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The relationship between self-efficacy and positive aspects of caregiving in Alzheimer's disease caregivers

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Objectives: Positive aspects of the caregiving experience may buffer caregivers from the many negative psychological and physical consequences of caregiving. Understanding what factors relate to the recognition of positive aspects of caregiving is important for the enhancement of caregiver well-being. Self-efficacy is a potentially modifiable psychological construct that has been associated with positive thinking, improved control of negative affect, and enhanced motivation.

Methods: This study examined the relationship between positive aspects of caregiving and self-efficacy among 57 family members caring for a loved one with Alzheimer's disease. Participant data was gathered through individual interviews conducted as a part of a larger randomized controlled trial of a caregiver intervention.

Results: We found that self-efficacy accounted for a significant percentage of the variance in positive aspects of caregiving after controlling for other factors commonly associated with positive aspects of caregiving including caregiver demographics, care recipient neuropsychiatric symptoms, and caregiver depression.

Conclusions: Our results suggest that high self-efficacy relates to caregivers' perception of positive aspects of the caregiving experience.

Keywords: caregiving; dementia; positive aspects of caregiving; self-efficacy

Introduction

The negative outcomes associated with caregiving are well documented and include decreases in both psychological and physical health (Pinquart & Sörenson, 2003; Schulz, O'Brien, Bookwala, & Fleissner, 1995). However, to fully understand the caregiving experience, it is critical that we also investigate positive consequences of caregiving since these may help protect and enhance caregivers' well-being. Despite the importance of establishing this balance, caregiving research has historically focused on understanding the negative consequences of caregiving with significantly less focus on the positive aspects of caregiving. This imbalance is further highlighted by the fact that the large majority of caregivers recognize that there are benefits to caregiving (Farran, Keane-Hagerty, Salloway, Kupferer, & Wilken, 1991; Sanders, 2005).

One of the early contributions to the study of positive aspects of caregiving highlighted the imbalance created by focusing on the negative aspects of caregiving despite the recognition of positive aspects of the caregiving experience (Miller & Powell Lawton, 1997). These researchers called for a 'corrective focus' in caregiving research, which encouraged researchers to expand the research examining the positive dimensions of the caregiving experience (Miller & Powell Lawton, 1997). A lack of attention to the positive aspects of caregiving creates a skewed perception of caregiving and limits the ability to fully understand

caregivers (Kramer, 1997; Louderback, 2000). Gaining a better understanding of the factors related to the positive aspects of caregiving can offer insight into how to provide quality care, enhance theories of caregiver adaptation and well-being, and improve assessment and intervention methods (Carbonneau, Caron, & Desrosiers, 2010).

The Resources for Enhancing Caregiver Health (REACH) initiative has advanced our understanding of the specific experiences of Alzheimer's disease caregivers (see Coon, Schulz, & Ory, 1999 for a description of the REACH study). REACH researchers found that positive aspects of caregiving are frequently reported by Alzheimer's disease caregivers, with most caregivers in a sample of 1229 reporting that caring for a loved one with Alzheimer's disease bolstered their appreciation for and outlook on life and strengthened their relationships with others (Tarlow et al., 2004). An analysis of the longitudinal effects of positive aspects of caregiving found that caregivers who positively appraised the caregiving situation reported lower rates of depression, reduced upset related to care recipient behavioral problems, and lower burden related to daily care activities (Hilgeman, Allen, DeCoster, & Burgio, 2007).

Self-efficacy is a psychological construct that may be related to caregiver's ability to positively appraise the caregiving situation. Broadly, self-efficacy is the perceived ability to successfully manage the demands

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of a specific situation, with self-efficacy determining how people feel, think, and motivate themselves (Bandura, 1997). Although there is reason to believe that self-efficacy plays a role in positive aspects of caregiving for those caring for a loved one with Alzheimer's disease, this relationship has not been directly investigated. Importantly, self-efficacy is conceptualized as a potentially modifiable psychological construct that is amenable to change (Bandura, 1997). This may make self-efficacy a particularly powerful way to influence positive aspects of caregiving. Therefore, establishing a relationship between these two constructs is of both theoretical interest and practical importance.

In this study, we sought to investigate the extent to which caregiver self-efficacy is related to positive aspects of caregiving among Alzheimer's disease caregivers. In bivariate analyses, we were interested in investigating if self-efficacy, as defined by a global self-efficacy score from a measure composed of three self-efficacy domain scores (self-soothing, relational, instrumental), would be correlated with positive aspects of caregiving. In multivariate analyses, we were interested in determining whether total self-efficacy would explain a significant proportion of the variance in positive aspects of caregiving even after accounting for other well-known variables that impact the caregiving experience.

Methods

Participants

Participants were 57 caregivers (39 spouses, 15 adult children, 3 siblings/friends) of patients diagnosed with Alzheimer's disease enrolled in a randomized controlled trial of a caregiver intervention. Caregivers were recruited from several referral sites with independent Institutional Review Board approval received from each participating institution. Recruitment sites included hospital clinics located at the Boston University School of Medicine, Boston Veterans Administration Healthcare System, and Bedford Veterans Administration Hospital. For inclusion, caregivers were required to provide at least 5 h of daily care, although the majority of caregivers reported providing significantly more hours of care per week ($M_{\text{hours}} = 116$, $SD = 66.3$). Additional inclusion criteria were: self-identification as an unpaid caregiver for an individual diagnosed with Alzheimer's disease who displayed at least one neuropsychiatric symptom, and fluency in the English language. Caregivers were excluded from participation if the patient had: delirium, an active neurological disorder other than Alzheimer's disease, a history of drug and alcohol abuse, or a history of a psychotic disorder such as Schizophrenia or other non-psychotic but severe psychiatric disorder. Inclusion and exclusion criteria were determined on the basis of the self-report of the caregiver during baseline interview.

Measures

Positive aspects of caregiving

The nine-item Positive Aspects of Caregiving scale presents statements about a caregiver's mental or affective state in the context of the caregiving experience (Tarlow et al., 2004). Responses were provided on a 5-point Likert scale (*agree/disagree*) and were designed to assess the perception of benefits within the caregiving context, such as feeling useful, feeling appreciated, and finding meaning. Scores ranged from 9 to 45, with higher scores indicating more positive caregiving appraisals. The reliability in the present study was $\alpha = 0.85$.

Caregiver self-efficacy

Caregiver self-efficacy specific to care-related tasks was measured using the RIS Eldercare Self-Efficacy scale (RIS) (Gottlieb & Rooney, 2003), which was designed for use with caregivers of older adults. The RIS is a 10-item scale that measures caregivers' global self-efficacy across three task-specific domains: instrumental (3-items), self-soothing (4-items), and relational self-efficacy (3-items). Responses were provided on a 5-point Likert scale, from 0 (*I'm certain I can't do this*) to 4 (*I'm certain I can do this*). Total scores ranged from 0 to 40 with higher scores indicating higher self-efficacy. The reliability in this study was $\alpha = 0.89$ for the total self-efficacy score.

Caregiver depression

Caregiver depression was measured using the Center for Epidemiological Studies Depression (CES-D) questionnaire (Radloff, 1977). The CES-D is a 20-item scale that asks about the frequency of experienced depressive symptoms over the previous week. Response options range from 0 (*rarely or none of the time*) to 3 (*most or all of the time*) for each item, with total scores ranging from 0 to 60. Higher scores indicate elevated levels of depressive symptoms, and a score of 16 or greater indicates that the individual may have clinically significant depressive symptoms (Radloff, 1977). The reliability in this study was $\alpha = 0.84$.

Patient neuropsychiatric symptoms

The Neuropsychiatric Symptoms Inventory (NPI) is a questionnaire of patient neuropsychiatric symptoms intended to be completed by a caregiver. The NPI assesses the frequency and severity of 12 common neuropsychiatric symptoms including: delusions, hallucinations, agitation, depression, anxiety, apathy, irritability, euphoria, disinhibition, aberrant motor behavior, night-time behavioral disturbances, and appetite/eating abnormalities (Cummings, 1997). Symptom frequency was rated on a 4-point scale, from 1 (*occasionally*) to 3 (*very frequently*). The NPI is widely utilized in dementia research (Connor, Sabbagh, & Cummings, 2008; Cummings, 1997;

Ma, Wang, Cummings, & Yu, 2010). The reliability in this study was $\alpha = 0.59$.

Data collection and analyses

A structured interview was administered to gather caregiver and patient history and demographic information; caregivers provided all history about themselves and the patient. The patient was not involved in the study. Following completion of the structured interview caregivers completed the measures described above. The caregiver data used in the current analyses were collected from measures administered to caregivers at baseline, prior to random assignment to the intervention or control condition that was part of the broader intervention study being conducted.

Data analyses included bivariate Pearson's correlations examining the relationship between positive aspects of caregiving, caregiver demographic variables, caregiver depression, and neuropsychiatric symptom frequency. Bivariate correlational analysis was followed by a multiple regression analysis to determine the unique contribution of self-efficacy to positive aspects of caregiving. Due to the number of independent variables and the limited sample size, only the variables that were significantly associated with positive aspects of caregiving were entered into the multiple regression analyses.

Results

Table 1 presents participant demographics and sample means. Consistent with known dementia caregiver demographics, the majority of caregivers were older women (43 women; $M_{\text{age}} = 70$ years; range = 44–88) caring for an aging spouse ($M_{\text{age}} = 80$ years; range = 64–92). Caregivers sampled had provided an

average of 3.4 years of direct care (range = 0.5–10.1) and the majority of caregivers cohabitated with their loved one (81%). On average, caregivers had completed some post-high school education ($M_{\text{education}} = 14.9$ years; range = 8–23) and the majority of caregivers provided full-time care for their loved one ($M_{\text{care}} = 110.5$ h/week; range = 5–168).

Results from the bivariate Pearson's correlations are presented in Table 2. Regarding the relationship between variables in the correlation matrix and positive aspects of caregiving, both depression and neuropsychiatric symptom frequency were negatively correlated to positive aspects of caregiving, while self-efficacy was positively correlated with positive aspects of caregiving.

A hierarchical multiple regression was performed to determine whether self-efficacy would explain a significant proportion of the variance in positive aspects of caregiving even after accounting for caregiver depression and care-recipient neuropsychiatric symptom frequency. Table 3 presents the results of the regression analysis. The first block of independent variables included stressors (neuropsychiatric symptom frequency and depression) and the second block included self-efficacy. As shown, step one accounted for a significant amount of the variance in positive aspects of caregiving ($R^2 = 0.15$). Both neuropsychiatric symptom frequency and depression had significant, negative associations with positive aspects of caregiving. In step two, when self-efficacy was added to the equation, there was a significant increase in variance explained ($R^2 = 0.25$). Self-efficacy had a significant, positive association with positive aspects of caregiving.

Discussion

This study investigated the degree to which self-efficacy is associated with positive aspects of caregiving after controlling for caregiver depression and care-recipient neuropsychiatric symptom frequency. Although it is widely recognized that caregiving can result in negative psychological states like depression, it is important to acknowledge that such negative affective responses themselves may contribute directly to caregiver outcomes, such as ability to find positive aspects of the caregiving experience (Hilgeman et al., 2007).

Past research has postulated that self-efficacy is related to positive aspects of caregiving (Carbonneau et al., 2010; Kramer, 1997). Importantly, self-efficacy may be able to be enhanced (Bandura, 1997). Therefore, establishing a relationship between self-efficacy and positive aspects of caregiving may have practical implications for caregiver interventions. Although researchers have speculated about this association (Carbonneau et al., 2010; Kramer, 1997), the findings of this study provide support for a direct relationship between self-efficacy and positive aspects of caregiving.

Table 1. Sample characteristics.

Variables	<i>n</i> (%)	<i>M</i>	<i>SD</i>
CG gender			
Female	43 (76.0)		
Male	14 (24.0)		
Relationship to patient			
Spouse	39 (68.5)		
Adult child	15 (26.3)		
Sibling or friend	3 (4.2)		
CG race/ethnicity			
White	54 (94.7)		
African-American/Black	2 (3.5)		
Latino	1 (1.8)		
CG age	57 (100)	70.2	11.0
CG education (years)	57 (100)	14.9	2.7
CG experience (years)	57 (100)	3.3	2.0
Level of care (hours)	57 (100)	110.5	68.8
PAC	57 (100)	30.6	9.1
CG depression	57 (100)	14.3	8.8
NPI symptom frequency	57 (100)	13.7	7.4
CG self-efficacy	57 (100)	27.5	7.6

Notes: CG = caregiver. PAC = positive aspects of caregiving.

Table 2. Summary of bivariate Pearson's correlations.

Variable	1	2	3	4	5	6	7
1 PAC	–						
2 Age	–0.210	–					
3 Education	0.013	–0.128	–				
4 Level of care	–0.122	0.350*	0.007	–			
5 Depression	–0.337*	0.262*	–0.101	0.371**	–		
6 NPI symptom frequency	–0.265*	–0.132	–0.219	–0.011	0.222	–	
7 Self-efficacy	0.346**	–0.141	0.123	–0.122	–0.096	–0.054	–

Notes: $N = 57$. PAC = positive aspects of caregiving.

* $p < 0.05$ and ** $p < 0.01$.

Table 3. Hierarchical multiple regression analysis predicting PAC.

Predictor	Positive aspects of caregiving		
	R^2	b	β
Step 1	0.15**		
NPI symptom frequency		–0.172	–0.146
Depression		–0.319*	–0.326
Step 2	0.25**		
Self-efficacy		0.364*	0.322

Notes: $N = 57$.

* $p < 0.05$ and ** $p < 0.01$.

A model proposed by Kramer (1997) suggests a relationship between self-efficacy and positive aspects of caregiving whereby caregiver internal processes are associated with a caregiver's ability to maintain a positive outlook throughout the caregiving process. Self-efficacy influences the development of affective filters that influence whether life events are cognitively construed, represented, and retrieved in an affectively benign or distressing manner (Bandura, 1997). Previous research demonstrates that caregivers with lower self-efficacy are more focused on negative aspects of the caregiving experience (Steffen, McKibbin, Zeiss, Gallagher-Thompson, & Bandura, 2002), while caregivers with higher self-efficacy are more likely to identify positive aspects of even negative caregiving situations (Farran, Loukissa, Perraud, & Paun, 2004). In addition, even when aspects of caregiving arise which are perceived as negative or are associated with negative affect, caregivers with higher self-efficacy are better at applying coping skills to manage their negative emotions. This is consistent with recent findings that caregiver self-efficacy for controlling upsetting thoughts is a particularly important moderating variable of caregiver distress when caregivers are faced with high levels of burden (Romero-Moreno et al., 2011).

Carbonneau et al. (2010) proposed a conceptual framework for understanding positive aspects of caregiving that postulated a strong role for self-efficacy as it relates, at least in part, to the caregiver/care-recipient relationship. In their model, three domains define

positive aspects of caregiving: quality of the caregiver/care-recipient relationship, meaning of the caregiving role, and caregiver feeling of accomplishment. These three domains emerge as a direct result of the presence of enrichment events in the caregiver's daily life, the frequency and quality of which are influenced by the caregiver's sense of self-efficacy. In support of their model, it has been shown that engagement in enrichment events that enhance the relationship between the caregiver and care-recipient can reduce the negative aspects of caregiving and bolster the positive aspects of caregiving (Hellström, Nolan, & Lundh, 2007; Hwang, Rivas, Fremming, Rivas, & Crane, 2009; Jensen, Ferrari, & Cavanaugh, 2004). Individuals with high self-efficacy are described as possessing more motivation to act on their environment in ways that promote positive well-being (Bandura, 1997). Therefore, a caregiver with high self-efficacy might seek out pleasant events that he or she can share with his or her loved one, the inclusion of which enhances the dyad's relationship, while also increasing the caregiver's sense of effectiveness and satisfaction in the caregiving role. Caregivers with higher self-efficacy may be better at recognizing positive aspects of caregiving because they are able to self-soothe when negative relationship changes do occur and are also able to preserve the quality of their relationship with their loved one.

The importance of attending to positive aspects of caregiving in clinical interventions is emerging as an important new direction in caregiver research (Cohen, Colantonio, & Vernich, 2002; Pinquart & Sörensen, 2003). Hilgeman et al. (2007) found that positive aspects of caregiving act as a moderator of treatment outcomes, such that increased ability to identify positive aspects of caregiving was associated with increased responsiveness and benefit from clinical interventions. The results of this study, combined with other self-efficacy research, suggest the potential for interventions that directly enhance self-efficacy thereby increasing caregivers' positive experiences in the caregiving role. Caregiver self-efficacy is known to be enhanced through a variety of techniques including: (a) relaxation training (Fisher & Laschinger, 2001), (b) meditation and yoga (Oman, Richards, Hedberg, & Thoresen, 2008), (c) home-based intervention (Gitlin,

Corcoran, Winter, Boyce, & Hauck, 2001; Huang, Shyu, Chen, Chen, & Lin, 2003), and (d) cognitive and behavioral skills training (MacKenzie & Peragine, 2003). Interestingly, Beauchamp, Irvine, Seeley, and Johnson (2005) found that dementia caregiver self-efficacy and experienced positive aspects of caregiving both increased following caregiver participation in an online multi-component intervention program. Although they did not postulate a mechanism for this finding, one may speculate whether self-efficacy was enhanced through the multi-component intervention and if this, in turn, increased caregivers' ability to identify positive aspects of caregiving.

There are several limitations of this study that should be considered. First, the results presented here are based on a small sample of 57 predominately highly educated White female caregivers. In addition, our study used a mixed sample of spousal, adult children, and sibling/friend caregivers and the small sample here does not permit effective investigation of how results might vary as a function of the type of caregiver/care-recipient relationship (e.g., spouses versus adult children), which has been shown to be a potentially important variable (Pinquart & Sörensen, 2011). Similarly, many studies have provided evidence that caregiver experience varies depending on characteristics such as gender, race, and education (Schulz et al., 1995) calling into question how well these results would generalize to other caregiver groups such as those with less education, men, and caregivers from diverse racial backgrounds. Finally, strong evidence suggests that self-efficacy is a domain and task-specific construct, rather than a global construct (Bandura, 1997). Our study used an instrument measuring only three domains of self-efficacy (relational, self-soothing, and instrumental) and our sample size did not permit closer inspection of the potentially differential impact of these three domains on self-efficacy. Other self-efficacy domains may exist that are more strongly related to the ability of caregivers to identify positive aspects of caregiving.

Research investigating the positive aspects of caregiving continues to lag behind research investigating the negative consequences of caregiving and many questions remain, particularly with regard to dementia caregivers. In the future, it will be important to investigate the degree to which other factors such as optimism, self-esteem, life satisfaction, and the inclusion of enrichment activities in daily life help to explain the relationship between positive aspects of caregiving and self-efficacy (Caprara & Steca, 2006; Carbonneau et al., 2010; Gottlieb & Rooney, 2004).

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