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## Caregiving and Perceived Generativity: A Positive and Protective Aspect of Providing Care?

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### ABSTRACT

**Objectives:** Although a sizable body of research supports negative psychological consequences of caregiving, less is known about potential psychological benefits. This study aimed to examine whether caregiving was associated with enhanced generativity, or feeling like one makes important contributions to others. An additional aim was to examine the buffering potential of perceived generativity on adverse health outcomes associated with caregiving.

**Methods:** Analyses utilized a subsample of participants ( $n = 3,815$ , ages 30–84 years) from the second wave of the National Survey of Midlife Development in the United States (MIDUS).

**Results:** Regression analyses adjusting for sociodemographic factors indicated greater negative affect and depression ( $p < .001$ ) and lower levels of positive affect ( $p < .01$ ), but higher self-perceptions of generativity ( $p < .001$ ), in caregivers compared with non-caregivers. This association remained after adjusting for varying caregiving intensities and negative psychological outcomes. Additionally, generativity interacted with depression and negative affect ( $p$  values  $< .05$ ) to lessen the likelihood of health-related cutbacks in work/household productivity among caregivers.

**Conclusions:** Results suggest that greater feelings of generativity may be a positive aspect of caregiving that might help mitigate some of the adverse health and well-being consequences of care.

**Clinical Implications:** Self-perceptions of generativity may help alleviate caregiver burden and explain why some caregivers fare better than others.

### KEYWORDS

Informal care; psychological well-being; social contribution; usefulness

### Introduction

Informal caregivers provide the majority of long-term care in the United States (Feinberg, Reinhard, Houser, & Choula, 2011). Given the acute care model of health care in the United States, the responsibility for managing the daily challenges of chronic illness and disability typically falls upon close friends and family members, often referred to as the “backbone” of this type of care (Kane, Priester, & Totten, 2005). The majority of care recipients are over the age of 75, but it is important to note that older adults are not the only individuals receiving chronic care. There are also an estimated 5.9 million children living in the United States with severe disabilities, the majority of whom are cared for by their families (Murphy, Christian, Caplin, & Young, 2007). More than one-fifth of households in the United States are currently involved in some type of caregiving responsibilities (NAC & AARP, 2004), and this proportion is projected to grow

given the aging of our population and subsequent age-related disabilities (Feinberg et al., 2011). Therefore, informal caregiving is an important public health issue affecting a wide range of individuals. Caregivers are providing an invaluable service to society by managing their loved ones’ health conditions and saving the formal health care system billions of dollars annually (Feinberg et al., 2011); thus, a better understanding of the caregiving experience continues to be of utmost importance.

### Negative Consequences of Caregiving

The vast majority of caregiving research thus far has focused on negative consequences of providing care. Caregiving is often a time consuming role, meaning caregivers may have less time to engage in social, leisure, and other personal activities (Pinquart & Sörensen, 2003). In addition, caregivers typically

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have the responsibility of handling difficult caregiving tasks and, in some cases, challenging behavioral problems, as well as psychological distress caused by the uncertainty of the course of their loved one's condition. A meta-analysis, which examined differences between caregivers and non-caregivers in psychological and physical health, found caregivers to fare worse across five health indicators: depression, stress, subjective well-being, self-efficacy, and physical health (Pinquart & Sörensen, 2003). Caregivers have also been found to exhibit higher levels of psychological distress and anxiety compared with non-caregivers (Robison, Fortinsky, Kleppinger, Shugrue, & Porter, 2009). A review of studies measuring stress among caregivers noted that each of the 17 studies examined found abnormally high stress levels in the caregivers they assessed (Cummins, 2001). Russo, Vitaliano, Brewer, Katon, and Becker (1995) also found that caregivers were more likely to experience psychiatric disorders (e.g., Major Depressive Disorder, Generalized Anxiety Disorder) than non-caregivers in a demographically matched sample. The accumulation of such evidence suggests that caregiving is indeed a stressful experience accompanied by negative psychological states in many individuals.

### **Rewards Associated with Caregiving**

Though researchers have thoroughly documented the deleterious effects of caregiving, caregivers also often report positive gains from the experience, and there is growing recognition of the need for greater research in this domain (Motenko, 1989; Schulz & Sherwood, 2008; Zarit, 2012). Cohen, Colantonio, and Vernich (2002) demonstrated that the vast majority of caregivers voice at least one positive aspect of their caregiving experience, supporting the idea that caring for loved ones may be more complex than previously characterized by the literature. Their findings are supported by a recent survey, in which 83% of caregivers surveyed revealed positive reflections about their caregiving experiences (National Opinion Research Center, 2014). Positive aspects of caregiving include feelings of self-pride and fulfillment, perceptions of being needed, and an opportunity to learn new skills and enhance relationships (Schulz & Sherwood, 2008). Additional examples of reported gains from caregiving include feelings of newfound emotional closeness or deepened levels of intimacy

(Motenko, 1989), increased confidence (Green, 2007; Schwartz & Gidron, 2002), and the development of *reciprocal* support relationships, especially in parents caring for adult children with disabilities (Green, 2007; Horwitz, Reinhard, & Howell-White, 1996). Further support for positive aspects of caregiving can be found in the social support literature, which documents potential psychological benefits of providing support to others, such as heightened self-esteem and positive emotion, in the larger population (Brown, Nesse, Vinokur, & Smith, 2003; Krause & Shaw, 2000; Post, Neimark, & Moss, 2007).

### **Generativity**

One additional positive aspect of caregiving may be that providing care can promote individuals' perceptions of being generative. Generativity is defined as concern and activity dedicated to contributing to the welfare of others. Traditionally, generative concern and activity were conceptualized to focus on contributions to younger generations, although generativity may also encompass other targets, extending to peers, elders, and the community (An & Cooney, 2006; Berdes, 2015; Snarey, 1993; Villar, 2012). This construct was originally proposed by developmental psychologist, Erikson (1950), as an important stage of psychosocial development that assumes special significance during midlife (McAdams, de St. Aubin, & Logan, 1993). However, accumulating evidence suggests that desire to be generative remains equally as important into older age (McAdams, 2001; Schoklitsch & Baumann, 2012; Villar, 2012), and thus is not restricted to midlife. It has been found that individuals who perceive themselves as more generative experience better trajectories of physical and mental health over time. For example, higher self-perceptions of generativity are associated with lower mortality and lower risk of the development of disability in older adults (Gruenewald, Liao, & Seeman, 2012). Studies also indicate that adults with higher self-perceptions of generativity and usefulness demonstrate better psychosocial well-being, including lower levels of depressive symptomology, greater feelings of self-efficacy and mastery, as well as greater social connectedness and integration (Grand, Grosclaude, Bocquet, Pous, & Albarede, 1988; Gruenewald, Karlamangla, Greendale, Singer, & Seeman, 2007, 2009; McAdams et al., 1993).

Caregiving behavior fulfills the fundamental motivations set forth by what has been theorized as an intrinsic need to be generative (Erikson, 1950). Caregiving is an experience characterized by social, physical, emotional, and also often significant financial support to others, typically with the primary goal of improving their health, functioning, and well-being. Indeed, qualitative research has shown “sense of purpose” to be an important sentiment voiced by caregivers as motivation for continuing to fulfill this challenging role (Cheng, Mak, Lau, Ng, & Lam, 2015). Deriving pleasure or enjoyment from helping others has also surfaced as a key reason for providing care (Feeney & Collins, 2003), suggesting that social contribution is an important motivator for caregiving. Some have begun to draw the connection between caregiving experiences and the construct of generativity. For instance, Peterson (2002) builds upon Erikson’s assertion that the most fundamental component of generativity is care for others. Peterson (2002) found that highly generative female caregivers did not feel burdened when summoned to care for their ailing parents. Indeed, as greater perceptions of generativity have been shown to be linked to better psychological and physical health over time, deriving this potential gain from the experience may help shield individuals from some of the challenges associated with caregiving (Koerner, Baete Kenyon, & Shirai, 2009; Roth, Fredman, & Haley, 2015).

A significant proportion of caregiving research has evolved from the stress and coping framework (Lazarus & Folkman, 1984; Noonan & Tennstedt, 1997). As applied to caregiving, these models focus primarily on the continuous nature of caregiver stress and factors that might mediate the link between stress and negative caregiver outcomes (Noonan & Tennstedt, 1997). Gradually, there has been accumulating acknowledgement that the emphasis on coping strategies and caregiver support may have led to a neglect of other important factors that may contribute to the understanding of individual differences in caregiving experiences (Cheng, Lau, Mak, Ng, & Lam, 2014; Hooker, Monahan, Shifren, & Hutchinson, 1992; Levesque, Cossette, & Laurin, 1995; Noonan & Tennstedt, 1997). Several constructs have emerged as resources that seem to buffer against the experience of distress and explain why some caregivers might fare better or worse than others. For instance, researchers

have found that deriving meaning from the act of caregiving is related to better well-being, specifically higher self-esteem and fewer depressive symptoms (Noonan & Tennstedt, 1997). In addition to meaning-finding, other psychological constructs, such as self-efficacy, personal mastery, and optimism or hope have also been found to buffer against some of the negative health outcomes associated with caregiving (Horton & Wallander, 2001; Pioli, 2010; Rabinowitz, Mausbach, Thompson, & Gallagher-Thompson, 2007; Semiatin & O’Connor, 2012; Wang, Yip, & Chang, 2016).

### **Present Analysis**

The current analysis adds to prior investigations by examining an additional potential positive aspect of caregiving—including enhanced perceptions of generativity, or feeling like one plays a valuable role in, and makes important contributions to, the well-being of others. The first question the study sought to answer was whether caregivers have higher self-perceptions of generativity, compared with non-caregivers. In an effort to present a balanced characterization of the psychological correlates of the caregiving experience, this study examined both potential positive and negative aspects of providing care for others. Hypothesized negative consequences stemming from prior literature included greater levels of depression and negative affect and lower levels of positive affect. However, caregivers were also hypothesized to have higher self-perceptions of generativity compared with non-caregivers. Though this may seem counterintuitive, research has shown that negative and positive correlates of caregiving are not mutually exclusive and often co-exist. Generativity, a construct that has not been thoroughly explored in relation to caregiving, may be one potential psychological resource co-occurring among feelings of distress. Additionally, after examining generativity as a potential positive psychological aspect of caregiving, this study also examined the buffering potential of perceptions of generativity against some of the adverse health states typically associated with caregiver distress.

While others have begun to connect the construct of generativity with caregiving (Peterson, 2002; Villar, Celdrán, & Triadó, 2012), this study differs in its comparison of this characteristic in caregivers versus non-caregivers and examination

of these associations in a large, population-based sample. An important limitation of most existing studies on caregiving correlates thus far is that they have been conducted using convenience or clinical samples, in which different recruitment processes are typically employed for caregivers compared with non-caregivers (Roth et al., 2015). Population-based studies comparing caregivers with non-caregivers who have been recruited through similar methodologies or without regards to caregiving status are rare (Kramer, 1997a; Pinquart & Sörensen, 2003; Schulz, O'Brien, Bookwala, & Fleissner, 1995). Therefore this study fills an important gap in the caregiving literature, in that participants were not selected into the current study on the basis of caregiving status or the experience of specific psychological well-being states related to caregiving.

## Methods

### Participants

Data for this study come from the National Survey of Midlife Development in the United States (MIDUS). MIDUS is designed to promote the investigation of the role of psychological, social, and behavioral factors in shaping health and well-being with aging across the life course. The first wave of the MIDUS survey collected data from 7,108 participants 25–74 years of age and was administered in 1995/1996. Subjects were recruited through national random digit dialing and oversampling of five metropolitan cities in the United States. MIDUS II is the longitudinal follow-up to the original MIDUS study and was conducted about 10 years later in 2004/2006 ( $n = 4,963$  initial phone survey and  $n = 4,041$  for subsequent mail survey; see [www.midus.wisc.edu](http://www.midus.wisc.edu)). This study analyzed data from the second wave of MIDUS because the first wave of the study did not query caregiving status or caregiving characteristics. The analytic sample for the present study consisted of 3,815 respondents (ages 30 to 84 years, mean = 56 years) who provided data on the variables of interest in the phone and mail surveys. The analytic sample contained 490 individuals who self-identified as caregivers over the last 12 months.

## Measures

### Caregiving

Caregiving status was assessed in MIDUS II with the question, “In the past 12 months, have you given personal care to others?” The respondent was prompted to answer “Yes” or “No.” Caregiving was defined in the survey as providing care for friends or relatives because of a physical or mental condition, illness, or disability.

**Care Intensity.** Intensity of care was also assessed by a continuous variable representing the total reported hours spent caregiving in the past 12 months. Because of its skewed distribution, it was re-coded into dichotomous dummy variables representing less than 200, 200 to 500, and over 500 hours of care, with non-caregivers coded as 0.

### Psychological Well-being

Psychological well-being measures of depression, negative affect, and positive affect were examined as correlates of the caregiving experience.

**Depression.** Depression was measured by the presence of a depressive episode in the past year and defined according to the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders criteria (APA, 1987). Scoring positive for depression on this measure required the respondent to have experienced at least 2 weeks of depressed affect or anhedonia most of the day, almost every day *and* to meet criteria for at least four symptoms associated with depression, including hopelessness, variations in sleep and/or appetite, fatigue, difficulty concentrating, loss of interest, or suicidal thoughts (rated as the presence or absence of each symptom). This measure of depression was utilized in the World Health Organization's (WHO) Composite International Diagnostic Interview (CIDI) and has been found to demonstrate high test-retest reliability and clinical validity (Kessler, Mickelson, Walters, Zhao, & Hamilton, 2004; Kessler, Mickelson, & Williams, 1999).

**Affect.** Negative affect was assessed with a scale developed specifically for MIDUS. The items comprising this scale were selected from well-validated instruments, such as the Affect Balance Scale (Bradburn,



1969) and the Center for Epidemiological Studies Depression Scale (Mroczek & Kolarz, 1998; Radloff, 1977). The result was a 6-item tool, asking respondents, "During the past 30 days, how much of the time did you feel: (a) so sad nothing could cheer you up; (b) nervous; (c) restless or fidgety; (d) hopeless; (e) that everything was an effort; and (f) worthless?" Responses to these items could range from "None of the time" to "All of the time." This scale has demonstrated strong internal consistency ( $\alpha = .85$ ; Mroczek & Kolarz, 1998). The positive affect scale asked, "During the past 30 days, how much of the time did you feel: (a) cheerful; (b) in good spirits; (c) extremely happy; (d) calm and peaceful; (e) satisfied; (f) full of life?" This scale also has demonstrated high internal consistency ( $\alpha = .91$ ). Scores for both scales were constructed by averaging responses across the items, with higher scores reflecting higher levels of negative and positive affect, respectively.

**Generativity.** MIDUS administered an abbreviated version of the Loyola Generativity Scale (LGS), which was used to measure perceptions of generativity (McAdams et al., 1993). This scale consists of six items and measures degree of agreement with the provided statements on a 4-point scale. The items, the responses to which range from 1 (not at all) to 4 (a lot), include: "Others would say that you have made unique contributions to society," "You have important skills you can pass along to others," "Many people come to you for advice," "You feel that other people need you," "You have had a good influence on the lives of many people," and "You like to teach things to people." This scale is scored by a sum measure of the six items and has shown high internal consistency ( $\alpha = .84$ ). An additional question measuring perceived **current generative contribution** was also included. Individuals were asked to rate their level of contribution to the welfare and well-being of others, including friends, family, and the larger community. This measure contains an 11-point scale, ranging from 0, indicating the worst possible contribution, to 10, indicating the best possible contribution. Both measures of generativity were used in the study given previous observations that scores on the measures predict disability and mortality outcomes in MIDUS participants (Gruenewald et al., 2012).

## **Mental and Physical Health Status (Buffering Analyses)**

### **Self-rated Health**

Self-rated physical health was assessed with the question, "In general, would you say your physical health is: excellent, very good, good, fair, or poor?" Respondents were then asked the same question regarding their mental health. Responses to both questions were rated on a 5-point scale, where 1 = excellent health and 5 = poor health.

### **Cutback in Daily Work/Household Productivity**

Respondents were asked how many days in the past month they were unable to go to work or carry out their typical household tasks due to physical or mental health. This item was recoded into a dichotomous variable representing *any* loss of productivity due to physical or mental health problems in the past 30 days.

### **Sociodemographic Variables**

Age, sex, race, and education were included as covariates in analyses. For race, a dummy variable was created to represent white or non-white race/ethnicity. Educational degree attainment was coded into a categorical variable with the categories, "high school or less," "some college," and "4 year college degree or greater."

### **Analyses**

All analyses were conducted using SPSS (version 22). Before examining the effects of caregiving on specific outcomes, descriptive statistics were examined. A series of multiple linear regression or logistic regression (for the dichotomous depression outcome) models were then utilized to assess associations between caregiving status and psychological well-being measures of interest (generativity, depressed mood, positive and negative affect). A first model (Model 1) examined the association between caregiving status and the psychological well-being outcomes of interest when including sociodemographic covariates (age, sex, race, and education) in the model. A second model (Model 2) substituted hours of caregiving (< 200, 200–500, >500; non-caregivers coded as 0) in place of caregiving status to examine whether the intensity of care provision predicted generativity/psychological well-being.

A third model (Model 3) for generativity outcomes simultaneously included psychological well-being variables (depressed mood, positive and negative affect) associated with caregiving as independent variables to determine whether the association between caregiving and perceptions of generativity would remain when accounting for these hypothesized negative well-being correlates of caregiving. Lastly, regressions were conducted assessing the interactions between generativity and psychological distress (depression, negative affect) on mental and physical health states among caregivers to address the potential buffering capacity of generativity. All variables included in the interaction terms were centered.

## Results

Descriptive statistics were generated for all variables included in the regression analysis (Table 1). The sample contained 490 individuals (12.8% of the 3,815 participants) who identified themselves as caregivers of family members or friends with a mental or physical condition in the past 12 months. The average age of respondents in the sample was 55.9 years (range: 30 to 84 years). The average age of caregivers in the sample was 56.4 years, and the average age of non-caregivers was 55.8 years. The majority of care recipients were aging parents, followed by spouses. The sample contained relatively the same amount of females (54.9%) as males, but among caregivers, 66.9% were female. MIDUS contains a largely racially homogeneous sample with 91.9% of respondents in the analytic sample self-identifying as white. Respondents in this sample were also fairly well educated, with nearly 40% having attained a college degree or beyond.

Results from regression analyses examining psychological well-being correlates of caregiving status, including both the negative well-being states of depression and negative affect, as well as positive well-being states of positive affect and generativity, are displayed in Table 2. As documented in Table 2, caregiving was associated with higher levels of both measures of perceived generativity: the Loyola Generativity Scale and self-reported current contribution to the welfare of others. Caregiving was also associated with greater odds of experiencing depression, higher levels of negative affect, and decreased positive affect, as hypothesized.

A second regression model substituted hours of care for caregiving status to account for care intensity, including dummy predictors for those who provided less than 200 (low), 200 to 500 (moderate), or over 500 (high) hours of care. Each level of caregiving was found to be associated with higher perceptions of generativity (low intensity:  $\beta = .059, p < .001$ ; moderate:  $\beta = .035, p < .05$ ; high:  $\beta = .072, p < .001$ ). Low and high intensity caregiving were also associated with greater perceived contributions to others' welfare (respectively,  $\beta = .038, p < .05$ ;  $\beta = .065, p < .001$ ). All levels of caregiving continued to be associated with greater odds of experiencing depression (from low to high intensity: OR = 2.003,  $p < .01$ ; OR = 2.270,  $p < .01$ ; OR = 2.013,  $p < .01$ ). However, only high intensity care was significantly associated with both greater negative affect ( $\beta = .044, p < .01$ ) and lower positive affect ( $\beta = -.054, p < .001$ ), suggesting that these psychological correlates may reflect burden associated with care intensity.

An additional regression analysis was performed to determine if caregiving status continued to predict variations in perceived generativity when accounting for variations in depression and affective well-being associated with caregiving. Caregiving was again found to be associated with greater feelings of generativity ( $\beta = .099, p < .001$ ) and greater perceived level of current contribution to others ( $\beta = .077, p < .001$ ) when including these other psychological correlates of caregiving status in analytic models. The magnitude of the association between caregiving and perceived generativity remained essentially unchanged when accounting for these psychological well-being correlates of caregiving.

Finally, in a preliminary effort to probe the buffering potential of generativity among caregivers, regressions were run examining the effects of the interactions of perceived generativity and psychological distress (depression, negative affect) on self-reported physical and mental health outcomes. The aim was to examine whether caregivers who feel more generative might be less likely to experience distress-related negative mental and physical health states (including poor self-rated mental and physical health and/or loss of productivity due to mental and/or physical health problems). As displayed in Table 3, among caregivers, there was a significant interaction between perceived generativity and depression on likelihood of a cutback in daily work/household

**Table 1.** Sociodemographic, caregiving, and psychological well-being characteristics of MIDUS II participants.

Characteristics & Variables	n	%	M (SD)	Possible Range
<i>Sociodemographic Variables</i>				
Age (total sample)	3,815		55.89 (12.26)	30–84
Age (caregivers)	490		56.44 (11.25)	30–84
Relationship of care recipient				
Spouse	90	18.4		
Child	61	12.5		
Parent	172	35.2		
Parent-in-law	41	8.2		
Grandparent	5	1.0		
Sibling	17	3.5		
Other	103	21.0		
Female (total sample)	2,096	54.9		
Female (caregivers)	328	66.9		
White	3,507	91.9		
Education				
High school or less	1,247	32.7		
Some college	1,089	28.5		
4 year college degree or greater	1,479	38.8		
<i>Caregiving Status (past 12 months)</i>				
Caregiver	490	12.8		
Non-caregiver	3325	87.2		
<i>Caregiving Characteristics</i>				
Intensity of care (total hours/year) <sup>a</sup>			635.93 (1027.59)	0–4992
< 200	182	42.3		
200–500	110	25.6		
>500	138	32.1		
<i>Psychological Well-Being Variables</i>				
Depression (present)	330	8.6		
Affective well-being				
Negative affect	3,815		1.51 (.58)	1–5
Positive affect	3,815		3.42 (.70)	1–5
Perceived generativity	3,815		16.99 (3.84)	6–24
Current generative contributions	3,815		6.51 (2.18)	0–10

<sup>a</sup> Percentages for “Intensity of care” are among caregivers only.

productivity due to health (Figure 1a). There was also a marginally significant interaction between generativity and depression in predicting self-reported mental/emotional health. The interaction in the regression on self-reported physical health was insignificant, though depression predicted poorer self-reported physical health. When the interaction between generativity and negative affect was substituted into the model, there was also a significant interaction on the likelihood of a health-related cutback in daily productivity (Figure 1b). However, the interaction was not significant for self-reported mental or physical health (Table 4).

## Discussion

This study supports previous findings that informal caregiving is associated with several negative psychological well-being states, including increased

depression and negative affect. However, it also demonstrates the existence of positive psychological well-being correlates of caregiving in the form of greater self-perceptions of generativity. The strength of this association remains even after adjusting for variations in caregiving intensity and negative psychological outcomes. Greater perceptions of generativity have been demonstrated to be associated with more favorable patterns of physical functioning and longevity over time (Gruenewald et al., 2012), and result in greater psychological well-being and quality of life (Keyes & Ryff, 1998). Taken together, these findings suggest that caregivers might experience enhanced self-perceptions of generativity as a function of their care contributions, a quality that may help protect against some of the adverse health and well-being consequences of caregiving. In an effort to better understand the buffering potential of generativity



**Table 2.** Results from regression of caregiving on psychological well-being outcomes, adjusting for sociodemographic factors (Model 1) (n = 3,815).

Variable	Perceived Generativity		Current Contributions		Negative Affect		Positive Affect		Depression <sup>a</sup>	
	B	$\beta$	B	$\beta$	B	$\beta$	B	$\beta$	B	OR
<i>Main Variable</i>										
Caregiver (Yes)	1.049***	.091	.436***	.067	.107***	.062	-.108**	-.051	.820***	2.271
<i>Sociodemographic Variables</i>										
Age	-.003	-.008	-.002	-.012	-.006***	-.122	.008***	.141	-.035***	.966
Sex (Female)	.287*	.037	.601***	.137	.069***	.060	-.010	-.007	.866***	2.378
Nonwhite	.690**	.049	.110	.014	.127***	.060	.045	.017	-.103	.902
High school or less	-1.765***	-.216	-.545***	-.117	.176***	.143	-.080**	-.053	.448**	1.566
Some college	-1.068***	-.126	-.328***	R2 -.068	.059**	.046	-.033	-.021	.213	1.237

Model estimates  $r^2 = .050$ ,  $r^2 = .034$ ,  $r^2 = .042$ ,  $r^2 = .023$ , Cox & Snell  $r^2 = .036$ , Nagelkerke  $r^2 = .082$ .

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

<sup>a</sup> A binary logistic regression was conducted for the depression outcome, given its skewed distribution.

**Table 3.** Examining the interactions between perceived generativity and depression on mental and physical health related outcomes.

Variable	Poorer Self-rated Physical Health		Poorer Self-rated Mental Health		Cutback in Daily Work/Household Productivity	
	B	$\beta$	B	$\beta$	B	OR
Generativity (LGS)	-.024	-.089	-.026*	-.097	-.002	.998
Depression	.442***	.162	.918***	.341	.531	1.700
Generativity x Depression	.001	.002	-.042	-.072	-.154*	.857
<i>Sociodemographic Controls</i>						
Age	.005	.053	-.003	-.029	-.013	.988
Sex (Female)	-.102	-.047	.098	.046	.729**	2.073
Nonwhite	.247	.075	.132	.041	.610	1.840
High school or less	.317**	.147	.217*	.102	.689**	1.992

Model estimates  $r^2 = .069$ ,  $r^2 = .165$ , Cox & Snell  $r^2 = .075$ , Nagelkerke  $r^2 = .166$ .

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

Note: These analyses were performed among caregivers only. A binary logistic regression was performed for cutback in work, as it was a dichotomous variable.

**Table 4.** Examining the interactions between perceived generativity and negative affect on mental and physical health related outcomes.

Variable	Poorer Self-rated Physical Health		Poorer Self-rated Mental Health		Cutback in Daily Work/Household Productivity	
	B	$\beta$	B	$\beta$	B	OR
Generativity (LGS)	-.010	-.039	-.014	-.053	.006	1.007
Negative Affect	.540***	.341	.746***	.477	.643***	1.903
Generativity x Negative Affect	.012	.033	.008	.021	-.099*	.906
<i>Sociodemographic Controls</i>						
Age	.008	.092	.000	.003	-.009	.991
Sex (Female)	-.137	-.063	.086	.040	.671*	1.956
Nonwhite	.227	.069	.095	.029	.591	1.805
High school or less	.238*	.110	.131	.061	.654**	1.923

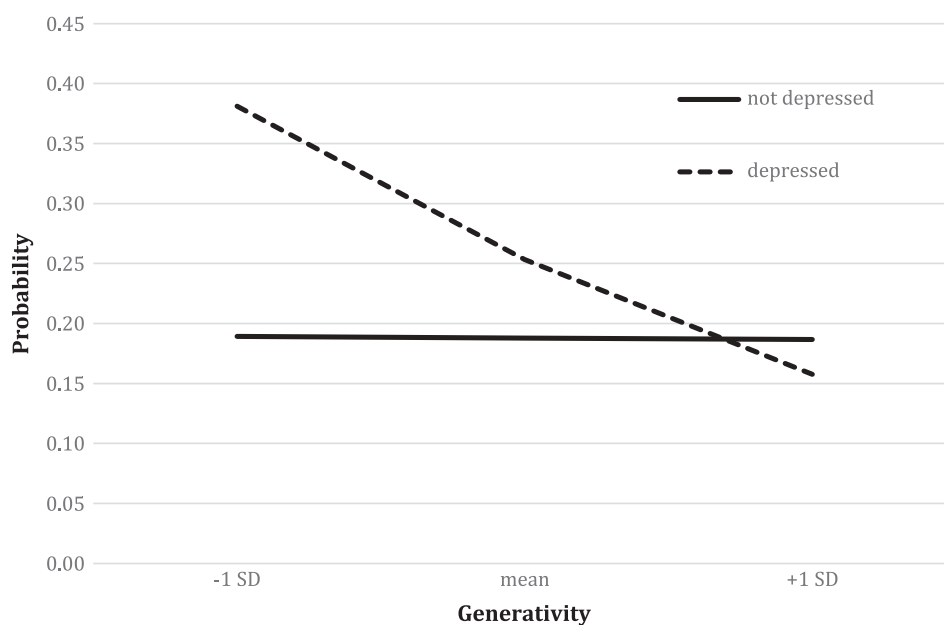
Model estimates  $r^2 = .145$ ,  $r^2 = .260$ , Cox & Snell  $r^2 = .099$ , Nagelkerke  $r^2 = .153$ .

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

Note: These analyses were performed among caregivers only. A binary logistic regression was performed for cutback in work, as it was a dichotomous variable.

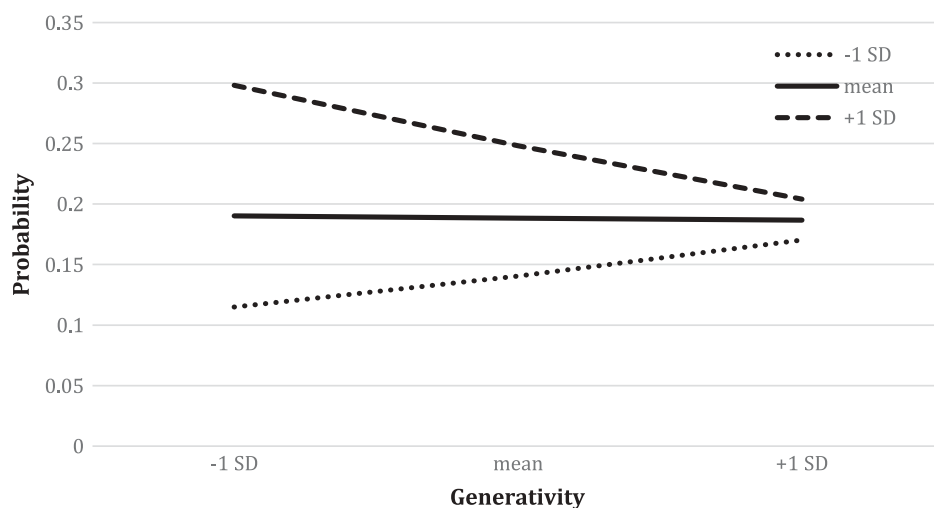
among caregivers, interactions between perceived generativity and psychological distress (depression and negative affect) were examined in their association with self-reported physical and mental health outcomes. Greater levels of depression and negative affect were associated with poorer self-rated mental

and physical health and greater odds of inability to work because of a mental or physical health condition. However, those who felt more generative were less likely to experience a loss in daily work/household productivity as a function of depression or negative affect. In contrast, caregivers who reported



**Figure 1a.** Interaction between depression and generativity on work cutback in caregivers.

Note: OR for work cutback in the depressed vs. non-depressed at low (–1 SD), average, and high (+1 SD) generativity = 2.64, 1.47, and .82, respectively.



**Figure 1b.** Interaction between negative affect and generativity on work cutback in caregivers.

Notes: Lines represent different levels of negative affect.

OR for work cutback at low (–1 SD), average, and high (+1 SD) generativity = 2.52, 1.73, and 1.19, respectively.

high levels of distress but low levels of generativity were more likely to experience cutbacks in work/productivity. This suggests that feeling generative may play an important role in attenuating some of the impairments in daily function associated with negative emotional health consequences of caregiving.

While this study is one of the first to our knowledge to show enhanced generativity as a positive

aspect of caregiving, there are other studies that have examined various other benefits and, similarly, found that positive psychological correlates often co-exist with negative psychological states in the same individual (e.g., Carbonneau, Caron, & Desrosiers, 2010; Koerner et al., 2009). It has been argued that, rather than falling on the opposite end of a continuum, positive gains likely reflect a different dimension of the caregiving experience than distress and

burden (Carbonneau et al., 2010; Kramer, 1997b). For example, it has been found that the majority of caregiving events are both positively and negatively appraised by caregivers (Kinney & Stephens, 1989; Koerner et al., 2009). In fact, not only has there been growing interest in examining potential benefits of caregiving, but there has also been a rise in the literature documenting this co-occurrence of seemingly negative *and* positive events. Positive constructs such as growth, generativity, and wisdom are often thought to evolve from stressful life experiences. Such relationships have been supported, for example, by the post-traumatic growth literature (Barskova & Oesterreich, 2009) as well as research linking early life adversity to greater generative enhancement (Landes, Ardel, Vaillant, & Waldinger, 2014). Therefore, greater perceptions of generativity may have health benefits, as previous research suggests, but the processes by which individuals come to experience these benefits may vary.

There are several limitations to the current analysis that should be acknowledged. Even though MIDUS consists of a national sample, respondents were mostly white, meaning these findings may not be generalizable to other racial/ethnic groups in the United States. It is known that the meaning attributed to caregiving and its consequences can vary across different cultural and racial groups (Janevic & Connell, 2001; Sun, Ong, & Burnette, 2012); therefore, examining these questions in a more diverse sample will be an important future goal. The cross-sectional design of this study, utilized because of the absence of caregiving assessment in the first wave of MIDUS, did not allow for exploring within-person changes over time. Therefore, causality and directionality cannot be inferred from this analysis. It may be that more generative individuals are more willing and likely to become caregivers. In an effort to probe this possibility, supplementary analyses were run utilizing data from Wave 1 of the MIDUS study (1995–1996) to determine how inclusion of self-reported generativity measured a decade prior influenced the associations. Although the magnitude of the relationship between caregiving and current generativity was reduced, the associations remained significant. As Wave 1 of the MIDUS study did not collect caregiving information, it was not possible to also account for prior caregiving

history in these analyses. Examining these patterns using cross-lagged analyses will be an important aim of future work utilizing new waves of MIDUS and other data.

MIDUS contains somewhat limited information on the caregiving experience, slightly restricting the analysis in terms of caregiving aspects that could be examined to explain the links between generativity and caregiving. For example, despite the application of the stress and coping model, not all relevant dimensions from this framework (e.g., stressors) were measured. Thus, the possibility that those who are more generative may not face as many stressors cannot be excluded. However, a significant strength of utilizing caregiving information embedded within a larger national survey of the sociodemographic, psychosocial, and behavioral correlates of healthy aging is that participants were not selected into the study on the basis of caregiving status or the experience of psychological well-being states in regards to caregiving. Another strength of the study is its contribution to recent efforts to identify potential positive aspects of the caregiving experience (Cohen et al., 2002; Koerner et al., 2009), rather than primarily focusing on the negative consequences of providing care. The goal of this article is not to overlook the negative aspects of caregiving, but rather to acknowledge both the potential burdens and gains, presenting a more balanced understanding of what it means to be a caregiver. Importantly, this study also furthers the understanding of individual psychological resources that may buffer against some of the negative consequences of caregiving, suggesting a protective influence of self-perceptions of generativity.

There are several important future directions that stem from this research. One next step will be to explore within-caregiver differences in psychological outcomes, comparing caregivers, for instance, by differences in types of care provided and the nature of the care recipients' conditions. Another future direction will be to explore in whom enhanced generativity or other positive psychological correlates might help buffer against the negative consequences of caregiving. For example, the appraisal and potential buffering capacity of positive psychological correlates of caregiving may vary across race/ethnic groups or by other sociodemographic characteristics (Cho, Ory, &

Stevens, 2015). More focused investigations of caregivers in which detailed information is collected on the caregiving experience will also help to clarify links between caregiving and self-perceived generativity. Such research will be critical for informing interventions to support the health and well-being of caregivers and the growing aging population that is often dependent on their services.

### Clinical Implications

Many informal caregivers suffer from negative consequences as a result of the high-burden, time-consuming nature of their care. Yet, alongside the occurrence of distress-related experiences, there are often many gratifying aspects of caring for loved ones. This study suggests that deriving and focusing on positive aspects, such as enhanced feelings of generativity, instead of solely on the demands of caregiving may help mitigate some of the negative impacts of distress. Similar interventions rooted in positive psychology have been implemented with promising success. For example, interventions aimed at cultivating positive feelings, behaviors, or cognitions have been shown to enhance well-being and alleviate depression (Sin & Lyubomirsky, 2009). A greater focus on generativity could help alleviate some of the burden on both caregivers and the health care system, and could also explain why some caregivers may fare better than others in the face of such a challenging role.

- Feeling generative may play an important role in attenuating some of the impairments in daily function associated with negative mental health consequences of caregiving.
- Greater self-perceptions of generativity may help explain why some caregivers may fare better than others, despite similar care demands.

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