

Does a Helping Hand Mean a Heavy Heart? Helping Behavior and Well-Being Among Spouse Caregivers

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Being a caregiver for an ill or disabled loved one is widely recognized as a threat to the caregiver's quality of life. Nonetheless, research indicates that helping behavior, broadly construed, promotes well-being. Could helping behavior in a caregiving context promote well-being as well? In the present study, we used ecological momentary assessment to measure active helping behavior and both positive and negative affect in 73 spouse caregivers. Results indicate that when controlling for care recipient illness status and functional impairment and caregiver "on call" caregiving time, active helping predicted greater caregiver positive affect—especially for individuals who perceived themselves as interdependent with their spouse. In addition, although both helping and on-call time predicted greater negative affect for caregivers who perceived low interdependence, helping was unrelated to negative affect among caregivers perceiving high interdependence. Helping valued loved ones may promote caregivers' well-being.

Keywords: caregiving, helping, well-being, positive affect, relationship interdependence

The aging process brings many challenges, perhaps foremost among them the increased likelihood of illness or disability. Accordingly, aging also entails witnessing illness or disability in similar-age loved ones, such as friends, siblings, and spouses. For many older adults, this means making the difficult transition to becoming a caregiver—a role that is widely recognized as a threat to well-being. Caregivers experience high stress, potential burnout, and poor health (e.g., Bookwala, Yee, & Schulz, 2000; Ironson, 2007; Pinquart & Sörensen, 2006; Russo, Vitaliano, Brewer, Katon, & Becker, 1995). Awareness of these difficulties has led to calls by researchers and policy makers for professional services to provide "respite" for caregivers (e.g., Administration on Aging, 2004; Jarrott, Zarit, Stephens, Townsend, & Greene, 2005).

The apparent ill effects of caring for ill loved ones are a striking contrast to research on the effects of caring for or helping others more generally. Especially among older adults, helping others may promote the helper's well-being, including less depression, negative affect, and anxiety, and greater positive affect and life satisfaction

(for an overview, see Post, 2007). Experimental work indicates that providing support to others leads to increases in well-being several times greater than receiving support (e.g., Schwartz & Sendor, 1999; Schwartz, Sprangers, Carey, & Reed, 2004). Similar associations have been found in survey research examining self-reports of volunteering and charitable giving (e.g., Dulin & Hill, 2003; Midlarsky & Kahana, 1994; Thoits & Hewitt, 2001; Wheeler, Gorey, & Greenblatt, 1998). Moreover, the benefits of helping behavior may even extend to physical health outcomes, such as reduced mortality risk (S. L. Brown, Nesse, Vinokur, & Smith, 2003; W. M. Brown, Consedine, & Magai, 2005; Musick, Herzog, & House, 1999; Oman, Thoresen, & McMahon, 1999).

The research findings linking helping behavior to increased well-being would seem to suggest that caregiving, to the extent it is characterized by helping the care recipient, should lead to better, not worsened, well-being. However, being a caregiver entails much more than providing active help. Intervals of active helping in the form of assistance with activities of daily living (ADLs), instrumental activities of daily living (IADLs), or other specific tasks are frequently interspersed with long stretches of passive vigilance. Such "on-call" time differs from the types of help identified as beneficial in the helping literature (e.g., volunteering in the community, providing emotional support, assisting others with daily chores or errands)—both objectively and in terms of caregivers' likely appraisals, which influence caregivers' emotional responses (Beach, Schulz, Yee, & Jackson, 2000; Martire & Schulz, 2000). In addition, simply being aware of the deterioration of a spouse or loved one is a highly distressing experience, even for noncaregivers (Amirkhanyan & Wolf, 2003; Schulz, O'Brien, Bookwala, & Fleissner, 1995). These distressing aspects of caregiving may obscure any beneficial effects active helping might have. Nonetheless, many caregivers report positive aspects of

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caregiving (e.g., Boerner, Schulz, & Horowitz, 2004; Cohen, Colantonio, & Vernich, 2002; Kramer, 1997; Schulz et al., 2007). Furthermore, research that has examined reports of helping as independent from nonhelp aspects of caregiving has found that helping a care recipient predicts better well-being, including reductions in symptoms of depression and anxiety (Beach et al., 2000).

Not only does caregiving involve experiences that may mask the benefits of active help but it also often entails changes in the relationship between a caregiver and care recipient that may alter the effects of helping. The transition to a caregiving relationship is frequently marked by a loss of reciprocity between relationship partners, making acts of helping feel more burdensome for the caregiver (e.g., Neufeld & Harrison, 1995; Pearlin, Mullan, Semple, & Skaff, 1990; Reid, Moss, & Hyman, 2005). In the absence of reciprocity, other aspects of the relationship between caregiver and care recipient may influence the effects of helping. For example, caregiving appears to be less burdensome in historically communal relationships, in which helping has previously not been tied to expectations of reciprocity (Williamson & Schulz, 1990; Williamson, Shaffer, & Schulz, 1998). Moreover, in some types of relationships, helping in the caregiving context may actually be beneficial. Selective investment theory (S. L. Brown & Brown, 2006) suggests that in relationships marked by fitness interdependence—a sense of mutual need between relationship partners—the well-being of one's relationship partner is ultimately in one's own best interest. In such relationships, helping or investing in one's partner may be associated with activation of the caregiving behavioral system,¹ which includes proximate mechanisms for helping behavior, such as the relief of negative emotional states (S. L. Brown, Brown, House, & Smith, 2008; Cialdini, Darby, & Vincent, 1973), and positive emotions, such as love and empathy (Batson & Shaw, 1991; S. L. Brown et al., 2003). Together, these findings suggest that the emotional benefits of caregiving are likely to be greatest, and the emotional costs lowest, among individuals who perceive themselves as interdependent with care recipients.

Because the caregiving context can influence well-being in several ways, evaluating the effects of actively helping an ill or disabled loved one requires separating out the effects of time spent on call and the severity of a loved one's illness, as well as assessing relationship characteristics, such as interdependence, that might alter the costs and benefits of helping. To our knowledge, this has not been done. In most prior work, caregiving has been defined without reference to caregiver behavior—for example, as witnessing a loved one's illness (Cacioppo et al., 1998) or hospitalization of the spouse (Christakis & Allison, 2006). This limitation has been present specifically in research on the relationship between caregiver and care recipient as a moderator of well-being outcomes (e.g., Reid et al., 2005; Uchino, Kiecolt-Glaser, & Cacioppo, 1994; Williamson & Schulz, 1990; Williamson et al., 1998). Moreover, research that has specifically assessed time spent caregiving—as distinct from being a caregiver—has typically not distinguished between (possibly beneficial) active helping and time spent on call (e.g., Amirkhanyan & Wolf, 2003; Arai & Ueda, 2003; S. L. Brown, Smith, et al., 2009; Choi, 1993; Kahana, Young, Kercher, & Kaczynski, 1993; Pinquart & Sörensen, 2005; Schulz & Beach, 1999; Willette-Murphy, Toderò, & Yeaworth, 2006). Finally, one important study (Beach et al., 2000) examined

associations between helping behavior and well-being, controlling for nonhelp factors; however, this study did not assess the relationship between caregiver and care recipient.

In sum, although being a caregiver can present a serious threat to quality of life, it is premature to conclude that actively helping the care recipient is to blame. Moreover, research on the psychological benefits of helping would seem to suggest that providing help could lead to increased well-being, especially within certain caregiving relationships. Therefore, the present study was designed to examine the association of helping behavior and well-being in a caregiving context—specifically, caring for a seriously ill spouse. To do so, we examined the association of time spent caregiving with well-being, as indexed by positive and negative affect, over a week-long period using ecological momentary assessment (EMA) methods (Stone, Shiffman, & DeVries, 1999). In assessing caregiving time, we distinguished between active helping time and time spent on call. In addition, following research that indicates that helping activities are most beneficial in relationships perceived as interdependent or communal, we measured caregivers' perceptions of relationship interdependence with the care recipient.

We formulated two hypotheses. First, we expected that time spent actively helping the care recipient (one's spouse) would predict greater caregiver well-being in the form of higher positive affect and lower negative affect, adjusting for care recipient illnesses and functional impairment and time spent on call. Second, we hypothesized that active helping would more strongly predict well-being among caregivers who perceived high relationship interdependence with the care recipient.

Method

Participants

In the present study, we sought individuals who were providing full-time home care (i.e., did not work outside the home) to an ailing spouse. Participants were recruited from southeastern Michigan by mailings through the Michigan Alzheimer's Disease Research Center, the Area Agency on Aging, and the local chapter of the Alzheimer's Association. In addition, flyers were placed in local hospitals and senior centers, project staff gave presentations at area caregiver support groups, and word-of-mouth recruitment was encouraged. Through these efforts, 73 individuals volunteered to participate. Upon study completion, participants received \$50 in compensation.

Procedure

Upon study entry, all participants (caregivers) received a home visit during which they completed an entry survey and were trained in using Palm Pilots for EMA (Stone et al., 1999). Over the following 7 days, participants carried the Palm Pilots, which

¹ Despite the overlap in terminology, the *caregiving* system is not a construct specific to the context of providing care for an ill or disabled loved one. Rather, it is a behavioral system hypothesized to underlie the provision of care for any individual in need (Mikulincer, Shaver, Gillath, & Nitzberg, 2005), and it was originally conceptualized in terms of parental care for offspring (Bowlby, 1969).

were programmed to beep at random (approximately 3-hr) intervals during waking hours. At each time point, caregivers reported how much time they had spent actively helping and/or being on call since the last beep, as well as their emotions during the same time and actual caregiving tasks they engaged in. Each set of questions required 1–3 min, for a total of about 15 min per day. Caregivers could opt out of the EMA phase of the study if they found it too burdensome; none did so.

Measures

Dependent variables. At each EMA time point, caregivers reported the extent to which they had been experiencing each of several emotions immediately before the Palm Pilot beeped using a 5-point scale ranging from 1 (*not at all*) to 5 (*very much*). We created an index of *positive affect* using the mean of all four positive emotions (“happy,” “joyful,” “pleased,” and “enjoyment/fun”), and we created an index of *negative affect* using the mean of all seven negative emotions (“depressed/blue,” “unhappy,” “frustrated,” “angry/hostile,” “worried/anxious,” “guilty,” and “stressed”). Internal consistencies for both positive affect ($\alpha = .92$) and negative affect ($\alpha = .90$) were very good.

Independent variables. At each EMA time point, caregivers received the following instructions designed to distinguish between active help and supervisory or on-call time:

In the next questions, “active help” means tasks that you might perform such as helping your spouse get across a room, cooking meals for him/her, or helping him/her with financial matters. The other type of care, “supervision,” means staying nearby your spouse to ensure his/her safety, to provide reassurance, or to make sure that nothing goes wrong.

Following this, caregivers were asked, “Did you actively help your spouse at any time since the Palm Pilot last beeped?” If they said yes, they were asked to report the amount of time spent *actively helping* on a 5-point scale (1 = *no time*, 2 = *less than 30 minutes*, 3 = *30–50 minutes*, 4 = *1–2 hours*, and 5 = *more than 2 hours*). Those who said no were coded as having spent no time helping. In addition, caregivers were also asked to report whether they had engaged in each of five specific *helping activities* at each time point. These activities were as follows: giving medications, preparing meals, helping the care recipient use the toilet, helping the care recipient with eating, and helping the care recipient cross the room.

Potential moderator. We measured caregivers’ perceived interdependence with the care recipient (their spouse) using S. L. Brown’s (1999) scale of fitness interdependence. This scale was composed of six items, each rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), three of which measured mutuality of need (e.g., “I need my spouse as much as he/she needs me”), and three of which measured the caregiver’s dependence on the care recipient (e.g., “My spouse gives me emotional support”). By including items on both mutuality and dependence, this scale differs conceptually from measures focused solely on dependence on or enmeshment with a relationship partner. The mean of all items was used as an index of *perceived interdependence*, with very good internal consistency ($\alpha = .90$).

Control variables. In the entry survey, the caregiver reported on several aspects of the care recipient’s health and need for care,

including caregiver reports of the number and type of physician-diagnosed *chronic illnesses* (e.g., diabetes, stroke, arthritis; possible range = 0–9), number of assistance-required ADLs (e.g., dressing, bathing, and eating; possible range = 0–6), and number of assistance-required IADLs (e.g., meal preparation, shopping, managing money; possible range = 0–5). The caregiver also responded to two yes/no items about the care recipient’s need for supervision: “Does your spouse need to be watched over or supervised to ensure his/her personal safety or the safety of others?” and “Must someone stay with him/her to provide reassurance or to make sure that nothing goes wrong?” The number of “yes” responses (0–2) was used as an index of care recipient *need for supervision*. In addition, caregivers reported on their own health, assessed in the entry survey both by a 5-point self-rated health scale ranging from 1 (*poor*) to 5 (*excellent*) and by the number of self-reported physician-diagnosed chronic illnesses. All health and need for supervision items were taken from measures that have been used in the Health and Retirement Study and found to have acceptable psychometric characteristics (Fisher, Faul, Weir, & Wallace, 2005; Fonda & Herzog, 2004). Finally, we assessed caregiver time spent on call using two questions from the EMA phase. First, participants were asked, “Did you ‘supervise’ your spouse at any time since the Palm Pilot last beeped (stay nearby to make sure nothing goes wrong)?” If they said yes, they were asked to report the amount of time spent supervising using the same 5-point scale as for helping activities. Those who said no were coded as having spent no time supervising. Second, using the same 5-point scale, participants responded to the item, “How much time did you feel that you were ‘on duty’ as a caregiver since the Palm Pilot last beeped?”² The mean of these two items was used as an index of *on-call time*.

Analytic Strategy

Multilevel modeling (MLM) was used to examine the associations of active help with affect over time. MLM, also known as random-effects modeling or hierarchical linear modeling, is a statistical technique in which regression coefficients reflect not only between-persons (Level 2) differences but also within-person (Level 1) differences over time (Singer & Willett, 2003). Advantages of using MLM for the present study included separating the unique contributions of within-person associations between helping and affect from individual differences in those variables and reducing concern over reverse causation by controlling for affect reported during the prior interval (i.e., in lagged form). An additional benefit of using this technique is that MLM models are estimated using data from any individual at any time point, with no requirement that individuals need to have participated in all time points. That is, MLM manages within-person missing data without the need to delete cases or impute missing data. In practical terms, this means that for the present study, individuals need not have completed all 35 EMA assessments for their data to contribute to the model.

Two separate MLM models were built: one for caregiver positive affect and the other for caregiver negative affect. Model

² Analyses were also conducted with these two on-call variables entered into the models separately. Results (i.e., for helping and moderator variables) were substantively unchanged.

development involved two steps. First, the lagged form of the dependent variable (positive or negative affect) was entered as a predictor, along with caregiver demographics (age, gender, and education); caregiver self-rated health and chronic illnesses; and variables for care recipient chronic illnesses, functional impairment (ADLs and IADLs), and need for supervision. Any significant variables from this step were retained for the second step, in which caregiver times spent actively helping and being on call were entered into the model together.

Results

Caregiving in the Study Sample

The majority (57%) of care recipients had been diagnosed with three or more chronic illnesses, including 74% with a memory-related illness (e.g., Alzheimer's disease or other type of dementia), 27% with a nonskin cancer, 17% with stroke, and 5% with a chronic lung disease. Number of chronic ailments was thus used as a continuous variable in all analyses. Most caregivers (73%) indicated that the care recipient (their spouse) needed supervision according to at least one of the two need-for-supervision items. Caregivers reported engagement in some sort of activity related to the care recipient's illness (active helping or being on call) during 83% of EMA intervals, with 63% of intervals containing active helping time and 78% on-call time. Individuals could report helping and on-call time during the same interval, and time spent on these behaviors was highly correlated ($r = .60, p < .001$). Additional caregiver and care recipient characteristics are presented in Tables 1 and 2.

Caregiving and Well-Being

Final models for positive affect and negative affect are shown in Tables 3 and 4, respectively. Caregiver time spent helping significantly predicted greater caregiver positive affect, but time spent on call predicted lower positive affect. Examining fixed-effects models indicated that these associations were driven by within-person (Level 1) effects for both helping time ($\beta = .05, p < .08$) and on-call time ($\beta = -.10, p < .05$). Both helping and on-call time predicted greater caregiver negative affect, with these effects also occurring within individuals (at Level 1) for both helping time ($\beta = .07, p < .01$) and on-call time ($\beta = .14, p < .001$). Notably, caregiver and care recipient health did not predict affect; furthermore, care recipient functional impairment and need for supervision also did not predict affect (all β s $< .10, ps > .05$).

Perceived Interdependence, Caregiving, and Well-Being

To test the second hypothesis—that caregiver time spent helping would more strongly predict well-being among caregivers who perceived high interdependence with the care recipient (their spouse)—we examined the interaction between helping and baseline interdependence for caregiver positive and negative affect. The results of these models are also shown in Tables 3 and 4. The cross-level interaction of baseline interdependence (a Level 2 predictor) with helping (a Level 1 predictor) was significant for both positive affect ($\beta = .05, p < .05$) and negative affect ($\beta =$

$-.05, p < .05$), indicating that the helping–affect association differed across levels of interdependence.³

To evaluate the form of these interactions, we examined the association of helping with affect separately with values of interdependence recentered (at zero) at 1 *SD* above the mean and at 1 *SD* below the mean. These random-effects models indicated that helping predicted greater positive affect at high ($M + 1 SD$) levels of interdependence ($\beta = .12, p < .01$) but not at low ($M - 1 SD$) levels of interdependence ($\beta = -.01, p > .70$). By contrast, there was no significant association between helping and negative affect at high levels of interdependence ($\beta = .02, p > .65$), but helping predicted greater negative affect at low levels of interdependence ($\beta = .12, p < .01$). These interactions are represented in Figures 1 and 2.

Additional Analyses

Specific helping activities. To examine the association between helping and affect in greater detail, we tested the random effects models for positive and negative affect using specific categories of helping (giving medications, preparing meals, assistance in using the toilet, assistance in eating, assistance crossing the room) as predictors instead of time spent helping. When these categories were entered simultaneously as predictors, giving medications significantly predicted less positive affect ($\beta = -.07, p < .05$), whereas assistance in eating marginally predicted greater positive affect ($\beta = .06, p < .08$). The associations between these helping activities and positive affect were significantly moderated by perceived interdependence ($ps < .05$), such that assisting with eating predicted greater positive affect at high levels of interdependence ($\beta = .17, p < .01$) but not at low levels of interdependence ($\beta = .00, p > .95$); furthermore, giving medications predicted reduced positive affect at low levels of interdependence ($\beta = -.14, p < .01$) but not at high levels of interdependence ($\beta = -.02, p > .70$).

Specific helping activities were also associated with negative affect. Assisting the care recipient in crossing the room significantly predicted greater negative affect ($\beta = .13, p < .001$), whereas assisting in eating ($\beta = -.11, p < .01$) and assisting in using the toilet ($\beta = -.07, p < .05$) predicted less negative affect. Perceived interdependence moderated the association between assisting in crossing the room (but not other activities) and negative affect, such that assisting in crossing the room predicted greater negative affect at low levels of interdependence ($\beta = .28, p < .001$) but not at high levels of interdependence ($\beta = .01, p > .90$).

Caregiver and care recipient characteristics as moderators. One additional set of follow-up analyses examined the possibility that the association between helping and caregiver affect would differ between younger, healthier participants versus older or less healthy individuals. Moderation analyses indicated that neither caregiver age nor self-rated health nor chronic illnesses interacted significantly with active helping time for either positive or negative affect. A similar pattern was found with respect to care

³ To test whether these patterns differed with very high levels of interdependence (i.e., possible enmeshment or excessive dependence), we also used analyses to examine quadratic effects of interdependence (i.e., interdependence squared). Neither the main effect nor the interactive quadratic effects of interdependence were significant.

Table 1
Demographics of Caregivers and Care Recipients

Variable	Caregivers (N = 73)				Care recipients (N = 73)			
	M	SD	n	%	M	SD	n	%
Age (years)	71.47	10.6			72.90	10.5		
Female gender			46	63			27	37
African American ethnicity			1	1.4			2	2.7
College degree			17	23.3			21	28.8

Note. All non-African American participants were Caucasian.

recipients: There were no significant interactions between helping and number of chronic illnesses or care recipient functional impairment (ADLs or IADLs). Moreover, the helping-affect association did not differ depending on whether care recipients did or did not have a memory-related illness (Alzheimer’s disease or dementia). Finally, no significant interactions were found between helping time and gender or on-call time.

Discussion

Prior research has demonstrated that being a caregiver can take a serious toll on one’s well-being. Our findings, on the basis of EMA data among spousal caregivers, suggest that the detrimental effects of being a caregiver may not be attributable to the active provision of care. Rather, the findings of our study suggest that actively helping a loved one may be salutatory. Specifically, we found that time spent helping predicted greater levels of positive affect and that this association was strongest among caregivers who perceived themselves as interdependent with the care recipient (their spouse). In addition, although we also found that helping predicted greater levels of negative affect among participants in general, this association was not significant among high-interdependence caregivers.

The Role of Active “Help”

The present study differs from most prior investigations that have examined caregiver well-being in its explicit focus on helping behavior. Prior caregiving work has not always distinguished between the effects of caregiving activities and the broader effects of having an ill loved one (cf. Amirkhanyan & Wolf, 2003; Beach et al., 2000; Schulz et al., 1995). Moreover, even studies that have examined total amount of time or effort spent on caregiving activities have relied on retrospective reports over long time spans (from a week to a year) and have not distinguished between active helping behavior and time spent on call. Our use of EMA data, although not able to eliminate potentially biased responding altogether, dramatically lessened its likelihood by assessing caregiving over the past few hours rather than the longer time spans more commonly assessed. Using this approach also facilitated the lagged within-person analyses that we used, which give more confidence in causal direction than is possible with a single written survey or interview. In addition, use of EMA strengthened our ability to validly distinguish between helping time, which previous research suggests is beneficial, and on-call time, which has not received similar attention. Two aspects of our EMA-based findings suggest that differentiating active help from more passive aspects of care-

Table 2
Descriptive Statistics and Correlations for Caregiver, Care Recipient, and Caregiving Variables (N = 73)

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Caregiver age	—											
2. Caregiver self-rated health	.12	—										
3. Caregiver chronic illnesses	-.07	-.54***	—									
4. Care recipient chronic illnesses	-.01	-.17	-.03	—								
5. Care recipient ADLs	-.05	-.19	.01	.18	—							
6. Care recipient IADLs	-.05	-.17	.06	.22†	.36**	—						
7. Care recipient need for supervision	-.14	-.34**	.19	.12	.58***	.54***	—					
8. Active helping time	-.24†	.00	-.14	-.01	.58***	.29*	.53***	—				
9. On-call time	-.27*	-.18	-.10	.02	.50***	.32*	.65***	.71***	—			
10. Caregiver positive affect	-.15	.00	.18	.13	-.10	-.13	-.12	.01	-.17	—		
11. Caregiver negative affect	-.30*	-.38**	.21	-.10	.06	.08	.27*	.29*	.30*	-.10	—	
12. Perceived interdependence	-.11	-.17	.08	.00	-.01	-.40***	-.05	.02	-.14	.27*	.18	—
M	71.47	3.46	2.03	3.05	2.90	3.53	1.31	2.28	2.74	2.66	1.60	3.23
SD	10.63	0.93	1.14	1.52	2.30	1.61	0.87	0.72	1.04	0.71	0.46	1.14
Range	35–89	2–5	0–5	1–7	0–6	0–5	0–2	1–5	1–5	1–5	1–5	1–5

Note. All variables, for caregiver and care recipient, are reported by caregiving spouse. ADLs = activities of daily living; IADLs = instrumental activities of daily living.

† p < .10. * p < .05. ** p < .01. *** p < .001.

Table 3

Multilevel Regressions for Positive Affect as Predicted by Helping Time, On-Call Time, and Perceived Interdependence (N = 73)

Variable	Baseline models		Interdependence as moderator
	Random effects model (Levels 1 and 2 combined)	Fixed effects model (Level 1 only)	Random effects model (Levels 1 and 2 combined)
Lagged positive affect	.25***	.19***	.26***
Caregiver age	-.15*		-.13 [†]
Care recipient need for supervision	-.10 [†]		-.08
On-call time	-.10*	-.10*	-.09*
Active helping time	.06*	.05 [†]	.07*
Perceived interdependence			.08
Interdependence × Helping			.05*

Note. There were no significant Level 2 effects for time-varying caregiving variables (on-call time and active helping time). All models were significant ($ps < .001$). Breusch and Pagan Lagrangian multiplier tests for random effects revealed that random effects were reduced in the moderated model, $\chi^2(1) = 157.25$, $p < .001$, versus the main-effects model, $\chi^2(1) = 168.57$, $p < .001$.

[†] $p < .10$. * $p < .05$. *** $p < .001$.

giving is important for understanding the effects of caregiving on well-being. First, helping time and on-call time predicted caregiver positive affect in opposite directions: Whereas time spent actively helping the care recipient predicted greater positive affect, time spent on call predicted lower positive affect. Second, perceived interdependence played a substantial moderating role in predicting caregiver affect for helping time but not for on-call time.

Why might helping be beneficial for some caregivers? There are at least two separate, but possibly overlapping, mechanisms for any such effect. First, providing active help may lead caregivers to appraise the caregiving context in a more positive light. By providing such help, caregivers may be more likely to view caregiving as an opportunity for them to grow or as a better outcome for their partner than if someone else were providing care. Such appraisals, in turn, may lead to improved well-being (Martire & Schulz, 2000). Second, the opportunity to provide active help may lead to the experience of positive emotions such as love and empathy (Batson & Shaw, 1991; S. L. Brown et al., 2003), promoting positive affect and reduced negative affect more generally. Such emotions, elicited in the context of the human caregiving or “nurturance” system, are among the most potent elicitors of other-focused behavior (e.g., Batson, Fultz, & Schoenrade, 1987; Stür-

mer, Snyder, & Omoto, 2005), although they may be most likely in certain kinds of relationships, as we discuss further.

Whom Does Helping Help?

The role of perceived interdependence. Our findings echo those of prior researchers who have found that the effects of helping depend strongly on the nature of the relationship between the helper and help recipient (e.g., S. L. Brown, Johnson, et al., 2009; Williamson & Clark, 1989, 1992). In fact, findings from this study as well as from prior research (e.g., Williamson & Clark, 1992) indicate that relationship factors may be more important than whether help is voluntary or, as is often the case for caregivers, obligatory. Caregivers in our sample who viewed themselves as highly interdependent with their spouse—sharing a common fate—appeared to derive positive rather than negative emotion from helping, both with respect to overall helping time and to specific helping activities (e.g., help with eating, crossing the room). Conversely, among those who did not view themselves as interdependent with their spouse, helping may have been detrimental: For these individuals, helping predicted greater negative emotion but not greater positive emotion. Importantly, the associ-

Table 4

Multilevel Regressions for Negative Affect as Predicted by Helping Time, On-Call Time, and Perceived Interdependence (N = 73)

Variable	Baseline models		Interdependence as moderator
	Random effects model (Levels 1 and 2 combined)	Fixed effects model (Level 1 only)	Random effects model (Levels 1 and 2 combined)
Lagged negative affect	.21***	.17***	.21***
On-call time	.15***	.14***	.16***
Active helping time	.08**	.07**	.07*
Interdependence			.11
Interdependence × Helping			-.05*

Note. There were no significant Level 2 effects for time-varying caregiving variables (on-call time and active helping time). All models were significant ($ps < .001$). Breusch and Pagan Lagrangian multiplier tests for random effects revealed that random effects were reduced in the moderated model, $\chi^2(1) = 527.93$, $p < .001$, versus the main-effects model, $\chi^2(1) = 681.51$, $p < .001$.

* $p < .05$. ** $p < .01$. *** $p < .001$.

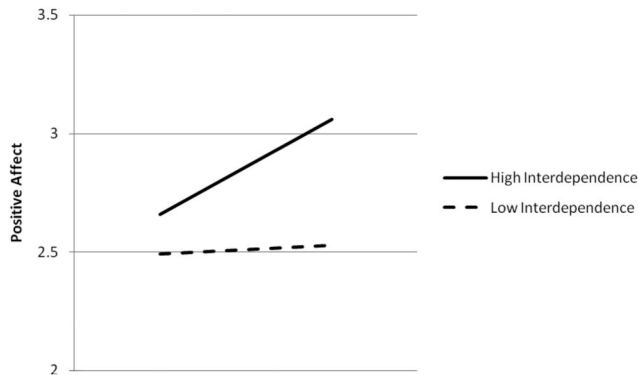


Figure 1. Graph of caregiver helping time predicting caregiver positive affect for differing values of interdependence. High interdependence is 1 *SD* above the mean; low interdependence is 1 *SD* below the mean. The total range of the positive affect scale was 1–5.

ation of helping with well-being did not differ on the basis of care recipient functional impairment or presence of a memory-related illness (Alzheimer's disease or dementia), indicating that these findings were not merely due to the fact that caregivers with healthier spouses enjoyed higher quality relationships.

Although some prior research has shown that caregiving is least burdensome for those in historically communal relationship roles (Williamson & Schulz, 1990; Williamson et al., 1998), our findings build on this literature in at least three ways. First, although previous research identified relationship variables that made caregiving less detrimental, our findings suggest that active helping in an interdependent relationship may be beneficial. Feelings, such as love and empathy, and positive appraisals that might arise when caring for an interdependent partner may have a positive effect on well-being, even in the highly stressful caregiving context. Second, unlike previous research that has examined relationship factors and being in the caregiver role, in our study we specifically examined the associations between caregiving *activity* (i.e., time spent caregiving) and well-being. Third, previous research on communal relationships and caregiving focused on the caregiver's perceptions of the relationship as historically communal, with resulting implications for the caregiver's role. By contrast, we assessed relationship quality in the form of perceived interdependence in the present. Taken together, these findings are broadly consistent with selective investment theory (S. L. Brown & Brown, 2006), which predicts that individuals should be most willing to invest in those with whom they perceive a shared physical or emotional fate. We hasten to add, however, that these findings are also compatible with research on communal relationships (cf. Williamson & Shaffer, 1998) and, thus, should not be viewed as a test of the two models.

The role of age. The sample for this study, as is typical for a study of spouse caregivers, was largely composed of older adults (mean age = 71.5 years), but the total age range of the sample (35–89 years) was quite broad, including those in middle adulthood as well as the old–old. With this in mind, it is interesting to note that there were no moderating effects of age on the association between helping and well-being. That is, helping predicted positive and negative affect similarly for adults of all ages. However, age was marginally associated with lower levels of active

helping time during the study ($r = -.24$). Although our data do not provide information about the reasons for this negative association, it is possible that physical limitations of older adults prevent them from engaging in as much active help as do younger adults. Whatever the reasons for this pattern of findings, it suggests that the emotional implications of being a caregiver may differ for older versus younger caregivers. In particular, those in highly interdependent relationships may face additional emotional challenges as they age and help less, whereas those in less interdependent relationships may benefit from helping less as they age. Our finding that age was negatively correlated with positive affect among caregivers in our sample, which is not true among adults more generally, is somewhat consistent with this interpretation. We look forward to future research that attempts to replicate and elaborate these findings.

Broader Implications

Our findings have broad implications for research on caregiving and for research on helping behavior more generally, especially in the aging context. Our efforts to isolate helping behaviors from other, more deleterious aspects of caregiving may suggest new approaches for understanding other types of complex helping situations. For example, the well-known decreases in life and marital satisfaction that accompany becoming a parent may not be due to “parenting,” in the sense of the actual effort of caring for a child, but may stem from culturally specific role changes, loss of quality time with one's spouse, or familial conflict (e.g., Doss, Rhoades, Stanley, & Markman, 2009; Warfield, 2005). Other forms of self-sacrifice or efforts toward generativity, from charitable giving to mentoring younger adults, may also be revealed as stronger contributors to well-being when negative situational demands are accounted for. Moreover, our findings suggest that the benefits of helping are enhanced and the costs minimized when there is a strong sense of interdependence with those helped. Awareness that one's children are important for one's future continuation (symbolic or genetic), a sense of solidarity with the poor, or a belief in common fate with one's country or humanity may strengthen associations between various forms of helping and well-being. In this vein, it is noteworthy that aging brings with it not only a sense of increased generativity (Erikson, 1959; McAdams & de

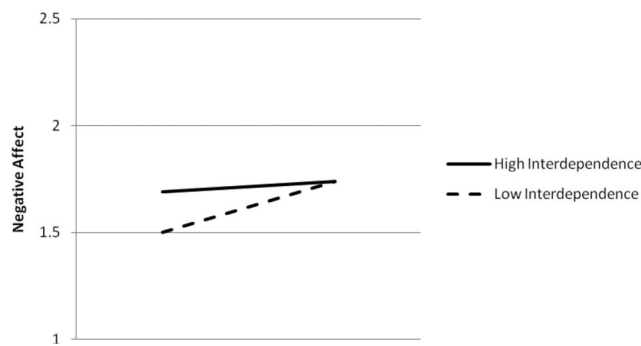


Figure 2. Graph of caregiver helping time predicting caregiver negative affect for differing values of interdependence. High interdependence is 1 *SD* above the mean; low interdependence is 1 *SD* below the mean. The total range of the negative affect scale was 1–5.

St. Aubin, 1998) but also more positive views of others (Poulin & Silver, 2008), suggesting one possible reason why volunteering and charitable activity contribute especially to older adults' well-being (e.g., Dulin & Hill, 2003; Midlarsky & Kahana, 1994; Wheeler et al., 1998).

Our research also has implications for research on caregiver-focused interventions. Although prior caregiving research has linked being a caregiver primarily with negative outcomes (Ironson, 2007; Pinquart & Sörensen, 2006), our findings indicate that the activity thought to be at the heart of caregiving—that is, providing active help—may have emotional benefits. Moreover, other recent research suggests that providing help in a caregiving context predicts better physical health and even reduced mortality among caregivers (S. L. Brown, Smith, et al., 2009). These findings are particularly striking in light of current efforts to provide caregivers with *respite*—that is, time away from caregiving—to improve their physical and emotional well-being (e.g., Administration on Aging, 2004; Jarrott et al., 2005). The distinction between active help and on-duty time identified in the present study suggests that respite interventions may be appropriate, particularly to the extent that they alleviate the burden of time spent on call. However, these findings raise the possibility that it is also important to identify caregivers who may need support—such as older adults—but who may benefit from actively helping their loved ones. This is an area ripe for further research.

Limitations and Future Directions

Although our study benefited from its EMA methodology and comprehensive assessment of relevant variables, it also had clear limitations. The main limitation of the present study was its small, relatively homogeneous sample. It is unclear how much our findings generalize to participants with different characteristics (e.g., ethnic minorities, different age groups) or even to larger populations of similar individuals. Future larger scale studies of caregiver well-being should incorporate separate measures of helping time and activities, on-call time, and care recipient need to replicate the findings we have reported.

In addition, because our study was correlational in nature, we cannot say for certain that helping caused well-being. Our use of a longitudinal design and lagged analyses suggest that our results are not explained by reverse causation (well-being causing helping), and the within-subjects analyses indicate that third variables in the form of individual differences are not at work. Thus, in comparison with prior caregiving research, which has relied on one or two time points, the present study's focus on patterns over multiple occasions minimizes concerns with causality. Nonetheless, it is still possible that other within-subjects factors, such as fluctuations in care recipient emotional well-being (e.g., Monin, Martire, Schulz, & Clark, 2009), could account for the helping-well-being association. Therefore, it may be useful for future research to assess care recipient health and well-being—as well as potential mechanisms, such as feelings of love and empathy, positive appraisals, or feelings of self-efficacy—concurrently with caregiver well-being to address potential confounds.

More broadly, our findings should encourage researchers interested in the ways in which caregiving influences well-being to separate actively providing help from other features of being a caregiver. By so doing, those aspects of caregiving that are gen-

uinely deleterious may become clearer. Furthermore, there may be a great deal more to discover about the potential benefits of caring for those in need.

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