Distribution Agreement

In presenting this thesis as a partial fulfillment of the requirements for a degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis in whole or in part in all forms of media, now or hereafter now, including display on the World Wide Web. I understand that I may select some access restrictions as part of the online submission of this thesis. I retain all ownership rights to the copyright of the thesis. I also retain the right to use in future works (such as articles or books) all or part of this thesis.

Jit Hui Tan April 5, 2017

Family and Cultural Predictors of Willingness to Care and Ageism among Young Adults

by

Jit Hui Tan

Dr. Nancy Bliwise

Adviser

Department of Psychology

Dr. Nancy Bliwise

Adviser

Dr. Sherryl Goodman

Committee Member

Dr. Ellen Idler

Committee Member

Dr. Cheong Yuk Fai

Committee Member

2017

Family and Cultural Predictors of Willingness to Care and Ageism among Young Adults

By

Jit Hui Tan

Dr. Nancy Bliwise

Adviser

An abstract of
a thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

Department of Psychology

2017

Abstract

Family and Cultural Predictors of Willingness to Care and Ageism among Young Adults
By Jit Hui Tan

The aging of the United States population necessitates further understanding of familial factors that encourage caregiving and positive attitudes towards the older population. This study examined the normative, structural, and associational dimensions of intergenerational solidarity within the family, and their ability to predict willingness to care and ageism among college students. We investigated the role of culture on family dynamics and norms through the moderating effects of ethnic group and ethnic identification across non-Hispanic White, Asian, Black, and Hispanic ethnicities. Lastly, we explored the intergenerational transmission of norms from parent to child. We administered online surveys to 287 Emory University undergraduate students and 137 parents, measuring their levels of normative, structural, and associational solidarity, willingness to care, and ageism. Using hierarchical linear regression analyses, normative solidarity was shown to predict willingness to care and ageism, above and beyond structural and associational solidarity. Although significant differences across ethnic groups were found, ethnic group and ethnic identification were not significant moderators of any relationships. Finally, parent's familism norms were shown to indirectly influence child's willingness to care through the transmission of familism norms to the child.

Keywords: ageism, caregiving, young adults, intergenerational solidarity, culture

Family and Cultural Predictors of Willingness to Care and Ageism among Young Adults

By

Jit Hui Tan

Dr. Nancy Bliwise

Advisor

A thesis submitted to the Faculty of Emory College of Arts and Sciences
of Emory University in partial fulfillment
of the requirements of the degree of
Bachelor of Arts with Honors

Department of Psychology

2017

Acknowledgements

I would like to thank my advisor, Dr. Nancy Bliwise, for her kind support, guidance, and reassurance throughout this endeavor. In addition, I would like to thank Dr. Cheong Yuk Fai, Dr. Ellen Idler, and Dr. Goodman for their participation on my thesis committee and their advice; in particular, I wish to thank Dr. Cheong for his meticulous help with my research statistics. Lastly, I am immensely grateful for my family and friends for their constant encouragement and love.

Table of Contents

Family and Cultural Predictors of Willingness to Care and Ageism among Young Adults

As the proportion of elders in the United States' population grows and families take on greater caregiving responsibilities, there is an increasing need to understand what factors facilitate intergenerational ties that promote both positive attitudes towards elderly people as well as willingness to provide care (Santoro, Liew, Holloway, McKinnon, Little, Cronan, 2015; U.S. Administration on Aging, 2016). This study draws upon intergenerational solidarity theory (Bengtson & Roberts, 1991) to examine family structure, family norms, and intergenerational contact and how these factors might influence college students' ageist attitudes and willingness to provide care to elderly parents in the future. Considering the important role that culture plays in both family structures and norms, this study also examines ethnic heritage as a potential moderator of the association between these factors and ageist attitudes and willingness to provide care (Fuligni & Pedersen, 2002).

Most developed nations around the world, including the United States, are experiencing exponential growth in the oldest segments of the population (U.S. National Institute on Aging, 2011). Estimates indicate that by 2060, over 98 million elders (65 years and above) will reside in the United States (U.S. Administration on Aging, 2016). This dramatic rise in the older adult population goes hand-in-hand with an increase in disability and chronic degenerative conditions, both of which require significant levels of caregiving (Sutter, Perrin, Tabaac, Parsa, & Mickens, 2016). In both developed and developing countries, family members provide the majority of informal care (Santoro et al., 2015). Even among American policymakers in Washington D.C, the normative expectation of family members serving as caregivers is highly prevalent (Parrott &

Bengtson, 1999). This heavy reliance on familial caregiving will only increase as the population ages.

Aside from care necessities, the aging of the U.S. population also means that there will be increased levels of interaction between the older and younger generations (North & Fiske, 2013). As the older population comes to occupy a more visible and lasting role within society, issues regarding resource distribution and social roles within families and the work force could potentially invoke intergenerational conflict (Bengtson & Oyama, 2007; North & Fiske, 2012). Moreover, ageist prejudice against the elderly can prove a barrier to positive intergenerational relationships. Ageism—defined as the negative or false positive stereotypes and prejudices against certain populations because of their age—has been shown across studies to be prevalent in America, and particularly amongst young adults (Iversen, Larsen, & Solem, 2009; Luo, Zhou, Jin, Newman, & Liang, 2013; Rupp, Vodanovich, & Credé, 2005). Ageism has been shown to have negative psychological and physiological health effects on elderly care recipients (Ng, 1998). Ageist prejudice can manifest as workplace discrimination, social distancing, neglect of care, and even abuse (North & Fiske, 2012). Additionally, internalization of such negative stereotypes can lead to diminished self-esteem, and even self-stereotyping into certain roles as old age approaches (North & Fiske, 2012). The body of literature on both rising caregiving necessities and ageism suggests a need to understand underlying factors that encourage positive intergenerational relationships and exchanges of support.

Familial contexts are crucial for exploring the factors that promote positive and supportive intergenerational ties. First, families are the primary source of intergenerational interaction, particularly between the grandchild and grandparent generations (Harwood, Hewstone, Paolini, & Voci, 2005). Second, the family is an influential source of norm and value

transmission, particularly from parents to children (Mills, Wakeman, & Fea, 2001; Prioste, Narciso, Gonçalves, & Pereira, 2015; Roest, Dubas, & Gerris, 2009). Bucx, Raaijmakers, and van Wel (2010) also demonstrated that congruency in familial values between young adults and their parents remain stable throughout the life course. Thus, the role of the family as both a primary source of informal care as well as a platform for intergenerational transmission of norms and practices makes it a pertinent context for investigating factors that contribute to ageist attitudes and future caregiving behaviors.

Intergenerational Solidarity Theory

Bengtson and Roberts' (1991) intergenerational solidarity theory provides a framework for studying the multidimensional aspects of intergenerational relationships within families. The theory outlines six key dimensions through which patterns of interaction and integration occur among different generations in the family. These six dimensions include normative, structural, associational, affectual, consensual, and functional solidarity (Parrott & Bengtson, 1999). *Normative solidarity* refers to the emphasis one places on the family and fulfilling obligations towards the family (familism). *Structural solidarity* encompasses the structural factors that provide or inhibit opportunities for intergenerational interactions and exchanges; this includes, but is not limited to, geographic proximity, socioeconomic status, and gender (structural). *Associational solidarity* refers to the frequency of interactions between family members (contact). *Affectual solidarity* represents the strength of intergenerational intimacy and positive feelings (affection). *Consensual solidarity* indicates the extent of agreement across generations on beliefs and values (consensus). Lastly, *functional solidarity* refers to the degree of supportive exchange between generations (support) (Bengtson & Roberts, 1991; Parrott & Bengtson, 1999). This theory has been cross-culturally and cross-nationally applied to studies investigating familial

influences on caregiving behavior, attitudes towards filial responsibility, as well as individual development and adjustment (Aday & Kano, 1997; Lee, Dik, & Barbara, 2016; Lowenstein & Daatland, 2006; Silverstein, Parrott, & Bengtson, 1995). The multidimensional nature of the construct of intergenerational solidarity allows for a broad investigation of how one or more familial factors might influence ageist and caregiving attitudes (Silverstein & Bengtson, 1997). Most studies investigating intergenerational relationships have focused on functional, structural, and associational solidarity (Bengtson & Oyama, 2007). In addition to these three dimensions, most studies on family caregiving itself have focused on the norms within families that inspire feelings of familial obligation or responsibility. Consequently, normative, structural, and associational solidarity will be the focus of this study.

Intergenerational solidarity and caregiving

Normative expectations have been consistently associated with familial obligations of care and parent-child support exchanges (Dykstra & Fokkema, 2011; Fuligni & Pedersen, 2002; Gans & Silverstein; 2006; Parrott & Bengtson, 1999; Stein et al., 1998; Whitbeck, Hoyt, & Huck, 1994). Children with stronger subscription to filial norms—the normative expectation that children should support their aging parents—are more likely to provide care to parents (Stein et al., 1998). Ikkink, van Tilburg, & Knipscheer (1999) showed that it is not only the child's subscription to filial norms, but also the parent's normative expectations of filial care that is positively associated with caregiving. Additionally, longitudinal studies have shown that familial values established in earlier family interactions persist years later and manifest in the form of caregiving (Parrott & Bengtson, 1999; Whitbeck, Hoyt, & Huck, 1994).

While the literature demonstrates that familial norms are important for understanding caregiving behavior, several studies have suggested that structural factors such as geographic

proximity, socioeconomic status, and health needs have a greater influence on caregiving behavior (Chappell & Funk, 2012; Ikkink, van Tilburg, & Knipscheer, 1999; Ishii-Kuntz, 1997; Parrott & Bengtson, 1999; Silverstein, Gans, & Young, 2006). Silverstein, Gans, & Yang (2006) showed that filial norms were not associated with support provided to elderly mothers when there was no decline in parental health. The authors proposed that normative solidarity acts as a form of latent social capital that moderates caregiving outcomes, and is only beneficial when structural circumstances necessitate it (Silverstein, Gans, & Yang, 2006). Corroborating these findings, Chappell and Funk's (2012) cross-cultural study of Hong Kong-Chinese, Canadian-Chinese, and Canadian-Caucasian adult-children indicated that filial norms were not significant predictors of caregiving behaviors aside from emotional support. Instead, cultural group, relationship quality, and structural factors like education level and co-residence were most predictive of caregiving behavior (Chappell & Funk, 2012). Geographic proximity and socioeconomic status are two forms of structural solidarity that have been repeatedly linked to caregiving behavior (Fuligni & Pedersen, 2002; Gans & Silverstein, 2006; Lee, Netzer, & Coward, 1994; Ishii-Kuntz, 1997). As physical distance between family members pose a tangible barrier to interaction, it is unsurprising that geographical distance has been negatively associated with caregiving (Fors & Lennartsson, 2008; Heylen, Mortelmans, Hermans, & Boudiny, 2012). Additionally, in an attempt to identify types of intergenerational solidarity dynamics among American families, Silverstein and Bengtson (1997) regrouped five of the six solidarity dimensions into three clusters: affinity (affectual and consensual solidarity), opportunity structure (associational and geographic proximity), and functional. In this new classification, geographic proximity is linked with associational solidarity as they both facilitate opportunities for interaction, and consequently exchange of support, between generations (Silverstein &

Bengtson, 1997). Higher socioeconomic status (SES) and higher education levels, are consistently associated with lower familial norms and support for parents (Chappell & Funk, 2012; Fuligni & Pedersen, 2002; Gans & Silverstein, 2006; Lee, Netzer, & Coward, 1994; Lee, Peek, & Coward, 1998; Parrott & Bengtson, 1999; Timonen, Conlon, Scharf, & Carney, 2013). Some authors have proposed that families of lower SES tend to rely more on close social ties and support as they have fewer material resources at their disposal (Fors & Lennartsson, 2008; Gans & Silverstein, 2006). As such, the negative association between SES and intergenerational solidarity may be attributed to the greater social mobility higher SES affords to family members. Moreover, in a longitudinal study following adolescents past high school, youth whose parents had lower education levels tended to have larger increases in familial norms over the years (Guan & Fuligni, 2015). Parrott and Bengtson (1999) similarly showed a negative association between SES and normative solidarity. Thus, further research is needed to parse apart the predictive role of structural and normative solidarity on caregiving.

Associational solidarity—the third dimension of this study—has been positively associated with intergenerational support as well as the quality of intergenerational relationships (Lawton, Silverstein, & Bengtson, 1994; Lee, Netzer, & Coward, 1994; Lowenstein & Daatland, 2006; Silverstein, Parrott, & Bengtson, 1995). In a cross-national study including Norway, the UK, Germany, Spain, and Israel, associational solidarity was strongly correlated with support provided to both mothers and fathers across all countries (Lowenstein & Daatland, 2006). Lowenstein and Daatland (2006) posit that this correlation is unsurprising as contact is a necessary element for care provision. In addition, associational solidarity is correlated with several other intergenerational solidarity dimensions including normative and structural solidarity (Dykstra & Fokkema, 2011; Wood & Liossis, 2007; Lawton, Silverstein, & Bengtson,

1994; Bengtson & Roberts, 1991). Adult-children with higher levels of filial norms tend to have more frequent contact with their parents, while structural factors like geographic proximity and education levels also pose as either barriers or opportunities for intergenerational association (Fors & Lennartsson, 2008; Lawton, Silverstein, & Bengtson, 1994; Monserud, 2008; Schans & Komter, 2010).

Although substantial research has been conducted on the relationships between normative, structural, and associational factors, and caregiving, studies have been largely atheoretical. Due to the lack of a consistently applied framework or model, existing research comprise of several different definitions of normative, structural, and associational factors. This incongruence in operational as well as conceptual definitions—particularly in terms of what constitutes normative or structural factors—makes comparing across studies challenging. Among the studies that do reference a framework, Bengtson and Robert's (1991) intergenerational solidarity theory has been the most commonly used. Thus, this study utilizes the normative, structural, and associational dimensions of Bengtson and Robert's (1991) theory to craft a more uniformed and multi-dimensional understanding of willingness to care.

Intergenerational solidarity and Ageism

Despite old age being a status role that most individuals enter during their lifetime, ageism is a form of discrimination that has been largely left unaddressed (Cary, Chasteen, & Remedios, 2016; North & Fiske, 2012). Moreover, while intergenerational solidarity theory has been applied to studies of caregiving, it has not been explicitly used to understand ageism. That said, connections to associational solidarity could be made considering that attempts at understanding ageism have often been related to contact with older adults. Allport's (1954) "contact hypothesis", also known as the Intergroup Contact Theory, posits that increased

exposure to an out-group member could lead to a reduction in prejudice (as cited in Tam, Hewstone, Harwood, Voci, & Kenworthy, 2006). Contact with older populations has been explored as a contributor to reducing negative age prejudice (Hale, 1998; Harwood, Hewstone, Paolini, & Voci, 2005; Tam, et al., 2006). Supporting the hypothesis, Hale (1998) demonstrated that for both young and old participants, increased contact with the older population was associated with fewer age stereotypes. Tam and colleagues (2006) similarly showed that among university students, those with greater quantity of contact with older adults held more positive implicit attitudes. Young adults that had more frequent contact with their grandparents were also more favorable of government policies that supported older generations (Silverstein & Parrott, 1997). However, studies have also shown that frequency of contact alone cannot induce increases in positive attitudes towards the older population (Allan & Johnson, 2009; Harwood et al., 2005). Rather, the type and quality of contact between generations is an important element for reducing negative age stereotypes (Chapman & Neal, 1990; Tam et al., 2006). Therefore, further study needs to be done to explore the function of contact frequency itself (associational solidarity) on ageism.

Aside from associational solidarity, ageism has been linked to normative factors through the notion of cultural differences in norms and attitudes. Societies and cultural groups vary in their normative regard for older adults (North & Fiske, 2015). Most studies have focused on the divide between Eastern and Western cultures (Giles et al., 2003; North & Fiske, 2015; Zhang et al., 2016). East Asian cultures are frequently characterized as collectivistic—valuing the group over the self—and subscribing to Confucian values and norms that revere elders (North & Fiske, 2015; Zhang et al., 2016). Contrastingly, Western cultures are characterized as individualistic and consequently having less regard for elders (North & Fiske, 2015). Despite such stereotypes,

the literature on East versus West attitudes towards the older population appears contradictory. In a cross-cultural meta-analysis of East versus West attitudes towards older adults, North and Fiske (2015) found that the attitudes towards the older population in East Asia are more negative than in Anglophone West. Several other studies corroborate the finding that East Asian populations tend to hold more negative attitudes towards the elderly population (Giles et al., 2003; Lin, Bryant, & Boldero, 2011; Luo et al., 2013). Luo and colleagues (2013) found that multiple socioeconomic and contextual factors influenced Chinese university student's attitudes; even though Chinese students may still possess strong filial norms for parents, they do not necessarily regard such obligations positively. North and Fiske (2015) proposed that the structural constraints and stressors of modernization and population aging may facilitate greater resentment of normative obligations, and thus invoke negative attitudes towards the elderly populations. We might thus consider that the conflict between structural and normative factors on caregiving behavior can similarly be found in ageist attitudes. Additionally, ageism has been negatively associated with willingness to care among college-aged students (Sutter et al., 2016). Considering that ageism may be a barrier to willingness to care, it is beneficial to explore how the intergenerational solidarity factors that influence caregiving may similarly impact ageism. Thus, Bengtson and Robert's (1991) intergenerational solidarity dimensions will also be used to investigate the factors within families that explain ageism.

The Role of Ethnicity and Culture

As the literature on Eastern versus Western attitudes toward ageism suggested, one's identifying culture provides a broader context in which familial values and practices are shaped (Mezzich, Ruiperez, Yoon, Liu, & Zapata-Vega, 2009). Essentially, intergenerational solidarity elements within the family are informed and shaped by the family's identifying culture. Children

are socialized into roles and practices that are aligned with their respective cultural values, often through parent-child transmission of norms (Toyokawa & Toyokawa, 2013; Prioste et al., 2015). Cultural differences between ethnic groups are an avenue through which differences in intergenerational family norms and practices manifest (Bengtson & Oyama, 2007). Indeed, caregiving practices and normative values vary significantly along ethnic categories, particularly between White and non-White populations (Britton, 2013; Chappell & Funk, 2012; Fuligni, Tseng, & Lam, 1999; Fuligni & Pedersen, 2002; Lee, Peek, & Coward, 1998; Sabogal, Marin, Otero-Sabogal, Marin, &, Perez-Stable, 1987; Santoro et al., 2015; Schwartz et al., 2010). Non-Hispanic White populations tend to hold lower familial values and express lower normative solidarity compared to other ethnic backgrounds (Britton, 2013; Chappell & Funk, 2012; Sabogal, Marin, & Otero-Sabogal, 1987; Shwartz et al., 2010). Not only do adult-children of White background report lower scores on familism measures compared to other ethnicities, White parents also report lower expectations of filial care from their children than Black parents do (Lee, Peek, & Coward, 1998; Sabogal et al., 1987). These ethnic differences in commitment to filial obligations are found even among adolescents and young adults (Fuligni, Tseng, & Lam, 1999; Fuligni & Pedersen, 2002). For instance, Fuligni, Tseng, and Lam (1999) found that adolescents of Asian and Latino descent held stronger familial norms and expectations of duty than adolescents of European descent, even after controlling for structural factors like socioeconomic status.

Within the United States, each minority group possesses its own dominant normative culture (Schwartz et al., 2010). Asians are associated with *filial piety*, the Confucian value emphasizing respecting and caring for one's parents; Hispanics are associated with *familism* in which duties and obligations to the family occupy central importance; and Blacks are associated

with *communalism*, emphasizing close social and kin ties in daily life (Schwartz et al., 2010). Schwartz and colleagues (2010) proposed that each of these three cultural values share collectivistic orientations, and consequently have shown that these values map onto a single construct they refer to as the 'family/relationship primacy' (Schwartz et al., 201). Those from non-European descent ethnicities (Asians, Blacks, and Hispanics) identified more with this construct than those of European descent, and as expected, the family/relationship primacy was more strongly correlated with collectivism than with individualism. Additionally, they found that family/relationship primacy correlated more strongly with ethnic-heritage than American culture orientations. As American culture is associated with more individualistic Western values, acculturative processes of minority groups in America involve the selective adoption of more individualistic values and practices (Bengtson & Oyama, 2007). This may explain why individuals who identified more with their ethnic culture rather than mainstream American culture were also more collectivistic and family oriented (Schwartz et al., 2010). Considering that familial norms, practices, and structures vary across ethnic heritage and cultural identifications, it is important to consider how intergenerational solidarity's influence on willingness to care and ageism may vary across ethnicities and the degrees of cultural identification.

Population of Interest

Most of the studies on intergenerational solidarity and caregiving have focused on the perspective of middle-aged adults and have neglected the perspective of young adults. However, young adults, known to be undergoing the 'emerging adulthood' stage between the ages of 18 and 25, are an important population to study (Roest, Dubas & Gerris, 2009; Sutter et al., 2016). Young adulthood is an important developmental period during which individuals gain

independence, reformulate their identities, and encounter greater responsibilities (Fuligni & Pedersen, 2002; Guan & Fuligni, 2015; Sutter et al., 2016). Thus, it is important to understand the resilient familial factors that contribute to young adults' attitudes during this key transition stage. Additionally, young adults—particularly college aged students—are consistently shown to harbor the highest ageist attitudes (Allan & Johnson, 2009; Fraboni, Staltson, & Hughes, 1990; Kalavar, 2001; North & Fiske, 2013; Rupp, Vodanovich, & Crede, 2005; Sutter et al., 2016). Not only do young adults score higher on attitudinal measures of ageism, they also have the least preference for individuals aged 60 and above as service providers (Kalavar, 2001). This age-bias reflects prevalent stereotypes of older adults being unfavorable or less competent. These findings are fretful as the current generation of young adults will go on to be the primary caregivers of the Baby Boomer's generation, whom by 2030 will be around 66 to 84 years old (Knickman & Snell, 2002). Consequently, they are the generation whose attitudes towards caregiving and ageism will be particularly crucial.

Statement of Problem and Hypotheses

This study seeks to address several limitations and gaps in the literatures on intergenerational solidarity, caregiving, and ageism. Studies investigating caregiving have lacked a consistent application of theory, resulting in incongruence in definitions of normative, structural, and associational factors. Additionally, there has been no clear agreement on operationalized measures; several studies develop their own measures with little attention to the construct validity and psychometric properties. Our study addresses these measurement limitations by using standardized measures that have been validated across ethnic groups. Additionally, researchers have largely neglected the role of familial intergenerational relationships on ageist attitudes. Tying in together our aims of understanding willingness to care

for aged parents and ageism, we use three dimensions of the well-established intergenerational solidarity theory to conduct a structured and multi-dimensional investigation (Bengtson & Roberts, 1991). Lastly, we address the gaps in the populations that have been studied. Both Black and Hispanic populations have been less represented within studies about ageism and intergenerational solidarity theory compared to White populations. Consequently, we aim to have a sample of sufficient size that can examine differences among Black, Hispanic, Asian, and non-Hispanic White ethnic groups. Additionally, the absence of young adult perspectives in caregiving studies is addressed by specifically investigating the expectations college students have towards their future caregiving responsibilities as well as their current ageist attitudes. Lastly, few intergenerational studies have sought the perspective of more than one generation within the family. One exception is Stein and colleagues' (1998) study that compared the strength of filial obligation of both young adults and their middle-aged parents, showing that young adults reported greater felt obligation than their parents. The researchers proposed that young adults have not had any real experience of caring for parents and are consequently still idealistic in their values. Stein and colleagues (1998) emphasize the need for caregiving research to include the perspective of both young adults as well as parents, so as to investigate the development of normative solidarity over time. Notably, studies that have investigated parent-child dyads focused only on the degree of intergenerational consensus on norms and expectations. There thus lacks an understanding of the transmission of familial norms from parents to child, and the subsequent effects on willingness to care. Consequently, we seek to fill the gap on intergenerational transmission of norms by investigating parent and child's perspectives on norms as well as its influences on caregiving expectations.

Holistically, this study adds to the literature by tying together multiple past findings, theories, and frameworks so as to provide a more coherent and extensive understanding of the underlying familial intergenerational and cultural factors that are associated with attitudes towards future caregiving and ageism. Specifically, we examine normative, structural, and associational solidarity among different ethnic groups, and their predictive ability of willingness to care and ageism. Since past studies have suggested that young adults' limited exposure with actual caregiving responsibilities lead to more idealistic expectations and values, we expect that normative factors would be most influential at this stage of their life course (Stein et al., 1998). Thus, in a model that considers all three intergenerational solidarity factors, we expect that normative solidarity will be predictive of ageism and willingness to care above and beyond both structural and associational solidarity (H1). As past literature has demonstrated how ethnic culture influence familial values, practices, and attitudes, we expect that ethnic group will moderate the association between each of the predictor variables and the two outcome variables (H2). Additionally, we explore whether the degree to which young adults identify with their ethnic culture over mainstream American culture moderates the association between the predictor and outcome variables (H3). Lastly, we will explore the normative solidarity of parent-child dyads and its influence on the child's expectations of willingness to care for parents in the future. Appendix A presents the conceptual models of the relevant variables.

Methods

Participants

Two hundred and eighty-seven Emory University undergraduate students (61 male, 226 female) ranging in ages from 18 to 22 participated in the study (Table 1). Participants identified as non-Hispanic White (36.2%, *n = 97*), Asian (31.3%, *n = 84*), Black (15.7%, *n = 42*), and

Hispanic (16.8%, *n = 45*) ethnic backgrounds. Participants who had identified as mixed race or none of the above four groups were excluded from the study (*n* = 11). 137 parents also participated in the study, resulting in 92 mother-child dyads and 45 father-child dyads. Of the 137 parent-child dyads, 23 participants had both parents participating.

Measures

A questionnaire was administered using the online Survey Monkey software. Student's questionnaire consisted of 100 items while parent's questionnaire consisted of 50 items. Parents completed only two of the standardized measures—Willingness to Care Scale (Abell, 2001) and Attitudinal Familism Scale (Steidel & Contreras, 2003) —and a demographics survey that included gender and perceived socioeconomic status. Aside from the demographics survey, all other measures were randomized to control for order effects.

Demographics survey. The demographics survey consisted of age, gender, college major, race and ethnicity.

Structural solidarity. Structural solidarity refers to the structural factors that provide or inhibit opportunities for intergenerational interactions and exchanges (Bengtson & Roberts, 1991). Structural solidarity was operationalized using multiple demographic variables. This included gender, perceived socioeconomic status (on a scale of 1 to 10), parent's highest level of education, and closest geographic proximity to grandparents. Geographic proximity to grandparents was measured using participant's family home as the referent point; responses ranged from 1, (*live with one or more grandparents)*, to 5, (*not in the same country as any grandparent)*.

Associational solidarity. Associational solidarity refers to the frequency of interactions between family members (Bengtson & Roberts, 1991). Associational solidarity was

operationalized using frequency of contact between student participants and their grandparents. Participants rated on a 1 (*less often than once a month*) to 5 (*daily*) scale how frequently they contact their grandparents through five modes of contact: phone, e-mail, social media, snail mail, and face-to-face visits.

Attitudinal Familism measure. The Attitudinal Familism scale by Steidel and Contreras (2003) is a self-report measure of levels of attitudinal familism—normative commitment to the family—that was initially created for Latino populations. However, it has also been used and validated against non-Latino populations (Campos, Ullman, Aguilera, & Dunkel Schetter, 2014). The scale consisted of 18 items that cluster onto four factors: familial support, family interconnectedness, family honor, and subjugation of self to the family. Participants rated on a 10-point Likert-type scale their level of agreement with the statements, ranging from 1 (*strongly disagree*) to 10 (*strongly agree*). Scores were computed by obtaining the mean for all items, with higher scores indicating higher attitudinal familism. Sample questions included: *"Aging parents should live with their relatives"* and *"A person should be a good person for the sake of his or her family"*. The Familism scale has shown good reliability with Cronbach's α of .83 for Latino populations, and demonstrated convergent validity (Steidel & Contreras, 2003). The Familism scale has also been used on non-Latino populations with Cronbach's α ranging from .81 for Blacks to .93 for Asians (Campos et al., 2014). The current sample demonstrated high internal consistency for Attitudinal Familism ($\alpha = .87$).

Willingness to Care measure. The Willingness to Care (WTC) scale by Abell (2001) is a self-report measure of willingness to complete caregiving tasks; these tasks fall into three subscales: instrumental, emotional, and nursing care. The scale was originally created to measure an informal caregiver's willingness to care for, as well as ability to care for, people living with

AIDS (Abell, 2001). WTC scale has also been used to measure willingness to care for family members with chronic health conditions or disability (Sutter et al., 2016). The WTC scale included 30 items, and participants rated on a 5-point Likert-type scale from 1 (*completely unwilling*) to 5 (*completely willing*). Scores were calculated from the mean of responses across items, with higher scores indicating greater willingness to care. For this study, student participants were asked to envision their parents when they are older and their future caregiving needs. Participants then indicated their expectations of how willing they would be to complete each task. Parent participants were asked to envision themselves and their child when they are older, and to then indicate their expectations of how willing they would like their child to be in completing the tasks. Sample questions included: "*Bring home groceries for someone*" (Instrumental); "*Comfort someone who is upset*" (Emotional); "*Help someone eat a meal*" (Nursing). The WTC scale has been shown to have high internal consistency for global scores (α = .92) and each subscale scores (instrumental α = .84; emotional α = .88; nursing α = .91), as well as discriminant and convergent validity (Abell, 2001). The current sample has also demonstrated high internal consistency for WTC global scores (α = .95).

Modified Fraboni Scale of Ageism. The Fraboni Scale of Ageism (FSA) was initially constructed by Fraboni and colleagues (1990) and consisted of 29-items that aimed to assess both affective and cognitive elements of ageism. Rupp, Vodanovich, and Credé (2005) identified a new three-factor model (stereotypes, separation, and affective attitudes) and removed 6 items. The revised three-factor model demonstrated a better fit than the original model in confirmatory analyses. The modified FSA consists of 23 items, and participants rate on a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Due to an error when uploading questions onto Survey Monkey, one of the items was missed out; the modified FSA used in the

current study only had 22 items. Scores were computed by adding up total responses, in which items 19, 20, and 21 were reverse-coded; higher scores indicated higher levels of ageism. Sample questions included: "*Many old people just live in the past*" (Stereotypes); "*I sometimes avoid eye contact with old people when I see them*" (Separation); and "*The company of most old people is quite enjoyable*" (Affective attitudes). The modified FSA has shown convergent validity with other measures of ageism, with higher correlations for each corresponding factor. It has also demonstrated high internal consistency for the correlated subscales (stereotypes $\alpha = .79$; separation $\alpha = .76$; affective $\alpha = .70$) (Rupp, Vodanovich, & Credé, 2005). The current sample demonstrated high internal consistency ($\alpha = .82$).

Modified Cortés, Rogler, and Malgady's bicultural scale, generic-version. The Cortés, Rogler, and Malgady's bicultural scale (CRM-BS) initially assessed cultural identification of Puerto Ricans with both their ethnic Puerto Rican culture and the dominant-US culture. The modified version by Mezzich and colleagues (2009) allows the scale to be applicable to multiethnic samples, and was tested on Latino, Korean, Chinese, and Euro-American populations. The scale consisted of 20 items, with 10 items measuring identification with ethnic culture and another 10 identical items measuring identification with mainstream American culture. Participants rated on a 4-point Likert-type scale their agreement with each questions, ranging from 1 (*not at all*) to 4 (*very much*). Higher scores on each sub-scale indicated higher degree of identification with that culture. Sample questions included: "*How much are ethnic values [or mainstream American values] a part of your life?*" and "*How much do you enjoy speaking your ethnic language [or English]?*". The modified CRM-BS scale demonstrated high levels of internal consistency ($\alpha = .91$) as well as test-retest reliability ($r = .82$). The scale has also shown construct validity and ability to discriminate between multi-ethnic samples and dominant

American samples (Mezzich et al., 2009). The current sample demonstrated high internal consistency ($\alpha = .87$).

Design

This was a cross-sectional and correlational study. Predictor variables included levels of familism (normative solidarity), highest level of parent's education (structural solidarity), perceived socioeconomic status (structural solidarity), geographic proximity to grandparents (structural solidarity), and frequency of contact with grandparents (associational solidarity). Outcome variables were levels of ageism and willingness to care. Moderators included in the study were ethnic group, and the degree of identification with ethnic culture over mainstream American culture. Parent's responses on the familism and WTC measures were used for exploratory analyses.

Procedure

Emory University's Institutional Review Board approved the study prior to commencing data collection. Student participants were recruited via two methods: students enrolled in the Introduction to Psychology course research pool, and convenience sampling across Emory College of Arts and Sciences. Students enrolled in the Introduction to Psychology course were required to fulfill a certain number of research participation hours. They could choose from multiple research opportunities within the Psychology department or choose to write a journal review. Participants were recruited during the Spring semester of 2017, beginning January 23. Participants came to the psychology laboratory to complete the survey on either their own laptops, or in the event that they did not have one, the laboratory computer. Participants were provided the survey link along with their unique identification codes. All participants were given identification codes (e.g. 101a, 101b, or 101c) to include on their surveys. One code (a) was

assigned for the student while the other two (b & c) was assigned for the father and mother respectively. The identification codes allowed responses to remain anonymous while still being able to accurately identify parent-child responses. Before arriving in the laboratory, participants were asked to ask their parents to participate in a short online survey for this study. In the laboratory, the researcher asked every participant if his or her parents were willing to participate. In the event that parents were willing, participants provided the researcher with their parents' email addresses. Participants were informed that no penalty would be incurred should their parents not be willing to participate as well. Before beginning the online questionnaire, the survey link showed participants a study information page in lieu of an informed consent. Participants clicked a button acknowledging that they read the study information and were willing to continue with the study. On average, participants took about 15 minutes to complete the survey in the laboratory. Participants obtained one research credit upon completion of the online survey.

Participants were also recruited from the campus-wide Emory College student body. Flyers were distributed around campus and promotional emails were sent to members of cultural groups in Emory College (e.g. Black Student Union, Latino Student Organization, and Asian Christian Fraternity). Interested students were asked to email the researcher. Upon receiving emails from interested participants, the researcher emailed them information about the study, the survey link, and their unique identification codes. Participants were told about parent's input to the study, and were similarly asked to ask their parents to participate in a short online survey. In lieu of research credit, these participants were compensated for their time with a $10 Amazon gift card upon completion of the online survey.

The researcher contacted parents of participants via email. They were sent a short description of the study and the reason for their participation in the study. Their survey link and unique identification codes were also included in the email. In the event that parents did not have emails, the researcher sent the relevant information to the student participants to be passed on to their parents. Reasons for parent's non-participation included language barriers, lack of access to a computer, unwillingness to participate, and being too busy.

Plan of Analysis

We first conducted preliminary analyses to examine the univariate distributions of the variables. Transformations of variables were conducted, if necessary, to reduce skewness. Next, we tested bivariate associations between all pairs of measured variables. Pearson and Spearman correlations were compared between structural, associational, and normative factors, and the two outcome variables of ageism and WTC. One-way analyses of variance (ANOVA) and cross-tabulations were then used to examine ethnic group differences across variables. Four hierarchical multiple regression models were conducted to test the incremental predictive ability of normative solidarity above and beyond structural and associational solidarity (H1). The first regression model included ethnic group as a moderator and WTC as the dependent variable (H2). The second model had ethnic group as a moderator and ageism as the dependent variable (H2). The last two models included 'Ethnic versus U.S. identification' as the moderator, instead of ethnic group (H3). The 'Ethnic versus U.S. identification' variable was created to operationalize the degree of ethnic culture identification compared to mainstream American culture identification. We calculated the ratio of total ethnic identification scores over total mainstream American identification scores on the Modified Cortés, Rogler, and Malgady's bicultural scale (Mezzich et al., 2009) for each participant to create the variable. Regarding the sequence of the

hierarchical models, structural solidarity factors were first entered considering that structural factors are largely fixed and non-modifiable elements within the family. This included gender, geographic proximity, and education level of parents. Next, direct and indirect contacts with grandparents were entered in the model. Familism was entered in the third step of the model to test for incremental variance explained by normative solidarity. Finally, after considering the variance explained by the intergenerational solidarity factors, we included moderators and interaction terms in the fourth step. A series of exploratory analyses were conducted for the subset of parent-child dyad data we collected, including testing the potential transmission of familial norms from parents to child. We conducted a multiple mediator model, testing for the effect of parent's familism on the child's WTC, with both child's familism and parent's WTC serving as the mediators (Appendix A3).

Results

Data Modifications

The distributions of all the standardized measures appeared to be symmetric except for WTC, which had a negative skew of 1.42 and kurtosis of 1.21. To reduce skewness and kurtosis, WTC was reflected and transformed using $\log_{10}$ transformation; the transformed WTC had a positive skew of 0.97 and kurtosis of -.13. The transformed WTC was then back-reflected so that the scores returned to the original direction of the scale. Although the ageism variable appeared symmetric, the mean ageism score of this sample was relatively low (M= 39.40) compared to past samples of college-aged participants whose means were around the 60-70 range (Allan & Johnson, 2009; Kalavar, 2001).

We excluded influential outliers, cases whose standardized residuals were ±3, and cases that had Cook's distance values of more than 1 (n= *6*). Two participants did not indicate their

ethnicity and these two cases were excluded analysis by analysis. The final sample size was 270. Preliminary zero-order correlations among predictor variables showed that perceived socioeconomic status was moderately correlated with highest education level of parents, $r(268) = .40$, $p < .001$. Instead of having both perceived socioeconomic status and education level as measures of socioeconomic standing, only highest education level of parents was used for subsequent analyses. Table 2 presents the descriptive statistics for the variables central to analyses.

As there were some categories within the ordinal variables of 'closest geographic proximity to grandparents' and 'highest education level of parents' that had few cases and did not relay much information, we collapsed several categories within the two variables to reduce the number of terms entered in the final regression model. The 'closest geographic proximity to grandparents' variable was recoded from five categories into four categories: live with one or more grandparents, close residence with one or more grandparents, same country as one or more grandparents, not in the same country as any grandparent. The 'highest education level of parents' variable was also recoded from five categories into four categories: lower than Bachelor's, Bachelor's, Master's, and Ph.D/J.D./M.D. We also conducted a Principal Component Analysis (PCA) for the five modes of contact with grandparents to obtain a meaningful and more parsimonious measure of contact frequency. PCA with promax rotation identified two components, with primary loadings for all items being over .5. The first component (phone and face-to-face contact) was labeled as direct contact: phone contact had a loading of .76 and face-to-face contact had a loading of .89. The second component (email, social, and snail mail) was labeled as indirect contact: email contact had a loading of .74, social media had a loading of .53, and snail mail had a loading of .74.

Bivariate Associations

There were no significant differences between participants recruited from the research pool or from the larger student body. There were no significant differences by age for any of the measures. However, there was a significant difference in WTC between males (M=1.54, SD= .16) and females (M=1.58, SD= .12) for WTC, $t(268) = 2.15$, p =.03.

We conducted a series of Pearson and Spearman's correlational analyses to test the associations between the predictor variables and outcome variables. Table 4 presents the correlations and descriptive statistics for the variables of interest. The p-value used to determine significance for all analyses was set at .05. As expected, the correlational analyses' results indicated that participants with higher familism and lower socioeconomic standing are more willing to care for parents in the future and have lower ageist attitudes. Replicating the findings of Sutter and colleagues (2016), individuals with higher ageism also reported lower willingness to care.

We then looked at differences by ethnicity. A chi-square test of independence indicated significant associations between ethnicity and education level of parents, X^2 (9, N= 270) = 59.49, p< .001. Black and Hispanic participants were less likely to report education levels of Bachelor's degree or higher than were Whites and Asians. The relationship between ethnicity and geographic proximity was also significant, X^2 (9, N= 270) = 41.98, p< .001. Whites reported living in close residence or in the same country as grandparents a lot more frequently than Asians, Blacks, or Hispanics. There were no significant differences between ethnic groups for direct and indirect contact.

Bivariate associations between familism, WTC, ageism, and ethnic group were then tested using one-way between subjects ANOVA. Table 4 presents the descriptive statistics and

results of the ANOVA analyses. There was a significant effect of ethnic group on familism [F (3, 264) = 6.26, p < .001]. Post-hoc comparisons using the Tukey HSD test indicated that Whites scored significantly lower on familism than Blacks and Hispanics (Figure 1). There was also a significant effect of ethnic group on WTC [F (3, 264) = 5.04, p =.002]. Post-hoc comparisons indicated that Whites scored significantly lower on WTC than Blacks and Hispanics. Whites did not differ significantly from Asians on WTC or familism (Figure 2). There was no significant effect of ethnic group on ageism. Lastly, the degree of ethnic identification over mainstream American identification also varied across ethnic groups, with Whites scoring significantly lower than the other ethnic groups [F (3, 264) = 16.67, p <.001]. These results suggest that compared to White participants, Black and Hispanic populations report higher familism norms and are more willing to care for elderly parents in the future. Additionally, non-White ethnic groups tend to identify more with their ethnic culture rather than American culture.

Hypotheses Testing

In order to fulfill the assumption of predictor variables having dichotomous or continuous level of measurement, dummy variables were created for education level of parents and geographic proximity to grandparents; “lower than Bachelor’s” and “living with one or more grandparents” were the reference categories respectively. Three dummy variables were created for the four ethnic groups, in which Whites were the reference group.

We hypothesized that normative solidarity, as measured by attitudinal familism, would predict willingness to care and ageism above and beyond structural and associational solidarity (H1). We also expected that ethnic group would moderate the relationships between each predictor variable and the two outcomes (H2). As such, hierarchical multiple regression analyses

were used to test the incremental predictive ability of familism on WTC and ageism separately. Ethnic group was included in the final stage as a moderator.

We conducted a four stage hierarchical multiple regression with WTC as the dependent variable first. Table 5 presents the results of the regression analysis. In the first step, structural solidarity factors of gender, geographic proximity, and education level of parents explained 7.4% of the variance in WTC (R^2 = .074, F(7, 262)= 2.97, p=.005). Gender and the three dummy variables for education level were all significant predictors of WTC. Holding education levels and geographic proximity constant, females were more willing to care for parents in the future than males were (β= .13, t(262)=-2.16, p=.03). Holding gender and geographic proximity constant, participants whose parents have Bachelor's degree (β= -.17, t(262)= 2.17, p=.03), Master's (β= -.22, t(262)= 2.74, p=.01), or Ph.D.'s (β= -.17, t(262)= 2.16, p=.03) were less willing to care for parents in the future than participants whose parents had lower than Bachelor's degree. None of the geographic proximity dummy variables were significant predictors of WTC. Next, we added direct and indirect contacts with grandparents to the model. Neither of the contact variables explained additional significant variance in WTC (R^2 = .08, F(2, 260)= 1.45, p=.24). In the third step, we added familism to the regression model. Familism explained an additional 10% of the variance in WTC (R^2 = .185, F(1, 259)= 32.05, p<.001). Holding structural and associational solidarity factors constant, an increase in familism predicted an increase in WTC (β= .34, t(259)= -5.66, p<.001). When familism was included in the third step, education level was no longer a significant predictor. However, gender still remained significant. Finally, the addition of ethnic group and interaction terms in the final model did not explain any significant variance in WTC (R^2 = .29, F(30, 229)= 1.10, p=.33). Overall, the regression model suggests that familism was the most important predictor, uniquely explaining

10% of the variance in WTC. Contrary to expectations, ethnic group was not a significant moderator of the relationships between any of the predictor variables and willingness to care.

A similar hierarchical multiple regression analysis was conducted with ageism as the dependent variable. Table 6 presents the results of the regression analysis. Structural solidarity variables did not significantly explain any variance in ageism (R^2 = .04, F(7, 262)= 1.47, p=.18). The addition of the contact variables in the next step was also not significant in explaining incremental variance in ageism (R^2 = .05, F(2, 260)= 1.90, p=.15). However, the addition of familism in the third step explained an additional 4.5% of the variance in ageism (R^2 = .097, F(1, 259)= 12.92, p<.001). Holding structural and associational solidarity factors constant, an increase in familism predicted a decrease in ageism (β= -.23, t(259)= -.36, p<.001). Finally, the addition of ethnic group and interaction terms did not explain additional significant variance in WTC (R^2 = .18, F(30, 229)= .79, p=.78). Similar to the previous regression analysis, the regression model suggests that familism was the only significant predictor, uniquely explaining 4.5% of the variance in ageism. Ethnic group was also not a significant moderator of the relationships between predictor variables and ageism.

We also hypothesized that the degree of identification with ethnic culture over mainstream American culture would moderate the relationships between each predictor variable and the outcomes (H3). Table 7 presents the results of the regression analysis. Similar to the previous two analyses, hierarchical multiple regression analysis was conducted with ‘Ethnic versus U.S. identification’ as the moderator instead of ethnic group. ‘Ethnic versus U.S. identification’ and its interaction terms were inserted in the final step of the regression model. WTC was first used as the dependent variable. As the results of the first three steps of the hierarchical regression were identical to the first two regression models, they will not be repeated

here. The addition of 'Ethnic versus U.S. identification' and interaction terms in the final step did not explain any significant variance in WTC (R^2 = .23, F(10, 249)= 1.60, p=.11). The degree of ethnic identification over mainstream American identification was not a significant moderator of the relationships between predictor variables and willingness to care.

A similar hierarchical multiple regression model was conducted with ageism as the dependent variable and 'Ethnic versus U.S. identification' as the moderator. Table 8 presents the results of the regression analysis. Once again, the addition of 'Ethnic versus U.S. identification' and interaction terms in the final stage did not explain any additional significant variance in ageism (R^2 = .13, F(10, 249)= .87, p=.56). The degree of ethnic identification over mainstream American identification was thus not a significant moderator of the relationship between predictor variables and ageism.

Assumptions for regression analyses were tested. The observations of predictor variables indicated independence and non-zero variance. Colinearity statistics, i.e. Tolerance and Variance Inflation Factor, indicated that multicollinearity assumptions were met. The data also met assumptions of independent errors, i.e. Durbin-Watson value was close to 2. Histogram and P-P plots of standardized residuals indicated that the data fulfilled assumptions for normality of errors. Scatterplots also indicated homoscedasticity of errors and linearity assumptions were met.

Parent-child Dyads

We conducted a series of exploratory analyses on the subset of parent-child data obtained. Children's responses on familism and WTC were matched up with their mother or father's responses on familism and WTC. As 23 children respondents had both parents participating, we conducted separate analyses for mother-child and father-child dyads. There were 92 mother-child

dyads and 45 father-child dyads. There were no significant differences between students whose parents participated and those whose parents did not.

There were no significant differences between mother and father's scores on familism and WTC. Both mother's familism, $r(90) = .42$, $p < .001$, and WTC, $r(90) = .28$, $p = .006$, were significantly correlated with child's familism. Similarly for father-child dyads, father's familism, $r(43) = .42$, $p = .004$, and WTC, $r(43) = .30$, $p = .04$, were significantly correlated with child's familism. Only the father's WTC was significantly correlated with child's WTC, $r(43) = .31$, $p = .04$; mother's WTC was not significantly correlated with child's WTC. Tables 9 and 10 presents the correlations and descriptive statistics for mother-child and father-child dyads respectively.

Taking into account the positive correlations between child and parent's familism, we considered that the parent-child transmission of familial norms could influence the child's attitudes towards caregiving. Similarly, parent's expectations of care from children may also influence the child's willingness to care in the future. We conducted a multiple mediator model, testing for the effect of parent's familism on the child's WTC, with both child's familism (M_1) and parent's WTC (M_2) serving as the mediators. The total effect of mother's familism on child's WTC was not significant (coefficient=.02, $t(91)=1.80$, $p=.08$). However, the specific indirect effect of mother's familism on child's WTC through M_1 was significant based on a 95% bias-corrected confidence interval of 1000 bootstrap samples (coefficient=.01, 95%CI = .0020 to .0230). The specific paths from mother's familism to M_1 (coefficient= .34, $t(91)=4.44$, $p< .001$), and M_1 to child's WTC while controlling for mother's familism and M_2 (coefficient= .03, $t(91)=2.42$, $p= .02$) were also significant. The specific indirect effect of mother's familism on child's WTC through M_2 was not significant (coefficient=.002, 95%CI = -

.0060 to .0112). The same multiple mediator model was run for father-child dyads. The total effect of father's familism on child's WTC was not significant (coefficient= .02, $t(44)=1.32$, $p=.19$). However, the specific indirect effect of father's familism on child's WTC through M_1 was significant (coefficient=.02, 95%CI = .0050 to .0334). The specific paths from father's familism to M_1 (coefficient= .39, $t(44)=3.04$, $p= .004$), and M_1 to child's WTC (coefficient=.04, $t(44)=2.98$, $p= .005$) were also significant. M_2 was not a significant mediator (coefficient= .02, 95%CI = -.0036 to .0389).

Although some researchers require a significant total effect before testing for indirect effects through mediation, recent literature has contested that "two or more indirect effects with opposite signs can cancel each other" and result in a non-significant total effect even when there are significant indirect effects (Hayes, 2009, p. 414). As such, a significant indirect effect through the mediator could still indicate a pathway by which the independent and dependent variables are associated (Hayes, 2009). In relation to our results, although both mother and father's familism did not have a significant total effect on child's WTC, child's familism could still be considered a significant mediator of both pathways.

Discussion

The present study investigated the underlying intergenerational solidarity and cultural factors within the family that explain variance in willingness to care and ageism. Specifically, we examined the predictive ability of normative, structural, and associational solidarity dimensions on willingness to care and ageism across non-Hispanic White, Asian, Black, and Hispanic college students.

Supporting our first hypothesis, normative solidarity was predictive of willingness to care and ageism above and beyond structural and associational solidarity. In Bengtson and Roberts'

(1991) explication of intergenerational solidarity theory, normative solidarity captured the normative expectations held within families about how family members should interact and feel about each other. Formal investigations on intergenerational solidarity dimensions have proposed that normative solidarity is a latent form of solidarity; norms act as a social capital that predispose individuals towards supportive behavior rather than determining behavior (Silverstein & Bengtson, 1997; Silverstein, Gans, & Yang, 2006). We were interested in the current attitudes held by young adults towards their familial obligations (normative solidarity) and how that influences their willingness to care rather than actual caregiving behavior. As such, we were specifically investigating the latent potential of normative solidarity among young adults, compared to structural and associational solidarity. Our findings that normative solidarity uniquely explained willingness to care and ageism above and beyond structural and associational solidarity corroborates the relevance of familial norms as an important predisposition for parental support, independent of structural opportunities or frequency of contact. Additionally, we had expected that normative solidarity would play a salient role for young adults as they are at a stage in life in which the difficulties and structural constraints associated with actual caregiving responsibilities are not yet present (Stein et al., 1998; Gans & Silverstein, 2006). While past studies have demonstrated that normative influences on caregiving behavior by adults are influenced by structural factors such as health needs of parents or social class, young adults' evaluation of willingness to care may be unhampered by realistic difficulties and instead informed predominantly by their family values (Silverstein, Gans, & Yang, 2006). Moreover, Fuligni and Pedersen (2002) showed that young adults are in a developmental period marked by an increase in their sense of duty and responsibility to the family. This heightened regard for

familial obligations may account for why familism was predictive of willingness to care, even after controlling for structural and associational factors.

Moreover, education level was initially a significant predictor of willingness to care before controlling for familism. Corroborating past results, education level of parents was negatively associated with familial norms as well as caregiving practices (Fuligni & Pedersen, 2002; Gans & Silverstein, 2006). Individuals with higher education levels tend to place a lower priority on familial obligations due to the increased social mobility their education affords them (Fors & Lennartsson, 2008; Gans & Silverstein, 2006). Thus, individuals with higher education levels may have lower subscription to familial ties, which consequently influences their willingness to care. Gender remained a significant predictor of willingness to care, even after controlling for familism. Consistent with studies demonstrating that females tend to prioritize caregiving responsibilities more than males (Fuligni & Pedersen, 2002; Silverstein, Gans, & Yang, 2006), females in this study were more likely to report greater willingness to care for parents than males were. This suggests that independent of one's regard for family ties, gender norms socializing females into caregiving roles are particularly salient even for young women anticipating future care (Gans & Silverstein, 2006).

Supporting our hypothesis, normative solidarity was a significant predictor of ageism above and beyond structural and associational factors. Although intergenerational solidarity theory had yet to be formally applied to ageism, past studies on ageism had measured constructs similar to normative, structural, and associational solidarity. Familism, our measure of normative solidarity, captures attitudes that prioritize the family over self and has been associated with collectivistic orientations (Campos et al., 2014; Schwartz et al., 2010). This collectivistic tendency to value the welfare and needs of the group over the self may encourage greater

acceptance and tolerance towards older populations within the community (North & Fiske, 2012). Additionally, the familism measure also includes items about obligations towards aging parents. As such, individuals that are in greater agreement with such obligations may share more positive attitudes towards aging in general.

Surprisingly, the indicators of structural solidarity (e.g. geographic proximity and education level) did not explain any significant variance in ageism. Past studies have suggested that the demographic and socioeconomic shifts accompanying modernization could result in an increase in age prejudice (Bengtson & Oyama, 2007; Luo et al., 2013; North & Fiske, 2015). Elderly people may be increasingly seen as a burden on resources, in addition to being judged as unable to adapt to societal and technological advancements (Bengtson & Oyama, 2007; Ng, 1998). As such, we expected that socioeconomic status, operationalized through parent education levels, might be positively associated with hostility towards the elderly population. However, the findings suggest that at an individual level, socioeconomic standing is not predictive of ageism. Considering that ageism is a form of discrimination against an entire age-group, perhaps it is only at broader societal demographic levels that differences in socioeconomic status influence sentiments towards elderly people (Iversen, Larsen, & Solem, 2009). In contradiction to past studies demonstrating that males have higher levels of ageism, gender was not a significant predictor of ageism in the present study (Kalavar, 2001; Rupp, Vodanovich, & Credé, 2005). Notably, the mean ageism score of our sample was a lot lower than the scores reported by previous college-aged samples (Allan & Johnson, 2009; Kalavar, 2001; Rupp, Vodanovich, & Credé, 2005). As our sample was predominantly recruited from Introduction to Psychology courses, students enrolled in these classes would potentially have a greater interest in psychology topics including interpersonal relations. Self-selecting forces may have resulted in a sample that

holds lower prejudiced attitudes, thus biasing the results. Social desirability may also have contributed to the relatively low ageism scores as we used an explicit measure (Lin, Bryant, & Boldero, 2011).

Although geographic proximity has often been associated with caregiving in the past, geographic proximity to grandparents was not a significant predictor of willingness to care (Fors & Lennartsson, 2008; Heylen, Mortelmans, & Boudiny, 2012). A possible reason might be because we measured willingness to care instead of actual caregiving behavior. Researchers have argued that proximity facilitates greater caregiving via the ability to provide care. However, as we were measuring attitudes of young adults and not actual behaviors, this aspect of geographic proximity may not have been as influential. That aside, we had expected that geographic proximity to grandparents would facilitate greater interaction with grandparents, and correspondingly foster closer ties and more positive attitudes towards older adults (Silverstein & Parrott, 1997; Wood & Liossis, 2007). In a more parsimonious classification of the intergenerational solidarity dimensions, Silverstein and Bengtson (1997) showed that frequency of contact (associational solidarity) and geographic proximity (structural solidarity) clustered together to represent opportunities for interaction among generations. Thus, geographic proximity may be an important contributor to frequency of contact with grandparents. In this study, while geographic proximity was positively associated with the amount of direct contact participants had with their grandparents, contact with grandparents itself had no significant associations with either ageism or willingness to care. Hence, it may be that living close to grandparents is not sufficient for close relationships or even positive interactions between grandchild-grandparent generations.

The lack of a significant finding between associational solidarity and ageism corroborates recent studies that have elaborated upon Allport's (1954) contact hypothesis, demonstrating that contact frequency alone is not predictive of ageist attitudes (Tam et al., 2006). Instead, the type of contact matters, both in terms of the quality of the interaction as well as the context of the interaction, in shaping attitudes (Allan & Johnson, 2009; Harwood et al., 2005). Allan and Johnson (2009) showed that young adults who lived with elderly relatives tended to have greater anxiety towards aging, while young adults that interacted with elderly individuals at work tended to have lower anxiety about aging. Chapman and Neal (1990) also showed that increased contact with older adults was associated with a decrease in ageism only among youth that already had close relationships with older adults (Chapman & Neal, 1990). The studies suggest that associational solidarity may interact with other factors, such as relationship quality, to influence ageist attitudes. Aside from ageism, studies have also shown that perceived relationship quality between child and parent is associated with the exchange of support and care between them (Chappell & Funk, 2012; Schans & Komter, 2010). This concept of relationship quality and affection between generations is captured by the affectual solidarity dimension of the intergenerational solidarity theory (Bengtson & Roberts, 1991). Associational solidarity has been positively associated with affectual solidarity, and the latter has been proposed as a mediator of normative solidarity and associational solidarity; Bengtson and Roberts (1999) proposed a causal connection between the three dimensions such that higher normative solidarity leads to greater affectual solidarity, which then results in increased association (Bengtson & Roberts, 1999; Lawton, Silverstein, & Bengtson, 1994; Wood & Liossis, 2007). Interestingly, one study showed that affectual solidarity was an important determinant of caregiving for daughters while associational solidarity was more important for sons (Silverstein, Parrott, and Bengtson, 1995).

Further work is thus needed to understand how age prejudice, towards both related and non-related older adults, and caregiving attitudes are shaped by the relationship between associational and affectual solidarity, and other contextual factors.

Moving beyond elements within the family, we also looked at the way intergenerational solidarity dynamics varied across ethnic cultures. For both familism and willingness to care, White participants reported significantly lower levels than Black and Hispanic participants. Additionally, non-White ethnic groups did not differ significantly from each other on familism and willingness to care. The distinction between White and non-White ethnic populations adds to a significant body of literature demonstrating that White populations tend to have lower familial and collectivistic orientations (Lee, Peek, & Coward, 1998; Schwartz et al., 2010; Youn, Knight, Jeong, & Benton, 1999). Schwartz and colleagues (2010) demonstrated that the normative values of communalism, filial piety, and familism clustered onto a 'family/relationship primacy' construct that captured more collectivistic orientations. Similar to our findings, Black and Hispanic ethnicities had identified more strongly with this 'family/relationship primacy' orientation than Whites. These results suggest that in comparison to minority ethnic groups, Whites tend to be a distinct population that is more affiliated with individualism than collectivism (Schwartz et al., 2010). Interestingly, although several past studies have showed that Asians tend to be significantly more family-oriented than Whites, Asian participants in this study were not significantly different from White participants on familism or willingness to care (Britton, 2016; Fuligni, Tseng, & Lam, 1999; Schwartz et al., 2010; Youn et al., 1999). We considered that the lack of significant difference could be due to acculturation effects on Asians, resulting in greater identification with a more individualistic American culture (Bengtson & Oyama, 2007; Merz, Özeke-Kocabas, Oort, & Schuengel, 2009). However, as indicated by our

findings on the modified Cortés, Rogler, and Malgady's bicultural scale (2009), Asian participants still had significantly greater identification with ethnic culture than White participants. Thus, acculturation effects may not explain the non-significant differences. However, we did find that compared to Black and Hispanic participants, Asian participants had similarly high levels of education as Whites. Past researchers have proposed that ethnic differences in filial obligation may be partially explained by differences in education levels (Lee, Peek, & Coward, 1998; Schans & Komter, 2010). Our results had similarly showed a negative association between education level and familism and willingness to care. These results suggest that the non-significant differences between Asians and Whites may be attributed to their comparably high levels of education.

White participants also tended to identify less with ethnic culture than Asian, Black, and Hispanic participants. Traditionally, 'White culture' has often been equated with mainstream American culture, with little attention to ethnic variations among White American populations (Devos & Banaji, 2005). While some authors have contested this homogenous treatment of White ethnic groups, the results seem to suggest that White participants do identify more with American culture than any specific ethnic culture (Schwartz et al., 2010). Notably, during the administration of the study, several White participants had expressed difficulty answering the questions about ethnic culture; participants often could not distinguish between their ethnic and American culture. For example, White participants did not consider their ethnic foods or languages any different than American foods and language. It would be useful for future research to explore differences among White participants who indicate different ethnic heritages. Additionally, it will be interesting to investigate how different generations of White Americans

may report on their ethnic identification. Perhaps first or second generation White Americans would have a stronger ethnic identity.

Unexpectedly, ageism did not vary across ethnic groups. We had expected that ethnic variations in collectivistic tendency would similarly lead to differences in acceptance and attitudes towards older populations in the community (North & Fiske, 2012). However, our results indicate that Whites, Asians, Blacks, and Hispanics all seem to have a similar regard towards older adults. This contradicts a significant number of studies that have shown that Whites tend to have lower levels of ageism than Asians (North & Fiske, 2015). Bearing in mind that our sample had a surprisingly low level of ageism, these results may not be representative of ethnic differences in ageism in the general population.

Our second hypothesis that ethnic group would moderate the associations between the predictor and outcome variables was not supported. Although several studies have explored ethnic differences in norms and caregiving, to the current authors' knowledge, only Campos and colleagues (2014) have explored ethnic group as a moderator of relationships between intergenerational dimensions and caregiving. In a study of White, Hispanic, and Asian samples, Campos and colleagues (2014) showed that familism's links with social support and close family relationships were not moderated by ethnic heritage. However, they had also found that familism did not differ across ethnic groups; the non-significant ethnic differences in familism may account for the lack of significant moderation findings. Despite ethnic group not emerging as a significant moderator in Campos and colleagues' study, numerous other studies have consistently demonstrated ethnic differences in normative, structural, and associational factors, as well as caregiving (Britton, 2016; Fuligni, Tseng, & Lam, 1999; Schwartz et al., 2010). Additionally, since norms within families are informed by broader cultural expectations, ethnic groups that are

more family oriented may demonstrate stronger associations between normative solidarity and willingness to care or ageism (Bengtson & Roberts, 1991). Consequently, we had expected that the strength of associations between the predictor and outcome variables would vary in degree by ethnic group. However, contrary to our expectations, ethnic group was not a significant moderator of any associations. The non-significant interaction effects between normative solidarity and ethnicity suggest that familism is a relevant construct across all four ethnic groups, with similarly positive influence on attitudes towards caregiving and ageism. It may be that regardless of ethnic group, familism is a universally relevant construct that impacts how individuals evaluate attitudes towards caregiving and ageism (Campos et al., 2014). However, future research should consider that ethnic group may moderate the relationship between intergenerational solidarity dimensions and actual caregiving behaviors. As explained above, structural dimensions may have been less influential since we were measuring attitudes towards care rather than caregiving behaviors. Perhaps, under realistic circumstances in which multiple structural factors play a significant role on caregiving behavior, ethnic culture would emerge as a significant moderator.

Our third hypothesis was also not supported as ethnic versus mainstream American identification was not a significant moderator of any of the associations. Schwartz and colleagues (2010) had previously shown that individuals who identified more with collectivistic and family orientated values tended to also identify more strongly with their heritage culture. As such, we had expected that individuals who identified more with their ethnic culture would have stronger associations between the predictor and outcome variables, particularly with regards to familism and willingness to care. However, the results suggested otherwise. As some authors have argued that both ethnic identity and American identity are independent of one another, we attempted

some follow-up analyses (not reported here) with ethnic identification rather than ethnic versus mainstream American identification as a moderator (Mezzich et al., 2009; Schwartz et al., 2010). However, the interaction effects were similarly not significant. Thus, the results suggest that regardless of how much one identifies with ethnic culture, affiliation with familial norms still has a similarly positive influence on willingness to care and ageism.

We also conducted exploratory analyses on the subset of parent-child dyadic data we collected. Existing studies on parent-child family norms have demonstrated the primary role of the family, and particularly parents, as socializing agents of children (De Vries, Kalmijn, & Liefbroer, 2009; Mills, Wakeman, & Fea, 2001). While some studies have shown that parents tend to have lower normative expectations than their children, several studies have also shown that parent-child familial norms are largely congruent (Bucx, Kaaijmakers, & van Wel, 2010; Gans & Silverstein, 2006; Hillcoat-Nallétamby, 2010; Kobayashi & Funk, 2010; Stein et al., 1998). Supporting the latter findings, the present study showed that parent and child's levels of familism were positively correlated for both mothers and fathers. Most studies on intergenerational solidarity have neglected the perspective of both parents and child, and even fewer have studied how the intergenerational transmission of familial norms influences caregiving attitudes. As such, we went on to explore a potential pathway through which parent's normative solidarity influenced the child's willingness to care. Both mother and father's normative solidarity had an indirect effect on the child's willingness to care through the child's familism. However, parent's expectation of future care was not a significant mediator. As both fathers and mothers reported lower levels of expectations of care than their child, parents may have more realistic and moderated expectations about familial care (Gans & Silverstein, 2006; Stein et al., 1998). Consequently, parents may choose not to impose these expectations on their

children or even have explicit conversations about their expectations. Hence, children's attitudes on willingness to care for parents are more likely shaped through normative values they grow up with rather than any explicit expectations of care from parents.

Limitations

Several limitations of the present study should be noted. The use of convenience sampling instead of having random samples biased the representativeness of our sample. Although our study's intended population was young adults, our participants were all undergraduate students from Emory University. Our participants' results may not generalize to other young adults or even other college students. Notably, as Emory University is a private university, the student body has generally higher socioeconomic standing than the wider American population. The ability to attend a private university may introduce bias; students may come from more stable families, have parents with higher educational levels and are able to afford the tuition, or their parents' willingness to pay for tuition may be suggestive of closer parent-child relationships. Particularly, parents that were willing to voluntarily participate in our study may have closer relationships with their children; reported levels of familism and willingness to care may thus be higher than the general population. Additionally, while we purposively recruited students outside of the introduction to psychology courses, a majority of our participants were still from the psychology courses. Participants that choose to attend psychology courses or major in psychology may be different from students that select other classes or majors. These biases may explain the extremely high WTC scores of our sample. Our sample's WTC scores were negatively skewed and had low variance. This restricted range may have limited the ability for our statistical analyses to detect significant relationships. Moreover,

females formed around 80% of the sample; as females tend to report higher willingness to care, the gender bias may also have biased the results and reduced generalizability.

Aside from the restricted variance in WTC, there were additional limitations in our measures. During the administration of the study, a handful of participants expressed uncertainty about the grandparent items as all their grandparents were deceased. These participants were told to answer the questions based on their interactions with their grandparents when they were alive. Unfortunately, as our questionnaire did not include a 'non-applicable' option for participants whose grandparents were all deceased, we were unable to control for this potential confound to the study. Additionally, as ageism scores were relatively low compared to past studies using the same measure, the results should be interpreted with caution. The low ageism scores and exceptionally high WTC scores suggest that our sample may have attitudes that are different from the general population. Lastly, as our study was cross-sectional and correlational, we are unable to establish the causal directions between our variables. For example, it may be that positive attitudes towards elderly people encourage greater familial commitment rather than familism leading to lower ageism as we predicted.

Implications and Future Directions

The present study has demonstrated that during the transition period into adulthood, normative solidarity within the family is an important predictor of willingness to care and ageism, even after accounting for structural and associational solidarity. Despite significant variations across ethnicities in family norms, structure, and willingness to care, the relevance of familial norms for caregiving and ageist attitudes remain consistent across White, Asian, Black, and Hispanic ethnic groups. Thus, the transmission of familial norms from parents to children appear to serve an important function; these norms predispose young adults to have more favorable

attitudes towards future caregiving and ageism. This predisposition serves as an important foundation and latent resource that may be capitalized on when young adults take on actual caregiving roles.

Due to time constraints, there were additional statistical analyses that we were unable to conduct. For one, more complex statistical models would be useful to investigate both ageism and willingness to care simultaneously. As ageism and willingness to care are significantly associated, future research should explore the covariance of the two outcomes in relation to intergenerational solidarity factors. It would also be important to study the covariance of the intergenerational solidarity dimensions and potential mediating pathways. Moreover, both our ageism and willingness to care measures also had several subscales that had been identified in past factor analyses (Abell, 2001; Rupp, Vodanovich, & Credé, 2005). Next steps would include parsing out the differential associations with each subscale. Due to practical constraints, our study only considered three intergenerational solidarity dimensions. Future research should consider incorporating more dimensions to construct an even more comprehensive understanding of familial factors underlying willingness to care and ageism. As parent-child dyadic relationships have been largely neglected in the literature, the next steps of the dyadic investigation would involve gathering more information about the relationship dynamics between parent and child, and seeing how that shapes children's attitudes. Additionally, it would be interesting to understand how parent's dynamics with grandparents could also influence the child's dynamics with both parent's and grandparents. Lastly, a longitudinal study that follows young adults as they enter the work force and take on actual caregiving roles is important to understand how current willingness to care attitudes would translate into future behaviors. Our findings about willingness to care may not be generalizable to actual caregiving behavior. As

mentioned previously, structural factors, such as the realistic ability to care for parents and the health needs of parents, may all be more salient when the time comes for children to actually provide care (Gans & Silverstein, 2006). Moreover, while studies have shown that levels of normative solidarity rise during the transition into young adulthood, these norms decline over time (Fuligni & Pedersen, 2002; Gans & Silverstein, 2006; Guan & Fuligni, 2015). Gans and Silverstein (2006) showed that familial norms experience a sharp decline in midlife and old age as they come into conflict with circumstantial stressors and events. As we were primarily interested in understanding what is it about the family and culture that promotes willingness to care and positive attitudes towards older adults, the results of the present study should primarily be interpreted with regards to the current attitudes of young adults that set the foundations for the future. While the current study looked into the transition period into adulthood, it would be interesting to study how attitudes and norms at this phase may influence individuals when they begin the transition period into caregivers. Aside from investigating how these early attitudinal foundations translate into actual behavior, a longitudinal study would also reveal how intergenerational solidarity dimensions shift in importance and association over time.

The rapidly aging demographic of the United States and much of the developed world is a pertinent issue that needs greater attention. The family is an invaluable resource both in terms of the unpaid care it provides, as well as its ability to shape values and attitudes towards aging and the elderly population. Research about caregiving and ageism should not begin only in adulthood; instead, it should stem from when young adults embark on their foray into adulthood and their sense of duty and obligations start to form. Through the integration of multiple dimensions of intergenerational solidarity and culture, this study has contributed a holistic and comprehensive investigation of how multiple family and cultural factors interact to shape both

willingness to care and ageism. Notably, we addressed several limitations in the literature by utilizing a coherent and cross-culturally validated theoretical framework as well as ensuring we had diverse ethnic samples. Additionally, the inclusion of parent-child dyads in the study has expanded the literature on intergenerational transmission of norms by showing how parent's normative solidarity influences children's attitudes towards caregiving through the child's normative solidarity. We hope that the present results will encourage further research that approaches the issues of caregiving and ageism through a holistic perspective—one that considers the dynamic factors acting both within the family as well as within the broader culture.

References

Abell, N. (2001). Assessing willingness to care for persons with AIDS: Validation for a new measure. *Research on Social Work Practice, 11,* 118–130. http://dx.doi.org/10.1177/104973150101100108

Aday, R. H., & Kano, Z. M. (1997). Attitudes toward caring for aging parents: A comparison of Laotian and U.S. students. *Educational Gerontology,23*(2), 151-167. doi:10.1080/0360127970230206

Allan, L. J., & Johnson, J. A. (2009). Undergraduate attitudes toward the elderly: The role of knowledge, contact and aging anxiety. *Educational Gerontology, 35*, 1-14. doi:10.1080/03601270802299780

Bengtson, V. L., & Oyama, P. S. (2007). Intergenerational solidarity and conflict. *Intergenerational Solidarity: Strengthening Economic and Social Ties.* Retrieved from http://www.un.org/esa/socdev/unyin/documents/egm_unhq_oct07_bengtson.pdf

Bengtson, V. L., & Roberts, R. E. L. (1991). Intergenerational solidarity in aging families: An example of formal theory construction. *Journal of Marriage and Family, 53*(4), 856-870. Retrieved from http://www.jstor.org/stable/352993

Britton, M. L. (2013). Race/ethnicity, attitudes, and living with parents during young adulthood. *Journal of Marriage and Family,75*(4), 995-1013. doi:10.1111/jomf.12042

Bucx, F., Raaijmakers, Q., & Wel, F. V. (2010). Life course stage in young adulthood and intergenerational congruence in family attitudes. *Journal of Marriage and Family, 72*(1), 117-134. doi:10.1111/j.1741-3737.2009.00687.x

Campos, B., Ullman, J. B., Aguilera, A., & Dunkel Schetter, C. (2014). Familism and

psychological health: The intervening role of closeness and social support. *Journal of Cultural Diversity and Ethnic Minority Psychology, 20*(2), 191-201. doi:10.1037/a0034094

Cary, L. A., Chasteen, A. L., & Remedios, J. (2016). The ambivalent ageism scale: Developing and validating a scale to measure benevolent and hostile ageism. *The Gerontologist,* 00(00), 1-10. Advance Access publication. doi:10.1093/geront/gnw118

Chappell, N. L., & Funk, L. (2012). Filial responsibility: Does it matter for care-giving behaviours?. *Ageing and Society, 32*(7), 1-19. doi:10.1017/S0144686X11000821

Chapman, N. J., & Neal, M. B. (1990). The effects of intergenerational experiences on adolescents and older adults. *The Gerontologist,30*(6), 825-832. doi:10.1093/geront/30.6.825

Cortés, D. E., Rogler, L. H., & Malgady, R. G. (1994). Biculturality among Puerto Rican adults in the United States. *American Journal of Community Psychology, 22*(5), 685-706. doi:10.1007/bf02506900

Devos, T., & Banaji, M. R. (2005). American = White? *Journal of Personality and Social Psychology, 88*(3), 447-466. doi:10.1037/0022-3514.88.3.447

De Vries, J., Kalmijn, M., & Liefbroer, A. C. (2009). Intergenerational transmission of kinship norms? Evidence from siblings in a multi-actor survey. *Social Science Research, 38*, 188-200. doi:10.1016/j.ssresearch.2008.09.005

Dykstra, P. A., & Fokkema, T. (2011). Relationships between parents and their adult children: A West European typology of late-life families. *Ageing and Society, 31*(4), 545-569. doi:10.1017/S0144686X10001108

Fors, S., & Lennartsson, C. (2008). Social mobility, geographical proximity and

intergenerational family contact in Sweden. *Ageing and Society,28*(02), 253-270. doi:10.1017/s0144686x07006617

Fraboni, M., Saltstone, R., & Hughes, S. (1990). The Fraboni Scale of Ageism (FSA): An attempt at a more precise measure of ageism. *Canadian Journal on Aging, 9*, 56–66.

Fuligni, A. J., & Pedersen, S. (2002). Family obligation and the transition to young adulthood. *Developmental Psychology, 38*(5), 856-868. doi:10.1037//0012-1649.38.5.856

Fuligni, A. J., Tseng, V., & Lam, M. (1999). Attitudes toward family obligations among American adolescents with Asian, Latin American, and European backgrounds. *Child Development,70*(4), 1030-1044. doi:10.1111/1467-8624.00075

Gans, D., & Silverstein, M. (2006). Norms of filial responsibility for aging parents across time and generations. *Journal of Marriage and Family,68*(4), 961-976. doi:10.1111/j.1741-3737.2006.00307.x

Giles, H., Noels, K. A., Williams, A., Ota, H., Lim, T., Ng, S. H., Ryan, E. B., & Somera, L. (2003). Intergenerational communication across cultures: Young people's perceptions of conversations with family elders, non-family elders and same-age peers. *Journal of Cross-Cultural Gerontology, 18*(1)*,* 1-32. doi: 10.1023/A:1024854211638

Guan, S. A., & Fuligni, A. L. (2015). Changes in parent, sibling, and peer support during the transition to young adulthood. *Journal of Research on Adolescence, 26*(2), 286-299. doi:10.1111/jora.12191

Hale, N. M. (1998). Effects of age and interpersonal contact on stereotyping of the elderly. *Current Psychology, 17,* 28–38. doi:10.1007/s12144- 998-1019-2

Harwood, J., Hewstone, M., Paolini, S., & Voci, A. (2005). Grandparent-grandchild contact

and attitudes toward older adults: Moderator and mediator effects. *Personality Social Psychology Bulletin, 31*(3), 393-406. doi:10.1177/0146167204271577

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical Mediation Analysis in the New Millennium. *Communication Monographs, 76*(4), 408-420. doi:10.1080/03637750903310360

Heylen, L., Mortelmans, D., Hermans, M., & Boudiny, K. (2012). The intermediate effect of geographic proximity on intergenerational support: A comparison of France and Bulgaria. *Demographic Research, 27*(17), 455-486. doi:10.4054/DemRes.2012.27.17

Hillcoat-Nallétamby, S. (2010). Exploring intergenerational relations in a multi-cultural context: The example of filial responsibility in mauritius. *Journal of Cross-Cultural Gerontology, 25*(1), 71-86. doi:10.1007/s10823-010-9110-1

Ikkink, K. K., Tilburg, T. V., & Knipscheer, K. C. (1999). Perceived instrumental support exchanges in relationships between elderly parents and their adult children: Normative and structural explanations. *Journal of Marriage and the Family, 61*(4), 831. doi:10.2307/354006

Ishii-Kuntz, M. (1997). Intergenerational relationships among Chinese, Japanese, and Korean Americans. *Family Relations, 46*(1), 23. doi:10.2307/585603

Iversen, T. N., Larsen, L., & Solem, P. E. (2009). A conceptual analysis of ageism. *Nordic Psychology, 61*(3), 4-22. doi:10.1027/1901-2276.61.3.4

Kalavar, J. M. (2001). Examining ageism: Do male and female college students differ? *Educational Gerontology, 27*(6), 507-513. doi: 10.1080/036012701316894199

Knickman, J. R., & Snell, E. K. (2002). The 2030 problem: Caring for aging baby boomers. *Health Services Research,37*(4), 849-884. doi:10.1034/j.1600-0560.2002.56.x

Kobayashi, K. M., & Funk, L. (2010). Of the family tree: Congruence on filial obligation between older parents and adult children in Japanese Canadian families. *Canadian Journal on Aging, 29*(1), 85-96. Doi:10.1017/S0714980809990341

Lawton, L., Silverstein, M., & Bengtson, V. (1994). Affection, social contact, and geographic distance between adult children and their parents. *Journal of Marriage and the Family,56*(1), 57-68. doi:10.2307/352701

Lee, C. S., Dik, B. J., & Barbara, L. A. (2016). Intergenerational solidarity and individual adjustment during emerging adulthood. *Journal of Family Issues, 37*(10), 1412-1432. doi:10.117/0192513X14567957

Lee, G. R., Netzer, J. K., & Coward, R. T. (1994). Filial responsibility expectations and patterns of intergenerational assistance. *Journal of Marriage and Family, 56*(3), 559-565. Retrieved from http://www.jstor.org/stable/352867

Lee, G. R., Peek, C. W., & Coward, R. T. (1998). Race differences in filial responsibility expectations among older parents. *Journal of Marriage and Family, 60*(2), 404-412. Retrieved from http://www.jstor.org/stable/353857

Lin, X., Bryant, C., & Boldero, J. (2011). Measures for assessing student attitudes toward older people. *Educational Gerontology, 37*(1), 12-26. doi:10.1080/03601270903534796

Lowenstein, A., & Daatland, S. O. (2006). Filial norms and family support in a comparative cross-national context: evidence from the OASIS study. *Ageing and Society,26*(02), 203-223. doi:10.1017/s0144686x05004502

Luo, B., Zhou, K., Jin, E. J., Newman, A., & Liang, J. (2013). Ageism among college students: A comparative study between U.S. and China. *Journal of Cross-Cultural Gerontology, 28*(1), 49-63. doi:10.1007/s10823-013-9186-5

Merz, M., Özeke-Kocabas, E., Oort, F. J., & Schuengel, C. (2009). Intergenerational family solidarity: Value differences between immigrant groups and generations. *Journal of Family Psychology, 23*(3), 291-300. doi:10.1037/a0015819

Mezzich, J. E., Ruiperez, M. A., Yoon, G., Liu, J., & Zapata-Vega, M. I. (2009). Measuring cultural identity: Validation of a modified Cortés, Rogler and Malgady bicultural scale in three ethnic groups in New York. *Culture, Medicine, and Psychiatry, 33*(3), 451-472. doi:10.1007/s11013-009-9142-6

Mills, T. L., Wakeman, M. A., & Fea, C. B. (2001). Adult grandchildren's perceptions of emotional closeness and consensus with their maternal and paternal grandparents. *Journal of Family Issues, 22*(4), 427-455. doi:10.1177/019251301022004003

Monserud, M. A. (2008). Intergenerational relationships and affectual solidarity between grandparents and young adults. *Journal of Marriage and Family,70*(1), 182-195. doi:10.1111/j.1741-3737.2007.00470.x

Ng, S. H. (1998). Social psychology in an ageing world: Ageism and intergenerational relations. *Asian Journal Of Social Psychology, 1*(1), 99-116. doi:10.1111/1467-839x.00007

North, M.S., & Fiske, S. T. (2012). An inconvenienced youth? Ageism and its potential intergenerational roots. *Psychological Bulletin, 138*(5), 982-997. doi:10.1037/a0027843

North, M. S., & Fiske, S. T. (2013). A prescriptive intergenerational-tension ageism scale: Succession, identity, and consumption (SIC). *Psychological Assessment, 25*(3), 706-713. doi:10.1037/a0032367

North, M.S., & Fiske, S.T. (2015). Modern attitudes toward older adults in the aging world: A

cross-cultural meta-analysis. *Psychological Bulletin, 141*(5), 993-1021. doi:10.1037/a0039469

Parrott, T. M., & Bengtson, V. L. (1999). The effects of earlier intergenerational affection, normative expectations, and family conflict on contemporary exchanges of help and support. *Research on Aging, 21*(1), 73-105. doi:10.1177/0164027599211004

Prioste, A., Narciso, I., Gonçalves, M. M., & Pereira, C. R. (2015). Family relationships and parenting practices: A pathway to adolescents' collectivist and individualist values? *Journal of Child and Family Studies,24*(11), 3258-3267. doi:10.1007/s10826-015-0129-3

Roest, A. M. C., Dubas, J. S., & Gerris, J. R. M. (2009). Value transmissions between fathers, mothers, and adolescent and emerging adult children: The role of the family climate. *Journal of Family Psychology, 23*(2), 146-155. doi:10.1037/a0015075

Rupp, D. E., Vodanovich, S. J., & Credé, M. (2005). The multidimensional nature of ageism: construct validity and group differences. *The Journal of Social Psychology, 145*(3), 335-362. doi:10.3200/socp.145.3.335-362

Sabogal, F., Marin, G., Otero-Sabogal, R., Marin, B. V., & Perez-Stable, E. J. (1987). Hispanic familism and acculturation: What changes and what doesn't? *Hispanic Journal of Behavioral Sciences,9*(4), 397-412. doi:10.1177/07399863870094003

Santoro, M. S., Liew, C. V., Holloway, B., McKinnon, S., Little, T., & Cronan, T. A. (2015). Honor thy parents: An ethnic multigroup analysis of filial responsibility, health perceptions, and caregiving decisions. *Research on Aging, 38*(6), 665-688. doi:10.1177/0164027515598349

Schans, D., & Komter, A. (2010). Ethnic differences in intergenerational solidarity in the

Netherlands. *Journal of Aging Studies,24*(3), 194-203. doi:10.1016/j.jaging.2008.10.007

Schwartz, S. J., Weisskirch, R. S., Hurley, E. A., Zamboanga, B. L., Park, I. J. K., Kim, S., Umaña-Taylor, A., Castillo, L. G., Brown, E., & Greene, A. D. (2010). Communalism, familism and filial piety: Are they birds of a collective feather?. *Cultural Diversity and Ethnic Minority Psychology, 16*(4), 548-560. doi:10.1037/a0021370

Silverstein, M., Gans, D., & Yang, F. M. (2006). Intergenerational support to aging parents: The role of norms and needs. *Journal of Family Issues, 27*(8), 1068-1084. doi:10.1177/0192513x06288120

Silverstein, M., & Bengtson, V. L. (1997). Intergenerational solidarity and the structure of adult child-parent relationships in American families. *American Journal of Sociology, 103*(2), 429-460. Retrieved from http://www.jstor.org/stable/10.1086/231213

Silverstein, M., Parrott, T. M., & Bengtson, V. L. (1995). Factors that predispose middle-aged sons and daughters to provide social support to older parents. *Journal of Marriage and Family, 57*(2), 465-475. Retrieved from http://www.jstor.org/stable/353699

Silverstein, M., & Parrott, T. M. (1997). Attitudes toward public support of the elderly: Does early involvement with grand parents moderate generational tensions? *Research on Aging 19*(1), 108-132. doi:10.1177/0164027597191005

Steidel, A. G., & Contreras, J. M. (2003). A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences, 25*(3), 312-330. doi:10.1177/0739986303256912

Stein, C. H., Wemmerus, V. A., Ward, M., Gaines, M. E., Freeberg, A. L., & Jewell, T. C.

(1998). “Because they’re my parents”: An intergenerational study of felt obligation and parental caregiving. *Journal of Marriage and Family, 60*(3), 611-622. doi:10.2307/353532

Sutter, M., Perrin, P. B., Tabaac, A. R., Parsa, L., & Mickens, M. (2016). Do ableism and ageism predict college students’ willingness to provide care for a family member with a chronic health condition?. *Stigma and Health*. Advance online publication. http://dx.doi.org/10.1037/sah0000045

Tam, T., Hewstone, M., Harwood, J., Voci, A., & Kenworthy, J. (2006). *Group Processes and Intergroup Relations, 9*(3), 413-429. doi:10.1177/1368430206064642

Timonen, V., Conlon, C., Scharf, T., & Carney, G. (2013). Family, state, class and solidarity: Re-conceptualising intergenerational solidarity through the grounded theory approach. *European Journal of Ageing, 10*(3), 171-179. doi:10.1007/s10433-013-0272-x

Toyokawa, N., & Toyokawa, T. (2013). The construct invariance of family values in Asian and Hispanic immigrant adolescents: An exploratory study. *Asian American Journal of Psychology,4*(2), 116-125. doi:10.1037/a0029170

U.S. National Institute on Aging. (2011, October). *Global health and aging*. Retrieved October 15, 2016, from https://www.nia.nih.gov/research/publication/global-health-and-aging/humanitys-aging.

U.S. Administration on Aging. (2016, May 24). *Aging statistics.* Retrieved October 15, 2016, from http://www.aoa.acl.gov/aging_statistics/index.aspx.

Whitbeck, L., Hoyt, D. R., & Huck, S. M. (1994). Early family relationships, intergenerational solidarity, and support provided to parents by their adult children. *Journal of Gerontology, 49*(2). doi:10.1093/geronj/49.2.s85

Wood, S., & Liossis, P. (2007). Potentially stressful life events and emotional closeness between grandparents and adult grandchildren. *Journal of Family Issues, 28*(3), 380-398. doi:10.1177/0192513X06293893

Youn, G., Knight, B. G., Jeong, H., & Benton, D. (1999). Differences in familism values and caregiving outcomes among Korean, Korean American, and White American dementia caregivers. *Psychology and Aging, 14*(3), 355-364. doi:10.1037//0882-7974.14.3.355

Zhang, X., Xing, C., Guan, Y., Song, X., Melloy, R., & Wang, F. (2016). Attitudes toward older adults: A matter of cultural values or personal values? *Psychology and Aging, 31*(1), 89-100. doi:10.1037/page0000068

Table 1

Participant Demographics (N=270)

Variable	*n*	*%*
Age		
18	100	37.0
19	84	31.1
20	28	10.4
21	41	15.2
22 and above	17	6.3
Gender		
Male	54	20
Female	216	80
Ethnic Group		
White	97	36.2
Asian	84	31.3
Black	42	15.7
Hispanic	45	16.8

Note. Overall frequencies and percentages for demographics of participants. Participants excluded from the analyses are not reported in this table ($N = 17$).

Table 2

Frequencies, Means, Standard Deviations, and Percentages of Variables of Interest

Measure	*n*	*M*	*SD*	*%*
Familism *(Normative)*	270	6.46	1.26	100
Highest level of education of parents *(Structural*)				
Lower than Bachelor's	53			19.6
Bachelor's	69			25.6
Master's	76			28.1
Ph.D., M.D., J.D., etc.	72			26.7
Closest geographic proximity to Grandparents *(Structural)*				
Living with one or more grandparents	30			11.1
Close residence with one or more grandparents	84			31.1
Same country as one or more grandparents	91			33.7
Not in the same country as any grandparent	65			24.1
Direct contact with grandparents *(Associational)*	270	-.01	1.00	
Indirect contact with grandparents *(Associational)*	270	-.02	.96	100
Willingness to Care *(Original)*	270	4.60	.48	100
Willingness to Care *(Transformed)*	270	.57	.13	100
Ageism	2700	39.4	7.41	100
Ethnic versus U.S. identification	270	1.05	.27	100

Note. Willingness to Care *(Transformed)* scores were derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection.

Table 3

Correlations and Descriptive Statistics of variables of interest (N=270)

Measure	1	2	3	4	5	6	7	8
1. Familism	-							
2. Willingness to Care *(transformed)*	.35**	-						
3. Ageism	-.26**	-.43**	-					
4. Highest education level of parents	-.22**	-.13*	.15*	-				
5. Geographic proximity to grandparents	.04	.11	-.05	-	-			
6. Direct contact	.13*	.05	-.08	.06	-.48**	-		
7. Indirect contact	.12	.01	-.07	.07	.03	.25**	-	
8. Ethnic versus U.S. identification	.14*	.22**	-.11	-.23**	.02	.01	-.07	-
M	6.46	.57	39.4	-	-	-.01	-.02	1.05
SD	1.26	.13	7.41	-	-	1.00	.96	.27

Note. Willingness to Care *(Transformed)* scores were derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection. Both geographic proximity and education level are categorical variables and thus their correlations with each other, means, and standard deviations are not reported.

*$p < .05$ **$p < .01$

Table 4

Familism, Willingness to Care, Ageism, and Ethnic Versus US identification as a function of ethnic group (N=270)

	White		Asian		Black		Hispanic			
Measures	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	η^2
Familism	6.07_a	1.33	6.50_{ab}	1.14	6.89_b	1.16	6.82_b	1.22	6.26**	.07
Willingness to Care *(original)*	4.47_a	.50	4.63_{ab}	.46	4.70_b	.48	4.72_b	.40	4.14**	.05
Willingness to Care *(transformed)*	$.54_a$	.13	$.58_{ab}$	.12	$.61_b$	.13	$.61_b$	.11	5.04**	.05
Ageism	40.26	7.36	39.93	7.50	36.86	7.39	38.84	7.20	2.33	.03
Ethnic versus U.S. identification	$.93_a$	21	1.07_b	.25	1.15_{bc}	.25	1.20_c	.29	16.67**	.16

Note. Willingness to Care *(Transformed)* scores were derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection. Means with different subscripts within rows are significantly different at the $p < .05$ level.

*$p < .05$ **$p < .01$

Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting Willingness to Care (Transformed) with Ethnic Group as Moderator

	Model 1			Model 2			Model 3			Model 4		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Gender	.04	.02	.13*	.04	.02	.12*	.05	.02	.15**	.05	.02	.15*
Lower VS Bachelor's	-.05	.02	-.17*	-.05	.02	-.17*	-.04	.02	-.12	-.02	.05	-.05
Lower VS Master's	-.06	.02	-.22**	-.06	.02	-.22**	-.04	.02	-.13	.003	.05	.01
Lower VS Ph.D.	-.05	.02	-.17*	-.05	.02	-.18*	-.02	.02	-.08	-.01	.05	-.04
Live together VS close residence	-.04	.03	-.14	-.03	.03	-.11	-.04	.03	-.14	-.06	.06	-.21
Live together VS same country	-.01	.03	-.05	.01	.03	.03	.00	.03	.003	.01	.06	.03
Live together VS different country	.02	.03	.05	.04	.03	.12	.02	.03	.06	-.03	.07	-.08
Direct Contact				.02	.01	.12	.01	.01	.06	.02	.02	.14
Indirect Contact				.00	.01	-.01	-.01	.01	-.05	-.003	.01	-.02
Familism							.04	.01	.34**	.03	.01	.29**
White VS Asian										.03	.09	.10
White VS Black										.00	.09	-.01
White VS Hispanic										.08	.13	.24
Lower VS Bachelor's x Asian										-.03	.07	-.06
Lower VS Bachelor's x Black										.06	.08	.08
Lower VS Bachelor's x Hispanic										-.08	.08	-.08

Lower VS Master's x Asian	-.05	.07	-.12
Lower VS Master's x Black	.01	.07	.02
Lower VS Master's x Hispanic	-.04	.08	-.05
Lower VS Ph.D. x Asian	.00	.07	.00
Lower VS Ph.D. x Black	-.02	.08	-.03
Lower VS Ph.D. x Hispanic	.08	.07	.10
Live together VS close residence x Asian	.05	.07	.09
Live together VS close residence x Black	.06	.09	.07
Live together VS close residence x Hispanic	-.05	.12	-.09
Live together VS same country x Asian	.01	.08	.02
Live together VS same country x Black	-.06	.10	-.10
Live together VS same country x Hispanic	-.07	.13	-.11
Live together VS different country x Asian	.03	.08	.07
Live together VS different country x Black	.06	.10	.08
Live together VS different country x Hispanic	-.01	.13	-.02
Direct contact x Asian	-.01	.02	-.06
Direct contact x Black	-.03	.03	-.10
Direct contact x Hispanic	-.02	.03	-.05
Indirect contact x Asian	-.05	.03	-.14**
Indirect contact x Black	.01	.02	.04
Indirect contact x Hispanic	.004	.03	.01
Familism x Asian	-.02	.02	-.10

Familism x Black					.03	.02	.12
Familism x Hispanic					.02	.02	.09
R^2	.074	.084	.185		.288	
F for change in R^2	2.97**	1.45	32.05**		1.10	

Note. Highest education level of parents was represented as three dummy variables with 'lower than Bachelor's degree' serving as the reference group. Closest geographic proximity was also represented as three dummy variables with 'living together with one or more grandparents' serving as the referent group. Attitudinal Familism scores were centered at the mean. Willingness to Care *(Transformed)* scores were derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection.

*$p < .05$ **$p < .01$

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Ageism with Ethnic Group as Moderator

	Model 1			Model 2			Model 3			Model 4		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Gender	-1.48	1.14	-.08	-1.21	1.14	-.07	-1.58	1.12	-.09	-1.64	1.22	-.09
Lower VS Bachelor's	1.43	1.36	.08	1.58	1.36	.09	1.02	1.34	.06	.43	3.08	.03
Lower VS Master's	2.40	1.33	.15	2.47	1.32	.15	1.48	1.32	.09	-.10	3.10	-.01
Lower VS Ph.D.	3.26	1.35	.20*	3.37	1.35	.20*	2.30	1.35	.14	-.48	3.14	-.03
Live together VS close residence	-.10	1.57	-.01	-.47	1.59	-.03	-.21	1.55	-.01	4.36	3.58	.27
Live together VS same country	-.25	1.56	-.02	-1.33	1.72	-.09	-1.08	1.69	-.07	4.92	3.71	.31
Live together VS different country	-1.27	1.64	-.07	-2.55	1.81	-.15	-1.76	1.78	-.10	5.92	4.21	.34
Direct Contact				-.87	.56	-.12	-.58	.55	-.08	.18	1.02	.02
Indirect Contact				-.34	.49	-.04	-.16	.49	-.02	-.47	.88	-.06
Familism							-1.32	.37	-.23**	-1.27	.63	-.22*
White VS Asian										8.36	5.66	.52
White VS Black										4.16	5.67	.20
White VS Hispanic										4.22	7.70	.21
Lower VS Bachelor's x Asian										-4.16	4.33	-.16
Lower VS Bachelor's x Black										1.72	4.88	.04
Lower VS Bachelor's x Hispanic										3.48	5.08	.06
Lower VS Master's x Asian										-.98	4.31	-.04

Lower VS Master's x Black	3.10	4.39	.09
Lower VS Master's x Hispanic	1.64	4.79	.04
Lower VS Ph.D. x Asian	.16	4.36	.01
Lower VS Ph.D. x Black	7.61	4.72	.16
Lower VS Ph.D. x Hispanic	3.71	4.49	.09
Live together VS close residence x Asian	-4.25	4.42	-.15
Live together VS close residence x Black	-10.52	5.46	-.24
Live together VS close residence x Hispanic	-4.37	7.11	-.15
Live together VS same country x Asian	-8.84	4.61	-.33
Live together VS same country x Black	-7.83	5.81	-.22
Live together VS same country x Hispanic	-7.05	7.94	-.20
Live together VS different country x Asian	-9.05	4.96	-.36
Live together VS different country x Black	-12.21	6.23	-.39
Live together VS different country x Hispanic	-8.66	7.87	-.25
Direct contact x Asian	-1.93	1.36	-.16
Direct contact x Black	-.28	2.09	-.02
Direct contact x Hispanic	-.73	1.89	-.04
Indirect contact x Asian	2.13	1.65	.10
Indirect contact x Black	.91	1.26	.07
Indirect contact x Hispanic	-1.27	1.56	-.07
Familism x Asian	.48	.96	.04

Familism x Black					-.45	1.32	-.03
Familism x Hispanic					-.17	1.22	-.01
R^2	.038	.052	.097		.181	
F for change in R^2	1.47	1.90	12.92**		.785	

Note. Highest education level of parents was represented as three dummy variables with 'lower than Bachelor's degree' serving as the reference group. Closest geographic proximity was also represented as three dummy variables with 'living together with one or more grandparents' serving as the referent group. Attitudinal Familism scores were centered at the mean.

*$p < .05$ **$p < .01$

Table 7

Summary of Hierarchical Regression Analysis for variables predicting Willingness to Care (Transformed) with 'Ethnic versus U.S. identification' as Moderator

Variable	Model 1			Model 2			Model 3			Model 4		
	B	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Gender	.04	.02	.13*	.04	.02	.12*	.05	.02	.15**	.05	.02	.16**
Lower VS Bachelor's	-.05	.02	-.17*	-.05	.02	-.17*	-.04	.02	-.12	-.02	.02	-.08
Lower VS Master's	-.06	.02	-.22**	-.06	.02	-.22**	-.04	.02	-.13	-.03	.02	-.11
Lower VS Ph.D.	-.05	.02	-.17*	-.05	.02	-.18*	-.02	.02	-.08	-.01	.02	-.04
Live together VS close residence	-.04	.03	-.14	-.03	.03	-.11	-.04	.03	-.14	-.01	.03	-.03
Live together VS same country	-.01	.03	-.05	.01	.03	.03	.001	.03	.003	.04	.03	.16
Live together VS different country	.02	.03	.05	.04	.03	.12	.02	.03	.06	.05	.03	.17
Direct Contact				.02	.01	.12	.01	.01	.06	.02	.01	.12
Indirect Contact				-.002	.01	-.01	-.01	.01	-.05	-.01	.01	-.04
Familism							.04	.01	.34**	.03	.01	.33**
Ethnic VS U.S. (EVA)										.17	.11	.35
Lower VS Bachelor's x EVA										.04	.08	.04
Lower VS Master's x EVA										-.04	.08	-.04
Lower VS Ph.D. x EVA										.01	.09	.01
Live together VS close residence x EVA										-.08	.11	-.09

Live together VS same country x EVA					-.12	.12	-.15
Live together VS different country x EVA					-.20	.13	-.20
Direct contact x EVA					-.11	.04	-.24*
Indirect contact x EVA					.03	.04	.04
Familism x EVA					.03	.03	.06
R^2	.074	.084	.185	.234			
F for change in R^2	2.97**	1.45	32.05**	1.60			

Note. Highest education level of parents was represented as three dummy variables with 'lower than Bachelor's degree' serving as the reference group. Closest geographic proximity was also represented as three dummy variables with 'living together with one or more grandparents' serving as the referent group. Familism and Ethnic versus U.S. identification (EVA) were centered at their means. Willingness to Care *(Transformed)* scores were derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection.

*$p < .05$ **$p < .01$

Table 8

Summary of Hierarchical Regression Analysis for Variables Predicting Ageism with 'Ethnic versus U.S. identification' as Moderator

	Model 1			Model 2			Model 3			Model 4		
Variable	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Gender	-1.48	1.14	-.08	-1.21	1.14	-.07	-1.58	1.12	-.09	-1.74	1.16	-.09
Lower VS Bachelor's	1.43	1.36	.08	1.58	1.36	.09	1.02	1.34	.06	.90	1.43	.05
Lower VS Master's	2.40	1.33	.15	2.47	1.32	.15	1.48	1.32	.09	1.57	1.42	.10
Lower VS Ph.D.	3.26	1.35	.20*	3.37	1.35	.20*	2.30	1.35	.14	2.04	1.46	.12
Live together VS close residence	-.10	1.57	-.01	-.47	1.59	-.03	-.21	1.55	-.01	-1.06	1.78	-.07
Live together VS same country	-.25	1.56	-.02	-1.33	1.72	-.09	-1.08	1.69	-.07	-2.50	2.01	-.16
Live together VS different country	-1.27	1.64	-.07	-2.55	1.81	-.15	-1.76	1.78	-.10	-3.10	2.10	-.18
Direct Contact				-.87	.56	-.12	-.58	.55	-.08	-.75	.60	-.10
Indirect Contact				-.34	.49	-.04	-.16	.49	-.02	-.14	.51	-.02
Familism							-1.32	.37	-.23**	-1.31	.37	-.22**
Ethnic VS U.S. (EVA)										-3.23	6.88	-.12
Lower VS Bachelor's x EVA										-4.07	5.04	-.07
Lower VS Master's x EVA										-.43	4.97	-.01
Lower VS Ph.D. x EVA										-.72	5.38	.01
Live together VS close residence x EVA										3.83	6.61	.08
Live together VS same country x EVA										.25	7.42	.01
Live together VS different country x EVA										10.03	7.97	.17

Direct contact x EVA					3.65	2.21	.14
Indirect contact x EVA					.30	2.17	.01
Familism x EVA					.002	1.63	.00
R^2	.038	.052	.097		.127		
F for change in R^2	1.47	1.90	12.92**		.87		

Note. Highest education level of parents was represented as three dummy variables with 'lower than Bachelor's degree' serving as the reference group. Closest geographic proximity was also represented as three dummy variables with 'living together with one or more grandparents' serving as the referent group. Familism and Ethnic versus U.S. identification (EVA) were centered at their means.

*$p < .05$ **$p < .01$

Table 9

Mother-Child Dyad reports of Familism and Willingness to Care: Correlations and Descriptive Statistics (*N*=92)

Measure	1	2	3	4
1. Child's Familism	-			
2. Child's Willingness to Care *(transformed)*	.31**	-		
3. Mother's Familism	.42**	.19	-	
4. Mother's Willingness to Care	.28**	.14	.44**	-
M	6.38	.57	6.09	4.13
SD	1.19	.13	1.49	.77

Note. Willingness to Care *(Transformed)* scores for child was derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection.

*$p < .05$ **$p < .01$

Table 10

Father-Child Dyad reports of Familism and Willingness to Care: Correlations and Descriptive Statistics (*N*=45)

Measure	1	2	3	4
1. Child's Familism	-			
2. Child's Willingness to Care *(transformed)*	.46**	-		
3. Father's Familism	.42**	.20	-	
4. Father's Willingness to Care	.30**	.31*	.64**	-
M	6.25	.56	6.39	3.87
SD	1.50	.14	1.63	.95

Note. Willingness to Care *(Transformed)* scores for child was derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection.

*$p < .05$ **$p < .01$

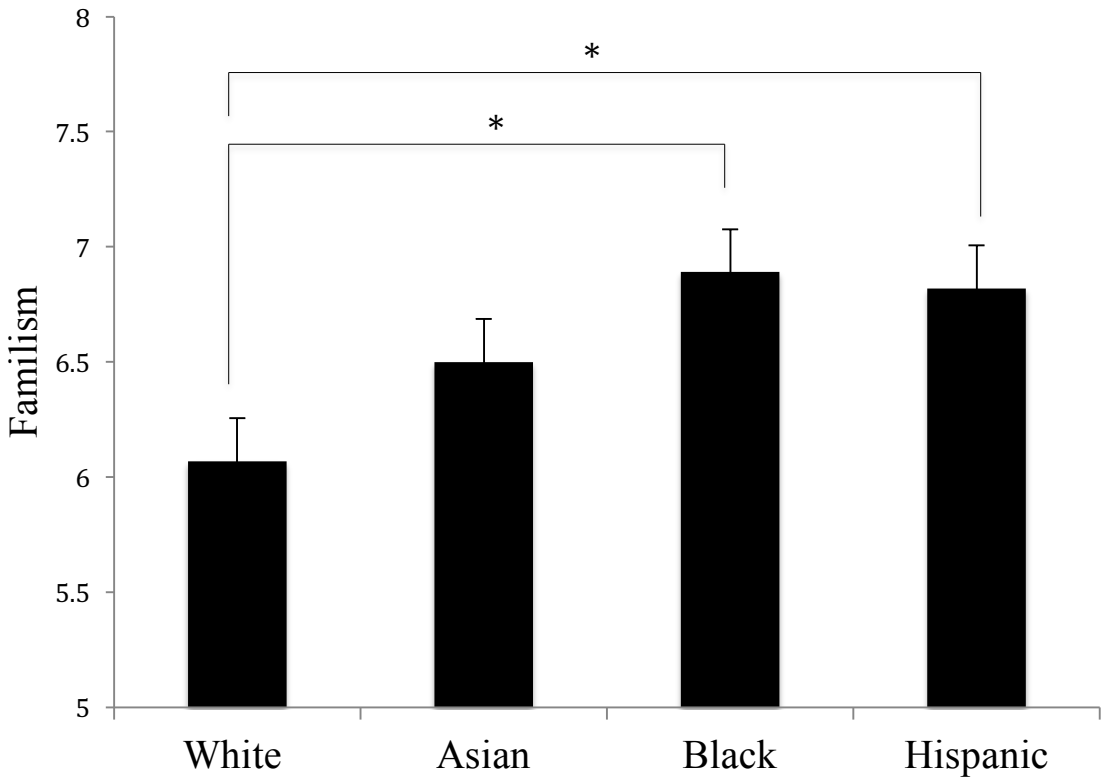


Figure 1. Difference in Attitudinal Familism mean scores between ethnic groups. The error bars are the standard errors of the mean. The asterisks denote significant differences at the $p < .05$ level between Whites and Blacks, and between Whites and Hispanics.

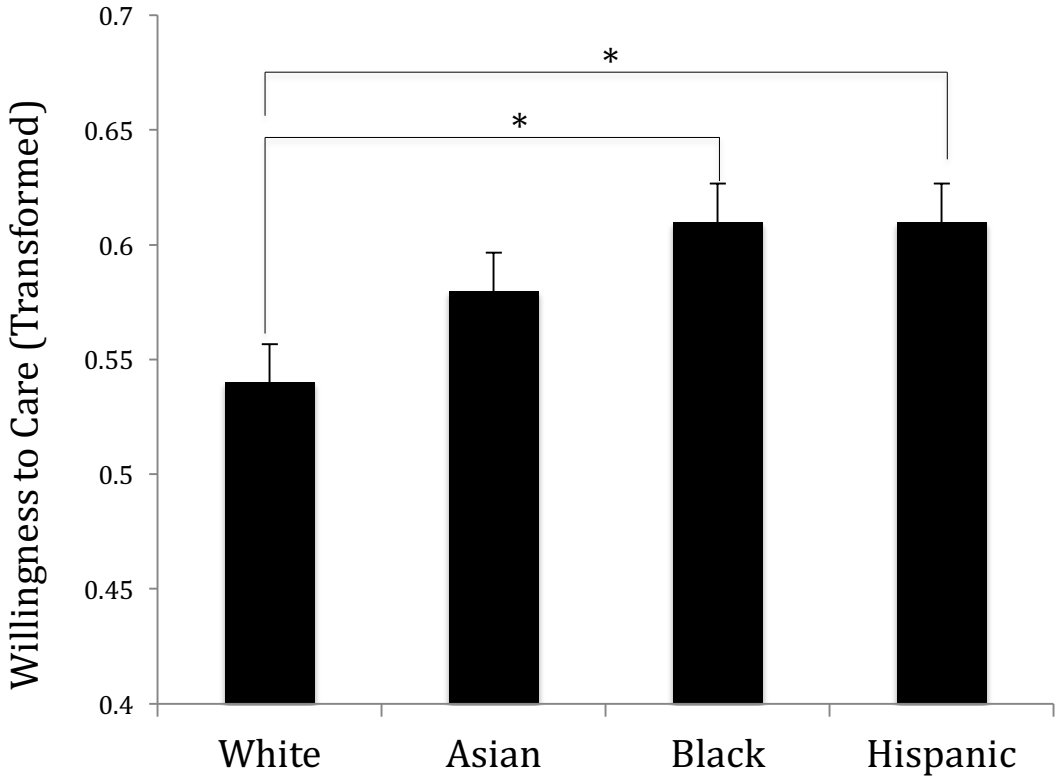
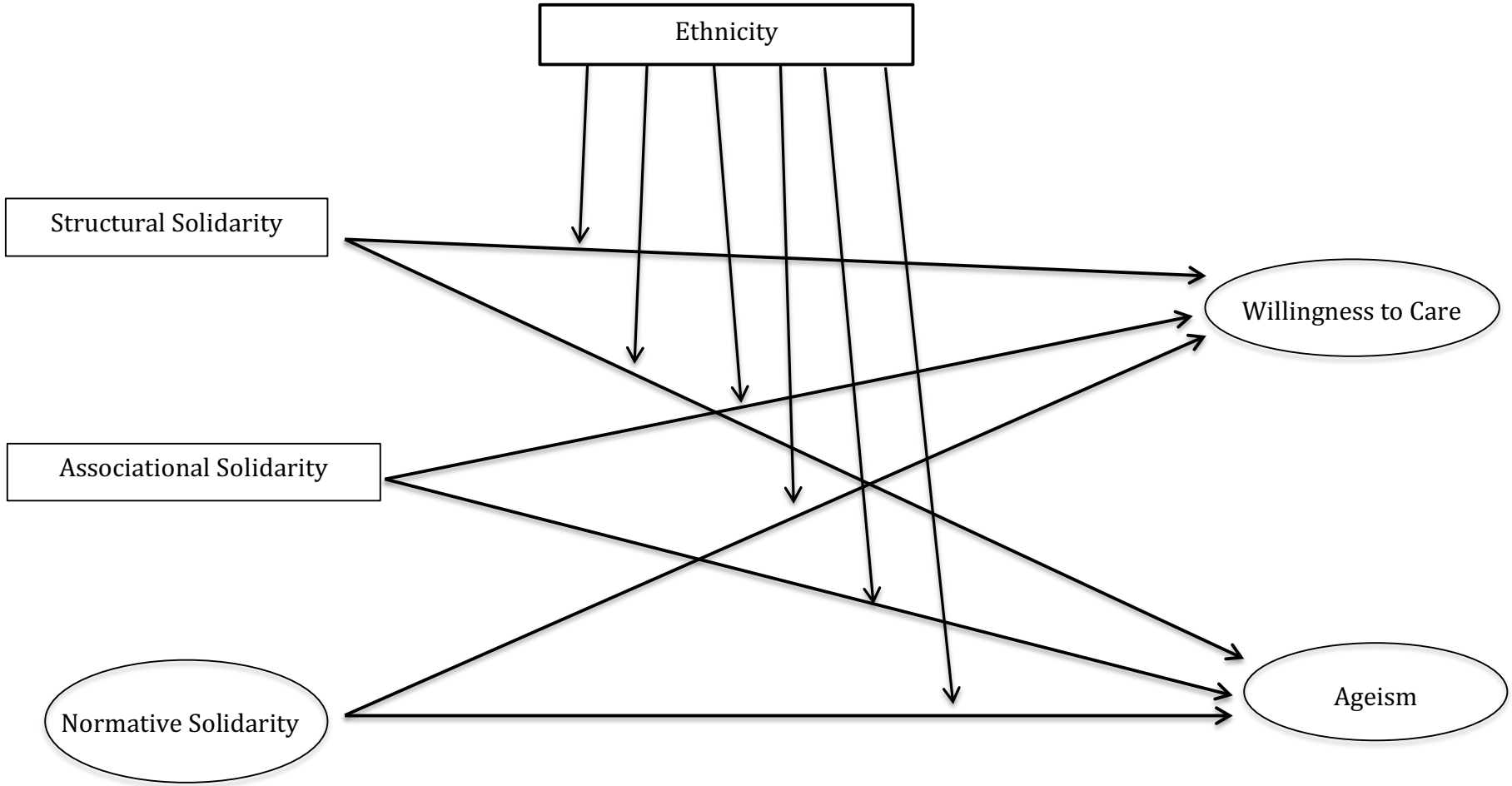


Figure 2. Difference in Willingness to Care *(Transformed)* mean scores between ethnic groups. Willingness to Care *(Transformed)* scores were derived from reflected-log transformations of Willingness to Care *(Original)* scores followed by back-reflection. The error bars are the standard errors of the mean. The asterisks denote significant differences at the $p < .05$ level between Whites and Blacks, and between Whites and Hispanics.

.

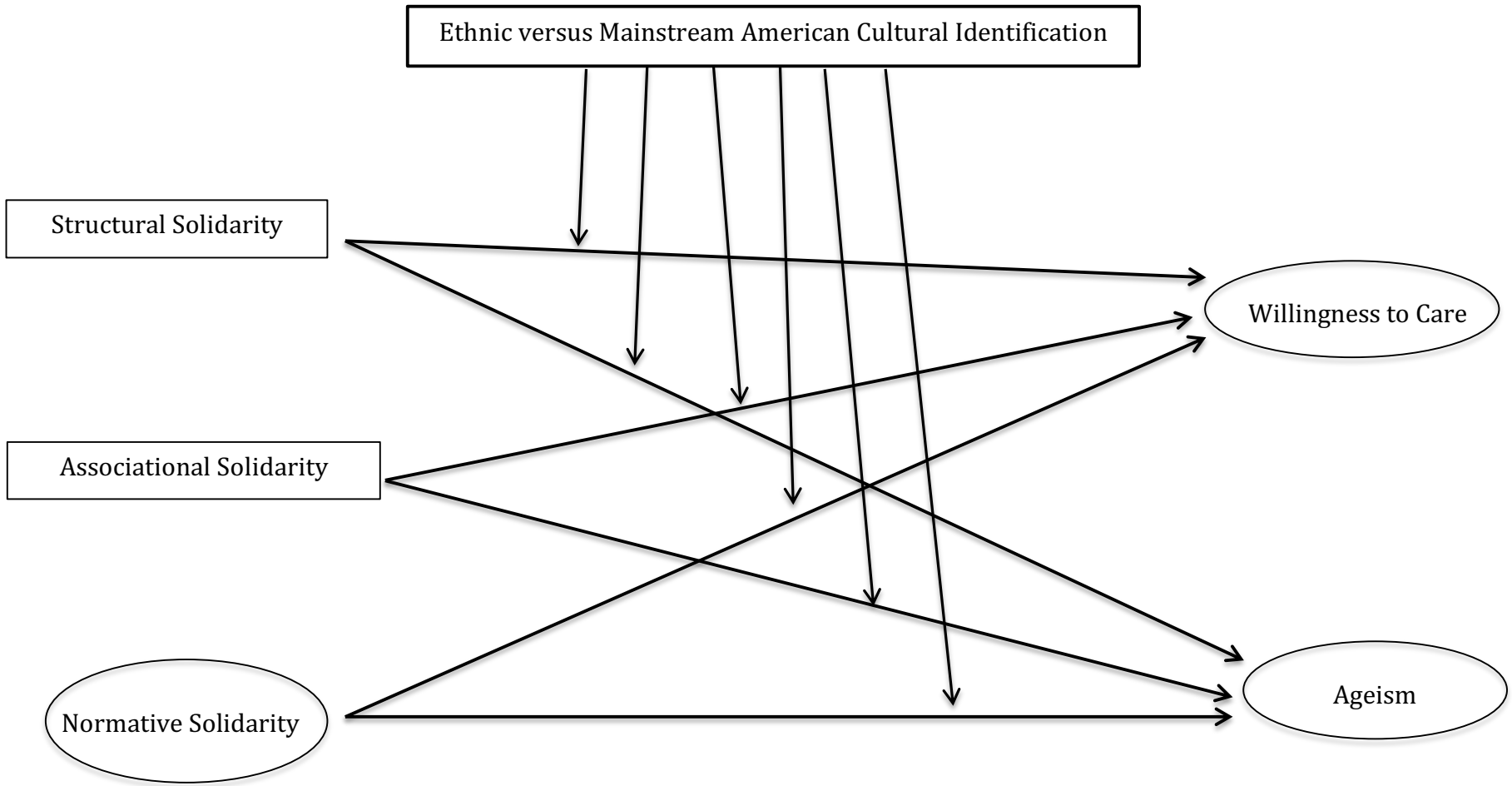
Appendix A1

Conceptual Model with Ethnic Group as Moderator



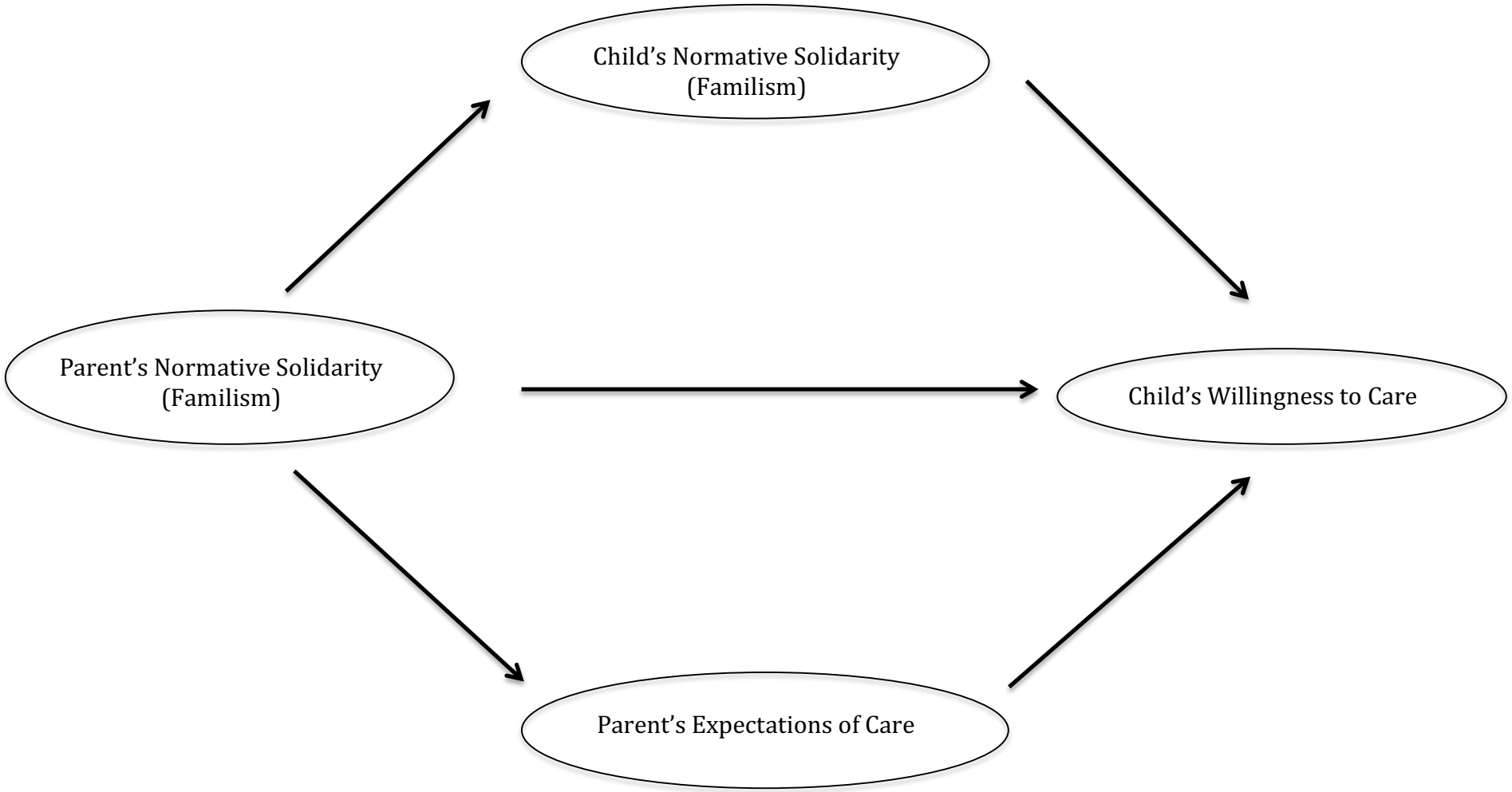
Appendix A2

Conceptual Model with Ethnic versus Mainstream American Cultural Identification as Moderator



Appendix A3

Conceptual Model of Parent-Child Dyad Mediation



Appendix B

Willingness to Care scale

As you read the statements below, think about your parents when they are older, and their caregiving needs in the future. Indicate your expectations of how willing you would be to complete the following 30 tasks. Being willing to perform a task means that you feel you would do it if it had to be done.

	completely unwilling	somewhat unwilling	not sure	somewhat willing	completely willing
1. Listen to parent(s) who is sad					
2. Comfort parent(s) who is upset					
3. Help parent(s) deal with anxiety about the future					
4. Hold hands with parent(s) who is afraid					
5. Encourage parent(s) who feels hopeless					
6. Listen to parent(s) concerns about death or dying					
7. Help parent(s) keep their spirits up					
8. Hold parent(s) who is crying					
9. Listen to parent(s) who is angry					
10. Be patient with parent(s) who is disoriented or confused					
11. Take parent(s) to a medical appointment					
12. Bring home groceries for parent(s)					
13. Help pay for parent(s) medicine					
14. Prepare meals for parent(s)					
15. Clean parent(s) room or home					
16. Wash parent(s) dishes					
17. Do parent(s) laundry					
18. Help pay for parent(s) food or housing					
19. Have parent(s) live in your home					
20. Negotiate parent(s) health care options with a doctor					
21. Help parent(s) take medicine					
22. Change dirty bed sheets					
23. Help parent(s) take a bath					
24. Clean up after parent(s) who has lost bowel or bladder control					
25. Help parent(s) eat a meal					
26. Clean up when parent(s) has thrown up					
27. Turn parent(s) in bed					
28. Change dressings on parent(s) sores					
29. Help parent(s) in the bathroom					
30. Help parent(s) move in and out of bed					

Modified Fraboni Scale of Ageism

To what extent do you agree with the following statements?

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. Many old people are stingy and hoard their money and possessions				
2. Many old people are not interested in making new friends, preferring instead the circle of friends they have had for years				
3. Many old people just live in the past				
4. Most old people should not be trusted to take care of infants				
5. Many old people are happiest when they are with people their own age				
6. Most old people would be considered to have poor personal hygiene				
7. Most old people can be irritating because they tell the same stories over and over again				
8. Old people complain more than other people do				
9. I would prefer not to go to an open house at a senior's club, if invited				
10. Teenage suicide is more tragic than suicide among the old				
11. I sometimes avoid eye contact with old people when I see them				
12. I don't like it when old people try to make conversation with me				
13. Complex and interesting conversation cannot be expected from most old people				
14. Feeling depressed when around old people is probably a common feeling				
15. Old people should find friends their own age				
16. Old people should feel welcome at the social gatherings of young people				
17. Old people don't really need to use our community sports facilities				
18. It is best that old people live where they won't bother anyone				
19. The company of most old people is quite enjoyable				
20. It is sad to hear about the plight of the old in our society these days				
21. Most old people are interesting, individualistic people				
22. I personally would not want to spend much time with an old person				

Geographic proximity and contact with Grandparents

What is your closest geographic proximity to your grandparents?
(consider this in terms of your family home and not your current college accommodations)

- Live with one or more grandparents
- Same neighborhood as one or more grandparents
- Same city as one or more grandparents
- Same country as one or more grandparents
- Not in the same country as any grandparent

How often do you contact your grandparents by

	Less often than once a month	Once a month	More than once a month	Weekly	Daily
Phone (Calls and Texts)					
Email					
Social Media					
Snail Mail					
Face-to-face visits					

Attitudinal Familism Measure

On a scale of 1 to 10, to what extent do you agree with the following statements?

	1 Strongly disagree	2	3	4	5	6	7	8	9	10 Strongly agree
1. Children should always help their parents with the support of younger brothers and sisters, for example, help them with homework, help the parents take care of the children, and so forth										
2. The family should control the behavior of children younger than 18										
3. A person should cherish the time spent with his or her relatives										
4. A person should live near his or her parents and spend time with them on a regular basis										
5. A person should always support members of the extended family, for example, aunts, uncles, and in-laws, if they are in need even if it is a big sacrifice										
6. A person should rely on his or her family if the need arises										
7. A person should feel ashamed if something he or she does dishonors the family name										
8. Children should help out around the house without expecting an allowance										
9. Parents and grandparents should be treated with great respect regardless of their differences in views										
10. A person should often do activities with his or her immediate and extended families, for example, eat meals, play games, or go somewhere together										
11. Aging parents should live with their relatives										
12. A person should always be expected to defend his/her family's honor no matter what the cost										
13. Children younger than 18 should give almost all their earnings to their parents										
14. Children should live with their parents until they get married										
15. Children should obey their parents without question even if they believe they are wrong										
16. A person should help his or her elderly parents in times of need, for example, helping financially or sharing a house										
17. A person should be a good person for the sake of his or her family										
18. A person should respect his or her older brothers and sisters regardless of their differences in views										

Modified Cortés, Rogler, and Malgady's Bicultural Scale

The questions that follow refer to different ways to experience life in the United States. Please read them carefully and check the boxes that best describes your feelings.

Ethnic refers to the ethnicity that you identify the most with.
Example 1: If you identify as an Asian, ethnic values would refer to values of the Asian heritage you ascribe to
Example 2: If you identify as a non-Hispanic White, ethnic values would refer to values of the European heritage you ascribe to

	Not at all	A little	Quite a bit	Very much
1. How much are ethnic values a part of your life?				
2. How important is it to you to celebrate ethnic holidays in the ethnic way?				
3. How important is it to you to raise your children with ethnic values?				
4. How comfortable would you be in a group of people of your identified ethnicity who do not speak English?				
5. How proud are you of being your prescribed ethnicity?				
6. How much do you enjoy speaking your ethnic language?				
7. How much do you enjoy ethnic TV programs?				
8. How much do you like to eat ethnic food?				
9. Do you think people of your identified ethnicity are kind and generous?				
10. How important would it be to you for your children to have friends of your identified ethnicity?				
11. How much are mainstream American values a part of your life?				
12. How important is it to you to celebrate mainstream American holidays in the mainstream American way?				
13. How important is it to you to raise your children with mainstream American values?				
14. How comfortable would you be in a group of mainstream Americans who do not speak your ethnic language?				
15. How proud are you of your American identity?				
16. How much do you enjoy speaking English?				
17. How much do you enjoy mainstream American TV programs?				
18. How much do you like to eat mainstream American?				
19. Do you think Americans are kind and generous?				
20. How important would it be to you for your children to have mainstream American friends?				