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Models of Self and Others and their Relation to Positive and Negative Caregiving Responses

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Abstract

The burden of providing informal care to a family member can lead to caregiver depression and potentially harmful caregiving behavior. Given the interpersonal nature of caregiving, the relationship between caregivers and care recipients may impact caregiver responses. We applied attachment theory to understanding caregiver depression, and both potentially harmful and exemplary caregiving responses. We present data from 430 caregivers in the Family Relationships in Late Life (FRILL 2) Project, a multi-site, longitudinal study of caregiving. Age, gender, and *model of self* were related to caregiving responses, suggesting that *model of self* may help identify caregivers at risk for poor responses.

It is well established that providing informal care for a family member poses risks for the caregiver. Compared with non-caregivers, caregivers face greater physical illnesses (e.g., Barrow & Harrison, 2005; Martire, Schulz, Wrosch, & Newsome, 2003; Vitaliano, Young, & Zhang, 2004; Vitaliano, Zhang, & Scanlan, 2003), stress, and mental health problems (e.g., Schulz, O'Brien, Bookwala, & Fleissner, 1995; Vanderwerker, Laff, Kadan-Lottick, McColl, & Prigerson, 1995). The interpersonal nature of caregiving suggests that characteristics of the relationship may impact care provision. Relationship attributes have been related to greater caregiver depression, burden, and providing problematic care (e.g., Cicirelli, 1993; Martin, Gilbert, McEwan, & Irons, 2006; Townsend & Franks, 1995; Williamson & Schulz, 1990; Williamson & Shaffer, 1996; Williamson, Shaffer, & the Family Relationships in Late Life Project [FRILL], 2001). Considering the caregiver-care recipient relationship is important in understanding positive and negative caregiver responses.

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One way to conceptualize the relationship between care recipient and caregiver is attachment theory. Attachment theory, developed by Bowlby (1977) as a model of infant-caregiver bonds, has been extended to adult relationships (Hazan & Shaver, 1987). Bowlby (1982) argued that secure attachment is critical for responsive caregiving. Individuals seek and give support consistent with their *models of self and others* (Simpson, Rholes, & Nelligan, 1992). The *model of self* describes whether people view themselves as worthy of care; *model of others* describes whether others can be trusted to provide care. A negative *model of self* is analogous to attachment anxiety; a negative *model of others* is analogous to attachment avoidance (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; Fraley, Waller, & Brennan, 2000).

Negative Model of Self and Caregiving

Negative *model of self* (attachment anxiety) has been related to feeling less prepared (Sörensen, Webster, & Roggman, 2002), providing less care (Carpenter, 2001; Cicirelli, 1993; Feeney & Collins, 2001; Kim & Carver, 2007), less responsiveness (Daire, 2002; Ingebreetsen & Solem, 1998; Markiewicz, Reis, & Gold, 1997), and more caregiver burden (Carpenter, 2001; Cicirelli, 1993; Crispi, Schiaffino, & Berman, 1997). Among spousal caregivers, the frequency of caregiving may be a function of both attachment and gender, with negative *model of self* and male gender related to less caregiving (Kim & Carver, 2007). Overall, attachment anxiety or negative *model of self* is related to lower frequency of caregiving and higher caregiver burden.

Negative Model of Others and Caregiving

Negative *model of others* (attachment avoidance) has been related to less caregiving overall and less instrumental care (Carnelley, Pietromonaco, & Jaffe, 1996), difficulty providing care (Kunce & Shaver, 1994), and lower well-being (Perren, Schmid, Herrmann, & Wettstein, 2007). However, when needs for care are low, negative *model of others* is not related to caregiving deficits (Feeney & Collins, 2001; Simpson, et al., 1992). Thus, while negative *model of others* may be related to level of caregiving and well-being, amount of care needed may moderate the relation between *model of others* and caregiving behavior.

Most studies have examined attachment dimensions as main effects related to caregiving behavior or burden. However, attachment dimensions may moderate the relation between amount of care provided and caregiving responses. The overall aim of this analysis was to use attachment theory to understand negative (caregiver depression and potentially harmful behavior) and positive (two types of exemplary caregiving) caregiver responses. We expected that negative *models of self and others* would be related to worse caregiving responses. However, since we conceptualized caregiving activities as activating the attachment system, we thought that *models of self or others* would moderate the relation between amount of care and caregiving responses; having a greater impact on responses at higher levels of caregiving activity. A recent meta-analysis showed that demographic variables such as age, gender, and kinship may be important in understanding caregiver burden (Pinquart & Sörensen, 2005, 2006) both in terms of mean level differences (positioning effects, Pinquart & Sörensen, 2005) and different patterns among variables (patterning effects, Sörensen & Pinquart, 2005), so we included these effects in our regression models.

Few studies have examined differences in attachment styles between White and Black older adults. Among older adults, Blacks are more likely than Whites to be categorized as dismissively attached (positive *model of self* and negative *model of others*) (Mikelson, Kessler, & Shaver, 1997). Blacks have reported both higher dismissiveness (Magai, et al., 2001) and lower dismissiveness (Fiori, Consedine, & Magai, 2009) and more consistently,

lower attachment security (Consedine & Magai, 2003; Magai, et al., 2001) but the difference in attachment security attenuated after controlling for demographic and childhood family constellation (Montague, Magai, Consedine, & Gillespie, 2003). However, the effect of punitive emotional socialization in childhood on dismissing attachment style was stronger for Blacks than for Whites (Montague, et al., 2003). These few results suggest the potential for both positioning (mean difference) and patterning (differing relations) effects of race. Therefore, as a secondary aim, we examined differences between White and Black caregivers, considering both mean level and interaction effects.

Methods

Data collection

As part of the first wave of interviews in the second Family Relationships in Late Life (FRILL 2) Project, a multi-site longitudinal study of caregiving, data were collected from co-residing caregivers and care recipients at the University of Georgia, the University of Pittsburgh, and the University of Alabama, Tuscaloosa. To be eligible, caregivers had to be responsible for the care of a cognitively or physically impaired care recipient aged 60+ and to provide unpaid help for at least one activity of daily living or two instrumental activities of daily living.

A primary goal of FRILL 2 was to oversample Black caregiving dyads in order to address longitudinal comparisons between White and Black caregivers. Initial sampling at each site was based on a combination of targeted random digit dialing (RDD) and list-assisted techniques known to increase the probability of finding qualified participants. Targeted RDD Black sampling relied on ethnic density in the areas under study; we sampled from census tracts with higher proportions of Black households. Age-targeted list-assisted sampling relied on secondary sources (white pages directories, voter registration and driver's license databases). The resulting sample should be more representative than samples attained through convenience sampling methods and more productive in terms of effort required to locate potential participants.

During the RDD recruitment phase, a total of 32,753 phone numbers were dialed; initial screening resulted in 877 potential dyads.¹ Of these, 35% refused to be interviewed, 5.6% could not later be reached because of phone problems, and 18% were ineligible after further screening. RDD methods produced more eligible White than Black dyads. To increase the number of Black dyads, we used community-based snowball referral methods at the Georgia site; completed Black dyads were re-contacted and asked to provide the names and telephone numbers of other potential dyads. Snowballing methods resulted in 95 potential dyads, of which 14.7% refused participation. These combined methods produced a sample that was 55% White and 45% Black. In sum, recruitment efforts resulted in 765 eligible dyads, 321 (42%) of which declined participation, resulting in a sample of 442 caregiver-care recipient dyads (58% participation rate). Of these, 4 had enough missing data to be excluded from these analyses and 8 were members of other racial groups, resulting in a sample of 430 Black and White caregivers.

Face-to-face structured interviews (1.5 – 2 hours long), for which both caregiver and care recipient participants were each paid \$25, were conducted in respondents' homes by pairs of trained interviewers. To prevent data contamination, caregivers and care recipients were interviewed separately and simultaneously. Only caregiver data is reported here. The study was approved by the Institutional Review Boards at each university.

¹Most of the dialed numbers resulted in no contact (e. g., nonworking, disconnected) or produced no eligible participants.

Measures

Attachment—The Bartholomew and Horowitz (1991) measure of adult attachment asks respondents to rate, in paragraph form, how four attachment representations describe them: secure (positive *models of self and others*), dismissing (positive *model of self*; negative *model of others*), preoccupied (negative *model of self*; positive *model of others*), and fearful (negative *models of self and others*). Griffin and Bartholomew (1994b) showed that self-report from these paragraphs have excellent content, convergent, and discriminant validity. As in our previous work (Williamson, Walters, & Shaffer, 2002), we decomposed each paragraph into four statements rated on a scale from 1 (strongly disagree) to 7 (strongly agree). These items (e.g., secure: “It is easy for me to become emotionally close to others”, dismissing: “I would rather not depend on others”, preoccupied: “I want to be completely emotionally intimate with others”, and fearful: “I want emotionally close relationships, but I find it difficult to trust others completely”) are similar to scoring items in the Relationship Scales Questionnaire (Griffin & Bartholomew, 1994a). As recommended, *model of self* was calculated by first summing secure and dismissing items and then subtracting the sum of the eight preoccupied and fearful items, and *model of others* scores by first summing secure and preoccupied items and then subtracting the sum of the eight dismissing and fearful items (Griffin & Bartholomew, 1994b). Positive scores on these attachment representations indicate more positive models, negative scores more negative models (*model of self* ranged from -13 to 23; *model of others* from -14 to 14).

Caregiver Depressive Symptoms—Caregiver depression was assessed using the Center for Epidemiological Studies Depression scale (CES-D, Radloff, 1977), which assesses the frequency of depression symptoms in the past week with 20 items rated on a 4-point scale from 0 (rarely or none of the time, less than one day) to 3 (most or almost all of the time, 5–7 days). Responses were summed (range from 0 to 47, $\alpha = .89$).

Exemplary Caregiver Behavior—High quality care was assessed by an 11-item measure devised in the first FRILL study (Dooley, Shaffer, Lance, & Williamson, 2007). Each item is rated on a 4-point scale from 1 (never) to 4 (always). Higher scores represent more of that category of exemplary care. One subscale, “provide”, has 4 items reflecting caregivers’ attempts to provide special attention or niceties beyond routine assistance (e.g., “I make sure that where ___ lives is bright and cheery”). It has correlated with pre-illness relationship quality (Dooley, et al., 2007). A second subscale, “respect”, has 7 items about caregivers’ respect of care recipient wishes and desire for autonomy (e.g., I actively avoid treating ___ like a child). It has correlated negatively with resentment (Dooley, et al., 2007). Responses were summed (“provide” ranged from 7 to 16, $\alpha = .54$; “respect” from 12 to 28, $\alpha = .75$).

Potentially Harmful Caregiver Behavior—The first Family Relationships in Late Life study (FRILL 1) validated a measure of potentially harmful caregiver behavior (Williamson, et al., 2001) derived from the Conflict Tactics Scale (Straus, 1979). Caregivers were asked how often they used “methods that caregivers often use when care recipients won’t follow a doctor’s orders or do what caregivers feel they should do” on a scale from 0 (never) to 4 (all of the time) (Williamson, et al., 2001). Higher summed scores represent more frequent problematic caregiving. Five items assess psychological mistreatment (e.g., screamed, threatened nursing home placement) and five items assess physical mistreatment (e.g., hit or slapped, handled roughly). Total score has correlated positively with anger (MacNeil, et al., 2009). Because these questions are sensitive, they were near the end of the interview with instructions worded to decrease reactance. Consistent with other studies, these behaviors were infrequent (range from 0 to 15, $\alpha = .60$) and most behaviors reported were psychological mistreatment.

Caregiver Help Provided—Caregivers responded to 18 items adapted from the OARS Multidimensional Functional Assessment Questionnaire (Older Americans Resources and Older Americans Resources and Services, 1988). Caregivers were asked whether or not (yes = 1, no = 0) they helped the care recipient on this specific activity and responses were summed (range from 0 to 18, $\alpha = .87$).

Data analysis strategy

Correlations between attachment and responses—Associations between *models of self and others* and caregiving responses were examined using bivariate Pearson correlation coefficients.

Regression analyses—Hypotheses regarding independent and interactive effects of attachment dimensions (*models of self and others*) and level of help provided were examined in simultaneous linear regression analyses using centered data with caregiver responses as dependent variables. Regression models included caregiver demographics (age, gender, minority status, kinship, and education level), an interaction between minority status and kinship (because there were differences in the proportion of spousal caregivers between Whites and Blacks), help provided, attachment dimensions, and the interactions between help provided and each attachment dimension. A three-way interaction between minority status, kinship, and each attachment dimension was also entered to examine differential effects of attachment.

Mean differences between Blacks and Whites—Mean differences between Black and White caregivers were examined using independent sample t-tests.

Results

Correlations between attachment dimensions and caregiver responses

A favorable *model of self* was related to less depressive symptoms ($r = -.42, p < .001$), less potentially harmful caregiving behavior ($r = -.12, p < .05$), and both more special attention ($r = .16, p < .01$) and more respectful care ($r = .11, p < .05$). A favorable *model of others* was related to less depressive symptoms ($r = -.15, p < .01$), but not to other caregiver responses.

Regression analyses

Caregiver depression—Younger age, more help provided, and negative *model of self* were related to greater depression (see Table 1).

Potentially harmful caregiving behavior—Female gender, more help provided, and negative *model of self* were related to higher levels of problematic care.

Exemplary care—Two types of exemplary caregiving were analyzed – providing special attention and respectful caregiving. Older age, female gender, Black race, and more positive *model of self* were associated with higher levels special attention. However, the interaction between minority status, kinship, and *model of self* was associated with higher levels of special attention. Since *model of self* can be meaningfully divided between positive scores (positive *model of self*) and negative scores (negative *model of self*), interactions were probed by examining estimated marginal means. For Whites, estimated marginal means for providing special attention were the same for spousal caregivers regardless of *model of self*; but for non-spousal caregivers, positive *model of self* was associated with providing more special attention. For Blacks spousal caregivers, positive *model of self* was associated with

providing more special attention; but for Black non-spousal caregivers, positive *model of self* was associated with providing less special attention.

Older age, lower education, and Black race and more positive *model of self* were associated with higher levels of respectful caregiving. However, the interactions between kinship and minority status and between kinship, minority status, and *model of self* were both related to respectful caregiving. For Whites, estimated marginal means for respectful care were the same for spousal caregivers regardless of *model of self*; but for non-spousal caregivers, positive *model of self* was associated with providing more respectful care. For Blacks spousal caregivers, positive *model of self* was associated with providing more respectful care; but for Black non-spousal caregivers, positive *model of self* was associated with providing less respectful care.

Mean differences between Blacks and Whites—Overall characteristics of the sample along with differences between Black and White caregivers are presented in Table 2. Black caregivers were younger, but their care recipients were not. Compared with Whites, Black caregivers were less likely to be spouses and more likely to be adult children, reported higher levels of depression and respectful caregiving behavior, provided less help to the care recipient, and had lower scores on both *model of self* and *model of others*.

Discussion

The results suggest that attachment dimensions, particularly *model of self*, are meaningfully related to both positive and negative caregiving responses, controlling for demographics and amount of care provided. Positive *models of self* was associated with less caregiver depression, less frequent problematic care and providing more exemplary care, both special attention and respect. *Model of self* (attachment anxiety) has been more consistently related to frequency and type of caregiving (Simpson, 1990; Simpson, Rholes, & Phillips, 1996). This pattern is consistent with four category attachment models that separate Hazan and Shaver's (1987) anxious-ambivalent category in to preoccupied and fearful styles (Bartholomew, 1990; Bartholomew & Horowitz, 1991) since these styles vary in *model of others* and with previous findings that attachment anxiety contributes more than attachment avoidance to psychopathology (George & West, 1999), marital satisfaction (Gallo & Smith, 2001), relationship satisfaction (Collins & Reed, 1990), distress in reaction to loss (Fraleigh & Bonanno, 2004) and interpersonal situations (Bart & Lydon, 2008).

There was little evidence that attachment dimensions alone moderated the relation between amount of care provided and caregiving responses. Combining stress-diathesis models of caregiving burden (e.g., Process Stress Model proposed by Pearlin and colleagues, 1990) and the idea that the attachment system is activated in response to requests for physical or emotional care (Bowlby, 1988), we expected that caregivers' *models of self and others* would differentially impact responses as a function of caregiving demand; but, this was not the case for the caregiver responses examined here. The absence of two-way interaction effects but presence of main effects of attachment dimensions suggests that caregiving activates the attachment system regardless of the amount of help provided.

However, there was preliminary evidence that the combination of kinship and minority status impacted the relation between *model of self* and providing two types of exemplary care – special attention and respectful care – with difference in exemplary caregiving related to *model of self* for White spousal caregivers, but consistent differences between spousal caregivers and non-caregivers among Blacks. There are no studies to directly compare this result to because previous research examining patterning effects has focused on attachment styles as a dependent variable and the results are mixed. Among older adults, gender has

been demonstrated to moderate the relation between attachment style and the frequency of discrete emotions (Consedine & Flori, 2009) and minority status has been demonstrated to moderate the relation between early childhood emotion socialization and adult attachment (Montague, et al., 2003). However, Magai and Cohen (1998) reported that the relations between attachment styles and caregiver burden was not moderated by kinship status (adult child versus spousal caregiver). While the current results provide evidence of an interaction between minority status and *model of self* on respectful caregiving, the general theme is consistent with models of attachment that focus on the emotion regulation aspects of attachment theory (Tidwell, Reis, & Shaver, 1996), identify internal working models impacting emotional, cognitive, and behavioral responses (Collins, 1996), and describe family and cultural context as important (e.g., family stress model, (Bakermans-Kranenburg, van Ijzendoorn, & Kroonenberg, 2004). We expect that differences in emotion experiencing and socialization that have been demonstrated to impact attachment style differently for men and women, for younger and older, and for minority and non-minority groups may be relevant for the results presented here and look forward to research which examines all of these variables.

The mean differences between White and Black caregivers may represent differences between spousal and adult child caregivers, as the proportion of spousal caregivers differed in the two groups (64% of the White caregivers were spouses, compared with 38% of the Black caregivers) and the relation between providing respectful care and minority status was moderated by kinship. Spousal caregivers have sometimes reported worse mental health than adult child caregivers (Cantor, 1983) but not always (Sherwood, Given, Given, & von Eye, 2005). A review on depressive disorders in caregivers reported that there were not enough studies to examine the impact of relationship type (Cuijpers, 2005). Future research should consider the interaction between minority status and kinship on caregiving responses and the possibility that that interaction moderates the relation between relationship factors and caregiving responses.

Overall, demographic factors and amount of help provided were associated with caregiving responses. Younger age was associated with caregiver depression and older age was associated with providing both types of exemplary care. Female gender was associated with depression and potentially harmful caregiver behavior but also with giving special attention to the care recipient. These results partially concur with reports identifying female caregivers as endorsing more burden and depression (Cuijpers, 2005; Evangelista, et al., 2002; 2005; 2006; Rohrbach, et al., 2002; Sherwood, et al., 2005; Yee & Schulz, 2000).

This study had several strengths, including a large sample size and relatively equal representation of White and Black caregivers. These strengths made it possible to examine differences between White and Black samples and should have provided sufficient power to test for the two-way interactions between kinship and minority status and between the attachment dimensions *model of self* and *model of others* and help provided. However, several limitations also must be acknowledged. First, all caregivers and care recipients resided together. It is unclear whether these results will generalize to dyads in which the members live apart. Second, information about the care recipient's attachment style was not collected. This would be an interesting avenue to pursue particularly because there is evidence that care recipient attachment style impacts caregiver responses (Magai & Cohen, 1998). On a related note, the same items were used to score *model of self* and *model of others*, all self-report, and some items were double-barreled. It is not known whether these results would be similar using attachment interviews or self-report scales with independent and better constructed items. Self-report assessment of attachment has been challenged (e.g., Crowell & Treboux, 1995). Finally, this data is cross-sectional, representing associations not causal predictions. For example, depression may lead to negative self concept and negative

appraisals of others rather than vice versa. Nonetheless, this is a well-characterized, large sample of caregivers that includes minority caregivers; the results for *model of self*, and to a lesser degree, *model of others*, suggest that examining attachment styles may be useful in understanding caregiving responses.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1
Summary of simultaneous regression analyses examining positive and negative caregiver responses

	CES-D			Potentially harmful			Exemplary Care		
	total score			behavior			Provide		
	B	SE	β	B	SE	β	B	SE	β
Age	-0.13	0.06	-0.13*	0.03	0.06	0.03	0.23	0.06	0.23*
Gender	0.19	0.10	0.09	0.33	0.11	0.15*	0.25	0.11	0.12*
Education	-0.01	0.05	-0.01	0.06	0.05	0.06	-0.04	0.05	-0.04*
Minority status	-0.13	0.13	-0.06	-0.02	0.14	-0.11	0.44	0.14	0.22*
Kinship	-0.15	0.13	-0.08	0.03	0.15	0.02	0.20	0.15	0.10
Minority * Kinship	0.23	0.18	0.09	0.18	0.20	0.07	-0.26	0.20	-0.10
Help provided	0.11	0.04	0.11*	0.16	0.05	0.16*	0.08	0.05	0.08
Model of self	-0.36	0.05	-0.36*	-0.17	0.05	-0.17*	0.16	0.05	0.16*
Model of other	-0.08	0.05	-0.08	-0.01	0.05	-0.01	0.08	0.05	0.08
Model of self * Help provided	-0.06	0.04	-0.06	-0.09	0.05	-0.09	0.06	0.05	0.06
Model of other * Help provided	0.03	0.04	0.03	0.01	0.05	0.01	0.02	0.05	0.01
Minority * Kinship * Model of self	-0.25	0.13	-0.09	0.20	0.14	0.07	-0.28	0.14	-0.10*
Minority * Kinship * Model of other	-0.14	0.12	-0.06	-0.13	0.13	-0.05	0.00	0.13	0.00

Note:

* $p < .05$

CES-D = Center for Epidemiologic Studies Depression Scale

Gender coded 1 for female, Minority status coded 1 for minority participants, Kinship coded 1 for spousal caregivers, Age was entered as a continuous variable, and education was categorical (1=less than 7 years of education, 2=junior high school, 3=partial high school, 4=high school graduate/GED, 5=trade/technical school, 6=partial college, 7=college graduate, 8=graduate/professional).

Caregivers' average age was 60.5, 69.6% were female, 53% were spousal caregivers, and 43.3% were Black.

CES-D: $R^2_{adj} = .22$, $F(13, 416) = 10.53$, $p < .05$, $n = 430$

Potentially harmful behavior: $R^2_{adj} = .06$, $F(13, 416) = 3.00$, $p < .05$, $n = 430$

Providing exemplary care: $R^2_{adj} = .10$, $F(13, 409) = 4.55$, $p < .05$, $n = 423$

Respectful caregiving: $R^2_{adj} = .09$, $F(13, 413) = 4.19$, $p < .05$, $n = 427$

Table 2

Sample Characteristics and Differences between Whites and Blacks

	Overall (<i>n</i> = 430)		Whites (<i>n</i> = 244)		Blacks (<i>n</i> = 186)	
	Mean (<i>sd</i>)		Mean (<i>sd</i>)		Mean (<i>sd</i>)	<i>t</i> (<i>df</i>)
CG age	60.5 (14.4)		64.70 (12.57)		54.96 (14.88)	7.18 (360.0)*
CR age	75.5 (10.1)		75.90 (9.26)		74.87 (11.15)	1.02 (356.2)
CG CES-D total score	11.80 (9.80)		10.97 (9.39)		12.88 (10.24)	-2.01 (428)*
CG problematic care	1.10 (1.81)		1.09 (1.63)		1.12 (2.03)	-0.16 (428)
CG exemplary care						
<i>Provide</i>	14.95 (1.61)		14.90 (1.71)		15.01 (1.48)	-0.71 (421)
<i>Respect</i>	24.96 (3.15)		24.71 (3.13)		25.30 (3.14)	-1.92 (425)*
CG help provided	6.61 (4.52)		7.02 (4.36)		6.06 (4.68)	2.19 (428)*
Model of self	4.96 (5.36)		5.57 (5.20)		4.17 (5.48)	2.70 (428)*
Model of others	0.17 (5.03)		0.76 (5.29)		-0.62 (4.56)	2.90 (421.6)*
Percent Female	69.5		69.3		69.9	0.02
Percent Spousal CG	53.3		63.9		39.2	26.84*
Percent Adult Child CG	33.0		28.3		39.2	5.74*
Percent Married	67.0		77.0		53.8	25.87*
Percent with high school education	44.7		48.4		39.8	3.14

* *p* < .05

CR = care recipient; CG = care giver; CES-D = Center for Epidemiologic Studies Depression Scale