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**Using the intergenerational solidarity framework to understand the grandparent–  
grandchild relationship: A scoping review**

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## **Abstract**

Intergenerational interactions and exchange are major components of grandparenting, and the present study sought to examine how the intergenerational solidarity framework has been used to investigate grandparenting practices across the lifespan and in different cultures. This framework is widely used across cultures and provides a basis to discuss the future of grandparenting research, considering cultural intermingling and changes in society. Following PRISMA-ScR guidelines, we searched three databases (PsycInfo, PubMed, Web of Science). Finally, 42 empirical studies that met the inclusion criteria were included in this scoping review. They were published between 1991 and 2020 and assessed intergenerational solidarity between grandparents and their grandchildren. Our findings show that research on grandparenting based on the intergenerational solidarity framework has increased in the last 30 years, and that this model provides a comprehensive approach to studying grandparenting across the lifespan in different cultures. The present study identified cross-cultural differences in the prevalence of the types of intergenerational solidarity. Affectual solidarity was shown to be the most studied dimension of intergenerational solidarity in North America, Europe and Israel while normative solidarity was the most represented in Asian studies. The only Australian study investigated affectual and functional solidarity. This model is thus suitable for studying grandparenting, but further studies are needed to investigate changes in intergenerational solidarity between grandparents and their grandchildren at different stages of development and account for cultural specificities.

*Keywords:* Intergenerational solidarity; grandparenting; grandchildren; intergenerational relationships; scoping review

# **Using the intergenerational solidarity framework to understand the grandparent–grandchild relationship: A scoping review**

## **Grandparenting**

From grandparenting children in multiple generation households to grandparenting independent adults, the role of grandparent is multifaceted. Grandparenting has attracted considerable research attention, and a comprehensive approach that can integrate all these facets is necessary. As health and life expectancy increase, grandparents are now able to be more involved in their family life and for longer (MaloneBeach et al., 2018). Numerous factors influence grandparent-grandchild relational and emotional closeness (e.g., lineage, age, health, contact frequency, personality) (see Duflos et al., 2020, for a review). It would thus be interesting to investigate how the grandparent-grandchild relationship develops across the lifespan.

The first role of grandparents is to care for their grandchildren, either in their daily life or in more specific occasions. In a literature review, Allen et al. (2019) reported that grandparents caring for their grandchildren is the most studied topic in grandparenthood studies. Some grandparents live with their grandchildren (Dunifon et al., 2014; Freeman et al., 2019), with or without the parents. If skipped-generation households are extremely rare in Europe (Masfety et al., 2019), they are common in Asian (Xu, 2019) and Sub-Saharan (Parker & Short, 2009) cultures, leading to a greater diversity of the grandparenting role across cultures. In Europe, grandparents often look after their grandchildren to support the parents and allow them to pursue their careers, but without necessarily being the primary caregiver (Bordone et al., 2017).

Once the grandchildren go to school and become more autonomous, the grandparents' role may become less intense in terms of child-care, and the grandparent-grandchild relationship becomes more equal, based on listening to each other and affectionate

communication (Mansson, 2017). Adolescents expect their grandparents to help them socialize by teaching them pro-social behavior, self-control, independence and how to enjoy life (Giraudeau et al., 2020).

In adulthood, it is the grandchildren who support their grandparents, possibly becoming their primary caregivers (Fruhauf et al., 2006; Piercy & Chapman, 2001; Ross & Aday, 2006; Soliz et al., 2006). In the United States, among adults aged 50 and older, approximately 86% receive care from a family member and 8% of those family caregivers are grandchildren (National Alliance for Caregiving, 2015) while in England, 4% of informal family caregivers are grandchildren (The Health and Social Care Information Centre, 2010). Moreover, normative solidarity through the sense of filial responsibility, influences the likelihood of descendants to provide care to their parents and grandparents (Donorfio & Kellett, 2006), suggesting that in cultures centered on family values grandchildren are more likely to act as caregivers for their grandparents.

When a grandparent is unable to live alone or has increasingly severe health problems, such as dementia (Celdrán et al., 2011; Even-Zohar, 2011; Miron et al., 2017), the younger generation often support the older generation, leading to relationship adjustments (Even-Zohar, 2011). How a family deals with the ill-health and death of a grandparent is a major issue, especially when it concerns a custodial grandparent who experiences a loss of autonomy and is afraid of being a burden on their grandchildren (Taylor et al., 2019). Several theories are commonly used to understand the grandparent-grandchild relationship using an ecological (family ecological theory, Bronfenbrenner, 1979), a systemic (family system theory, Minuchin, 1974, 2002; family stress and resiliency theory, McCubbin & Patterson, 1983) or a lifespan (Life course theory, Elder, 1998) perspective (see Allen et al., 2019 for a review). The intergenerational solidarity theory, grounded in the social exchange theory (Homans, 1950), is at the cross-roads of those theories which bring a complementary

perspective on grandparenting. Given the diversity of experiences across the lifespan, it is important to understand how intergenerational exchange of solidarity evolves and shapes relationships.

### **Intergenerational solidarity framework**

Intergenerational relationships are complex (Amato & Booth, 1997; Szinovacz, 1998), highlighting the need to understand their specific characteristics. The framework proposed by Bengtson and Roberts (1991) provides one way of interpreting these relationships. This model is based on studies in sociology and social psychology and was revised in 2001. In 1998, Silverstein et al. applied this model specifically to grandparenting, encouraging its use by researchers in family psychology and for research on grandparenting in general. They defined intergenerational solidarity as "sentiments and behaviors that link family members across generations" (p. 144), and given the multiple types of interactions in the grandparent-grandchild relationship, in line with Bengtson's work, they stressed the need to investigate the multi-dimensional aspects of grandparenting.

The intergenerational solidarity framework focuses on six dimensions of solidarity (i.e., affectual solidarity, associational solidarity, consensual solidarity, functional solidarity, normative solidarity, structural solidarity) (Bengtson & Mangen, 1988; Bengtson & Roberts, 1991; Bengtson & Schrader, 1982; Roberts, Richards, & Bengtson, 1991). Those six dimensions are issues from previous theories, indeed, interpersonal relationship theories (Heider, 1958; Homans, 1950) is related to affectual, associational and consensual solidarity while Tönnies' work in sociology about normative group commitment and group solidarity (1957) is related to normative, structural and functional solidarity. The six components of intergenerational solidarity are described below:

*Affectual solidarity* refers to feelings of closeness between members of the same family and their reciprocity. It can be observed through the expression of emotional closeness and by mutual affection.

*Associational solidarity* refers to different types and patterns of contact and interactions between members of the same family. It can be observed through frequency of contact and shared activities.

*Consensual solidarity* refers to the concordance of opinions, values, and beliefs between members of the same family. It can be observed through the sense of sharing family identity, the perception of sharing the same values and beliefs, or through common political and community commitments.

*Functional solidarity* refers to mutual help between generations, financial or non-financial, instrumental (e.g., cooking, doing housework, fetching groceries) or emotional (e.g., listening attentively, expressing empathy, valuing the other person). It can be observed through received and given support, or through the time that members of a family have for each other.

*Normative solidarity* refers to expectations toward filial and parental duties, and to the sense of obligation related to a person's role within the family and compliance with family norms and values. It can be observed through family-oriented behaviors, respect of filial piety and familial hierarchy, and by the feeling of obligation to care for family members.

*Structural solidarity* refers to opportunities for intergenerational contact facilitated by geographical proximity. It can be observed when family members live near each other or under the same roof, and also through the general health or size of the family.

## **Rationale**

The aim of this study is to examine and synthesize evidence of how the intergenerational solidarity framework (Bengtson & Roberts, 1991) has been used to identify grandparenting practices across the lifespan and in different cultures. This study should help

researchers, practitioners and families to better understand the canonical and specific aspects of grandparenting in order to recognize its most current facets but also cultural specificities. The choice of a scoping review was made because it is suitable for preliminary research on a given topic, taking a broad view, and covering a variety of research designs (Levac et al., 2010). It seemed to be the most appropriate method for conducting the present research due to the diversity of methods reported in the literature, including qualitative analyses, which cannot be included in a meta-analysis, and the scope of this research is too broad for a systematic review.

## **Method**

### **Search strategy**

We applied the methods recommended for scoping reviews (Micah et al., 2015), using the checklist of the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR, Tricco et al., 2019) and the Cochrane Review process (Higgins et al., 2019). Therefore, we conducted an exhaustive search of the literature on grandparenting and the grandparent-grandchild relationship based on the intergenerational solidarity framework (Bengtson & Roberts, 1991), published since 1991. To this end, we conducted an electronic search on PsycInfo, PubMed and Web of Science using the following search terms: ['intergenerational solidarity 'OR 'intergenerational solidarity model' OR 'intergenerational solidarity theory'] AND ['grandparents 'OR 'grandparent 'OR 'grandparenting'] AND ['grandchildren 'OR 'grandchild'].

### **Inclusion and exclusion criteria**

Eligible articles had to be published in English between 1991 and 2020 and to investigate intergenerational solidarity between grandparents and their grandchildren in line with Bengtson and Roberts (1991). Book chapters, reviews and non-empirical articles were excluded from the present review.

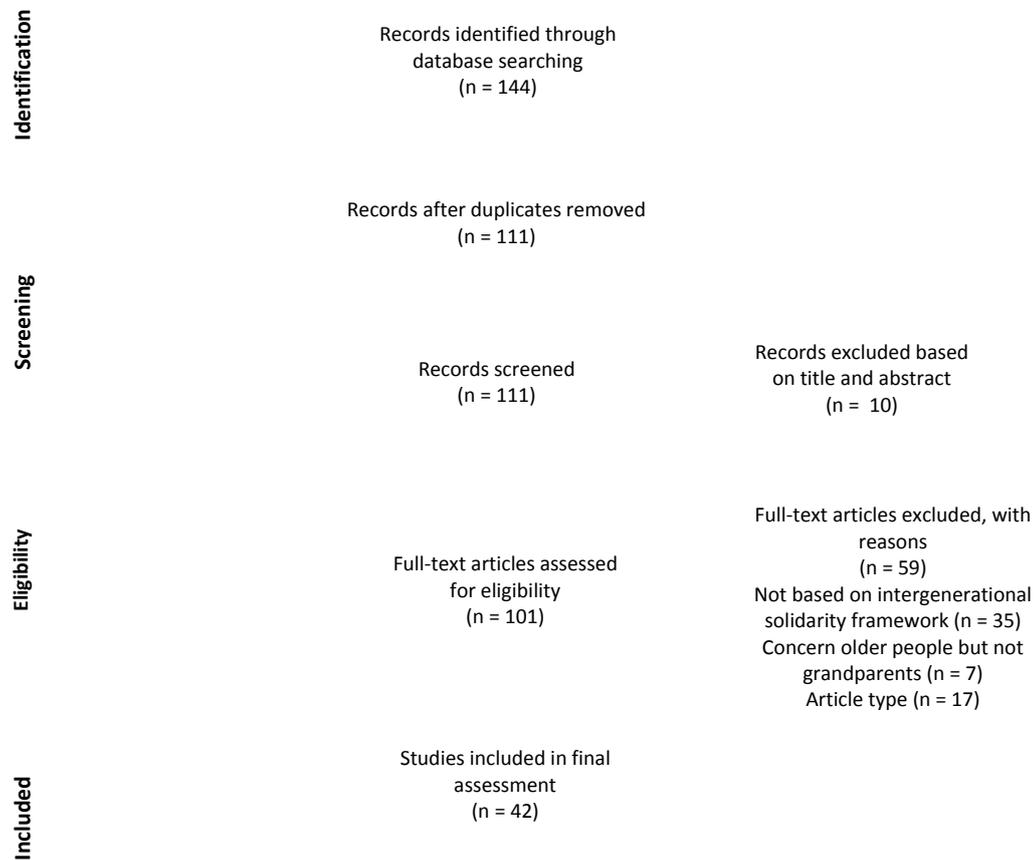
## **Study selection**

The two authors independently screened the titles and abstracts found through databases in a first step, full articles in a second step and then discussed papers for which there was no initial consensus, mainly concerning whether or not to include studies that mentioned intergenerational solidarities but were not grounded on Bengtson's theory. Articles were then screened a second time and were ultimately included if both authors agreed. A total of 144 articles were identified through the electronic database search; 33 duplicates and 10 articles based on titles and abstracts were removed, leaving 101 full texts for analysis. Fifty-nine articles were excluded after reading the full text, giving a final selection of 42 articles. The reasons for excluding or including articles are presented in Figure 1.

**Figure 1.** PRISMA flowchart of Review process.



## PRISMA 2009 Flow Diagram



### Data abstraction and synthesis

For each study, we extracted the following information: author(s), year of publication, country, participants (family role, age and number), theoretical background, and summary of the main results related to intergenerational solidarity. The results were either interpreted in accordance with the intergenerational solidarity framework, or the authors indicated that their research questions or hypotheses were based on this framework. In the former case, we report the results as indicated in the original article, and in the latter case, we had to look further for

the dimension(s) of intergenerational solidarity explored in the paper before formulating the findings in line with this theoretical background.

## **Results**

First, we describe the characteristics of the papers included in the study, and then, we analyze how grandparenting was explained through different dimensions of intergenerational solidarity in these papers.

### **Characteristics of studies**

The main characteristics and results of the 42 studies are summarized in Tables 1 and 2. Most of the studies were quantitative (78.57%), followed by qualitative (14.29%), and finally mixed-method ( $n = 3$ ). Two of the mixed-method studies were based on questionnaires followed by one-to-one interviews, while the third was based on a questionnaire followed by focus group discussions. Among the 42 studies, 26 were cross-sectional and 16 were based on longitudinal surveys. The number of participants varied from 10 to 28,517. Respondents were grandparent-grandchild dyads ( $n = 11$ ), only grandparents ( $n = 13$ ), only grandchildren ( $n = 11$ ), grandchildren and their parents ( $n = 2$ ), adults with no specific role ( $n = 2$ ), adults with no specific role associated with grandparents ( $n = 1$ ), teacher and parents ( $n = 1$ ), or entire household ( $n = 1$ ).

**Table 1.** Methodological characteristics of the studies.

	N (%)
<b>Methodology</b>	
Quantitative	33 (78.57)
Qualitative	6 (14.29)
Mixed methods	3 (7.14)
<b>Research design</b>	
Cross-sectional	26 (61.90)
Longitudinal	16 (38.09)
<b>Respondents</b>	
Grandparents	13 (30.95)
Grandchildren	11 (26.19)
Grandparents and grandchildren	11 (26.19)
Grandchildren and parents	2 (4.76)
Adults (no specific role mentioned)	2 (4.76)
Adults (no specific role mentioned) and grandparents	1 (2.38)
Teacher and parents	1 (2.38)
Household	1 (2.38)

In each study, we looked for results that were interpreted or that could be interpreted by the intergenerational solidarity framework. Each occurrence of intergenerational solidarity was reported in Table 2 and percentages of each form of intergenerational solidarity studied in each culture are shown in Figure 2. Affectual solidarity (32.53%) was the most studied type of intergenerational solidarity, followed by normative solidarity (20.48%), functional solidarity (16.87%), associational solidarity (15.66%) followed by consensual (7.23%) and structural (7.23%) solidarity. 26 components of intergenerational solidarity were not labelled in the selected studies, therefore, we identified them during the review process and marked them in Table 2.

**Table 2.** Synthesis of the articles included in the review.

Author(s) (Year)	Population	Methods	Complementary Theories	Findings related to Bengtson's framework	Country	Database
Albuquerque (2011)	Co-resident GP [32-84] Longitudinal study	Quantitative - questionnaire	NA	<b>Structural solidarity*</b> : A high proportion of multigenerational households included GP and GC. More grandmothers than grandfathers were found to live with adult GC. No age effect was identified.	Portugal	Web of Science
Attar-Schwartz (2015)	GC: $N=1.405$ [12-18]	Quantitative - questionnaire	Family Systems Theory (Lussier et al., 2002; Minuchin, 2002);	<b>Affectual solidarity</b> : Emotional closeness to the closest grandparent was more strongly associated with reduced adjustment difficulties among adolescents with higher levels of emotional closeness to their parents, which also mediated adolescent adjustment and emotional closeness to parents.	Israel	Psycinfo; Pubmed; Web of Science
Attar-Schwartz & Fuller- Thompson (2017)	GC: $N=1.050$ [12-18]	Quantitative - questionnaire	Parent-as-Mediator Theory (Robertson, 1975); Kin keeper theory (Dubas, 2001)	<b>Affectual solidarity</b> : Adolescents from custodial-mother families reported lower levels of closeness to their paternal grandmothers but it was no longer significant after controlling the relationship quality between the mother and the paternal grandmother. In custodial-mother families, paternal grandmother's involvement was more strongly associated with adolescents' increased emotional closeness to the grandmother. The link between father-paternal grandmother relationship and adolescent's closeness to the grandmother was stronger in intact families.	Israel	Psycinfo; Web of Science
Chen, Liu, & Mair (2011)	4.400 households of GP ( $M_{age}=59.40$ ) with GC [0-6] ( $N\approx 19.000$ ) Longitudinal study	Quantitative - questionnaire	Life course perspective (Elder, 1998)	<b>Structural solidarity</b> : In skipped-generation households, GP provided as much care to their GC as parents. <b>Functional solidarity</b> : Intergenerational co-residence strengthened functional solidarity, as GP were more likely to spend time caring for their GC. <b>Normative solidarity*</b> : Looking after their GC in line with the importance of filial piety toward GP in Chinese culture.	China	Pubmed; Web of Science
Chun & Lee (2006)	5 dyads (GM aged over 65 and GC aged over 19) from Korean migrant families	Qualitative – semi- structured interviews	NA	<b>Affectual solidarity</b> : Generation gap and cultural difference limited affectual solidarity but participants recognized caring for each other as proof of affection and mutual concern. <b>Associational solidarity</b> : Language barrier hindered spending time together, participating in shared activities and communicating. <b>Consensual solidarity</b> : Cultural differences increased the gap regarding the sense of filial piety and hierarchy within the family. <b>Functional solidarity</b> : GM cooked	US	Psycinfo

				meals and did the housework and GC took grandmothers in the car although some found driving stressful and too much of a responsibility. <b>Normative solidarity:</b> GM considered themselves as guardians and caretakers of their GC, but GC thought they exceeded the limits of their role. <b>Structural solidarity:</b> Residential proximity and common religion practice was seen as improving closeness.		
Cooney & Smith (1996)	GC: $N=589$ [18-23]	Qualitative - two-year follow-up interviews	NA	<b>Affectual, associational and functional solidarity</b> with maternal or paternal GP was not associated with parental divorce.	US	Psycinfo; Pubmed; Web of Science
Even-Zohar (2011)	216 dyads (adult GC, $M_{age}=24.9$ ; GP, $M_{age}=78.3$ )	Quantitative - questionnaire	NA	<b>Associational Solidarity:</b> Frequency of telephone contact with GC was higher among independent than frail and dependent GP who needed partial or full-time assistance. <b>Affectual and associational solidarity:</b> GP considered the affectual dimension and provision of assistance by their GC to be related to frequency of contact. Affectual solidarity was seen as a necessary condition for GC to maintain contact with their GP and provide functional assistance, whereas the consensual dimension was not essential.	Israel	Psycinfo
Even-Zohar & Sharlin (2009)	216 dyads (adult GC, $M_{age}=24.9$ ; GP, $M_{age}=78.3$ )	Quantitative - questionnaire	Symbolic Interaction Theory (LaRossa & Reitzes, 1993; White & Klein, 2002); Social Exchange Theory (Homans, 1958);	<b>Functional solidarity:</b> Provision of care by GC related to support they received in their childhood. <b>Normative solidarity:</b> Adult GC internalized norms and behavior patterns of parents and filial obligations and responsibility. <b>Structural solidarity:</b> The main predictor of GP-GC contact was geographical distance.	Israel	Psycinfo; Web of Science
Goodman & Silverstein (2001)	243 caregiver GM (including 9 great grandmothers) [38-81]	Quantitative - questionnaire	Family Systems Theory and Cohesiveness (Moos, 1990; Tavitian et al., 1987)	<b>Affectual solidarity*:</b> Greater emotional closeness with the parent and GC was associated with greater life satisfaction and well-being among GM caregivers.	US	Web of Science
Hakoyama, Ko, & MaloneBeach (2020)	GC: $N=470$ [18-27]	Quantitative - questionnaire	Social Learning Theory (Bandura, 1977)	<b>Consensual and affectual solidarity:</b> GC's values were more similar to maternal than paternal GP (more significantly among granddaughters). The effect of lineage was more significant for grandsons than for granddaughters as GF had more influence on grandsons' moral and leisure values. For grandsons, only closeness with their maternal GF significantly predicted value similarity.	US	Web of Science

Han, Whetung, & Mao (2019)	Parents and teachers of elementary school children who live in co-residential families (N=1,763)	Quantitative - questionnaire	NA	<b>Structural solidarity*:</b> GP-GC co-residence was not significantly associated with children's better academic performance nor to better well-being.	China	Psycinfo; Pubmed; Web of Science
Hoff (2007)	GP: Nwave1=1.586 and Nwave2=1.211 [62-85] Longitudinal study	Quantitative - questionnaire	Intergenerational Stake Hypothesis (Giarrusso et al., 1995)	<b>Functional solidarity:</b> There was a greater likelihood of financial transfers to GC in the second wave (6 years after the first), suggesting an effect of age on financial support.	Germany	Psycinfo; Web of Science
Huo, Kim, Zarit, & Fingerma (2018)	GP: Nwave2=198, M <sub>age</sub> =80.19	Quantitative - questionnaire	NA	<b>Affectual solidarity*:</b> GP's affective ties with young adult GC were associated with emotional forms of support such as listening, giving advice, and spending time with them. <b>Consensual solidarity*:</b> Family culture was strengthened when both parents and GP listened, provided companionship, and gave advice to adult GC. <b>Functional solidarity*:</b> Parents' unemployment was associated with greater GP companionship and financial support to adult GC.	US	Psycinfo; Pubmed; Web of Science
Igel & Szydl (2011)	N=28.517 adults aged over 50 Longitudinal study	Quantitative - questionnaire based interviews	NA	<b>Normative solidarity*:</b> GC care was provided in over 50 percent of all GP-GC dyads, with more intensive care by GP in Southern countries than in the North. National welfare, GP's age and health predict care.	Europe	Web of Science
Igel, Brandt, Haberkern, & Szydl (2009)	N=28.517 aged over 50 referring to their parents, children, GC Longitudinal study	Quantitative - questionnaire based interviews	NA	<b>Normative solidarity*:</b> GP were more willing to help with GC care in countries where institutional support structures exist.	Europe	Psycinfo; Web of Science
Ihara, Horio, & Tompkins (2012)	GC: N≈3.000 Longitudinal study	Quantitative - questionnaire	Social Exchange Theory (Homans, 1958)	<b>Affectual and functional* solidarity:</b> Grandsons needed a stronger bond with GP to engage in caregiving than granddaughters. GC needed stronger bonds with GP of the opposite sex to act as caregivers than with GP of the same sex.	US	Web of Science
Ingersoll-Dayton, Tangchonlatip, Punpuing, & Yakas (2018)	GP: N=48 [51-82] with at least one GC in skipped-generation household	Qualitative - open-ended interviews	Intergenerational solidarity and conflict model (Bengtson, Giarrusso, Mabry, & Silverstein, 2002).	<b>Affectual solidarity*:</b> Mutual concern, care and emotional closeness were reinforced in skipped-generation households. <b>Functional solidarity*:</b> In skipped-generation households, GP were likely to provide food, clothes and financial help to their GC. <b>Normative solidarity*:</b> Skipped-generation households increased role confusion, GP often seen as surrogate parents, which can be conflictual.	Thailand	Psycinfo; Web of Science

Jappens & Van Bavel (2016)	GC: <i>N</i> =2.233 [10-25] about 1.149 GP from a longitudinal study	Quantitative - questionnaire	Cultural-contextual structures (Szydlik, 2008)	<b>Associational solidarity:</b> GC with divorced parents have fewer contacts with their GP than GC with married parents due to post-divorce residence arrangements. When GC lived with their divorced father or in a shared residence arrangement, they see paternal GP more often than GC with married parents.	Belgium (Flanders)	Web of Science
Jappens & Van Bavel (2020)	GC: <i>N</i> =1.935 [10-25]	Mixed methods - questionnaire for parents and interview for GC	NA	<b>Affectual solidarity:</b> Lineage predicted closeness between GC with divorced parents and their GP as relationships with maternal GP tended to be closer than those with paternal GP. The strength of relationships with GP was positively associated with the well-being of GC with divorced parents.	Belgium (Flanders)	Web of Science
Kemp (2004)	GP: <i>N</i> =18 [61-91] GC: <i>N</i> =19 [21-36]	Qualitative - interviews	Theory of individualization; Lifecourse Perspective (Elder, 1998)	<b>Normative solidarity:</b> GP adopted a norm of non-interference and unconditional acceptance and support toward their adult GC and value transmission. GC did not mention expectations regarding roles, but being respectful and available for GP was taken for granted.	Canada	Web of Science
Kivett (1996)	GM: <i>N</i> =69, over 65 years old	Quantitative - questionnaire	NA	<b>Associational solidarity:</b> Associational solidarity was a function of the opportunity structure proximity and age of GC. <b>Normative solidarity:</b> Granddaughters observing grandfilial norms was not associated with greater closeness with their GM.	US	Web of Science
Krzyżowski (2011)	Adults: <i>N</i> =1.594 (quantitative study) GP: <i>N</i> =51, over 55 years old (qualitative study)	Mixed methods - quantitative (SHARE) and qualitative (interviews)	NA	<b>Normative solidarity:</b> Sense of family duty for GP is higher than in most European countries and most toddlers are looked after by their GP to help the parents' career.	Poland	Web of Science
Lakomý & Kreidl (2015)	GP: <i>N</i> =6.910, aged over 50 with at least one grandchild who is at least 16 years old, Longitudinal study	Quantitative - questionnaire-based interviews	Theory of Role Conflict (Goode, 1960)	<b>Normative solidarity:</b> The choice between full-time and part-time work was influenced by unmeasured characteristics of the family (such as family cohesion and normative solidarity) that also impact the frequency of grandparental childcare.	Europe	Psycinfo; Pubmed; Web of Science
Lou, Lu, Xu, & Chi (2013)	GP: <i>N</i> =1.027, over 60 years old	Quantitative - questionnaire-based interviews	NA	<b>Functional solidarity*:</b> The GP–parent relationship had a partial mediation effect on the relationship between GP–GC family capital and self-rated health. <b>Affectual* and normative* solidarity:</b> Emotional closeness between GP and GC was associated with perceived filial piety.	China	Psycinfo

Maehara & Takemura (2007)	Dyads of GM [50-86] and their GC in Japan (N=97) and South Korea (N=194)	Quantitative - questionnaire	NA	<b>Normative solidarity:</b> Only the role of socialization agent was associated with country difference, reported more in Korea than in Japan. The norm for assisting GM was higher for both GM and GC in Seoul than in Tokyo. In Seoul, GM's expectations of assistance positively correlated with GC's sense of obligation, which was not the case in Tokyo. In Seoul, the GM role as a socialization agent was positively associated with the norm of assistance for both GM and GC.	Japan & South Korea	Psycinfo; Web of Science
Mann, Khan, & Leeson (2013)	GC: N=351 [4-18] and their parents (only for the demographic questions)	Quantitative - questionnaire	NA	<b>Affectual solidarity:</b> Matrilineal advantage toward maternal GM is less obvious for older GC and even less for older grandsons. Grandsons aged 12 and over are more likely to feel closer with their maternal GF.	UK	Psycinfo
Michels, Albert, & Ferring (2011)	GC: N=155 [12-21]	Quantitative - questionnaire	Ambivalence Approach (Luescher & Pillemer, 1998).	<b>Affectual solidarity:</b> Participants reported more affection/closeness for their maternal GP and felt closer with their GP providing emotional support. <b>Functional solidarity:</b> Material, instrumental and emotional support was associated with "amicable" GP.	Luxembourg	Psycinfo
Mills (1999)	GC [19-55] Longitudinal study	Quantitative - Questionnaire	Role Framework (Rosow, 1985)	Adult role acquisition did not necessarily lead to decline in family cohesion; nor did role loss always result in greater family solidarity. <b>Affectual solidarity:</b> Granddaughters and older GC showed less affectual solidarity with their GF. <b>Associational Solidarity:</b> Granddaughters showed less associational solidarity with their GF than grandsons. <b>Consensual solidarity:</b> Consensual solidarity increased with greater geographic distance from GF.	US	Psycinfo; Web of Science
Mills, Wakeman, & Fea (2001)	GC: N=300 [17-37]	Quantitative - Questionnaire	NA	<b>Affectual solidarity:</b> Emotional bonds were positively associated with GC living at home, in an intact family with both biological parents. The level of affectual solidarity declined with age of GP and GC. <b>Consensual solidarity</b> was affected by parental divorce, and for granddaughters solely, by the number of siblings.	US	Psycinfo; Web of Science
Minkler & Fuller-Thompson (2000)	GP: N=3,197 Longitudinal study	Quantitative - questionnaire -based interviews	Time Disordered Roles (Selzer, 1976)	<b>Functional and normative solidarity:</b> Participants who became caregiving GP in the second wave were younger, more likely to be female and African American, and less educated than non-caregiving GP. Caregiving was associated with more normative beliefs concerning obligations to provide financial assistance or coresident housing when GC are going through difficulties.	US	Pubmed; Web of Science

Monserud (2008)	GC with married biological parents ( $N=442$ ) and GC with unmarried biological parents ( $N=399$ ) [18-23] Longitudinal study	Quantitative – questionnaire-based interviews	Parent-as-mediator Theory (Robertson, 1975)	<b>Affectual solidarity:</b> Parents' relationships with GP and GC were associated with the GP-GC relationship, which was more influenced by mothers than fathers.	US	Psycinfo
Monserud (2011)	GC: $N=1.170$ [10-34] Longitudinal study	Quantitative – questionnaire-based interviews	Role Framework (Rosow, 1985); Intergenerational Similarity Argument (Bengtson & Black, 1973); Family Stress Model (McCubbin & Patterson, 1983)	<b>Associational and affectual solidarity:</b> GP-GC relationship is frequently contingent on the nature of the adult role in question, a specific dimension of intergenerational solidarity (i.e., contact vs. closeness).	US	Psycinfo; Pubmed; Web of Science
Moorman & Stokes (2016)	GP: $N=374$ Adult GC: $N=356$ Longitudinal study	Quantitative - questionnaire	NA	<b>Affectual solidarity*:</b> Dyads displaying high affinity reported fewer depressive symptoms than members of dyads reporting low affinity, and dyads whose affinity increased over time experienced fewer depressive symptoms. <b>Functional solidarity:</b> GP who received functional support from adult GC but did not give support in return reported more frequent depressive symptoms than GP who did not report any support in their relationship.	US	Psycinfo; Pubmed; Web of Science
Schilmoeller & Baranowski (1998)	GP: $N=70$ [43-82] with a GC with disability	Quantitative - questionnaire	NA	<b>Affectual and functional* solidarity:</b> GP support was significantly related to affectional solidarity with both GC and their parents. GP involvement with GC with disabilities was significantly related to affectional solidarity and with educational level of GP and GC.	US	Psycinfo; Web of Science
Silverstein & Long (1998)	GP: $N=2.044$ Longitudinal study	Quantitative - questionnaire	NA	<b>Affectual solidarity:</b> Affection declined over the first 14 years of GC's life and then slowly reversed, but GP's age was positively associated with the level of affection. <b>Associational solidarity*:</b> Contact and proximity declined at an accelerating rate.	US	Psycinfo; Web of Science
Waites (2006)	GP: $N=27$ [45-91]	Mixed methods - questionnaire and focus groups	Life Course Perspective (Elder, 1998)	<b>Associational solidarity*:</b> GP regretted that their GC did not ask them for more advice. <b>Structural solidarity*:</b> GP indicated geographic distance as a brake to closeness with their GC. <b>Normative solidarity*:</b> Generation gap was seen as a source of misunderstanding between expectations toward the GP-GC relationship	US	Pubmed

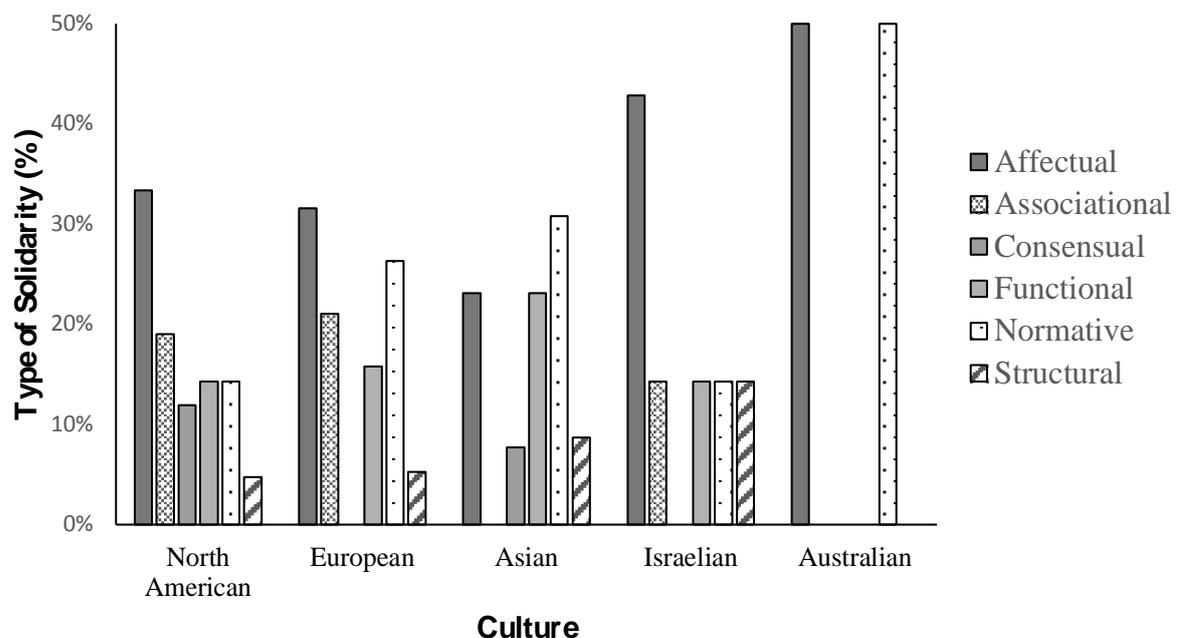
Wetzel & Hank (2020)	GP: <i>N</i> =439 GC: <i>N</i> =494 [16-30] from a longitudinal study	Quantitative – computer-assisted baseline interviews	NA	<b>Affectual solidarity:</b> GP-GC closeness does not change systematically in emerging adulthood, but is characterized by a high degree of temporal stability and independence from the GP–parent relationship. <b>Associational solidarity:</b> GP-GC contact decreases during the transition to adulthood as parents provide fewer opportunities for intergenerational interaction and GC have new responsibilities.	Germany	Web of Science
Williams & Guendouzi (2005)	GP: <i>N</i> =15 [78-90]	Qualitative - interviews	Life-span attachment theory (Bowlby, 1980; Ciccerelli, 1991)	<b>Affectual solidarity:</b> GP felt proud of their GC’s achievements but tried not to be too intrusive. <b>Associational solidarity:</b> Frequency of contact with GC improved GP feeling of closeness with their family, overcoming family problems. <b>Normative solidarity:</b> Being valued in their role within the family is associated with positive emotions among GP.	US	Web of Science
Wise & Onol (2020)	GC: <i>N</i> =208 [18-32]	Quantitative - questionnaire	NA	<b>Affectual* and associational* solidarity:</b> Intergenerational closeness was associated with contact frequency and reduced aging anxiety.	Turkey	Web of Science
Wood & Liossis (2007)	GC: <i>N</i> =119 [17-69], <i>M</i> <sub>age</sub> =24.76	Quantitative - questionnaire	NA	<b>Normative and affectual solidarity:</b> Adult GC considered that GP’s enactment of normative solidarity produced greater emotional closeness.	Australia	Psycinfo; Web of Science
Wyss & Nedelcu (2019)	Adult migrants: <i>N</i> =34 [28-42] years old) GP: <i>N</i> =22 [52-73]	Qualitative – semi-structured interviews	NA	<b>Affectual solidarity:</b> In transnational families, GP’s visits aim to build relationships. <b>Associational solidarity:</b> GM visit mothers who give birth for a few months around the delivery in order to build a strong relationship. <b>Functional solidarity:</b> GM take on most childcare and domestic tasks when they visit their family.	Switzerland	Web of Science
Xu & Chi (2018)	GC: <i>N</i> =1.843 [16-48] GP: <i>N</i> =926 [60-95] Longitudinal study	Quantitative - questionnaire	Social Exchange Theory (Homans, 1958)	<b>Consensual solidarity*:</b> More GP received support from than provided support to their GC. A higher percentage of older adults exchanged support with GC from their eldest child, particularly if that child was male. <b>Affectual solidarity*:</b> Older GP who had strong emotional bonds with their own children, especially sons, or had experience caring for GC, were more likely to receive support from and provide support to their GC.	China	Psycinfo; Web of Science

*Note.* GP=Grandparents, GC=Grandchildren, GM=Grandmothers, GF=Grandfathers. \* = components of intergenerational solidarity that were not identified in accordance with Bengston’s model in the original studies (*N* = 26).

Another important characteristic of the papers based on intergenerational solidarity theory is the variety of cultures represented. In this study, the word “culture” refers to specific

regions of the world as countries and continents were the closest indications of a culture that were present in demographic data included in the studies. This split does not reflect multiculturalism within families and migratory flows that restructure family dynamics but it allows us to compare studies on a common basis. Among the 42 studies included in this review, 17 were conducted in North America (USA = 16; Canada = 1), 13 in Europe (European studies = 3; Belgium = 2; Germany = 2; Luxembourg = 1; Poland = 1; Portugal = 1; Switzerland = 1; Turkey = 1; UK = 1), 6 in Asia (China = 4; Thailand = 1; Japan and South Korea = 1), 4 in Israel, and one in Australia. Figure 2 illustrates the dimensions of family solidarity measured in each culture. In figure 2, we can see that affectual solidarity is the most studied intergenerational solidarity in North America, Europe and Israel. In the Australian study, affectual and normative solidarity are equally represented. In contrast, in Asian studies, normative solidarity is the most studies type of intergenerational solidarity, followed by affectual and functional solidarity. The complementary approach of this model thus makes it suitable for use in different cultures.

**Figure 2.** Intergenerational solidarity and cultures.



## **Intergenerational solidarity across the lifespan**

The present review illustrates different possible uses of this theory across the lifespan. As intergenerational solidarity can be given, received or exchanged, this model applies to both younger and older grandparents, and to both young and adult grandchildren. It can thus help researchers interpret their results taking a lifespan approach. Therefore, an advantage of this theoretical framework is that it enables the study of grandparenting at different stages of life and using various methodologies. Among the 42 papers in this review, 16 studies were longitudinal and monitored the grandparent-grandchild relationship at different stages of the grandchildren's development. In 8 studies, the grandchildren were aged between 0 and 6 years, in 10 they were aged between 6 and 12 years, in 18 they were aged between 12 and 18 years, 26 papers investigated the grandparent-adult grandchild relationship, and 9 papers did not specify the grandchildren's age. The sum of papers above exceed 42 as a same paper could investigate grandchildren at different ages of life and is thus counted twice. By contrast, in most studies, the grandparents' age did not seem to be an inclusion criterion, and it ranged from 38 to 100 years. In 10 studies, no specific information was provided about the grandparents' age which is compelling when considering the evolution of the grandparent-grandchild relationship across lifespan.

## **Affectual solidarity**

Affectual solidarity has been the most widely studied type of intergenerational solidarity since this model was first developed. It is displayed through emotional closeness and mutual love between family members. Across various cultures, grandparent-grandchild emotional closeness was found to be mediated by closeness between the parent and grandparent (Attar-Schwartz, 2015; Attar-Schwartz & Fuller-Thompson, 2017; Goodman &

Silverstein, 2001; Monserud, 2008; Schilmoeller & Baranowski, 1998) but other variables influence affectual solidarity.

### ***North America***

On a developmental perspective, the age of the grandparent and the grandchild was found to influence their emotional closeness (Mills et al., 2001; Silverstein & Long, 1998), affection declining up to the age of 14, and then gradually increasing (Silverstein & Long, 1998), with no systematic change in emerging adulthood. As grandchildren reach adulthood, some of them might become their grandparents' caregivers. Ihara et al. (2012) highlighted that grandsons needed a stronger bond with a grandparent to engage in caregiving than granddaughters, and in general, grandchildren needed stronger bonds with grandparents of the opposite sex to act as their caregivers than with those of the same sex. On a psychological perspective, affectual solidarity to grandparents was found to be associated with fewer depressive symptoms in grandparents and grandchildren (Moorman & Stokes, 2016), these benefits emphasize the need of this intergenerational bond for the two generations. American grandchildren feel closer to their grandparents who provide them emotional support (e.g., spending time together, listening to each other, giving advice) (Huo et al., 2018), greater life satisfaction and well-being (Goodman & Silverstein, 2001). They also report more emotional closeness when they live in intact families (Mills et al., 2001).

### ***Europe***

In line with evolutionist theories, European studies confirmed that lineage influenced closeness in each type of family, grandchildren feeling closer to their maternal grandparents and ~~with their~~ grandmothers as they grow up (Jappens & Van Bavel, 2020; Michels et al., 2011; Mills, 1999). Although Mann et al. (2013) found that grandsons aged 12 and over were more likely to feel closer to their maternal grandfathers than to their other grandparents.

While American grandchildren felt more emotional closeness to their grandparents when they lived in intact families (Mills et al., 2001), lineage predicted closeness between European grandchildren and their grandparents in separated families, where grandchildren tended to be closer to their maternal than their paternal grandparents (Jappens & Van Bavel, 2020), although this is less evident with older grandchildren (Michels et al., 2011). Adolescence and emerging adulthood was found to be associated with a more stable grandparent-grandchild relationship as they emancipate themselves from parental influence (Wetzel & Hank, 2020). As American grandchildren, European grandchildren feel closer to their grandparents who provide them emotional support (Michels et al., 2011).

### *Israel*

In Israel, emotional closeness was found to be influenced by living arrangement. Indeed, adolescents living with their mother reported lower levels of closeness to their paternal grandmother, but this result was related to the quality of the divorced parent-grandparent relationship (Attar-Schwartz & Fuller-Thompson, 2017) and to the level of involvement of the grandmother (Attar-Schwartz & Fuller-Thompson, 2017). On a psychological perspective, affectual solidarity to grandparents was found to be associated with fewer adjustment difficulties in adolescents with a high level of emotional closeness to their parents (Attar-Schwartz, 2015).

### *Asia*

A study conducted in China outlined that as grandparents get older, the need for intergenerational solidarity in the family changes from looking after the younger members to taking care of the older adults. Grandparents who had strong emotional bonds with the parents or who used to look after their young grandchildren were more likely to receive support from and provide support to their grandchildren as they get older (Xu & Chi, 2018).

### **Associational solidarity**

Associational solidarity refers to type and frequency of contact between family members. The only study that investigated transnational families reports that in those families, grandmothers are less likely to see their grandchildren growing up, and they make up for this by visiting for a few months around the birth of a new grandchild in order to build a strong relationship (Wyss & Nedelcu, 2019). Notwithstanding, another study investigated Korean migrant families with grandparents, their children and grandchildren living in the United States. Difficulty maintaining associational solidarity was found to be related to language barrier, as some grandparents did not speak English while some adult grandchildren did not speak Korean, in those cross-cultural families (Chun & Lee, 2006).

### ***North America***

Associational solidarity improves American grandparents' feeling of closeness with their family (Williams & Guendouzi, 2005; Wise & Onol, 2020), for example by helping them cope with their difficulties (Williams & Guendouzi, 2005). Another study actually reported that grandparents, even if they do not say so directly, expect their grandchildren to ask them for advice (Waites, 2006). In studies conducted in the United States, difficulty maintaining associational solidarity was found to be related to age (Kivett, 1996; Silverstein & Long, 1998), notably transition to adulthood (Wetzel & Hank, 2020), although this does not necessarily lead to less family cohesion (Mills, 1999). Relatedly, it was reported that grandsons were more likely than granddaughters to maintain associational solidarity with their grandfathers (Mills, 1999).

### ***Europe***

Associational solidarity also improves Turkish grandparents' feeling of closeness with their family (Wise & Onol, 2020). In a study conducted in Belgium, difficulty maintaining associational solidarity between adolescent and emerging adult grandchildren and their grandparents was found to be related to parental divorce (Jappens & Van Bavel, 2016).

## *Israel*

In a study conducted in Israel, difficulty maintaining associational solidarity was found to be related to the grandparent's health as grandparent-grandchild contact is reported to be more frequent when grandparents are independent and able to initiate contact than when they are frail (Even-Zohar, 2011).

## **Consensual solidarity**

Consensual solidarity refers to sharing opinions, values and beliefs which is associated with feelings of closeness between generations (Hakoyama & MaloneBeach, 2014).

## *North America*

Studies on consensual solidarity show that grandchildren tend to share more similar values with their maternal than paternal grandparents (Hakoyama et al., 2020), stressing the importance of lineage to understand family relationships. Hakoyama and his colleagues also found that emotionally close grandfathers, and particularly maternal grandfathers, had more influence than other grandparents on their grandsons' values. Chun and Lee (2006) found closer bonds between adult grandchildren and grandparents with shared religious beliefs, but they also observed that cultural differences between generations increased the gap regarding the sense of filial piety and hierarchy within the family. Family culture was found to be replicated either consciously or unconsciously by parents adopting their own parents' caring behaviors (e.g., listening, providing companionship, giving advice) (Huo et al., 2018). Consensual solidarity was affected negatively by the number of siblings, by parental divorce for granddaughters solely (Mills et al., 2001), and positively by geographic distance from the grandfather (Mills, 1999).

## *Asia*

A Chinese study found that grandparents received more support from their grandchildren than they provided, in keeping with the importance of filial piety in this culture,

and more grandparents exchanged support with the grandchildren of their eldest (particularly male) child (Xu & Chi, 2018).

### *Functional solidarity*

Functional solidarity refers to help, financial or other, between generations. In transnational families and Korean families living in the US, grandmothers cooked meals and did household chores (Chun & Lee, 2006; Wyss & Nedelcu, 2019), while grown-up grandchildren from Korean migrant families took them out in the car, which they found stressful (Chun & Lee, 2006).

### *North America*

A study conducted in the United States found that grandparents gave more financial support to their grandchildren when the parents were unemployed (Huo et al., 2018). Minkler and Fuller-Thompson (2000) conducted a longitudinal study in the United States, investigating factors associated with becoming a caregiver grandparent. They found that it was younger, female, African-American, and less educated participants who were most likely to become caregiver grandparents. Functional solidarity from grandparents was found to be associated with more affectual solidarity as grandparents who supported their grandchildren with disabilities shared more emotional closeness with their children and grandchildren (Schilmoeller & Barnowski, 1998). Grandparents who received support from their adult grandchildren without supporting them in exchange reported more frequent depressive symptoms than those who were in an intergenerational relationship without support from their grandchildren (Moorman & Stokes, 2016), suggesting the importance of being active in the relationship and the deleterious effects of dependency of the older people, who may feel indebted to their grandchildren without the opportunity of giving support in exchange.

### *Europe*

European grandparents gave more financial support to older grandchildren (Hoff, 2007) and the ones who demonstrated functional solidarity were seen as friendly by their grandchildren (Michels et al., 2011).

### ***Israel***

In Israel, the amount of care given by adult grandchildren to their grandparents was positively related to the support they received from their grandparents during childhood (Even-Zohar & Sharlin, 2009).

### ***Asia***

Studies found that grandparents in Thailand gave more financial support in skipped-generation households (Ingersoll-Dayton et al., 2018). Concerning other types of support, caring for grandchildren (e.g., providing food, clothes) was more common in multi-generational households in Asian countries (Chen et al., 2011; Ingersoll-Dayton et al., 2018).

### **Normative solidarity**

Normative solidarity refers to the sense of obligation to each person's role within the family. Grandparents are depicted as guardians and caretakers of their grandchildren (Chun & Lee, 2006; Krzyżowski, 2011). If more emphasis is made on the role of grandparent, the importance of grandchildren's filial piety for their ancestors, is reported particularly in Asia but also in Poland and in Israel (Chen et al., 2011; Even-Zohar & Sharlin, 2009; Krzyżowski, 2011).

### ***North America***

As American grandchildren get older, normative expectations evolve and they sometimes see their grandparents as too intrusive (Chun & Lee, 2006), although most grandparents are found to observe a policy of non-interference, unconditional acceptance and support toward their grown-up grandchildren (Kemp, 2004). Notwithstanding, most participants considered the generation gap as responsible for any misunderstanding about the

grandparents' role (Waite, 2006), making them more tolerant when role confusion occurs. Most participants found it difficult to describe their expectations about the role of grandchildren, but conforming to grandfilial norms was not associated with greater intergenerational emotional closeness (Kivett, 1996). Concerning grandparents, being valued in their role is shown to be associated with positive emotions (Williams & Guendouzi, 2005).

### *Europe*

Regarding family functioning in Europe, studies show that grandchild care by grandparents enables the parents to focus on their career (Krzyżowski, 2011; Lakomý & Kreidl, 2015), especially in countries providing few daycare facilities (Igel & Szydlik, 2011; Igel et al., 2009); this highlights the direct effect between expectations of the grandparents' role and national policies.

### *Asia*

In China, normative solidarity is associated with affectual solidarity as grandparent-grandchild emotional closeness is associated with perceived filial piety (Lou et al., 2013). In Korea, filial piety is expressed by grandchildren's care for their aging grandmothers, especially when grandmothers act as socialization agents (Maehara & Takemura, 2007). Concerning the role of grandparent, confusion between the roles of grandparent and parent are reported most in skipped-generation households comparing to other family living arrangements (Ingersoll-Dayton et al., 2018).

### *Australia*

Australian adult grandchildren report that grandparental enactment of normative solidarity is associated with greater emotional closeness (Wood & Lioussis, 2007). Thus, promoting grandparents' role and showing them interest could help improve their well-being in later life.

### **Structural solidarity**

Some authors observed that residential proximity was one of the main predictors of grandparent-grandchild frequency of contact, and geographic distance was perceived as a brake to intergenerational closeness (Chun & Lee, 2006; Even-Zohar & Sharlin, 2009; Waites, 2006). Therefore, multi-generational households could be seen as facilitating intergenerational solidarity. Even though, in Portuguese multi-generational households, grandmothers were more likely than grandfathers to live with their grandchildren (Albuquerque, 2011). One Chinese study found that co-resident grandparents spent as much time as the parents caring for their grandchildren (Chen et al., 2011). However, even if grandparents spent more time with their grandchildren, helping them with homework for example, co-residency was not associated with improvement in the grandchildren's academic performance or well-being (Han et al., 2020).

### **Discussion**

The present scoping review explored the literature on grandparenting and intergenerational solidarity, strengthening the view that the intergenerational solidarity framework is suitable for investigating the grandparent-grandchild relationship in different contexts and could benefit to more research. It can help understand intergenerational solidarity not only at a micro- and mezzo-level (individual and family), but also at a macro-level (society). At the micro-level, intergenerational solidarity, and especially affectual solidarity, is associated with greater well-being among both grandchildren and grandparents, and also with reduced adjustment difficulties among adolescents.

At the mezzo-level, normative and consensual solidarity are the most relevant types of solidarity, mediating the sense of shared family identity and behavior toward other family members. Geographic distance between generations is one of the most frequently raised issues in studies about grandparenting and is shown to influence intergenerational closeness, although some more recent studies focus on current challenges to family solidarity, such as

divorce (e.g., Jappens & Van Bavel, 2016; Jappens & Van Bavel, 2020) or the influence of siblings (Mills et al., 2001). However, future studies should investigate more deeply the influence of different types of relationship, in addition to the grandparent-parent-grandchild triad, which may affect personal values and have a knock-on effect on family values and beliefs. Moreover, only one study (Chun & Lee, 2006) investigated all the six components of the intergenerational solidarity framework, further studies, across various cultures, should investigate those components to develop our understanding of cross-cultural similarities and differences regarding the specificities of grandparenting. More attention should also be directed toward transnational and migrant families as it appeared clearly that they are understudied in the current literature even though those families face specific challenges to maintain close relational bonds.

At the macro-level, this review highlights the strong ties between intergenerational solidarity within families and national family policies. Indeed, normative solidarity is shown to be strongly related to family policies, with culture-based variations. For example, grandparents are expected to take care of their grandchildren in Asian cultures (Chen et al., 2011; Chun & Lee, 2006) and also among Jewish populations (Even-Zohar, 2011), where the State provides less family help than in individualistic cultures. Based on the Survey of Health, Aging and Retirement in Europe (SHARE), there are significant differences across Europe, with southern and eastern European countries providing less financial assistance for childcare, linked to greater engagement of grandparents in the family, while in northern countries, grandparents show greater willingness to help but provide it less frequently (Igel & Szydlik, 2011). In this way, we can see the important influence of family functioning on society in general and on national policy making.

Over the past three decades, the intergenerational solidarity framework has been widely used by researchers in both longitudinal and cross-sectional studies to understand

grandparent-grandchild relationships. Nevertheless, our review also identified gaps in research, which could provide the basis of future research in family psychology, sociology and other fields that aim to improve our understanding of intergenerational relationships.

Bengtson and Roberts (1991) proposed their model to encourage researchers to conduct longitudinal studies on intergenerational solidarity. Based on publications since that time, it seems that this objective has been achieved. Nevertheless, most of the longitudinal studies are based on questionnaires designed for large samples. Future longitudinal studies investigating grandparenting based on the intergenerational solidarity model should focus on grandparent-grandchild dyads and identify how intergenerational solidarity develops across the lifespan of each member of the dyad. The present study identified research gaps based on studies that used the intergenerational solidarity framework to understand the grandparent-grandchild relationship. We pointed out that 21.43% of the papers included in this review did not include information about the grandchildren's age while current research on grandparenting indicate significant variations related to age. Moreover, only 8 studies focused on grandparenting children between 0 and 6 years old while the first years of grandparenting are meaningful in term of investment in functional solidarity (e.g., providing childcare, providing financial support, organizing family dinners), normative solidarity (e.g., acquisition and involvement in the role of grandparent) and associational solidarity (e.g., the type and frequency of contact influence the development of the relationship). Therefore, further research should investigate this specific age period using the intergenerational solidarity framework. In addition, we have shown that some dimensions of the theoretical framework have not been studied or were less studied in some cultures, which limits our understanding of grandparenting. For example, in Australia, associational, consensual, functional and structural solidarity still have to be investigated. In Europe and Israel, consensual solidarity was not studied yet. In Asia,

associational solidarity has not been explored yet. This opens up new possibilities for future research in different cultures.

### **Limitations**

Several limitations should be taken into account when interpreting these results. First, this study focused on peer-reviewed articles published in English, and thus excluded informative material published in other languages that could provide cultural insight. Secondly, it included a number of longitudinal studies, providing a broad view of intergenerational solidarity in the grandparent-grandchild relationship. However, there is insufficient information about how different types of solidarity develop over time, and further studies are needed to investigate this issue. Thirdly, as this was a scoping review, the quality of the publications was not assessed. Fourthly, in the selected studies, only three studies interrogated parents despite their major role as mediator in the grandparent-grandchild relationship (Robertson, 1975; Thompson et al., 1987). Further studies would benefit to include the parents' perspective to complement other generations' views on grandparenting.

### **Conclusion**

The 42 papers included in this review all show the positive effects of intergenerational solidarity. However, further studies are needed to investigate temporal transitions between the types of solidarity provided by each family member, as well as the psychological issues related to difficulty maintaining certain types of relationship, especially as grandparents age or during transition periods in the life of grandchildren (e.g., challenges of emerging adulthood, arrival of a partner/spouse, entry into the labor market) and of grandparents (e.g., death of a spouse, transition to retirement, diagnosis of a degenerative disease). While further research is needed to investigate how intergenerational solidarity evolves over time, this scoping review illustrates what has been done so far and indicates directions for future research.



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