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Intergenerational Solidarity with Grandparents in Emerging Adulthood: Associations with Providing Support to Older Parents in Established Adulthood

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Abstract

We examined the link between types of intergenerational solidarity with grandparents among young adults in emerging adulthood and whether they provided instrumental and emotional support to their older parents in established adulthood. We used the 2000 and 2016 waves of the Longitudinal Study of Generations, and a sample of 229 grandmother-child and 175 grandfather-child dyads. Latent class analysis identified three classes describing intergenerational solidarity with grandparents (*tight-knit*, *detached*, and *intimate-but-geographically distant*) in grandmother-child and grandfather-child dyads in emerging adulthood. Path analyses showed that young adults who had a *tight-knit* relationship with their grandparents in emerging adulthood provided more instrumental and emotional support to their parents in established adulthood, compared to those who had a *detached* relationship with their grandparents in emerging adulthood. Results are interpreted in contexts of multigenerational interdependence within families and the sensitivity of young adults to the needs of older parents through their earlier connection to grandparents.

Keywords

Intergenerational solidarity; multigenerational families; family caregiving; emerging adulthood; established adulthood

In 2019, 54.1 million Americans, or 16% of the total population, were aged 65 or older, and it is projected that 94.7 million Americans will be 65 and older by 2060 (Administration for Community Living, 2020). The demand for family caregiving of aging parents is growing rapidly as a consequence of population aging (Lutz et al., 2008). Family caregivers are often adult children of the individual needing care. Family nursing, as an approach to care management of older patients, could improve the situation for older patients and their family

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caregivers by adopting a family systems strategy and treating the family as the unit of care, based on assessments of family members' health and well-being, and their capacity and ability to provide care for older patients (Lin & Wolf, 2020; Nyirati et al., 2012). Thus, a holistic understanding of family dynamics is highly useful to family nursing in a gerontological context (Esandi et al., 2021).

According to the life course perspective, early intergenerational relationships have long-term impacts on later behaviors with family members (Silverstein et al., 2003). There are reasons to believe that early positive exposure to older adults, particularly grandparents, and the resulting systemic family strengthening, will enhance the propensity of adult children later in life to provide for the care needs of their older parents. However, most studies of aging families have focused on solidarity in parent-child relationships as contributing to intergenerational family caregiving in later life and generally have not incorporated solidarity in relationships with grandparents (Bengtson & Roberts, 1991; Merz et al., 2009; Silverstein et al., 2006). As a result, little is known about the long-term impact of grandparent-grandchild relationships on adult children's propensity to provide support to older parents. In this study, we take the intergenerational solidarity perspective as our theoretical and analytic framework. Comprised of seven distinct components of family relations, the intergenerational solidarity framework has been widely used to describe intergenerational relationships in family settings (Bengtson, 2001; Silverstein et al., 1997; Steinbach, 2008; van Gaalen & Dykstra, 2006). We develop a typology of intergenerational solidarity with grandparents in emerging adulthood and examine the association between types of grandparental solidarity and support provision to parents when children reach established adulthood.

Literature Review

Intergenerational Solidarity with Grandparents

Intergenerational solidarity refers to the social cohesion of family members in different generations, characterized by mutual affection, care, and support (Bengtson & Roberts, 1991; Roberts et al., 1991). The paradigm of intergenerational solidarity represents the efforts to describe the emotions, behaviors, attitudes, structure, and functions in interpersonal relations in an intergenerational setting (Rossi & Rossi, 1990; Silverstein et al., 2010; Silverstein et al., 1997). Intergenerational solidarity is a multidimensional construct that initially depicted six dimensions of parent-child relations: association (frequency of interaction), affection (emotional closeness), consensus (agreement on values), structure (geographic proximity), function (exchange of assistance), and filial norms (familial obligations) (Bengtson & Roberts, 1991). Later, Bengtson et al. (2002) added conflict to the intergenerational solidarity model. Instead of considering conflict and affection as two ends of a continuum, they were treated as distinct facets of relationships; conflict did not necessarily imply the absence of affection (Bengtson et al., 2002). With conflict included in the model, the intergenerational solidarity paradigm better addressed the paradoxical, complicated nature of family life through the identification of various family types using case clustering approaches. The intergenerational solidarity paradigm, as a longstanding and fundamental measurement model of intergenerational relations, has been applied in

numerous studies of parent-child relationships at various stages of the life course and used to understand filial arrangements and sources of well-being among aging parents (Hwang et al., 2021; Roberts & Bengtson, 1990; Silverstein et al., 1995, 1997).

Given the multi-dimensional nature of intergenerational solidarity, researchers have applied person-centered approaches to identify relationships that share similar relational attributes based on the six original dimensions. For example, Silverstein, Bengtson, and Lawton (1997) identified five types of intergenerational solidarity in relationships between parents and their adult children: tight-knit, sociable, intimate but distant, obligatory, and detached. Similarly, Hwang et al., (2022) classified five types of intergenerational solidarity among middle-aged children and their older parents across four parent-child gender combinations: tight-knit, intimate-but-distant, socially supportive, socially unsupportive, and detached. However, most studies have focused on selected dimensions of the seven dimensions of intergenerational solidarity in their typological analyses (Guo et al., 2012; Li et al., 2019; Steinbach, 2008; Yi & Lin, 2009), and rarely is conflict considered. Since parent-adult child relations remain the focal relationships in most typology studies, we know little about solidarity in grandparent-grandchild relations as a typological construct (Barrett & Gunderson, 2021; Mueller et al., 2002). In an aging society, it is increasingly likely that grandchildren will spend an extended amount of time with their grandparents into young adulthood and beyond, and potentially assist their own parents in providing informal care to those grandparents. This experience would give young adult children a better understanding of older people's lives and enhance their awareness of how to eventually support their own parents when needs arise. Identifying how middle-aged children experienced their grandparents in the past may be a good indicator of how they might support their aging parents in the future. Further, we take a typological approach to considering the nature of grandparent-grandchild relationships. Such an approach provides a multidimensional assessment which can be a valuable measurement tool for researchers, as well as for family nurses and practitioners interested in developing customized services and supports for multigenerational families who find themselves engaged in family caregiving of older family members.

Research demonstrates that grandparents serve as valuable assets for family cohesion and optimal family functioning, providing childcare when needed and, in the extreme, taking on the role of surrogate parent (Silverstein et al., 2003). Relationships with grandparents can take many forms, from fun-loving, to authoritative, to detached, and are arguably more diverse in form than relationships between parents and children. In addition to there being few social conventions guiding enact of the grandparent role, increased longevity means that grandchildren have more time with their grandparents, which expands the diversity of available grandparent roles (Barrett & Gunderson, 2021; Mueller et al., 2002). This diversity is exemplified by the foundational research that identified five distinct types of grandparenting: detached, passive, influential, supportive, and authoritative (Cherlin & Furstenberg, 1985; Mueller et al., 2002).

In addition to substantial variation in grandparent role enactment, grandparent-grandchildren relationships evolve across grandchildren's developmental stages (Duflos & Giraudeau, 2022; Giarrusso et al., 2001). When grandchildren are young, grandparents are often

actively involved in their daily lives by providing childcare and participating in their social activities (Duflos & Giraudeau, 2022; Silverstein & Marengo, 2001). When grandchildren reach emerging adulthood and leave home, grandparents maintain affectionate and close relationships with them, despite decreased contact frequency and increased geographical distance (Sheehan & Petrovic, 2008; Silverstein & Long, 1998). Grandparents may still retain close relationships with their adult grandchildren, and provide them financial assistance, support, and advice (Silverstein et al., 2003). In a most recent typology study of grandparent-adult grandchild relationships, researchers identified three types of relationships: geographically distant/low contact, geographically close/high contact, and geographically close/low contact (Barrett & Gunderson, 2021).

This study contributes to the literature on grandparent-grandchild relationships by focusing on a young adult cohort and considering the full range of relational characteristics in the cluster analysis of intergenerational solidarity dimensions. In foundational work on this topic, Cherlin and Furstenberg (1985) and Mueller and colleagues (2002) examined relationships between adolescents and their grandparents based on dimensions of discipline, authority, intimacy, frequency of contact, and exchange of support. Although associational and functional solidarity were captured in these studies, other dimensions of relevance to grandparent-adult grandchild relationships in adulthood such as structural solidarity (geographic distance) and consensual solidarity (agreement of opinions) were not considered. Further, discipline and authority, important as they are in assessing intergenerational relationships with minor grandchildren, are less relevant when grandchildren reach adulthood. Therefore, typologies derived from these studies may not represent common types of grandparent-grandchild relationships among grandchildren in emerging adulthood.

Similarly, Barrett and Gunderson (2021) focused on grandparent-grandchild relationships when grandchildren were in their 30s, but paid less attention to consensual solidarity and conflict, which are important elements of grandparent-adult grandchild relationships (Sheehan & Petrovic, 2008). In the current study, we examined relationships with grandparents when grandchildren reached adulthood (ages 18 to 29) and transitioning from late adolescence to early adulthood (Sciplino & Kinshott, 2019); further we incorporated all aspects of relational ties as theoretically itemized by the intergenerational solidarity paradigm.

Gender Considerations in Relationships with Grandparents

Engagement with grandchildren has been found to vary by the gender of grandparents (Giarrusso et al., 2001). Evidence shows that grandmothers are more frequently involved with their grandchildren than are grandfathers and engaged in qualitatively different types of activities with them (Danielsbacka & Tanskanen, 2012; Giarrusso et al., 2001; Smorti et al., 2012). For example, grandmothers are more likely to discuss personal concerns, participate in family gatherings, and talk about family history with their adult grandchildren, while grandfathers serve advisory and authority roles (Quéniart & Charpentier, 2013; Silverstein & Marengo, 2001; Van Ranst et al., 1995). In many studies, grandmothers are perceived as the closer and more important grandparent (Dubas, 2001; MaloneBeach et al.,

2018; Silverstein & Marenco, 2001). However, almost all typological studies of grandparent-grandchild relationships include gender as a control variable, rather than as a contextual factor (Cherlin & Furstenberg, 1985; Mueller et al., 2002). Few studies have examined gender differences in solidarity profiles. A notable exception being one study showing that relationships of grandmothers and grandfathers can be described by a similar profile based on four dimensions of solidarity (Barrett & Gundersen, 2021). The current research examines how the full complement of dimensions of intergenerational solidarity between grandparents and adult grandchildren categorically interrelate by gender of grandparent.

Providing Support to Parents in Established Adulthood

Our focus is on the consequences of grandparental relationships of grandchildren in early adulthood for their provision of support to older parents when they reach established adulthood. Established adulthood—a distinct period of life that has received increased attention in the scholarly literature—refers to the developmental period roughly spanning ages 30 to 45, when individuals experience intensive demands and responsibilities in work and family domains; such demands and responsibilities include committing to a career path, having children, and caring for aging parents (Mehta et al., 2020). While children in emerging adulthood tend to receive continued support from parents and grandparents, by established adulthood they begin to receive less support from these family members provide more support to them in later life (Mehta et al., 2020; Swartz, 2009).

As adult children reach established adulthood, their older parents are often at increased risk of experiencing chronic illnesses such as cancer, cardiovascular, and metabolic diseases, (Chen & Sloan, 2015; Masters et al., 2018; Niccoli & Partridge, 2012). Although some parents in middle and late adulthood may face challenges such as declining physical health and require assistance from their adult children, support commonly flows in both directions (Silverstein et al., 2002; Swartz, 2009).

From the life course perspective, interpersonal relations can be understood as the outcome of prior social experiences (Elder, 1998). In the instance of grandparenting, solidarity with grandparents at a younger age plays an important role in the long-term development of grandchildren and contributes to interpersonal reciprocity with family members as they enter adulthood (Silverstein et al., 2003). The long-term impact of intergenerational solidarity with grandparents on grandchildren's caregiving to aging parents is unexplored. However, some evidence shows that grandchildren who had more contact with grandparents were more likely to hold a positive attitude toward aging and stronger obligation to provide support older adults (Mebane & Pezzuti, 2020; Silverstein & Parrott, 1997). Research also reveals that grandparents influence the core values of their grandchildren through teaching, mentoring, and transmission of family culture (Hebblethwaite & Norris, 2011), an influence that likely extends to instilling filial responsibility for older parents. This expectation is supported by research showing that children who had good relationships with paternal grandparents in early childhood were more likely to have better relationships with their fathers in adolescence (Yi et al., 2006). Thus, to further expand our knowledge on how early family processes impact later intergenerational relationships, this investigation prospectively

examined how grandchildren's solidarity with grandparents in young adulthood impacted their provision of support to aging parents fifteen years later.

The Current Study

The first aim of this study was to identify latent classes of intergenerational solidarity with grandparents as reported by grandchildren during emerging adulthood. On the basis of research by Silverstein and colleagues' (1997), we included six dimensions of intergenerational solidarity with grandparents—affectional, associational (in-person and phone contact), consensual, structural, and functional (receiving and providing support) solidarity, and conflict—that were available in our data. Based on previous typological studies of parent-child relationships (Hwang et al., 2022, Silverstein et al., 1997, Guo et al., 2012), we hypothesized that strong and weak intergenerational solidarity types (e.g., *tight-knit* and *detached*) would similarly be found in grandparent-grandchild relationships. Based on this earlier research, we also hypothesized that heterogeneous types of intergenerational solidarity with grandparents would be identified—i.e., strong on some dimensions and weak on others. The second aim was to determine whether these intergenerational solidarity latent classes influenced two aspects of support provided to parents (instrumental and emotional support) during established adulthood. We hypothesized that young adults who had strong solidarity with their grandparents in emerging adulthood would be more likely to provide instrumental and emotional support to their parents during established adulthood, compared to those with weak solidarity with their grandparents during emerging adulthood. Finally, although we have less firm expectations concerning grandchildren with heterogeneous types of solidarity with grandparents, we hypothesized that they would be less likely than those with weak solidarity with grandparents to provide instrumental and emotional support to parents.

Method

Sample

We used the Longitudinal Study of Generations (LSOG), a multigenerational and multi-time point dataset collected from 1971 to 2016. The LSOG began as a cross-sectional study with 2,044 respondents, including 358 three-generation families consisting of grandparents (G1), their middle-aged adult children and spouses (G2), and their young adult grandchildren (G3). Grandparents and their spouses who were enrolled in the largest health maintenance organization in southern California were recruited through multistage, stratified random sampling. The LSOG became a longitudinal panel study in 1985 (Wave-2), with data collection continuing for eight additional waves. In 1991 (Wave-4), great-grandchildren aged 16 years and over (G4) were added to the study and in 2016, Wave-9 data collection was completed. Mailed-back paper survey was used for data collection, and in 2005 (Wave-8) and 2016 (Wave-9), paper survey and online surveys were used together for data collection (for more details, see Silverstein & Bengtson, 2019).

Data for the present study was derived from G4s in 2000 (Wave-7) and 2016 (Wave-9). The initial sample in the 2000 survey consisted of 701 G4 young adults. We selected the 2000 survey as baseline because it included data from the largest number of G4s participating

during emerging adulthood. In this study, young adult G4s, 18 to 29 years of age, were included in the sample if they provided data on relationships with their grandparent(s) in 2000 and their surviving parent(s) in 2016 ($n = 509$). In the 2000 survey, G4s answered items individually measuring intergenerational solidarity with a paired grandmother and grandfather. These focal grandparents were selected based on whether one of the pair descended from an original great-grandparent in the study; thus, grandparent relationships could derive from a maternal or paternal line and include biological as well as step grandparents. Similarly, in 2000 and 2016 surveys, G4s individually answered questions about intergenerational solidarity with their mothers and fathers regardless of biological and step status. It is important to note here that only one parent could have descended from the grandparents answered about.

As our interest was in young adults who lived apart from their grandparents, we excluded four G4s who lived with either their grandmother or grandfather in 2000. From the remaining 505 young adults, we constructed two overlapping samples: young adults responding about their relationships with surviving grandmothers in 2000 and surviving parents in 2016 ($n = 238$) and young adults responding about their relationships with surviving grandfathers in 2000 and surviving parents in 2016 ($n = 200$). Given that biological grandparent-child relationships and stepgrandparent-grandchild relationships (or adoptive grandparent-child relations) are structurally different within multigenerational families, we excluded 25 step relationships grandparent-child and 9 adoptive grandparent-child relationships from the sample. Thus, we considered 229 biological grandmother-grandchild relationships and 175 grandfather-grandchild relationships in the final sample.

Information of young adults' grandparents and parents in the 2000 survey are presented in Table 1. Of the 229 young adults who responded about their grandmothers, 129 relationships were with maternal biological grandmothers and 100 were with paternal biological grandmothers. Of the 200 young adults who responded about their grandfathers, 93 relationships were with maternal biological grandfathers and 82 were with paternal biological grandfathers.

Measures

Intergenerational solidarity with grandparents.—The LSOG collected data on six dimensions of intergenerational solidarity—affectional, associational, consensual, functional, structural, and conflict—with grandmothers and grandfathers separately in 2000. Affectional solidarity with grandmothers and grandfathers was measured by one item: “Taking everything into consideration, how close do you feel the relationship is between you and your grandmother/grandfather at this point in your life?” Responses ranged from (1) *not at all close* to (6) *extremely close*, and were dichotomized as low (*not at all close-somewhat close*) and high (*pretty close-extremely close*) for grandmothers and grandfathers.

Associational solidarity was measured by two separate items for frequency of in-person and phone contact with grandmothers and grandfathers. Responses ranged from (1) *not at all* to (6) *daily or more often*, and were dichotomized as low (*not at all-several times a year*) and high (*every month or so-daily or more often*) for grandmothers and grandfathers.

Consensual solidarity with grandmothers and grandfathers was measured by one item: “How similar are your opinions and values about life to those of your grandmother/grandfather at this point in time?” Responses ranged from (1) *not at all similar* to (6) *extremely similar*, and were dichotomized as low (*not at all similar-somewhat similar*) and high (*pretty similar-extremely similar*) for grandmothers and grandfathers.

Functional solidarity with grandmothers and grandfathers was measured by two items asking respondents to indicate if they were receiving support from grandparents or providing support to grandparents. Five types of instrumental support were considered: household chores, transportation, financial support, information and advice, and help when the recipient (respondent or grandparent) was sick. Two dichotomous variables were constructed for receiving support from grandmothers/grandfathers (0 = *received no support from grandmother/grandfather*, 1 = *received support from grandmother/grandfather*) and providing support to grandmothers/grandfathers (0 = *never provided support to grandmother/grandfather*, 1 = *provided support to grandmother/grandfather*).

Structural solidarity with grandmothers and grandfathers was measured by one item regarding geographical proximity. Response ranged from (1) *more than 500 miles from me* to (6) *less than 5 miles*, and were dichotomized as low (*more than 500 miles-151–250 miles*) and high (*51–150 miles-less than 5 miles*) for grandmothers and grandfathers.

Conflict with grandmothers and grandfathers was measured by one item: “Taking everything into consideration, how much conflict, tension, or disagreement do you feel there is between you and your grandmother/grandfather at this point in your life?” Responses ranged from (1) *not at all* to (6) *a great deal*, and were dichotomized as low (*not at all-some*) and high (*pretty much-a great deal*) for grandmothers and grandfathers.

Control variables.—Baseline control variables derived from the 2000 data include respondents’ gender (0 = *male*, 1 = *female*), race (0 = *others*, 1 = *white*), paternal/maternal line grandparents (0 = *paternal line grandparents*, 1 = *maternal line grandparents*), biological/stepparent-child relations (0 = *others*, 1 = *biological parents*). In addition, control variables from the 2016 data include respondents’ education, annual income, marital status (0 = *others*, 1 = *married or cohabitate*). Because providing support to parents is closely related to quality of parent-child relationships and parents’ health status (Silverstein et al., 2019), we included controls for affectual solidarity (one item; 1 = *not at all close*, 6 = *extremely close*) with parents in 2000 and parents’ health status in 2016. Parents’ health status was measured by five binary items about the presence of a chronic condition (heart problems, high blood pressure, cancer, diabetes, and Alzheimer’s disease) in mothers/fathers as reported by respondents, which was converted to a dichotomous variable (0 = *healthy or zero health issues*, 1 = *one or more health issues*).

Analytic Strategy

To address the first aim, we conducted latent class analysis using Latent Gold 6.0 (Vermunt & Madigson, 2021). Latent class analysis is a person-centered approach, allowing for identification of unobserved subgroups (latent classes) on the basis of individuals’ responses to intergenerational solidarity indicators (Nylund-Gibson & Choi, 2018). Because

intergenerational solidarity is a multidimensional construct (Bengtson & Roberts, 1991), latent class analysis represents an informative approach to simultaneously representing combined statuses on multiple intergenerational solidarity items (Hwang et al., 2022; Silverstein et al., 1997).

In this study, latent class analysis was conducted using eight dichotomized indicators of intergenerational solidarity with grandparents in 2000. We note that converting ordinal data into dichotomized data is a typical strategy to enhance interpretability of latent classes, and often provides better defined classes despite some loss of information (Macia & Wickham, 2019; Vasilenko, 2021).

We selected the optimal number of latent classes using three information criteria: Bayesian Information Criterion (BIC), Consistent Akaike Information Criterion (CAIC), and entropy. The typologies with the smallest BIC and CAIC and entropy values over .80 were considered the optimal number of latent classes of intergenerational solidarity with grandparents (Nylund-Gibson & Choi, 2018).

To address the second aim, path analysis was conducted using AMOS 25 (Arbuckle, 2017) to test how class memberships of intergenerational solidarity with grandparents in 2000 are associated with providing instrumental and emotional support to mothers and fathers in 2016. We exported respondents' class membership probabilities from the latent class analysis and used them as predictors in path analysis. We tested the above associations in grandmother-child relations (Model A) and grandfather-child relations (Model B) separately. From the 2000 survey, we controlled for participants' gender (0 = *male*, 1 = *female*), race (0 = *others*, 1 = *white*), paternal/maternal line grandparents (0 = *paternal line grandparents*, 1 = *maternal line grandparents*), biological/stepparents (0 = *stepparents*, 1 = *biological parents*), parents' health status (0 = *healthy or zero health issues*, 1 = *one or more health issues*), and affectual solidarity with parents. In addition, from the 2016 survey, we controlled for participants' education, annual income, and marital status (0 = *others*, 1 = *married or cohabitate*). Model fit was evaluated using the comparative fit index (CFI; a value > .90 indicates a good fit) and the root mean square error of approximation (RMSEA; a value < .08 indicates a good fit) (McDonald & Ho, 2002). Missing data were handled by estimation with full information maximum likelihood (FIML).

Results

Results of Descriptive Analysis

Respondents' descriptive characteristics are presented in Table 2. The age range of grandchildren in 2000 was 18–29 years old and the majority were white in both grandmother-child and grandfather-child sub-samples. In 2016, grandchildren were 34–45 years of age, belonging to established adulthood. In terms of intergenerational solidarity with grandparents in 2000, most respondents had low conflict with grandmothers and grandfathers. Grandchildren in both grandmother-child and grandfather-child dyads reported providing higher emotional and instrumental support to mothers than fathers in 2016.

Results of Latent Class Analysis

Latent class analysis statistics and fit indices are displayed in Table 3. Two goodness of fit indices (BIC and CAIC) and entropy values suggested that a three-class model was the best fitting model for both grandmother-child dyads and grandfather-child dyads. Item response and latent class probabilities of the three-class model are displayed in Figure 1. We identified the following types of intergenerational solidarity with grandparents: (1) *detached* (all item response probabilities were low; 45.1% in grandmother-child relations and 54.3% in grandfather-child relations), (2) *tight-knit* (all item response probabilities were high except conflict; 26.1% in grandmother-child relations and 24.8% in grandfather-child relations), and (3) *intimate-but-geographically distant* (affectual and consensual solidarity were high but geographical proximity, in-person contact, and phone contact were low; 28.8% in grandmother-child relations and 20.9% in grandfather-child relations).

Results of Path Analysis

Results of path analysis for grandmother-child (Model A) and grandfather-child relations (Model B) are displayed in Table 4. We found that young adults who had a *tight-knit* relationship with grandmothers (Model A) and grandfathers (Model B) in 2000 provided more instrumental and emotional support to mothers and fathers in 2016 than those with a *detached* relationship with grandmothers and grandfathers in 2000. However, young adults in *intimate-but-geographically distant* and *detached* relationships with grandmothers and grandfathers did not provide significantly different levels of instrumental or emotional support to mothers and fathers in 2000.

Discussion

In the preceding analysis, we examined whether young adults' intergenerational solidarity with grandparents during emerging adulthood played a role in the provision of support to their parents during established adulthood. We hypothesized that distinct latent classes of intergenerational solidarity with grandparents—including strong and weak solidarity types as well as heterogeneous types—would be identified among young adults in emerging adulthood. Our findings support the first hypothesis that the same three classes of intergenerational solidarity with grandmothers and grandfathers were identified: *tight-knit*, *detached*, and *intimate-but-geographically distant*. The *tight-knit* class scored high on all dimensions of intergenerational solidarity, while the *detached* class scored low on all dimensions. The *intimate-but-geographically distant* class was distinct from the *tight-knit* and *detached* classes, indicating strong emotional closeness and sharing values and attitudes between grandparents and grandchildren but a lack of in-person contact due to geographic distance. Given that most typology studies of intergenerational solidarity have focused on adult children and their older parents in later life (Hwang et al., 2022; Barrett & Gunderson, 2021; Mueller et al., 2002), our findings expand the spectrum of the intergenerational solidarity paradigm to include grandparent-grandchild relationships when grandchildren are in emerging adulthood.

We found two noteworthy characteristics of intergenerational relationships between young adults and their grandparents when young adults are in emerging adulthood. First, more

than half of young adults had a *detached* relationship with their grandparents. Given that most young adults in emerging adulthood live separate from their parents for academic and employment reasons (Arnett, 2014), we speculate that young adults may have less opportunity to interact with their grandparents during emerging adulthood. Second, more young adults in emerging adulthood have close relationships with grandmothers than grandparents, consistent with previous studies (Dubas, 2001; MaloneBeach et al., 2018; Silverstein & Marenco, 2001). Although we found the same intergenerational solidarity types with grandmothers and grandfathers, more young adults had a *detached* relationship with grandfathers than grandmothers and more young adults had a *tight-knit* relationship with grandmothers than grandfathers. Consequently, our findings indicate that grandparents' gender still matters in grandparent-grandchild relationships when grandchildren are in emerging adulthood.

We hypothesized that young adults who had strong solidarity with their grandparents in emerging adulthood would be more likely to provide instrumental and emotional support to their parents during established adulthood, compared to those with weak solidarity with grandparents during emerging adulthood. Our findings support this hypothesis. Given research showing that grandchildren's early contact with grandparents strengthened their attitudes toward support for older parents (Silverstein & Parrott, 1997), our findings extend the life course perspective on family solidarity to the adult years of grandchildren and offers an application of the intergenerational interdependence framework (Monserud, 2008) with respect to behavioral responses to older parents.

Contrary to expectations, providing instrumental and emotional support to parents in established adulthood were not significantly different between *detached* and *intimate-but-geographically distant* relationships with grandparents in emerging adulthood. Given that the main differences between *tight-knit* and *intimate-but-geographically distant* classes are geographic proximity and frequency of in-person contact, our findings indicate that these two dimensions of solidarity (structural and associational) play an important role in differentiating grandparent-grandchild relationships.

We speculate that young adults' *tight-knit* relationships with grandparents may have been influenced by their own parents' *tight-knit* relationships with those grandparents. In other words, it is possible that young adults as children witnessed their parents caring for their older grandparents making the former more likely to support their parents—the so-called demonstration effect of modeling desired behavior to one's children (Stark & Cukrowska-Torzewska, 2018). We recommend that future studies address the transmission of intergenerational solidarity from grandparent-parent dyads to parent-grandchild dyads over the family life course (Hank et al., 2017).

Finally, we dropped small numbers of stepgrandparent-child and adoptive grandparent-child relationships from our analysis. As a result, we were not able to identify variation in grandparent-grandchild relationships across complex multigenerational families. We hope that future studies will be able to identify whether the process we identified holds in various configurations of three generational step-families. It would also be fruitful if relationships

with grandparents in maternal and paternal lines of descent can be compared within the same families.

Limitations

This study has several limitations that merit mentioning. First, the LSOG did not include a measure for normative solidarity, or filial norms, for grandchild-grandparent relationships. For this reason, we were not able to use all seven dimensions of intergenerational solidarity with grandparents in the analysis. Second, the LSOG did not include any measure of grandparents' perceived solidarity with grandchildren. Therefore, we relied on young adults' reports of intergenerational solidarity with grandparents. For this reason, our findings may include biased patterns of grandparent-grandchild solidarity. Third, the LSOG did not measure participants' experiences with grandparents prior to age 16. As a result, we were not able to investigate the transition patterns of grandchildren's intergenerational solidarity with grandparents from childhood to emerging adulthood. However, we note that research has shown life-span continuity in that emotional closeness with grandparents in childhood resulted in closer relations to grandparents in emerging adulthood (Geurts et al., 2012). Fourth, the LSOG underrepresented minority and low-income families and overrepresented residents in Southern California. Consequently, our findings should be carefully interpreted because the LSOG does not represent the national population.

Implications

Family nursing provides care to the wider family as a care unit. The family, in conjunction with nurses, set health goals with the patient (Anderson, 2000). The family nursing approach can be used to identify areas of concern and strength within the family, to consider resources available within the family and around the family in the community, and to develop a nursing care plan that documents family outcomes and family nursing interventions (Anderson, 2000; Bell, 2009; Iecovich, 2008). A review of the extant literature reveals that as a practice, family nursing focuses primarily on younger families or families providing care to pediatric patients. Although there are some applications for adults with chronic illness, few publications investigate family nursing as it relates to elder caregiving (Esandi et al., 2021; Phinney, 2006; Phinney et al., 2013; Qi et al., 2021).

In family caregiving of aging parents, familial support and sharing of care activities with the primary caregiver, often the spouse or one of the adult daughters of the older patient, empowers and enables the primary caregiver to provide care to the aging parent (Lin & Wolf, 2020; Tolkacheva et al., 2011). Too often, families find themselves in unknown territory when a parent develops acute or chronic age-related conditions that necessitate caregiving, and many families provide care in the absence of adequate support and guidance from an experienced third party (Cameron, 2021). For too many family caregivers, this means providing care in isolation, without support from the other members of their family, if not in conflict with them, as everyone in the family struggles with the realities of the increasing and ever-changing needs of the parent as they age (Checkovich & Stern, 2002). Understanding the importance and availability, or lack of availability, of supportive relationships within an older adult's family can enable family nurse practitioners to address

or reduce these conflicts, and to bring in appropriate community resources to supplement or strengthen those relationships and reduce caregiver isolation (Lee et al., 2022).

Our findings demonstrate that having a closer relationship with one's grandparents in young adulthood increases the likelihood of providing support to one's aging parents later in life, but these relationships may first lead to greater involvement in that grandparents' care in later life. We have little understanding of the roles that grandchildren play in the care of their aging grandparents, or in supporting family caregivers in their parents' generation, as the family orients itself around the care of its oldest members. Family nursing practice has the potential to build on the strengths of these intergenerational relationships and to develop intergenerational supports within the extended family for the older adult and their primary caregiver. Developing these additional supports can decrease caregiver isolation and caregiver burden, particularly when the family is dealing with chronic conditions like dementia, and improve quality of life for the caregiver and the person receiving care (Chiao et al., 2015; Iecovich, 2008; Lee et al., 2022).

Previous research has shown that eldercare norms (recognition of duties and obligations that adult children have toward their aging parents) influence caregiving behavior (Silverstein et al, 2006). Thus, norms may serve as a mediating factor that builds the obligation to provide care for one's parents in need. Considering such an indirect pathway by which relationships with grandparents build elder-friendly attitudes will lead to a better understanding of intergenerational relationships and family dynamics and provide insight into available resources and support for both care recipients and their family caregivers as they navigate this latter stage of the family life course. By developing a better understanding of intergenerational relationships, adult child caregiving needs, and caregiving behavior, family nursing, as an approach to care management of older patients, could improve the situation for the older patient and their family caregivers by adopting a family systems approach and treating the family as the unit of care (Lin & Wolf, 2020; Nyirati et al., 2012).

Conclusion

Family nursing and family-focused care of older adults can be improved by including intergenerational solidarity measures in the family assessment process. Currently, prevailing models for client assessment in family nursing include the Calgary Family Assessment Model, which collects information about family composition, gender, rank order, subsystems, boundaries, and external structures like extended family and larger systems (Wright & Leahey, 2013). The answers to these questions can be incorporated within a family diagram or genogram (Butler, 2008), providing salient information about family structure and the supports and resources available to older adults and their potential caregivers.

As our findings indicate, an assessment of family history, and indirectly family culture, would be useful given its potential influence on the availability of contemporary family care by adult children. The influence of grandparents on their grandchildren, and of grandchildren's involvement in family caregiving for older generations in the family, may well increase given that exposure to grandparents has grown with lengthening life

expectancies and better health in the oldest generations. The percent of young adults in the United States living in multigenerational households that include grandparents has reached 20% (Cohn & Passel, 2018). It is likely that this percentage, as well as the general influence of grandparents, will continue to rise as a result of population aging and the need for surrogate and supplemental care of younger generations. Together these trends argue for the enhanced importance of grandparental ties in the family mobilization of intergenerational caregiving activities.

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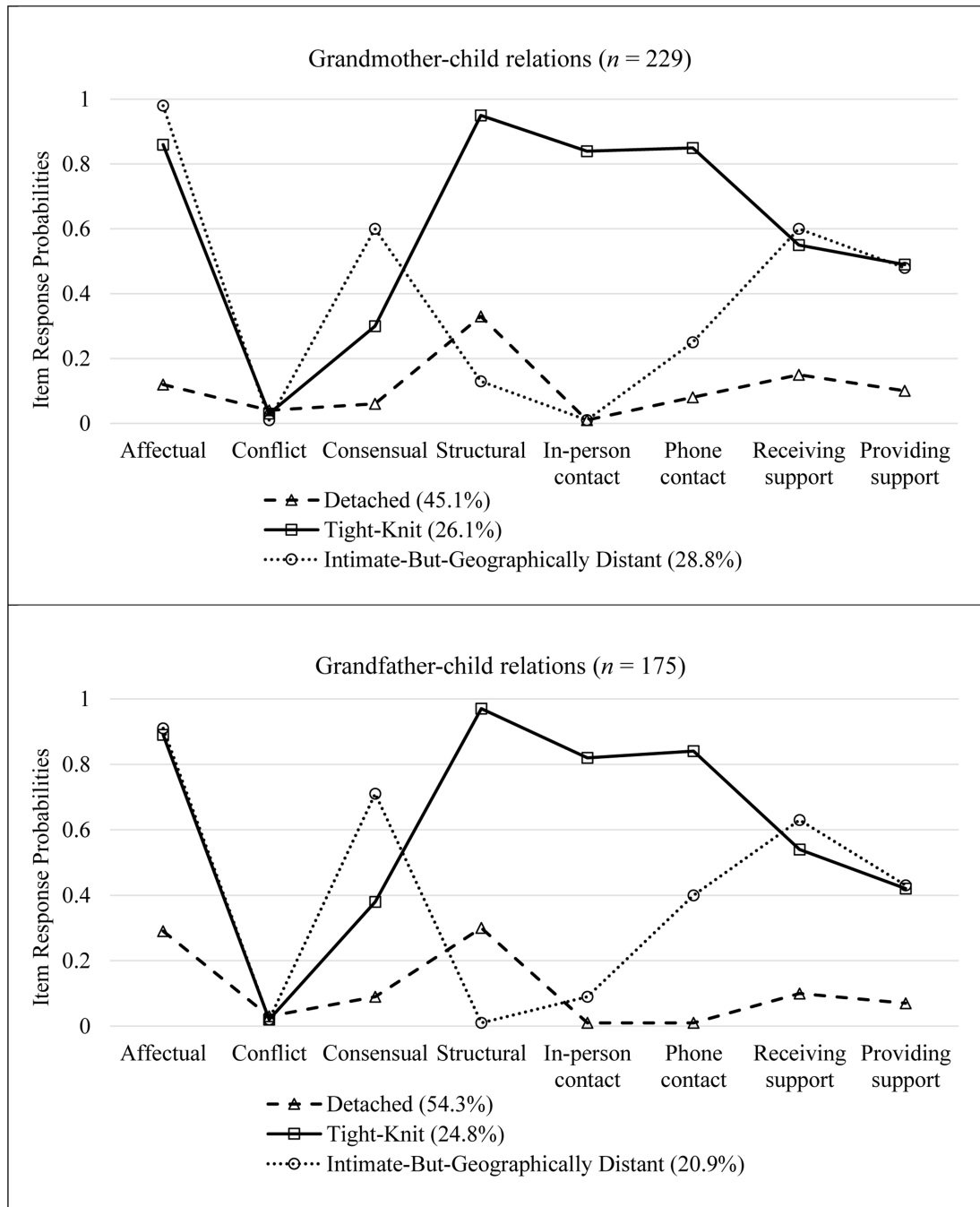


Figure 1. Item response probability plot in grandmother-child (top) and grandfather-child (bottom) relations.

Table 1

Information about Participants' Grandparents and Parents in the 2000 Survey

Variables	Grandmother-child relations (<i>n</i> = 229)	Grandfather-child relations (<i>n</i> = 175)
	<i>n</i> (%)	<i>n</i> (%)
Grandmothers		
Paternal line biological grandmothers	100 (43.7)	-
Maternal line biological grandmothers	129 (56.3)	-
Grandfathers		
Paternal line biological grandfathers	-	82 (46.9)
Maternal line biological grandfathers	-	93 (53.1)
Mothers		
Biological mothers	219 (95.6)	166 (94.9)
Adoptive mothers	0 (0.0)	0 (0.0)
Stepmothers	7 (3.1)	5 (2.9)
Former stepmothers	2 (0.9)	1 (0.6)
Missing	1 (0.4)	3 (1.7)
Fathers		
Biological fathers	205 (89.5)	154 (88.0)
Adoptive fathers	2 (0.9)	3 (1.7)
Stepfathers	12 (5.2)	13 (7.4)
Former stepfathers	4 (1.7)	-
Missing	6 (2.6)	5 (2.9)

Table 2

Descriptive Results of Demographic and Study Variables

Variables	Grandmother-child relations (<i>n</i> = 229)		Grandfather-Child Relations (<i>n</i> = 175)		
	Range	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)
Age in 2000	18 – 29		22.67 (3.10)		22.44 (2.99)
Gender in 2000					
Male		102 (44.5)		78 (44.6)	
Female		127 (55.5)		97 (55.4)	
Race in 2000					
White		224 (97.8)		173 (98.9)	
Other racial groups		5 (2.2)		2 (1.1)	
Education in 2016	1 – 8		5.70 (1.30)		5.67 (1.32)
Annual income in 2016	1 – 21		11.13 (5.67)		10.98 (5.58)
Marital status in 2016					
Married/Cohabitate		188 (82.1)		143 (81.7)	
Others		41 (17.9)		32 (18.3)	
Affectual solidarity with mothers in 2000	1 – 6		4.54 (1.30)		4.56 (1.31)
Affectual solidarity with fathers in 2000	1 – 6		3.93 (1.46)		3.86 (1.43)
Parents' health status in 2016					
Healthy mothers		155 (67.7)		116 (66.3)	
Unhealthy mothers		74 (32.3)		59 (33.7)	
Healthy fathers		142 (62.0)		105 (60.0)	
Unhealthy fathers		87 (38.0)		70 (40.0)	
Intergenerational solidarity with grandmothers/ grandfathers in 2000					
Low affectual solidarity		74 (32.3)		48 (27.4)	
High affectual solidarity		102 (44.5)		74 (42.3)	
Low conflict		203 (88.6)		152 (86.9)	
High conflict		6 (2.6)		5 (2.9)	
Low consensual solidarity		155 (67.7)		116 (66.3)	
High consensual solidarity		63 (27.5)		50 (28.6)	
Low structural solidarity		127 (55.5)		100 (57.1)	
High structural solidarity		101 (44.1)		71 (40.6)	
Low in-person contact		176 (76.9)		134 (76.6)	
High in-person contact		52 (22.7)		39 (22.3)	
Low phone contact		150 (65.5)		120 (68.6)	
High phone contact		72 (31.4)		50 (28.6)	
Low receiving support		140 (61.1)		118 (67.4)	
High receiving support		89 (38.9)		57 (32.6)	
Low providing support		157 (68.6)		134 (76.6)	
High providing support		72 (31.4)		41 (23.4)	

Variables	Grandmother-child relations (<i>n</i> = 229)			Grandfather-Child Relations (<i>n</i> = 175)	
	Range	<i>n</i> (%)	<i>M</i> (<i>SD</i>)	<i>n</i> (%)	<i>M</i> (<i>SD</i>)
Providing support to parents in 2016					
Instrumental support to mothers	1 – 8		1.89 (.98)		1.89 (.99)
Emotional support to mothers	1 – 8		3.70 (1.60)		3.72 (1.58)
Instrumental support to fathers	1 – 8		1.54 (.83)		1.54 (.88)
Emotional support to fathers	1 – 8		2.79 (1.45)		2.78 (1.44)

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Table 3

Latent Class Analysis Statistics and Fit Indices

Classes (n)	Grandmother-child relations (<i>n</i> = 229)			Grandfather-child relations (<i>n</i> = 175)		
	BIC	CAIC	Entropy	BIC	CAIC	Entropy
1	2028.41	2036.41	-	1486.48	1494.48	-
2	1872.78	1889.78	.79	1344.88	1361.88	.82
3	1831.88	1857.88	.80	1340.95	1366.95	.82
4	1841.50	1876.50	.81	1353.83	1388.83	.84
5	1863.18	1907.18	.79	1370.68	1414.68	.87
6	1894.436	1947.43	.77	1402.03	1455.03	.82

Note. Bolded values indicate best fit for each respective statistic. BIC = Bayesian Information Criterion. CAIC = Consistent Akaike Information Criterion.

Table 4

Path Coefficients Predicting Support to Parents Based on Solidarity Class Membership in Relations with Grandmothers and Grandfathers.

	Model A Grandmother-child relations (n = 229)				Model B Grandfather-child relations (n = 175)			
	Instrumental support to mothers W9	Emotional support to mothers W9	Instrumental support to fathers W9	Emotional support to fathers W9	Instrumental support to mothers W9	Emotional support to mothers W9	Instrumental support to fathers W9	Emotional support to fathers W9
	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)	b (se)
$\chi^2(df)$		87.03 (38)				61.95 (38)		
CFI		.94				.95		
RMSEA		.07				.06		
Class Memberships (reference: <i>detached</i> with grandmother/grandfather W7)								
<i>Tight-knit</i> with grandmother/grandfather W7	.26 (.15) [†]	.52 (.25) [*]	.35 (.15) [*]	.47 (.23) [*]	.35 (.17) [*]	.94 (.29) ^{**}	.37 (.18) [*]	.58 (.27) [*]
<i>Intimate-but-geographically distant</i> with grandmother/grandfather W7	-.15 (.15)	-.15 (.26)	.09 (.15)	.40 (.24)	-.05 (.20)	-.01 (.34)	-.04 (.20)	.11 (.31)
Control variables								
Female W7	.10 (.11)	.64 (.19) ^{**}	-.08 (.11)	.10 (.17)	.04 (.13)	.38 (.23)	-.17 (.14)	-.02 (.21)
White W7	.21 (.26)	-1.18 (.44) ^{**}	-.23 (.26)	.55 (.40)	-1.20 (.63)	-3.25 (1.08) ^{**}	-.72 (.65)	-2.02 (.98) [*]
Education W9	.00 (.04)	.02 (.07)	-.05 (.04)	-.00 (.07)	.01 (.05)	.03 (.09)	-.03 (.05)	.04 (.08)
Annual income W9	-.00 (.01)	.02 (.02)	-.00 (.01)	.01 (.01)	-.02 (.01)	-.00 (.02)	-.01 (.01)	.00 (.02)
Married/Cohabitate W9	-.28 (.16)	-.59 (.27) [*]	.03 (.16)	-.24 (.25)	-.24 (.19)	-.36 (.32)	-.05 (.19)	-.05 (.29)
Maternal line grandmothers/grandfathers W7	.16 (.11)	.00 (.20)	.06 (.12)	-.07 (.18)	-.01 (.14)	-.29 (.24)	-.12 (.15)	-.49 (.22) [*]
Biological mothers W7	-.27 (.34)	.73 (.59)	.48 (.35)	1.27 (.53) [*]	-.23 (.37)	1.31 (.62)	.75 (.47)	1.65 (.71) [*]
Biological fathers W7	.02 (.22)	-.12 (.38)	.00 (.22)	.18 (.34)	.03 (.23)	-.41 (.40)	.05 (.21)	-.05 (.33)
Affectual solidarity with mothers W7	.09 (.05)	.24 (.08) ^{**}	-.08 (.05)	-.19 (.07) [*]	.08 (.05)	.21 (.10) [*]	-.07 (.06)	-.18 (.09) [*]

	Model A Grandmother-child relations (n = 229)			Model B Grandfather-child relations (n = 175)				
Affectual solidarity with fathers W7	-.09 (.04)*	-.00 (.07)	.04 (.04)	.37 (.06)***	-.15 (.05)**	-.06 (.09)	.00 (.05)	.29 (.08)***
Unhealthy mothers W9	.29 (.12)*	.51 (.21)*	.10 (.12)	.05 (.19)	.23 (.14)	.45 (.24)	.21 (.15)	.29 (.22)
Unhealthy fathers W9	-.21 (.11)	-.22 (.20)	-.12 (.12)	-.22 (.18)	-.21 (.13)	-.13 (.23)	-.15 (.14)	-.20 (.21)

Note. W7 = 2000 survey. W9 = 2016 survey.

† $p = .08$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.