Procedure

To address hypotheses, a Multiple Regression was carried out. Regression analysis can be used to summarize the relationships or associations between a dependent variable and multiple independent variables. However, it is possible to examine the *degree* of association between variables and how well the independent variables have explained the dependent variable; regression analysis accounts for associations, not cause and effect. The statistical software program SPSS version 16.0 was used to test each of the hypotheses. Older adults' demographic factors were examined based on their family relations.

## Results

The participants' mean age is 69 years. Participants included 70% (n=2103) White, as well as 17% (n=510) Black, 10% (n=305) Hispanic or non-Black, and 2% (n=60) other ethnic groups. Gender composition was 48% (n=1442) male and 52% (n=1562) female. Marital status composition was married and living with partner 62% (n=1863), widowed 22% (n= 661), divorced or separated 12% (n=360), and never married (life-long single) 4% (n=120). Physical health was measured with a self-reported Likert type scale (1-5, poor to excellent). The mean score of physical health was 3.2 ( $SD = 1.1$ ), indicating *good* health. In summary, the overall sample comprised white, married, male and female participants aged 69 years in self-reported good health.

Table 1.Regression Results of Main Effects on Family Demands and Family Criticism

		Frequency of family demands (n=2341)			Frequency of family criticize (n=2313)		
		B	Std. Error	Beta	B	Std. Error	Beta
Marital status	Divorced	-.01	.05	-.01	.09	.05	.04
	Widowed	-.04	.05	-.02	.01	.04	.01
	Never married	-.04	.09	-.01	.05	.08	.01
Physical health	Health	-.03	.03	-.02	-.04	.01	-.06**

(Note. Frequency of family demands total  $R^2=.022$ , Frequency of family criticize total  $R^2=.018$ ,  $p<.001$ ,  $*p<.05$  \*\*  $p<.01$  \*\*\* $p<.001$ . Reference groups were married, retired, White, female, and middle-old group).

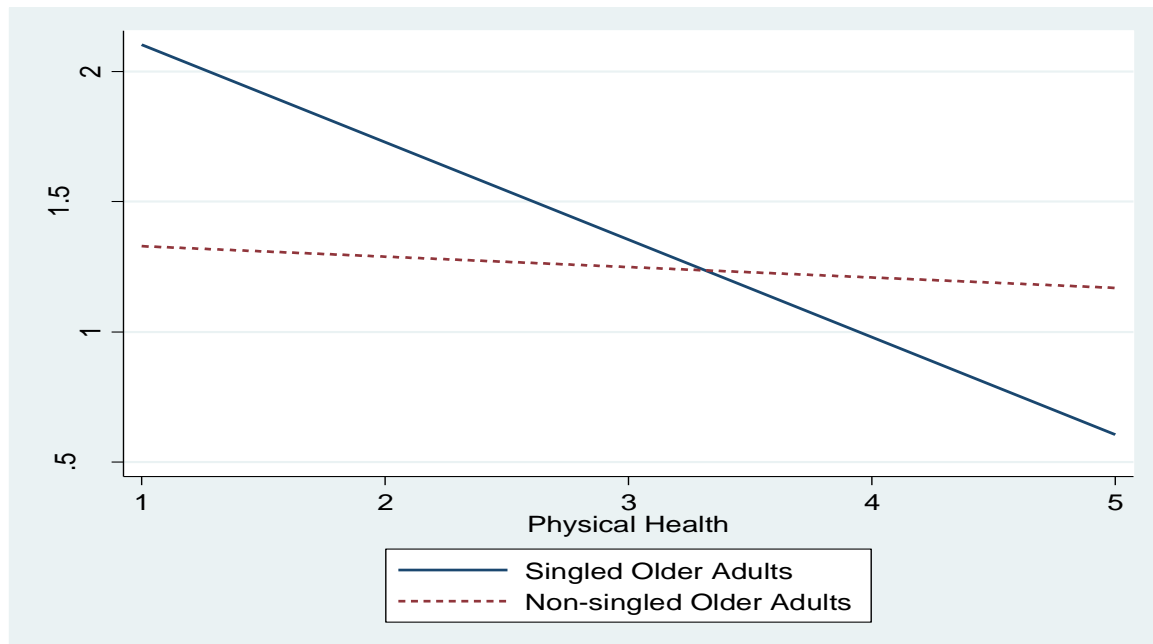
The mean score of *family demands* was 1.8 ( $SD = .8$  and *family criticism* was 1.2 ( $SD = .7$ ). Respectively, this means participants felt that their family sometimes made demands on them, and often voiced criticisms about them (Likert scale, 1=often, 2=some of the time or seldom). Table 1 shows that regression results of main effects on family criticism and family demands.

**Table 2.**  
*Regression Results of Interaction Effects on Family Criticism (Full Model)*

		Family Criticize		
		B	Std. Error	Beta
Marital status	Divorced	-.01	.17	-.01
	Widowed	.15	.15	.08
	Never married	1.25	.34	.31***
Physical health	Health	-.09	.05	-.13
Marital status $\times$ Health	Divorced $\times$ Health	-.02	.04	-.04
	Widowed $\times$ Health	.01	.04	.02
	Never married $\times$ Health	-.32	.08	-.27***

(Note. Frequency of family criticize total  $R^2=.018$ ,  $p<.001$ , \* $p<.05$  \*\*  $p<.01$  \*\*\* $p<.001$ . Reference groups were married, retired, White, female, and middle-old group).

**Figure 1.**  
*Predicted Family Criticism by Physical Health*



### The Interaction Effects of the Regression Model

The researcher generated the interaction terms using marital status and physical health, marital status and income, health and income, ethnicity and income, and ethnicity and health. Each category of marital status was examined by physical health, producing four interaction terms (e.g., married older adults  $\times$  physical health, divorced older adults  $\times$  physical health, widowed older adults  $\times$  physical health, and never married older adults  $\times$  physical health). Among marital status, never married older adults' health was associated with family demands and families criticize. The interaction terms were significant ( $\beta = -.27, p < .001$ ). The interaction term between single and health has greater effects on a singled subgroup ( $\beta = -.32, p < .05$ ) than in a non-singled subgroup ( $\beta = -.03, p < .05$ ). Table 2 shows that regression results of interaction effects on family criticism and Figure 1 shows that positive or negative direction of singled and non-singled groups' differences in predicting family criticism by physical health.

Hypothesis was supported: life-long singled (never married) older adults' health will differentially influence family criticism and family demand more so than non-singled older adults' health. Interaction terms were generated using marital status and physical health as the dependent variables. Each category of marital status was examined by physical health, producing four interaction terms (e.g., married older adults  $\times$  physical health, divorced older adults  $\times$  physical health, widowed older adults  $\times$  physical health, and never married older adults  $\times$  physical health).

Family criticism. The interaction term between never married older adults and physical health was significant ( $\beta = -.23, p < .01$ ); that is, never married older adults' health was associated with their family's *criticism* of them (see Table 2). If they said they were not healthy, they were more likely to say their family criticized them.

Table 3.  
Regression Results of Interaction Effects on Family Criticism

		Single Older Adults			Non-single Older Adults		
		B	Std. Error	Beta	B	Std. Error	Beta
Retirement	Non-retired	.01	.03	.01	.02	.28	.01
Ethnicity	African American	.10	.05	.05*	.15	.31	.06
	Hispanic	.13	.05	.05*	.46	.54	.09
	Other ethnicity	.02	.02	.02	.09	.20	.05
Gender	Male	-.09	.03	-.06**	-.22	.25	-.10
Age	Young-old	.02	.04	.01	.20	.28	.07
Income	Income	-.01	.02	-.01	-.06	.14	-.05
Physical health	Health	-.03	.01	-.05*	-.32	.12	-.31*

(Note.  $p < .001$ , \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ . Reference groups were married, retired, White, female, and middle-old group). Reference groups were married, retired, White, female, and middle-old group).

Never married older adults health was associated with frequency of family criticism. The interaction terms were significant ( $\beta = -.27$ ,  $p < .001$ ); that is, if the never married older adults were not healthy, they were more likely to have family criticism from their family members than if they were healthy (see Table 3).

Table 4.  
Regression Results of Interaction Effects on Family Demands

		Single Older Adults			Non-single Older Adults		
		B	Std. Error	Beta	B	Std. Error	Beta
Retirement	Non-retired	.06	.04	.04	-.23	.24	-.12
Ethnicity	African American	.13	.05	.06**	.22	.26	.11
	Hispanic	-.01	.06	-.00	.25	.46	.06
	Other ethnicity	.04	.03	.03	-.03	.16	-.02
Gender	Male	-.15	.03	-.09***	-.01	.21	-.00
Age	Young-old	.13	.04	.07**	.34	.24	.17
Income	Income	.02	.02	.03	.12	.12	.12
Physical health	Health	-.01	.02	-.12	-.20	.11	-.20*

(Note.  $p < .001$ , \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ . Reference groups were married, retired, White, female, and middle-old group). Reference groups were married, retired, White, female, and middle-old group).

The interaction term between single status and health was more prevalent with the singled subgroup ( $\beta = -.32$ ,  $p < .05$ ) than the non-singled subgroup ( $\beta = -.03$ ,  $p < .05$ ); that is,

when it comes to family criticism, health was more an important factor for never married older adults than for non-singled older adults.

Family demands. To probe the interaction effect, the sample was separated into two sub groups: singled and non-singled. Figure 1 shows the positive or negative direction of singled and non-singled groups' differences in any associations between family demand and physical health. Never married older adults' health was associated with frequency of family *demands*. The interaction terms were significant ( $\beta = -.16, p < .05$ ); that is, the more they perceived their health was poor, the more never married older adults said their family was placing too demands on them (see Table 4).

Figure 2.  
*Predicted Family Demanding by Physical Health*

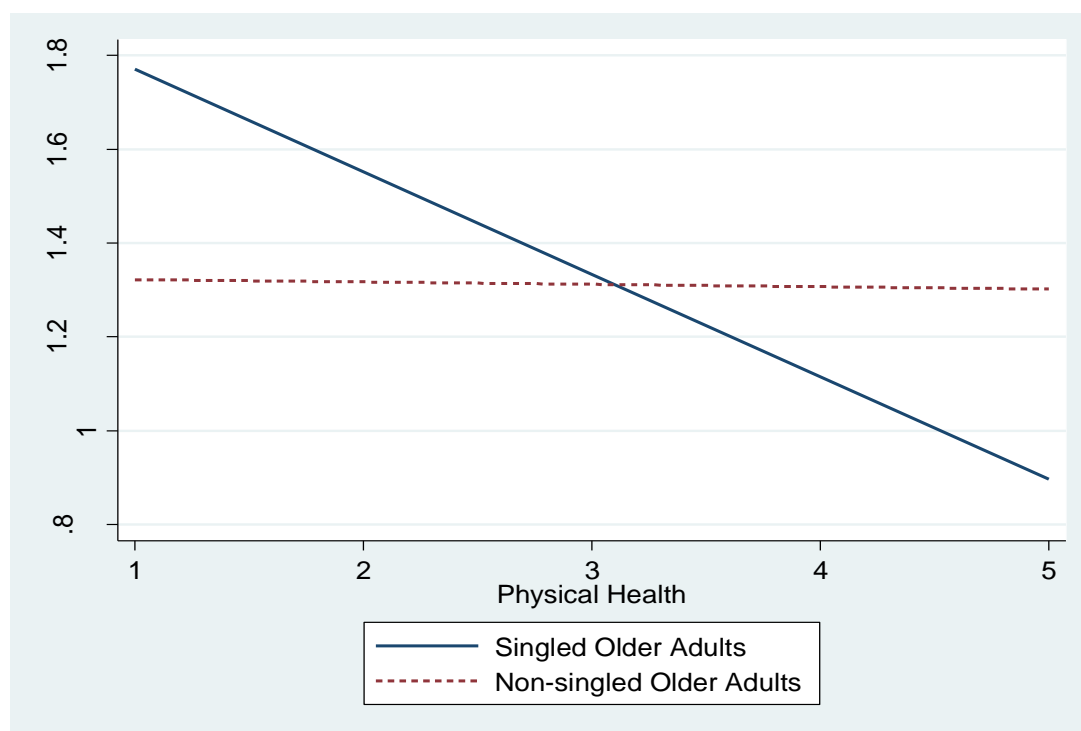


Figure 2 shows the positive or negative direction of singled and non-singled groups' differences in any associations between family criticism and physical health. The more they perceived their health was poor, the more they said family was placing too many demands on them. It is clear that life-long singled older adults' health status was associated with their family relations. In comparison to non-singled older adults, life-long singled older adults had more frequent family criticism and demands. They felt that family members placed too many demands on them and criticized them too much.

### Discussion

Results indicated that life-long singled older adults report a higher frequency of family criticism and demands than do their single cohort. In addition, singled older adults' physical health was linked to the frequency of family criticism and family demanding. It is not surprising that those who suffer from chronic or physical illness may have less active participation in family interaction than healthier older adults (Kelley-Moore, Chumacher, Kahana, & Kahana, 2006). Previous studies support the association between family relations and health status in later life found in this study (e.g., Litwin, 1998). For example, Garcia, Banegas, Perez-Regadera, Cabrera, and Rodriguez-Artalejo (2005) noted that the frequency of engaging in family relations (operationalized in this study as demands and criticism) is positively related to older adults' physical and mental health, especially for those over the age of 70. Their findings indicated that older adults' poor health may increase frequency of family criticism. By way of explanation, older adults who have a physical illness may experience more frequent negative responses from their families because family members who feel obligated to provide help to sick and older adults may feel the burden of caregiving and express this burden through criticisms of the care receiver. Caregivers may have mixed feelings towards less than healthy never married older

adults. Even though they try to help and support them, family members may still feel the burden of caregiving, emotionally, physically and financially. Regarding this caregiving issue, it is important for researchers to examine how caregivers can reduce their feelings of burden when helping never-married older adults experiencing health issues.

Given the previous research on singled older adults' family relations and health relations (e.g., Litwin, 1998), the implications of the results of this study are complex and warrant additional investigation. Why would a family criticize a family member who was not healthy? What would they find fault with? Why a family place will increase demands on a family member who is not healthy? What might they demand of them? Commonsense says the family would support them, not criticize, them or place higher demands on them. Even the convoy model would posit that a family would support an unhealthy member rather than lay more stress on them. One explanation may be that never married older adults tend to depend on siblings and other types of kin or paid helpers rather than family members (Pudrovska et al., 2006). Improvements in older adults' health may occur if contacts with family members facilitate emotional/instrumental support (Hobfoll, 2002). For this reason, it is important to gain better understandings of why unmarried older adults are inclined to perceive inadequate family support.

Despite that older adults maintain social interactions with family members in exchange for help (Rook et al., 2007), those in this study felt their family did not support them. On the other hand, Pudrovska et al. (2006) found that never married single adults lacked family support and were less frequently engaged in family relationships than their married counterparts. Furthermore, less healthy older adults may limit their social relations (Guiaux et al., 2007), intimating future research should explore if this distancing factors into never-married older adults' perceptions of social relations and family relations and their health. Less healthy older



adults do tend to have a smaller social network (Nussbaum et al., 2000).

That being said, the current findings support the convoy model (Antonucci, 2001) in that older adults may adjust their needs and wants from families and friends, in this case as their health status changes. The model posits that they are able to adapt to their changing life contexts. The model also holds that family relationships are evolving, developing, and changing with the individual's development over time (Antonucci & Akiyama, 1987). Not surprisingly, singled older adults may have different patterns of family relations than married adults, and their health status may play an important role relative to experiencing positive or negative family interactions (e.g., family demands and family criticism). Indeed, poor health is associated with less life satisfaction in older adults (Flouri, 2004). However, the never married adults in this study self-reported *good* health, so the question arises, does their perception of family criticism and demands affect their life satisfaction? Future studies may wish to explore this aspect of never married adults' social relations. In summary, in comparison to non-singled older adults, life-long singled older adults have more frequent family criticism and demands. They felt that family members placed too many demands on them and criticized them too much. When factoring in health, this study found that life-long singled older adults' health status was associated with their family relations. In particular, regarding criticism from family relations, if they were not healthy, they were more likely to have their family criticize them. For never married older adults, health was more an important factor than non-singled older adults when it comes to family criticism. Regarding family demands, if the never married older adults were not healthy, they were more likely to have family place demands on them.

## Conclusion

Given that there are growing numbers of aging people including the baby boomer generation, it is expected that the latter's life patterns will differ from previous generations. In addition, given that marital status in later life may have a significant influence on older adults' family relations and well-being, and their increased life expectancy after retirement, it is necessary to better understand the association between life-long singled older adults' health and their family relations. In addition, given that the sizable baby boomer generation is growing in age, a better understanding of how health affects singled older adults' family relations is urgent. By understanding these associations, it should be possible to build social support systems for older adults (as posited by the convoy model). In addition, reflecting on the increasing number of singled older population in the future, this study contributes to an understanding of the influence of marital status and health on older adults' social relations. This link is not intuitively obvious and warrants further investigation. The current study has shown that singled older adults' health status and their family demands and criticism. Given the increasing numbers of never married and divorced older adults in the future, the current findings provide a blueprint for future research of family counselors, social workers in later life and implications. Because previous research has focused on the singled older population, future research should direct more attention to diverse older adults' vulnerable situations and their different patterns and frequency of engaging in social relations.

The current study has several strengths. First, data from NSHAP (2007) is representative, and the large size of the nation-wide sample (n=3005) provides overall generalizability of the obtained findings. Second, the current study offers support for relationships between marital status, health, and family relations factors of older adults from a multivariate perspective. By

understanding the interaction effects of different health status on family relations in later life, family and gerontological researchers, social policy makers, and social welfare workers will be able to focus on the social programs which provide most benefits to older adults and their family, and other social members, including other institutional members.

Despite the strength of the current findings, limitations exist that might influence the interpretation of the results. First, this research was a secondary data analysis of the NSHAP (2015) interview study; so, it is inherently restricted to the design of the original study. Therefore, it was not possible to refine the original interview questionnaire protocol. Second, all of the variables were measured with one-item questions. Third, a cross-sectional study of this type can only reveal associations among variables; therefore, the issue of causality cannot be addressed. It is recommended that causality of the findings is further examined on the basis of theoretical assertions.

### References

- Antonucci, T. C. (2001). Social relations: An examination of social networks, social support, and sense of control. In J. E. Birren & K. Schaie (Eds.), *Handbook of the psychology of aging* (5<sup>th</sup> ed.) (pp. 427-453). San Diego, CA: Academic Press.
- Antonucci, T. C., Ajrouch, K., & Birditt, K. (2014). The convoy model: Explaining social relations from a multidisciplinary perspective. *The Gerontologist*, *54*(1), 82-92.
- Antonucci, T. C., & Akiyama, H. (1987). Social networks in adult life and a preliminary examination of the convoy model. *Journal of Gerontology*, *42*(5), 519-527.
- Antonucci, T., Fiori, K., Birditt, K., & Jackey, J. (2010). Social relations: The convoy model. In M. E. Lamb & A. M. Freund (Eds.), *The handbook of life-span development, social and emotional development* (Vol. 2) (pp. 434-473). Hoboken, NJ: Wiley.
- Barrett, A. E. (1999). Social support and life satisfaction among the never married. *Research on Aging*, *21*(1), 46-72.
- Cicirelli, V. G. (2004). God as the ultimate attachment figure for older adults. *Attachment & Human Development*, *6*(4), 371-388.
- Flouri, E. (2004). Subjective well-being in midlife: The role of involvement of and closeness to parents in childhood. *Journal of Happiness Studies*, *5*(4), 335-358.
- Garcia, E., Banegas, J. R., Perez-Regadera, A. G., Cabrera, R. H., & Rodriguez-Artalejo, F. (2005). Social network and health-related quality of life in older adults: A population-based study in Spain. *Quality of Life Research*, *14*, 511-520.
- Gorden, W. I., Holmberg, K., & Heisey, D. R. (1994). Equality and the Swedish work environment. *Employee Responsibilities and Rights Journal*, *7*(2), 141-160.
- Guiaux, M., van Tilburg, T., & van Groenou, M. B. (2007). Changes in contact and support

exchange in personal networks after widowhood. *Personal Relationships*, 14(3), 457-473.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6(4), 307-324.

Hooyman, N. R., & Kiyak, H. A. (2010). *Social gerontology: Multidisciplinary perspective*. London, England: Pearson Education.

Kahn, R. L., & Antonucci, T. C. (1982). Applying social psychology to the aging process: Four examples. In J. F. Santos & G. R. VandenBos (Eds.), *Psychology and the older adult: Challenges for training in the 1980s* (pp. 207-223). Washington, DC: American Psychological Association.

Kelley-Moore, J. A., Schumacher, J. G., Kahana, E., & Kahana, B. (2006). When do older adults become "disabled"? Social and health antecedents of perceived disability in a panel study of the oldest old. *Journal of Health and Social Behavior*, 47, 12-141.

Litwin, H. (1998). Social network type and health status in a national sample of elderly Israelis. *Social Science & Medicine*, 46, 599-609.

Mucha, J. (2003). *The concept of "social relations" in classic analytical interpretive sociology: Weber and Znaniecki*. Paper presented at the 6th European Sociological Association Conference. Murcia, Spain. Retrieved from [https://www.um.es/ESA/papers/Rn21\\_26.pdf](https://www.um.es/ESA/papers/Rn21_26.pdf)

National Center for Health Statistics. (2015). *Deaths: Preliminary data for 2005*. Washington, DC: Government Printing Office, Division of Vital Statistics.

Nussbaum, J. F., Pecchioni, L. L., Robinson, J. D., & Thompson, T. L. (2000). *Communication and aging* (2nd ed.). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Pudrovska, T., Schieman, S., & Carr, D. (2006). Strains of singlehood in later life: Do race and

gender matter? *Journal of Gerontology*, 61(6), S315-322.

Rook, K. S., Mavandadi, S., & Sorkin, D. H. (2007). Optimizing social relationships as a resource for health and well-being in later life In C. M. Aldwin, C. L. Park, & A. III Spiro (Eds.), *Handbook of health psychology and aging* (pp. 267-285). New York, NY: Guilford Press.

Spiro, A III., & Bossé, R. (2000). Relations between health-related quality of life and well-being: The gerontologist's new clothes? [Special issue]. *International Journal of Aging & Human Development*, 50(4), 297-318

Staudinger, U. M., Freund, A. M., Linden, M., & Maas, I. (1999). Self, personality, and life regulation: Facets of psychological resilience in old age. In P. B. Baltes & K. U. Mayer (Eds.), *The Berlin aging study: Aging from 70 to 100* (pp. 302-328). New York, NY: Cambridge University Press.

Tamborini, C. R. (2007). The never-married in old age: Projections and concerns for the near future. *Social Security Bulletin*, 67(2), 25-40.

Trees, A. (2009). Criticism in relationships. In H. Reis & S. Sprecher (Eds.), *Encyclopedia of human relationships* (Vol. 1) (pp. 365-368). Los Angeles, CA: Sage.

U.S. Census Bureau. (2015). *Population estimates*. Retrieved from

<http://www.census.gov/topics/population.html>

Waite, L. J., Laumann, E. O., Levinson, W., Lindau, S. T., McClintock, M. K., O'Muircheartaigh, C. A., & Schumm, L. P. (2015). *National social life, health, and aging project*. Boston, MA: Inter-university Consortium for Political and Social Research.

Wilcox, S., Evenson, K. R., Aragaki, A., Wassertheil-Smoller, S., Mouton, C. P., & Loevinger, B.

L. (2003). The effects of widowhood on physical and mental health, health behaviors, and health outcomes: The women's health initiative. *Health Psychology, 22*(5), 513-522.

Wurm, S., Tesch-Römer, C., & Tomasik, M. J. (2007). Longitudinal finding aging-related cognitions, control beliefs, and health in later life. *Journal of Gerontology, 62*(3), 156-164.