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Grandmothers and Caregiving to Grandchildren: Continuity, Change, and Outcomes Over 24 Months

Carol M. Musil, PhD, RN, FAAN,*,[1] Nahida L. Gordon, PhD,[1] Camille B. Warner, PhD,[1] Jaclene A. Zauszniewski, PhD, RN-BC, FAAN,[1] Theresa Standing, PhD, RN,[1] and May Wykle, PhD, RN, FAAN[1]

[1]Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland, Ohio.

*Address correspondence to Carol M. Musil, PhD, RN, FAAN, Frances Payne Bolton School of Nursing, Case Western Reserve University. 10900 Euclid Avenue, Cleveland, OH 44106. E-mail: cmm4@cwru.edu

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Purpose: Transitions in caregiving, such as becoming a primary caregiver to grandchildren or having adult children and grandchildren move in or out, may affect the well-being of the grandmother. ***Design and Methods:*** This report describes caregiving patterns at 3 time points over 24 months in a sample of 485 Ohio grandmothers and examines the effects of stability and change in grandmother caregiving roles (raising a grandchild, living in a multigenerational home, or not caregiving to grandchildren). Drawing on the Resiliency Model of Family Stress, the study examined caregiving stress and reward, intrafamily strain, social support, resourcefulness, depressive symptoms, mental and physical health, and perceived family functioning. Caregiver group, time of measurement, switching between caregiver groups, and baseline age, race, education, work status, and marital status were considered as independent variables within the context of a one-way treatment structure in a mixed-model multivariate analysis. ***Results:*** There were significant caregiver group effects for all variables, except mental health and resourcefulness. Grandmothers raising grandchildren reported the most stress, intrafamily strain, and perceived problems in family functioning, the worst physical health and more depressive symptoms, and the least reward and subjective support. Across groups, there were significant time effects, with worsening physical health and increased stress over time. Switching to higher levels of caregiving was associated with worsening physical health and increases in stress, intrafamily strain, and perceived problems in family functioning. ***Implications:*** Recommendations for research and for practice, especially during times of caregiving transition or for grandmothers raising grandchildren, are discussed.

Key Words: Caregiver stress, Grandparents raising grandchildren, Intergenerational relationships

In the United States, there are 4.1 million households of grandparents living with grandchildren and 34% have no parents in the home; of the latter, 38.5% of grandparents have been responsible for grandchildren for 5 or more years and 23% for less than 1 year (Simmons & Dye, 2003). The remaining 2.8 million multigenerational households are of varying duration, and most are headed by grandmothers living alone or with a spouse. There is an incomplete understanding about the patterns of grandmothers' caregiving to grandchildren and the effects of continuity or change in these roles on the grandmother. Although a number of cross-sectional studies (Fuller-Thomson & Minkler, 2001; Goodman & Silverstein, 2006) and longitudinal secondary analyses (Blustein,

Chan, & Guanais, 2004; Strawbridge, Wallhagen, Shema, & Kaplan, 1997; Szinovacz, DeViney, & Atkinson, 1999) have examined health effects, primarily depressive symptoms and general health, of grandmothers' caregiving to grandchildren, few studies have data that track grandmothers over time to examine caregiving patterns to grandchildren and the effects of stable caregiving roles compared with effects when caregiving roles change.

Such data are important because although many grandmothers remain as primary caregivers or live in a multigenerational home indefinitely, grandchildren move in and out of grandparents' homes with some frequency (Blustein et al., 2004). Several studies suggest that transitions in caregiving, such as becoming a primary caregiver to grandchildren or having adult children and grandchildren move in or out, affect the health or well-being of the grandmother (Blustein et al.; Standing, Musil, & Warner, 2007; Szinovacz et al., 1999). Therefore, the purpose of this report is to describe caregiving patterns across 24 months in a sample of Ohio grandmothers and to examine the effects of stability and change over that time in these caregiving roles. This work extends previous research by (a) the analysis of detailed prospective data about caregiving stress and reward, the support and resources that may be amenable to intervention, and the grandmother's perceptions of outcomes for herself and her family and (b) the examination of these at three points over 24-month time, relative to stability or change in grandmother caregiving roles.

Background

The Effects of Caregiving to Grandchildren

Several studies have shown cross-sectional or short-term follow-up differences between grandmothers raising grandchildren, grandmothers in multigenerational households, and noncaregivers to grandchildren in health and well-being. Grandmothers raising grandchildren have reported less support and reward, more strain, depressive symptoms, and concerns about family functioning but no differences in resourcefulness compared with multigenerational home or noncaregiver grandmothers (Musil & Ahmad, 2002; Musil, Warner, Zauszniewski, Jeanblanc, & Kercher, 2006; Musil, Warner, Zauszniewski, Wykle, & Standing, 2009). In a 6-month follow-up study, grandparents raising grandchildren reported more role strain, negative affect, and life disruption than noncaregiver grandparents (Hayslip, Emick, Henderson, & Elias, 2002). In national samples, extensive caregiving to grandchildren outside the home and coresiding with grandchildren have been associated with more depressive symptoms, especially for retired women (Fuller-Thomson & Minkler, 2001; Szinovacz & Davey, 2006). Strawbridge and colleagues (1997) reported that grandparent caregivers had worse physical health than noncaregivers and more life stresses than spouse or adult child caregivers 20 years prior, suggesting ongoing difficulties for caregivers.

Demographic factors may influence outcomes of grandmother caregiving to grandchildren. For example, women with a grandchild in the home either continuously or intermittently were more likely to have elevated depressive symptoms than those without coresident children; for women of color, if a grandchild and an adult child (not necessarily the parent) were in the home, grandmothers reported fewer depressive symptoms, whereas for White women, those with a spouse/partner in the home had fewer such symptoms (Blustein et al., 2004). Similarly, Pruchno (1999) found that African American women raising grandchildren report less burden and negative affect than their White peers, whereas Latina grandmothers reported greater well-being in multigenerational families (Goodman & Silverstein, 2006). Urban African American grandmothers with high parenting responsibility in three-generation homes and those who had been or were currently primary caregivers reported more alcohol-, drug-, or legal-related family events compared with noncaregivers to grandchildren (Lee, Ensminger, & LaVeist, 2005).

Patterns and Transitions in Caregiving

Understanding the patterns and transitions in grandchild caregiving and the effects of these is challenging as many studies do not have large samples of grandparents who are coresident with grandchildren, with or without parents present. The 1987–1988 and 1992–1994 waves of the National Survey of Families and Households indicate that 10.7% of that sample had grandchildren younger than 18 years in their home at either wave; of these, 52% had grandchildren move in, 28% had grandchildren move out, and 19% had grandchildren at both times; however, only 19 grandmothers reported children moving in without parents and 22 reported continued stays of both grandchildren and parents (Szinovacz et al., 1999). Using 1994–2000 Health and Retirement Study

(HRS) data, Blustein and colleagues (2004) reported that of female participants who lived with a grandchild, roughly one third did so continuously. Hughes, Waite, LaPierre, and Luo (2007), using 1998–2002 HRS data, reported that 7% of that sample lived with grandchildren, although only 1.4% were responsible for raising them. They further noted that over any 2-year period, 1.3% of the grandparents older than 50 years of age provided more care (e.g., began a multigenerational home after not coresiding with grandchildren or began raising a grandchild) and 1.2% provided less care (stopped raising a grandchild or living in a multigenerational home), underscoring the relative caregiving stability and infrequency of change examined in this study.

The results of the few studies examining changes in grandmother caregiving suggest that the direction of the transition affects health outcomes. Szinovacz and colleagues (1999) found that for grandmothers, depressive symptoms increase and life satisfaction decreases when grandchildren moved in, but there was not a decline in depressive symptoms when grandchildren moved out. Grandmothers, especially White women, participated in fewer church activities when grandchildren move in, socialized with neighbors more when they move out, experienced more instrumental support when they move in, and a reduction when they leave but no effect on health (Szinovacz et al.). Longitudinally, among HRS respondents with grandchildren, prior depression and psychiatric problems predicted later depressive symptoms, but those with 800 hr or more per year of out-of-home childcare had fewer such symptoms; when controlling for prior depressive symptoms, caregiving stability or transitions (grandchildren moving in or out) had no effect on depressive symptoms (Szinovacz & Davey, 2006). Initiating the primary caregiver role has been associated with a greater number of depressive symptoms and worse self-assessed health, but continued primary caregiving may be associated with better health; stopping such care has been associated with more chronic health conditions (Hughes et al., 2007). Strawbridge and colleagues (1997), Szinovacz and Davey, and Hughes and colleagues (2007) all found that prior depressive symptoms were related to later depressive symptomatology.

The focus on grandmother caregiving patterns and transitions is important because one's role as a grandmother may have effects on her health and well-being. Grandmothers who experienced caregiving transitions to grandchildren have expressed mixed feelings that generally related to the direction of and reason for the caregiving change (Standing et al., 2007). Research on expectations about age norms for becoming a grandmother suggests that early transitions to grandmotherhood and great-grandmotherhood may be disruptive (Burton, 1996), and even midlife women with teen daughters who became first-time grandmothers had difficulties assimilating into the grandmother's role (Bee, 2007). The effects of transitions in caregiving roles, especially to roles with greater responsibility, may be compounded because women in multigenerational homes or raising grandchildren often experience abrupt initiation into these roles, frequently under conditions of stress (Goodman & Silverstein, 2006; Standing et al.), which may have health consequences (Seltzer & Li, 1996).

Studies on caregiving to older adults suggest that the effects of transitions in caregiving roles depend on the direction of transition, for example, from more to less demanding roles. Several studies of caregiving by spouses or daughters have shown that such caregiving is associated with decreased social involvement, family support, and more depression over time (Seltzer & Li, 2000). The Caregiver Health Effects Study (Burton, Zdaniuk, Schulz, Jackson, & Hirsch, 2003) tracked older adults' transitions into and out of caregiving and the effects of caregiving at the most demanding (noncaregiver and moderate or heavy caregiving) role. Those who transitioned to heavy caregiving had more depressive symptoms posttransition than noncaregivers or those who transitioned to moderate levels of caregiving as well as a decrease in self-reported health and more health risk behaviors. Compared with continuous noncaregivers, new caregivers reported higher depression and burden and lower self-rated health and positive affect (Lawton, Moss, Hoffman, & Perkinson, 2000). We would expect a similar decrease in support, health, and well-being for those who transition to greater caregiving responsibility, such as raising grandchildren. Some have found, however, that continued caregiving has variable, but often minimal, negative effects on stress or depressive symptoms (Lawton et al.; Townsend, Noelker, Deimling, & Bass, 1989), suggesting eventual adaptation, despite effects at transition points.

Conceptual Model

The conceptual model underpinning the overall study was the Resiliency Model of Family

Stress, Adjustment, and Adaptation (McCubbin, Thompson, & McCubbin, 1996). The Resiliency Model, originally designed to address issues of families undergoing crisis (Leske, 2003; Svavarsdottir, McCubbin, & Kane, 2000; Tak & McCubbin, 2002), considers the relationships between family demands, which are stressors, such as caregiving, strains and transitions that can produce change in the family system; resources, such as subjective and instrumental support; situational appraisals, such as reward and stress; problem solving/coping (e.g., resourcefulness); and individual and family adaptation and well-being (e.g., physical and mental health and family functioning). The major thesis of the model is that demands on the family, if not mediated and/or moderated by resources and coping, will reduce adaptation and well-being in the short and long term. The Resiliency Model as a whole is not tested here; rather, we examine how the family demands of grandmother caregiving, caregiving transitions, and time affect each element of the model. Our prior work indicates group differences in most outcomes at baseline (Musil et al., 2006, 2009). Relative to time, we would not expect significant changes in most outcomes, including stress, strain, support, resourcefulness, reward, or family functioning (Lawton et al., 2000) but would expect declines in physical health over time likely related to aging; for grandmothers raising grandchildren, we would expect an increase in depressive symptoms and decline in mental and physical health and support over time (Blustein et al., 2004). For those making transitions, we would expect changes consistent with the direction of the transitions: Greater caregiving responsibility likely would be related to greater stress, strain and perceived problems in family functioning, less reward, and more depressive symptoms (Burton et al., 2003; Seltzer & Li, 2000).

Design and Methods

Sample

This report focuses on the health and well-being of 485 Ohio grandmothers who participated in a longitudinal study in which data were collected by mailed questionnaires at three time points (T1, T2, and T3) every 12 months over 24 months. The sample was recruited using random digit dialing (RDD) with supplemental convenience sampling of grandmothers raising grandchildren: 75% of the total sample was recruited by RDD and 25% by convenience methods through state or regional grandparent networks and snowball sampling. All noncaregiver grandmothers, 93% of multigenerational, and 39% of primary caregivers were recruited through RDD. The overall response rate was 73%, consistent with other studies using mailed surveys (Dillman, 2000). At T1, participants were mailed an informed consent, a questionnaire, and a stamped return envelope, followed by reminder postcards, if needed. At T2 and T3, participants received telephone calls to update information and group status prior to mailing packets. They received $15.00 at T1 and $25.00 at T2 and T3 upon questionnaire return. Of the 485 grandmothers comprising the baseline T1 sample, 439 participated 12 months later at T2 and 435 participated at T3, 24 months, with 9 deaths, 3 refusals, 33 who could not be contacted, and 5 too ill.

At each of the time points, grandmothers were categorized according to their highest level of caregiving responsibility to grandchildren aged 16 years and younger: Primary caregiver grandmothers were raising grandchildren without the children's parent(s) in the home, grandmothers in multigenerational homes lived with grandchildren younger than age 16 years and the children's parents and helped in the children's care, and noncaregiver grandmothers were not living with grandchildren but lived within 1 hr or 50 miles of their grandchildren and, when enrolled, were expected to be providing no more than 20 hrs of babysitting to grandchildren per week. Grandmothers reported how many hours of care they provided per week to the grandchildren and provided open-ended data about how they helped each grandchild for whom they provided care. A grandchild data sheet and information about the home situation at each time point, with telephone clarification if necessary, was used to validate grandmother caregiver group status. All status changes were reviewed by the study investigators.

Measures

All measures were formatted for self-administration using the total design method (Dillman, 2000). For scales, we report the range of scale alphas across the three time points plus the alphas by group at T1 only as there were no systematic variations in reliabilities by group over time.

Family life strains experienced by the grandmother and her family in the past year were measured with a modified version of the intrafamily strain subscale of the Family Inventory of Life

Events (McCubbin, Patterson, & Wilson, 1983; Peterson & Christensen, 2002). Respondents indicate whether or not they experienced, in the prior year, any of the 11 strains often reported by grandmothers and their families (Musil & Standing, 2005), such as an increase in conflict among children or increased disagreement about a family member's friend(s) or activities. Discriminant validity has been reported for the intrafamily strain subscale in high- and low-conflict families (McCubbin et al., 1996); reliability in this study ranged from α = .76–.80 over time and from .71–.80 across groups at T1.

Stress and reward in the grandmother role were assessed with the questions "how much stress (or reward) do you have in your role as a grandmother?" Participants marked their level of stress (or reward) on a 100 mm visual analog scale with anchors of *not at all* to *extremely*, which was scored by measuring the distance of the mark from the lower end of the scale, ranging from 0 to 100 (Musil & Ahmad, 2002). Visual Analog Scales have been used to measure stress and pain (McDowell & Newell, 1996) and are considered to be reliable and valid indicators. Stress and intrafamily strain correlated .46–.48 across time points, suggesting convergent validity but not redundancy, whereas stress and reward were correlated –.36 to –.26 at each time point, suggesting divergent validity.

Social support was assessed with the subjective and instrumental support scales of the Duke Social Support Index (Hughes, Blazer, & Hybels, 1990). The instrumental support subscale (α = .80–.83 over time and .80–.87 across groups at T1) includes 12 dichotomous items, such as "Do family and friends help out when you are sick?" and "Do they shop or run errands for you?," which were summed. Subjective support was measured by seven questions (α = .85–.86 over time and .73–.86 across groups at T1), such as "Do you feel you have a definite role in family and among friends?" and "Does it seem that your family and friends understand you?," with response options from 0 (*hardly ever*) to 2 (*most of the time*), and items are summed.

Self-rated health was measured with the question, in general, "how would you say your health is," with responses ranging from 1 (*excellent*) to 5 (*poor*) (Ware, Kosinski, & Keller, 1994).

Depressive symptoms were measured with the Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977). The 20-item scale measures depressive symptoms on a 4-point (0–3) scale, with scores at or more than 16 indicating a risk of clinical depression. The CES-D has reported excellent reliability, with study alphas ranging from .90 to .92 over time and .88 to .90 across groups at T1.

Family functioning was assessed by the general family functioning subscale of the Family Assessment Device (Epstein, Baldwin, & Bishop, 1983). The subscale has 12 items (α = .86–.87 T1 to T3 and .84–.87 across groups at T1), such as "In times of crisis we can turn to each other for support," "Individuals are accepted for what they are," and "We are able to make decisions about how to solve problems," with response options of 1–4; mean scores are used, and higher scores indicate perceptions of worse family functioning. The subscale is a global assessment of family functioning, with reported convergent validity with clinical ratings of family functioning and divergent validity between healthy and poorly functioning families (Epstein et al.).

Resourcefulness was measured by a 25-item reduced version of the Self-Control Schedule (SCS; Rosenbaum, 1990; Zauszniewski, 1997), modified from Rosenbaum's original 36-item SCS. The reduced version, which correlated at .97 with the 36-item version, was used in order to minimize response burden (Musil et al., 2009; Zauszniewski). On the SCS, participants indicate how well each item (e.g., when I am depressed I try to think of something pleasant) describes their behavior, ranging from 5 (*always like me*) to 0 (*not at all like me*). Scores range from 0 to 125; a higher composite score, after reverse scoring seven negatively phrased items, indicates greater resourcefulness. The reliability of the 25-item instrument was .75 in healthy community-dwelling elders (Zauszniewski) and ranged from α = .81–.82 in this sample and from .77–.81 across groups at T1.

Physical and mental health were assessed using the SF-36 Version 1 (Ware et al., 1994). The physical and mental health summary scores were calculated using the eight subscales and recommended scoring algorithms. Reliabilities for all subscales were good, ranging between .80 and .92 across subscales at each time and across groups, with the exception of the role emotional subscale (.63–.89). The summary scores, in which higher scores are indicative of better health, are frequently used and regarded as having good validity.

Analysis

We were interested in examining differences between the three caregiver groups and the effects of time and changes in grandchild caregiving status. A mixed-model analysis utilizing repeated measures over a 3-year period was implemented for each of the outcomes. Membership in a caregiver group was represented by a variable, $group_{Ti}$, where i = 1–3, and has values 1, 2, or 3 for the primary, multigenerational, and noncaregiver groups, respectively. To control for changes in group membership of the grandmothers over time, a variable was defined to represent such change. This variable, denoted as "switch," had a range from –2 to +2 and represented the change in group membership from one caregiving group to another and is specifically defined as $group_{T2} - group_{T1}$ at T2 and $group_{T3} - group_{T1}$ at T3. Thus, a negative value of switch denotes a reduction in caregiving responsibility, whereas a positive value denotes an increase in caregiving responsibility. A value of 0 denotes no change. For example, if a grandmother changed from the primary caregiver group to the noncaregiver group, then this variable had the value of –2 or if the grandmother changed from a noncaregiver to multigenerational, the variable had the value of +1.

Some of the independent variables are categorical and clearly do not have a Gaussian distribution. However, these variables provide categories within the context of analysis of variance (ANOVA). The *F*-test implicit in ANOVA is robust when the distribution of the data deviates from normality, especially in a fixed-effects model, which is utilized in these analyses. The large sample size (>100) available from the data will approximate a Gaussian (normal) distribution by the central limit theorem. Preliminary bivariate analyses were conducted to examine relationships between all the outcomes and individual independent variables and between covariates. A strong correlation between the amount of care provided and the grandmother groups was detected (Spearman's $r > .85$), and thus, only the grandmother group was used in the analyses because the grandmother group was a focus of the analysis.

Caregiver group, time of measurement, switching between caregiver groups, and baseline age, race, education, work status, marital status, and type of sampling (RDD or convenience) were considered as independent variables within the context of a one-way treatment structure (caregiver group). Because observations for an individual subject over the three time periods are not stochastically independent, several candidates for covariance structure were examined. Comparing values of Akaike's statistic, an unstructured covariance structure was used. The SAS procedure Proc Mixed was used to implement these analyses (Littell, Milliken, Stroup, Wolfinger, & Schabenberger, 2006).

Results

Study Participants

Of the 485 grandmothers at Time 1, 439 participated at T2 and 435 participated at T3, 455 participated at two or more time points, and 419 participated at all three time points. Of those who participated at three times, 326 (138 primary, 56 multigenerational, and 132 noncaregivers) had stable caregiving status and 93 reported transitions. Of those who participated at only two time points, 29 of 36 reported stable caregiving and 7 noted transitions. A total of 100 grandmothers reported 117 caregiving status changes over a 24-month time: 83 made one status change and 17 made two (13 switched from and back to their original caregiving group and 4 were in each of the three caregiving groups). There were 62 transitions between T1 and T2, 51 transitions between T2 and T3, and 4 transitions between T1 and T3 (T2 not completed). Over 24 months, the grandmothers reported the following caregiving transitions: Primary to multigenerational (n = 10), primary to noncaregiver (n = 16), multigenerational to primary (n = 9), multigenerational to noncaregiver (n = 56), noncaregiver to primary (n = 10), and noncaregiver to multigenerational (n = 16).

Transitions into and out of caregiver groups reflected the resolution of existing problems or the development of new problems, most often associated with life changes of the grandchild's parent. Primary caregiver grandmothers' transitions to the multigenerational or noncaregiver role were usually due to the parent(s) regaining custody after drug treatment or release from jail, improvement in parent financial or health status, the end of military service, and sometimes grandchild behavior problems; those who become primary caregivers noted the reverse situations. Those who became noncaregiver grandmothers reported improvements in the parents' financial, work, school, or relationship/marital situation, whereas those who transitioned to multigenerational homes reported

helping their adult children during the latter's own life changes.

Data on age, race, marital status, work status, educational attainment, and hours of caregiving to grandchildren per week are shown in Table 1. The only demographic differences among the three caregiver groups were in race and age. Primary caregivers were more likely to be women of color than those in the other two groups, and noncaregivers were more likely to be older than primary and multigenerational caregivers. Hours caregiving to grandchildren per week also differed significantly between groups, with all caregiver groups differing from one another. Most grandmothers (93%), with or without a spouse/partner, were the head of household. Nineteen grandmothers in multigenerational homes (14%) lived in an adult child's home to provide care to grandchildren (n = 8); for the grandmother's health (n = 5), financial (n = 2), or undisclosed (n = 3) reasons; or for mutual benefit (n = 1). Because few grandmothers were not head of household in our sample, we did not analyze this further.

Means and standard deviations of the study variables at the three waves are shown in Table 2 and are arranged by T1 caregiver group, the basis for the multivariate analysis that incorporates group stability and changes over time. Because not all grandmothers participated at all time points, the sample sizes are not consistent over time. Zero-order correlations between group, year, transitions, and demographic variables with main study variables are shown in Table 3. The transition variable, switch, was correlated only with grandmother caregiving group.

Multivariate Results

Results of the multivariate analysis are presented in Table 4 by caregiver group, year of measurement, switching between caregiver groups, and baseline age, race, education, work status, marital status and sampling; trends ($.05 > p \leq .1$) for group and switching are noted in text. We summarize the effects of these variables on each outcome, with the caveat that these represent multivariate effects.

Group Effects.—There were significant caregiver group effects for all outcomes, except resourcefulness and mental health, which showed trends toward group differences. Those raising grandchildren reported the most stress, intrafamily strain, depressive symptoms, and perceived problems in family functioning; the worst physical health, and the least reward and subjective support. Grandmothers in multigenerational homes reported the most instrumental support.

Time Effects.—There were significant time effects, with worsening self-rated and overall physical health and increased stress over the three time points. Subjective support was lower at Time 1 and increased slightly at Time 2 and at Time 3, whereas instrumental support was highest at baseline, lower at Time 2, and increased at Time 3.

Table 1. Demographics of Sample at Time 1

	Primary	Multigenerational	Noncaregiver	Test statistic
	n = 183	n = 135	n = 167	F or χ^2
Age				
Mean (*SD*)	56.4 (9.1)	54.9 (11.4)	59.4 (9.3)	F = 8.26**
Race				
White	106 (57.9%)	90 (66.7%)	123 (26.3%)	χ^2 = 9.66*
Non-White	77 (42.1%)	45 (33.3%)	44 (73.7%)	
Employment				
Employed	77 (42.1%)	71 (47.4%)	81 (51.5%)	χ^2 = 3.62
Not employed	106 (57.9%)	64 (52.6%)	86 (48.5%)	
Marital status				
Married	85 (46.4%)	66 (48.9%)	100 (59.9%)	χ^2 = 2.59
Not married	98 (53.6%)	69 (51.1%)	67 (40.1%)	
Education				
<High school	40 (21.9%)	21 (15.6%)	25 (15.0%)	χ^2 = 3.45
High school or more	143 (78.1%)	114 (84.4%)	142 (85%)	
Hours caregiving				
Mean (*SD*)	147.03 (43.4)	35.70 (34.2)	8.12 (11.6)	F = 868.88**

*$p < .01$. **$p < .001$.

Table 2. Means of Study Variables Across Time Waves, Split by Original Caregiver Group

	Time 1 primary			Time 1 multigenerational			Time 1 noncaregiver		
	Mean (*SD*)			Mean (*SD*)			Mean (*SD*)		
	T_1	T_2	T_3	T_1	T_2	T_3	T_1	T_2	T_3
Variable	*N* = 183	*N* = 165	*N* = 166	*N* = 135	*N* = 120	*N* = 113	*N* = 167	*N* = 154	*N* = 156
Intrafamily strain	4.43 (2.8)	4.00 (2.9)	4.16 (2.8)	3.90 (2.9)	3.62 (2.4)	3.43 (2.6)	2.73 (2.3)	2.77 (2.3)	2.73 (2.6)
Stress	5.46 (3.1)	5.58 (2.8)	5.61 (2.7)	3.84 (2.6)	4.09 (2.7)	3.92 (2.7)	2.43 (2.6)	2.47 (2.5)	3.00 (2.5)
Reward	7.13 (3.1)	7.29 (3.0)	7.29 (3.0)	8.23 (2.0)	7.82 (2.3)	7.90 (2.2)	8.28 (2.3)	8.00 (2.5)	8.17 (2.1)
Subjective support	11.07 (3.1)	11.14 (3.1)	11.22 (3.1)	11.79 (2.4)	11.53 (2.4)	11.77 (2.5)	12.25 (2.6)	12.44 (2.1)	12.00 (2.7)
Instrumental support	7.70 (3.4)	7.22 (3.6)	7.69 (3.5)	9.73 (2.2)	8.78 (2.7)	9.13 (2.7)	8.63 (2.8)	8.58 (2.6)	8.39 (2.9)
Resourcefulness	3.23 (0.6)	3.28 (0.6)	3.23 (0.6)	3.19 (0.6)	3.17 (0.6)	3.18 (0.6)	3.33 (0.6)	3.33 (0.6)	3.35 (0.6)
Poor self-rated health	3.03 (0.9)	3.09 (0.8)	3.14 (0.9)	2.75 (0.9)	2.90 (0.9)	3.00 (1.0)	2.66 (1.0)	2.73 (1.1)	2.75 (1.1)
CES-D	15.75 (11.1)	16.12 (12.2)	15.36 (11.4)	12.44 (9.6)	12.96 (10.8)	12.70 (9.5)	11.52 (10.4)	12.60 (11.1)	13.12 (12.0)
Family functioning	2.04 (0.6)	2.01 (0.6)	1.96 (0.7)	1.87 (0.6)	1.93 (0.5)	1.83 (0.5)	1.77 (0.5)	1.72 (0.5)	1.74 (0.5)
SF-36 Physical health	39.82 (11.3)	39.30 (11.8)	38.59 (11.8)	45.19 (11.3)	43.47 (11.8)	42.44 (11.6)	44.78 (11.6)	42.49 (12.5)	43.56 (12.3)
SF-36 Mental health	45.37 (12.8)	46.27 (13.4)	46.15 (11.4)	47.95 (11.5)	48.01 (10.9)	48.50 (10.3)	50.52 (10.3)	49.42 (11.1)	48.44 (12.1)

Note: Time 1 *N* = 485, Time 2 *N* =439, Time 3 *N* = 435. CES-D = Center for Epidemiological Studies-Depression Scale.

Transitions.—Switching to higher levels of caregiving was associated with worsening physical health and increases in stress, intrafamily strain, and perceived problems in family functioning. There were no other significant effects from transitions in caregiving, with a nonsignificant trend toward worsening of self-rated health with increases in caregiving responsibility.

Effects of Covariates.—Older grandmothers reported less stress and intrafamily strain, fewer depressive symptoms and perceived problems in family functioning, worse physical health but better mental health, support, and role reward. White grandmothers reported better self-rated health, more reward, and less instrumental support. Those with at least a high school education reported greater resourcefulness and fewer depressive symptoms. Employment was related to better physical, mental and self-rated health, and fewer depressive symptoms. Married grandmothers reported more subjective support, less resourcefulness, and fewer depressive symptoms. Those recruited by convenience sampling reported more stress.

Regression Models.—For each outcome, a parsimonious model was created. To interpret the results in these tables, the following equation is used:

$$\begin{aligned}\text{mean}_{\text{group } i} = {} & \text{coef}_{\text{group}} + \text{coef}_{\text{year}} + \text{coef}_{\text{switch}} \times \text{switch} \\ & + \text{coef}_{\text{age}} \times \text{age} + \text{coef}_{\text{race}} \times \text{race} \\ & + \text{coef}_{\text{education}} \times \text{education} + \text{coef}_{\text{work}} \\ & \times \text{work} + \text{coef}_{\text{marital st}} \times \text{marital st} \\ & + \text{coef}_{\text{source}} \times \text{source}.\end{aligned}$$

For example, the estimated score for stress at Time 2 for a noncaregiver who was 72 years old at Time 1, was recruited from a support network, and who became a multigenerational caregiver is:

$$\begin{aligned}&\text{coef}_{\text{group 3}} + \text{coef}_{\text{year}} + \text{coef}_{\text{switch}} \times \text{switch} + \text{coef}_{\text{age}} \times \text{age} \\ &\quad + \text{coef}_{\text{source}} \times \text{source} = 5.42 + (-.16) \\ &\quad + (.83 \times 1) + (-.04 \times 72) + (.79 \times 1) = 4.00.\end{aligned}$$

The regression models for each of the outcome variables are summarized following:

Intrafamily Strain.—Grandmothers raising grandchildren had the most intrafamily strain; younger age and switching to a greater level of caregiving were associated with increased strain.

Table 3. Zero-Order Correlation Tables of Demographic Variables and Transition Variable With Study Variables at Each Time Point

	Intrafamily strain	Stress	Reward	Subjective support	Instrumental support	Resourcefulness	Poor self-rated health	CES-D	Family functioning	SF-36 Mental health	SF-36 Physical health	Switch
Time 1												
Group	−.262**	−.421**	.189**	.178**	.137**	.072	.165**	−.171**	−.193**	.185**	.183**	
Age	−.166**	−.195**	.124**	.186**	.034	.097*	.061	−.169**	−.150**	.187**	−.140**	
Race	−.009	.007	.061	.128**	−.132**	−.109*	−.122**	−.102*	−.033	−.011	.067	
Education	−.044	−.046	.087	.137**	.041	.031	−.155**	−.169**	−.075	.066	.095*	
Employment	.006	−.011	−.065	.016	−.035	.038	−.270**	−.150**	.067	.060	.395**	
Marital status	.023	−.069	.032	.092*	.091*	−.142**	−.086	−.069	−.004	.011	.052	
Source	.180**	.365**	−.152**	−.161**	−.175**	−.051	.067	.130**	.140**	−.174**	−.117*	
Time 2												
Group	.179**	−.415**	.107*	.191**	.202**	.012	−.152**	−.117*	−.184**	.077	.097*	.347***
Age	−.112*	−.221**	.107*	.222**	.113*	.068	.014	−.220**	−.071	.215**	−.149**	−.022
Race	−.024	−.011	.129**	.099*	−.082	−.063	−.171**	−.044	.050	−.076	.086	−.001
Education	−.074	−.029	.003	.149**	.039	−.013	−.158**	−.186**	−.083	.082	.111*	.025
Employment	−.056	.022	−.084	−.027	−.070	.078	−.234**	−.105*	−.018	−.023	.359**	−.009
Marital status	−.041	−.052	.020	.048	.013	−.054	−.097*	.040	.006	−.016	.040	.033
Source	.157**	.352**	−.075	−.150**	−.185**	−.011	.107*	.110*	.150**	−.118*	−.072	.030
Switch	.062	.018	.020	.038	−.054	−.020	.004	.044	.057	.068	−.010	1.0
Time 3												
Group	.192**	−.341**	.146**	.120*	.097*	.097*	−.151**	−.068	−.134**	.066	.141**	.402***
Age	−.148**	−.174**	.115*	.181**	.135**	.059	.020	−.189**	−.098*	.199**	−.154**	−.065
Race	.050	−.009	.117*	.125**	−.106*	.000	−.149**	−.079	.013	−.002	.128**	.016
Education	−.037	−.027	.058	.100*	.010	.026	−.189**	−.143**	−.041	.062	.117*	.058
Employment	−.082	−.048	−.053	.025	−.026	.091	−.274**	−.127**	.018	.037	.376**	.069
Marital status	.035	.034	.045	.040	−.036	−.056	−.085	−.001	.008	−.054	.072	.009
Source	.202**	.376**	−.169**	−.123*	−.159**	−.045	.139**	.108*	.152**	−.099*	−.178**	.019
Switch	.058	.046	−.062	.010	−.020	.013	.008	.051	.025	−.020	−.037	1.0

Note: CES-D = Center for Epidemiological Studies-Depression Scale.
*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4. Results of a Repeated Measures Multivariate Regression Analysis of Each of the Outcomes Upon Caregiver Group Membership, Year of Measurement, Switch Representing the Change in Group Membership Over Time, Age, Race, Education, Work Status, Marital Status, and Recruitment Source With 95% CIs

	Group	95% CI	Year	95% CI	Switch	95% CI	Age	95% CI	Race	95% CI	Education	95% CI	Work	95% CI	Marital status	95% CI	Source	95% CI
Outcome	1, 2, 3[a]		0, 1, 2		–2 to 2				0: non-White		0: ≤HS		0: not employed		0: not married/ partnered		0: random	
			(2 = ref)		–2: P to N; –1: M to N or P to M; 0: no change; 1: N to M or M to P; 2: N to P				1: White (0 = ref)		1: >HS (0 = ref)		1: employed (0 = ref)		1: married/ partnered (0 = ref)		1: non-random	
Intrafamily strain	1 6.35***	5.23–7.47	NS		.50*	0.08–0.91	–.04***	–0.06 to –0.02	NS		NS		NS		NS		NS	
	2 5.74	4.62–6.87																
	3 4.92	3.75–6.09																
Stress	1 7.82***	6.62–9.02	–0.31*	–0.56 to –0.06	.83***	0.40–1.25	–.04***	–0.06 to –0.02	NS		NS		NS		NS		.79**	0.23–1.35
	2 6.50	5.35–7.65	–0.16	–0.38 to –0.06														
	3 5.42	4.24–6.61	0															
Reward	1 5.40***	4.35–6.46	NS		NS		.03**	0.009–0.04	.42*	0.054–0.79	NS		NS		NS		NS	
	2 6.19	5.12–7.26																
	3 6.23	5.13–7.32																
Subjective support	1 8.41***	7.23–9.60	–3.05***	–3.37 to –2.72	NS		.04***	0.02–0.06	NS		NS		NS		.38*	0.02–0.75	NS	
	2 9.55	8.36–10.73	0.07	–0.17 to 0.03														
	3 9.27	8.04–10.49	0															
Instrumental support	1 6.54***	5.23–7.84	0.19**	–0.08 to 0.47	NS		.03*	0.006–0.05	–.92***	–1.37 to –0.47	NS		NS		NS		NS	
	2 8.49	7.17–9.81	–0.23	–0.5 to 0.03														
	3 7.63	6.27–8.98	0															

(Table continues on next page)

		Group	95% CI	Year	95% CI	Switch	95% CI	Age	95% CI	Race	95% CI	Education	95% CI	Work	95% CI	Marital status	95% CI	Source	95% CI
Resourcefulness	1	3.24	3.14–3.33	NS		NS		NS		NS		.11*	0.02–0.19	NS		−.10*	−0.18 to −0.02	NS	
	2	3.20	3.09–3.30																
	3	3.33	3.23–3.42																
Poor self-rated health	1	3.47***	3.31–3.63	−0.12**	−0.18 to −0.05	.14	−0.01 to 0.28	NS		−.25***	−0.4 to −0.11	NS		−.37***	−0.49 to −0.25	NS		NS	
	2	3.27	3.08–3.45	−0.04	−0.11 to 0.03														
	3	3.13	2.96–3.30	0															
CES-D	1	34.82*	29.39–40.26	NS		NS		−.28***	−0.37 to −0.2	NS		−1.64*	−3.25 to −0.03	−3.43***	−4.91 to −1.95	−1.64*	−3.1 to −0.19	NS	
	2	32.26	26.78–37.74																
	3	32.78	27.12–38.43																
General family functioning	1	2.32***	2.08–2.57	NS		.11*	0.02–0.2	−.005*	−0.01 to −0.001	NS		NS		NS		NS		NS	
	2	2.20	1.95–2.44																
	3	2.05	1.79–2.31																
SF-36 mental health	1	29.80	24.4–35.21	NS		NS		.27***	0.18 to 0.36	NS		NS		2.12*	0.53–3.72	NS		NS	
	2	31.17	25.68–36.64																
	3	32.09	26.50–37.68																
SF-36 physical health	1	40.62***	35.35–45.90	1.37**	0.48–2.26	−2.35**	−4.13 to −0.58	−.09*	−0.17 to −0.001	NS		NS		6.64***	5.12–8.16	NS		NS	
	2	44.86	39.52–50.21	0.11	−0.74 to 0.96														
	3	45.46	39.92–50.99	0															

Notes: CES-D = Center for Epidemiological Studies-Depression Scale; CI = confidence interval.
[a]1 = primary; 2 = multigenerational; 3 = noncaregiver.
*$p < .05$. **$p < .01$. ***$p < .001$.

Stress.—Grandmothers raising grandchildren reported the most stress. Stress, which was lowest at baseline, increased with switching to a higher level of caregiving. Older women reported less stress, although nonrandomly selected grandmothers reported more stress.

Reward.—Grandmothers raising grandchildren reported the least reward, and older and White grandmothers reported greater reward.

Subjective Support.—Noncaregiver and multigenerational grandmothers and those who were older and married reported more subjective support. Support was lowest at baseline, and increased with time.

Instrumental Support.—Multigenerational grandmothers reported the most instrumental support, followed by noncaregivers; older, non-White women reported more support, but support, which was higher at baseline, declined at Time 2.

Resourcefulness.—There were no significant group effects for resourcefulness. Unmarried women and those with more than a high school education reported higher resourcefulness.

Poor Self-rated Health.—Grandmothers raising grandchildren reported the worst self-rated health, and ratings worsened with time; being non-White and unemployed contributed to worse self-rated health.

Depressive Symptoms.—Grandmothers raising grandchildren reported more depressive symptoms, although those who were older, had more than a high school education, were employed, and married reported fewer depressive symptoms.

Family Functioning.—Grandmothers raising grandchildren perceived the most problems in family functioning; those who transitioned to greater caregiving responsibility and who were younger perceived more problems in family functioning.

SF-36 Mental and Physical Health.—There were no significant group differences in mental health, but older and employed women reported better mental health. Grandmothers raising grandchildren reported the worst physical health; physical health decreased over time across all groups, and switching to higher levels of caregiving, older age, and being unemployed were associated with worse physical health.

Discussion

This study examined the effects of stability and change in grandchild caregiving in a sample of women who were recruited based on their caregiving status to grandchildren, and it offers some new insights into grandmother caregiving patterns. First, most grandmothers (78%) in our sample remained in a stable caregiving role across the 24-month time frame, but more than one in five grandmothers transitioned out of their initial caregiving role; 70% of these changes represented a reduction in caregiving responsibility, and nearly half of all changes were from multigenerational home situations to homes without an adult child and grandchildren. These findings illuminate the impermanent nature of some caregiving situations, especially for grandmothers in multigenerational homes. Much research has focused on grandmothers becoming primary caregivers, but far less (Hughes et al., 2007; Szinovacz & Davey, 2006) has examined the common phenomena of families moving into and out of grandparents' homes. These sometimes temporary transitions to and from multigenerational homes typically occur to support adult children who are managing life events, such as health, financial, and relationship issues, rather than because of the grandmothers' need for assistance and hence may affect various aspects of her health and well-being.

A unique contribution of this study was the ability to evaluate the impact of such transitions in caregiving responsibility, in addition to examining between-group differences at baseline and over time. We found significant differences between grandmother caregiving groups in all study variables, except resourcefulness and mental health. Grandmothers raising grandchildren reported the most stress, strain, concerns about family functioning, and depressive symptoms but felt the least reward and support and had the worst physical health, whereas noncaregiving to grandchildren was associated with better mental and physical health. Although grandmothers raising grandchildren scored worse than the other grandmothers on most measures, we found no evidence that their health deteriorated more than

that of grandmothers in other groups, which would be more consistent with an adaptation perspective supported by the broader literature on caregiving to older adults (Lawton et al., 2000; Townsend et al., 1989).

The results provide partial support for our hypotheses that taking on more caregiving burden (e.g., from a noncaregiving role to primary or multigenerational caregiving) adds to psychological distress. Increasing grandchild caregiving responsibility did affect perceived stress, intrafamily strain, and perceptions of worse family functioning, which would coincide with greater difficulties in family life. Qualitative work on transitions (Standing et al., 2007) highlights changes in grandmother caregiving or household composition as times of mixed feelings for grandmothers. When young families or grandchildren move into grandmothers' homes, the grandmothers not only may be relieved to be able to help but also may feel angst about the difficult family events preceding the transition. Grandmothers report frustration from changes in their own lives as they share their time, energy, and financial resources with the young family or grandchildren. On the other end of the continuum, grandmothers facing transitions to noncaregiver roles report ambivalence when young families or grandchildren move out of their homes. In spite of relief following the resolution of health or financial problems or a safe return from military deployment, many grandmothers report a sense of loss when a grandchild leaves and continue to worry about the child's welfare. Thus, these caregiving transitions, whether the grandmother is accepting or relinquishing care responsibilities, can be difficult and emotionally stressful, even when there is a reduction in responsibility.

Although switching or transitioning to a heavier caregiving role appears to adversely affect appraised stress and strain, such transitions did not affect mental health or depressive symptoms, unlike the caregivers to older adults studied by Burton and colleagues (2003) or Seltzer and Li (2000). The few secondary analyses that have examined the impact of grandchildren moving into or out of grandparents' homes, with or without their parent(s), have reported effects that are similar to ours (Hughes et al., 2007; Szinovacz & Davey, 2006); particularly when controlling for demographic factors and/or prior depressive symptoms, the effects of caregiving on depressive symptoms were not strong or sustained (Blustein et al., 2004; Szinovacz et al., 2006).

Both self-rated and overall physical health became worse over 24-month time, which is not unexpected in a cohort with a mean age of 57 years at baseline (Giarrusso, Feng, Wang, & Silverstein, 1996). Although we expected that caregiving changes would affect emotional health, we did not predict that transitions to greater caregiving would be associated with worse self-rated and overall physical health. Our findings that caregiving changes result in decreases in self-rated health are consistent with those of other studies in which transitions to *heavy caregiving* (Burton et al., 2003) or primary caregiving responsibility (Hughes et al., 2007) coincide with worse self-rated health. The findings about increased physical health limitations when taking on greater care responsibilities suggest that caregiving transitions are a point of vulnerability and that health care and social service providers need to consider evaluating both emotional well-being and physical health during these periods. Transitions might be ideal times for providing supportive counseling and engaging families in anticipatory planning.

The lack of significant differences in resourcefulness based on caregiving status speaks to the global nature of this problem-solving/coping ability. Resourcefulness has been associated with better mental health, more positive affect, and fewer depressive thoughts as well as better self-rated health and physical functioning (Zauszniewski, Bekhet, Lai, McDonald, & Musil, 2007; Zauszniewski, Eggenschwiler, Preechawong, Roberts, & Morris, 2006). Studies are underway to test ways to improve resourcefulness, and resourcefulness training may be a fruitful approach for grandmothers across all caregiving groups to improve quality of life, especially for those who have elevated depressive symptoms.

Role reward was greatest for older and White grandmothers; however, grandmothers raising their grandchildren reported the least reward in their role as a grandmothers—even so, they still evaluated their experience as somewhat more rewarding than not. For many grandmother caregivers, the "unexpected career of caregiving" (Pearlin & Aneshensel, 1994) for their grandchildren or the "off timing" of this family role transition (Burton, 1996) may account for less rewarding experiences in the grandmother role.

Limitations

We oversampled grandmothers raising grandchildren and grandmothers in multigenerational

homes; thus, the sample does not proportionally represent grandmothers who provide care to grandchildren in the population at large. Because this was a quota sample of grandmothers by caregiving group rather than a demographically representative sample, we cannot make generalizations about the frequency of caregiving changes (Blustein et al., 2004; Hughes et al., 2007; Szinovacz et al., 1999). However, the number of grandmothers in each group allowed us to make necessary comparisons, whereas others (Hughes et al., 2007) suggested that the small percentage of primary and multigenerational caregivers in their nationally representative sample may have limited the detection of effects of such caregiving. Efforts to quantitatively evaluate if specific reasons for transitions or meanings that a grandmother derives from her caregiving experience affect outcomes would add to our understanding of these often dynamic family situations. An additional limitation of this study is that changes in caregiving status and their effects are based on the report of the grandmother only; however, we are currently collecting follow-up data from the grandmother and grandchild perspectives. Triangulation of these perspectives will provide further insights into the effects of caregiving transitions on grandmothers, grandchildren, and families.

Recommendations for Research, Practice, and Policy

This study, rooted in the Resiliency Model (McCubbin et al., 1996), examined the effects of grandmother caregiving and caregiving transitions on elements of the model. Additional work examining relationships within the model will further strengthen the applicability of the model to grandparent caregiving. The findings of this study can inform health professionals/practitioners working with grandmothers and their families, especially during stable caregiving for grandmothers raising grandchildren or when women increase grandchild caregiving responsibility. In light of the current era of economic insecurity as well as the numbers of the baby boom cohort moving into the grandparent stage of their lives, continued research about intergenerational caregiving and caregiving transitions is important in describing the phenomena and finding ways to support these various family structures. The health needs of grandmothers and their families are increasing as the population ages and unemployment and poverty indicators rise. Policies directed toward assisting grandparent-headed households can benefit families with members in all stages of the life course, instead of perpetuating the generational divide.

The current study sheds light on the importance of caregiving patterns of grandmothers and the effects of continuity or change in the caregiving roles over time. The findings from this study contribute to gerontological and intergenerational research on grandmothers and their families, with an emphasis on how changes in caregiving responsibility and the passage of time affect mental and physical health, support, and perceptions of family functioning.

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