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Julie Q. Ball & Colter D. Ray

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Relational Maintenance Behaviors Mediate the Relationship Between Alzheimer's Diagnosis Severity and Caregivers' Benefit Finding

Julie Q. Ball and Colter D. Ray

Department of Communication, The University of Tampa

ABSTRACT
Caregivers often experience stress, depression, anxiety, and various physical illnesses stemming from the demands and challenges of their caregiving role. However, adaptive coping mechanisms such as benefit finding can mitigate these outcomes. The present study explored the relationship between Alzheimer's diagnostic severity and caregivers' engaging in benefit finding and, more specifically, whether prosocial relational maintenance behaviors communicated by the patient to the caregiver mediates the relationship between severity and benefit finding. A sample of 152 current or former Alzheimer's caregivers completed an online survey measuring their care recipient's Alzheimer's diagnostic severity, their own propensity for benefit finding, and how often the care recipient performed relational maintenance behaviors toward them as the caregiver. Results showed no direct effect existed between Alzheimer's diagnostic severity and caregivers' benefit finding; however, the extent that patients performed relational maintenance behaviors with their caregiver mediated the relationship between Alzheimer's diagnostic severity and caregivers' benefit finding. The significant influence of relational maintenance behaviors underlines the importance and effect of communication between caregivers and care recipients throughout the progression of a disease like Alzheimer's.

Alzheimer's disease is becoming more prevalent among individuals in the United States. The disease impacts millions of Americans yearly, with 6.9 million diagnosed in 2023 and diagnoses projected to nearly double to 13 million by 2025 (Alzheimer's Association, 2024a). Moreover, Alzheimer's affects the lives of not only the patient but also the network of individuals that surround them, such as those who take on the caregiving role. In most cases, it is friends and family members who take on that role, making up 83% of caregivers for those with Alzheimer's (Alzheimer's Association, 2024b). Some assume caregiving responsibilities based on a close, supportive relationship, whereas others do so because of family dynamics, obligation, or a sense of duty (Zarzycki & Morrison, 2021). Despite these differences in relational contexts, caregivers for terminal illnesses frequently face severe emotional, physical, and psychological challenges that lead to stress (Schulz et al., 2020), burnout (Vitaliano et al., 2003), and a decline in their quality of life (Brodaty & Donkin, 2009; Culberson et al., 2023). With the increasing prevalence of Alzheimer's disease, understanding effective ways to mitigate caregiver burnout becomes vital.

One behavior that caregivers can enact to combat burnout is benefit finding, which is defined as "the process of deriving positive growth from adversity" (Cassidy et al., 2014, p. 268). By viewing caregiving challenges as opportunities for growth, benefit finding allows caregivers to derive meaning from their experiences, which can reduce stress and enhance emotional resilience (Helgeson et al., 2006; Tedeschi & Calhoun, 1996). Benefit finding improves caregivers' well-being, helps caregivers cope with the demands of their caregiver role, and has been shown to improve the level of care they provide (Brand et al., 2015; Kim et al., 2007; Michel et al., 2009; Pakenham, 2005). In light of this, the present study examines how the communication between a caregiver and a loved one with Alzheimer's disease may influence the propensity for caregivers to engage in benefit finding. Specifically, we propose that the extent that an Alzheimer's patient can perform prosocial relational maintenance behaviors toward their caregiver will influence a caregiver's frequency of benefit finding behaviors. Moreover, we recognize that Alzheimer's diagnosis severity also affects the patient's capacity to perform relational maintenance behaviors, such as communicating support to their caregiver, sharing tasks, or engaging in open communication with their caregiver. Therefore, this study proposes and tests a model in which relational maintenance behaviors performed by an Alzheimer's patient to their caregiver mediates the relationship between Alzheimer's diagnosis severity and caregiver benefit finding.

We begin by reviewing both the prevalence and impact of Alzheimer's disease on patients and caregivers, then review studies on caregiver stress, benefit finding, and relational maintenance behaviors. This is followed by an examination of the role of relational maintenance behaviors in the relationship between diagnosis severity and benefit finding.

Scope and consequences of Alzheimer's disease

Alzheimer Disease International reports that there are over 10 million new cases of dementia each year, indicating a new case every 3.2 seconds. The most common type of dementia is Alzheimer's disease, with it affecting one in every nine adults over the age of 65 in the United States (Alzheimer's

CONTACT Colter D. Ray ✉ cray@ut.edu Jenkins Health and Technology Building, The University of Tampa, 350 UT University Drive, Room 473-E, Tampa, FL 33606

Association, 2024a). Older adults are especially at risk, as 10.9% of the population above the age of 65 has Alzheimer's (Alzheimer's Association, 2024a). With the proportion of U.S. adults over the age of 65 projected to reach 20% of the population in 2050, the number of individuals with Alzheimer's is expected to continue to increase (AARP International, 2024; Alzheimer's Association, 2024a). Moreover, those under the age of 65 are also susceptible to early onset Alzheimer's, which typically occurs between the ages of 30–64. Recent data shows 6.9 million U.S. adults under the age of 65 are diagnosed with early onset Alzheimer's (Alzheimer's Association, 2024a). Thus, a sizable and growing portion of the U.S. adult population suffers from Alzheimer's disease and requires the support of caregivers Most frequently, these caregivers are family members and close friends. Once diagnosed, individuals with Alzheimer's typically progress through mild (early), moderate (middle), and severe (late) stages. Symptoms in the mild stages include trouble remembering the correct word or name, forgetting something they just read, and increased difficulty with work tasks or social interactions (Alzheimer's Association, 2024b; Jack et al., 2018). As the disease progresses to the moderate stage, individuals experience more pronounced memory loss, personality and behavioral changes, and require assistance with daily activities such as dressing, not getting lost, and managing incontinence (Jack et al., 2018). Communication difficulties also become more evident, with patients struggling to find words, follow conversations, or express themselves clearly (Banovic et al., 2018). During the severe stages, individuals lose awareness of their surroundings, experience severe communication impairments, and require constant care as they lose basic physical abilities (Jack et al., 2018; Lanctôt et al., 2017). Alzheimer's disease is progressive, with individuals typically living for four to eight years, depending on the rate of progression through these stages (Alzheimer's Association, 2024a). As the disease progresses and the individual's condition worsens, caregiving demands increase and become more intensive, constant, and laborious. The following section considers the negative consequences of Alzheimer's disease on caregivers.

Negative consequences for caregivers

Caregivers for those with Alzheimer's face significant lifestyle changes and encounter well-documented negative consequences such as higher levels of chronic stress (Schulz et al., 2020), depression, and anxiety (Hellis & Mukaetova-Ladinska, 2021) that impact their psychological, physical, and social well-being (Brodaty & Donkin, 2009; Culberson et al., 2023), ultimately affecting their quality of life. Such chronic stress and emotional strain contribute to predisposing caregivers to various health issues, such as hypertension (Schulz et al., 2020), compromised immune function (Vitaliano et al., 2003), and chronic illness (Schulz et al., 2020; Vitaliano et al., 2003). Due to the progressive nature of the disease and the demanding nature of providing care for a loved one with Alzheimer's, a caregiver's time is often limited. This can lead to social isolation, withdrawal, and a lack of energy to devote to their own social networks and support networks (Brodaty & Donkin, 2009; Culberson et al., 2023). Additionally, the financial burden of caring for Alzheimer's disease compounds the emotional consequences (Schulz et al., 2020), which then further impacts the physical and social well-being of the caregiver (Culberson et al., 2023; Vitaliano et al., 2003). Although the negative consequences have been well documented, studies have shown that some caregivers engage in positive coping behaviors, such as benefit finding, which we review next.

Benefit finding as an adaptive coping mechanism

How people process stressful experiences shapes their resilience and overall mental health (Folkman & Moskowitz, 2000; Lazarus & Folkman, 1984). Adaptive coping strategies help individuals find meaning in their experiences and better manage stress, whereas maladaptive strategies can exacerbate stress and further weaken individuals' mental health (Carver et al., 1989). Caregivers who more frequently engage in adaptive coping mechanisms have been shown to better manage the stress and demands of Alzheimer's caregiving (Haley et al., 1987).

One specific adaptive coping mechanism—benefit finding—consists of identifying positive outcomes from a challenging experience (Tomich & Helgeson, 2004). Benefit finding is closely related to positive reframing, a cognitive process through which individuals reinterpret stressful situations in a more positive light (Folkman & Moskowitz, 2000). However, whereas positive reframing is about changing how you think about a situation, benefit finding goes a step further by helping people identify meaningful personal growth that comes from facing challenges (Riley, 2013; Tedeschi & Calhoun, 1996). It involves a deeper, more intentional process of finding meaning and growth from adversity. Benefit finding can manifest in various ways, including greater acceptance of one's situation, strengthening of family bonds, psychological growth, affirmation of relationships, a greater sense of empathy, and reprioritization of goals (Tedeschi & Calhoun, 1996). For example, caregivers may find that their role has brought them closer to their loved one, helped them develop new skills, or given them a renewed appreciation for life (Helgeson et al., 2006; Kim et al., 2007). These positive outcomes have been operationalized in previous research through measures such as the Posttraumatic Growth Inventory Scale (PGIS).

Positive outcomes of benefit finding include an improved sense of accomplishment, increased appreciation for life, and increased life satisfaction (Helgeson et al., 2006; Kim et al., 2007). Benefit finding also contributes to better overall well-being (Brand et al., 2015; Pakenham, 2005) through lower levels of depression (Helgeson et al., 2006), stress (Kim et al., 2007), and anxiety (Michel et al., 2009). Thus, in the context of caregiving, benefit finding may mitigate many of the consequences of caring for a loved one battling Alzheimer's disease (Cheng et al., 2020), and consequently allow them to provide better care (Oliveira et al., 2019). Benefit finding may also allow caregivers to find deeper meaning and purpose in their caregiving role, which can enhance their emotional resilience and overall well-being while leading to reduced feelings of burnout (Schulz et al., 2020). Reducing burnout allows for sustainable caregiving, further mitigating the consequences of caregiving for Alzheimer's and fostering sustainable care (Roth et al., 2015; Schulz & Sherwood, 2008).

Benefit finding for caregivers does not occur solely in isolation. Engaging in benefit finding is influenced by interpersonal dynamics, relational factors, and personal history (Meyer et al., 2022). This leads to the question: What influences the extent to which caregivers engage in benefit finding? We propose that this is a function of the extent to which the patient can engage in prosocial relational maintenance behaviors with their caregiver as their Alzheimer's disease progresses. The following section considers why prosocial relational maintenance behaviors may mediate the relationship between Alzheimer's disease severity and caregivers' benefit finding.

Do prosocial relational maintenance behaviors influence benefit finding?

Prosocial relational maintenance behaviors consist of communication, emotional support, and expressions of appreciation (Stafford & Canary, 1991) that foster trust and intimacy leading to the creation and preservation of high-quality, strong relationship bonds (Dainton, 2000). Prior research has shown a positive relationship between prosocial relational maintenance behaviors and the quality and trajectory of relationships (Brammer et al., 2023). For caregivers specifically, this may include receiving emotional support from the Alzheimer's patient, engaging in shared tasks and maintaining a shared social network with their loved one with Alzheimer's, and participating in open communication with the patient throughout their Alzheimer's journey (to the extent that this is possible). Caregivers who give and receive emotional support report lower stress levels, better psychological health and resilience, and are more likely to engage in benefit finding (Caserta et al., 2008; Culberson et al., 2023; Dainton, 2000).

Additionally, we note that prior research has shown that relationships in which many prosocial relational maintenance behaviors occur can act as an emotional resource (Afifi et al., 2016). In the context of caregiving, relationships with adequate relational maintenance behaviors may allow caregivers to better manage stress and identify positive outcomes while providing care. Strong and supportive relationships, particularly those characterized by prosocial relational maintenance behaviors, provide caregivers with the emotional resources needed to engage in adaptive coping mechanisms like benefit finding (Brodaty & Donkin, 2009). However, as Alzheimer's disease symptoms progress, the mental and physical ability for Alzheimer's patients to engage in relational maintenance behaviors declines, suggesting less reciprocated support within the patient-caregiver relationship. Therefore, we propose that the more severe an Alzheimer's diagnosis, the less that caregivers will engage in benefit finding. Moreover, we propose that this relationship between Alzheimer's diagnosis severity and benefit finding is mediated by the caregiver's perception of the amount of prosocial relational maintenance behaviors performed by Alzheimer's patients. Stated formally as hypotheses:

H1a: The severity of an Alzheimer's patient's diagnosis is negatively related to benefit finding by the patient's caregiver.

H1b: The negative relationship between severity of an Alzheimer's patient's diagnosis and benefit finding by the patient's caregiver is mediated by the perceived amount of prosocial relational maintenance behaviors received by the caregiver from the patient.

Methods

Recruitment and study procedures

All procedures were approved by the authors' university's institutional review board (Approval #24–048). An equal number of men and women were recruited using the participant recruitment company Prolific Academic to participate in a cross-sectional survey created and hosted on the survey platform Qualtrics. Participants had to be 18 years of age or older and had to be a current or former caregiver for someone with Alzheimer's disease. The survey consisted of scales measuring the caregiver's perception of the patient's Alzheimer's diagnosis severity, the caregiver's perceptions of how much the patient engaged in prosocial relational maintenance behaviors (toward the caregiver), and the caregiver's engagement in benefit finding. Demographic information about the participants and those they cared for was also collected. The average time to complete the questionnaire was 13 minutes and 29 seconds ($SD = 9.40$ minutes). Participants were compensated $3.00US for participating.

Participants

A total of 197 prospective participants accessed the online survey. Of these, nine were removed for not having currently or previously been a caregiver for someone with Alzheimer's, three left the survey before providing any usable amount of data, and 32 were removed for failing at least one of three attention checks. Therefore, the sample for this study consisted of 152 caregivers for Alzheimer's patients. Of those, 57 identified as currently being a caregiver, whereas 95 reported having previously been a caregiver. Caregivers' ages ranged from 19 to 75 ($M_{\text{years}} = 40.27$, $SD = 12.11$). Demographic information regarding the caregivers who participated in this study is provided in Table 1.

Caregivers participating in the study also provided demographic information regarding those for whom they provided care. Patients' ages ranged from 30 to 97 years ($M_{\text{years}} = 75.18$, $SD = 12.90$), the length of time caregivers had known the patient ranged from 1 year to 80 years ($M = 29.56$ years, $SD = 16.71$), and time since initial diagnosis ranged from less than one year to 65 years ($M_{\text{years}} = 7.49$, $SD = 7.38$). Table 2 provides additional demographic information regarding the Alzheimer's patients cared for by the caregiver participants.

Measures

Table 3 reports the descriptive statistics and intercorrelations for the study's variables. When variables were measured using multiple items, an average score was calculated

Table 1. Participant demographics (*N* = 152).

	n (%)[a]
Gender	
Woman	78 (51.3%)
Man	73 (48.0%)
Transgender man	1 (0.7%)
Ethnicity	
White	106 (69.7%)
Black/African American	79 (12.6%)
Asian	15 (9.9%)
Latinx/Latino(a)	28 (4.5%)
Native American/Alaskan Native	5 (0.8%)
Hispanic	
No	141 (92.8%)
Yes	10 (6.6%)
No Response	1 (0.7%)
Education (Highest Level Completed)	
Did not complete high school	1 (0.70%)
High school or equivalent	20 (13.2%)
Some college but no degree	34 (22.4%)
Technical, trade, or vocational school	5 (3.3%)
Associate's degree	25 (16.4%)
Bachelor's degree	39 (25.7%)
Master's degree	25 (16.4%)
Doctoral degree (PhD)	3 (2.0%)
Romantic Relationship Status	
Single/not in a committed relationship	52 (34.2%)
Committed dating relationship	25 (16.4%)
Engaged	3 (2.0%)
Married	60 (39.5%)
Divorced/separated	12 (7.9%)
Sexual Orientation	
Straight	113 (74.3%)
Bisexual	21 (13.8%)
Gay/Lesbian	8 (5.3%)
Asexual	2 (1.3%)
Pansexual	4 (2.6%)
Queer	2 (1.3%)
Prefer Not to Answer/No Response	2 (1.3%)
Household Income ($USD)	
$0	1 (0.7%)
$1–$24,999	15 (9.9%)
$25,000–$49,000	37 (24.3%)
$50,000–$74,999	42 (27.6%)
$75,000–$99,000	20 (13.2%)
$100,000–$149,000	21 (13.8%)
$150,000 and greater	14 (9.2%)
Prefer Not to Answer/Not Sure	2 (1.3%)
Employment Status[b]	
Full-time work	96 (63.2%)
Part-time work	28 (18.4%)
Unemployed	14 (9.2%)
Full-time student	7 (4.6%)
Part-time student	2 (1.3%)
Retired	5 (3.3%)
Paid disability	6 (3.9%)
Homemaker	3 (2.0%)
Disability Status	
No Disability	117 (77.0%)
Sensory Impairment	3 (2.0%)
Mobility Impairment	7 (4.6%)
Learning Disability	15 (9.9%)
Mental Health Disorder	15 (9.9%)
Other	5 (3.3%)

Participants were U.S. adults living in 32 states and Puerto Rico.

[a] Percentages for each demographic variable may not total to 100% either due to rounding error or because participants reported multiple responses to a single question (e.g., ethnicity, employment status, and disability status).

[b] Full-time work = 35+ hours of work per week.

for each participant and internal reliability scores were reported as McDonald's omega. For all variables, higher scores indicate a greater magnitude or higher degree of the variable.

Table 2. Information about Alzheimer's patients cared for by caregiver participants (*N* = 152).

	n (%)
Alzheimer's Diagnosis Severity[a]	
Mild	41 (27.0%)
Moderate	81 (53.3%)
Severe	30 (19.7%)
Gender	
Woman	93 (61.2%)
Man	57 (37.5%)
No Response	2 (1.3%)
Ethnicity[b]	
White	105 (69.1%)
Black/African American	26 (17.1%)
Asian	13 (8.6%)
Latinx/Latino(a)	4 (2.6%)
Native American/Alaskan Native	1 (0.7%)
Arab	1 (0.7 %)
Native Hawaiian/Other Pacific Islander	2 (1.3%)
Native American/Indigenous	1 (0.7%)
Prefer not to answer/no answer	5 (3.3%)
Relation to Participant	
Parent	64 (42.1%)
Grandparent	44 (28.9%)
Friend	20 (13.2%)
Daughter or Son	6 (3.9%)
In-Law Relationship	7 (4.6%)
Sibling	4 (2.6%)
Professional	4 (2.6%)
Aunt/Uncle	2 (1.3%)
Cousin	1 (0.7%)
Daughter or Son	6 (3.9%)

[a] When using the DSRS to measure Alzheimer's diagnosis severity, scores can range from 0 to 54 and are interpreted as mild (0–18), moderate (19–36), or severe (37–54).

[b] Percentages for ethnicity exceeds 100% because some participants reported multiple ethnicities for the patient for whom they were a caregiver.

Alzheimer's diagnosis severity

To evaluate Alzheimer's diagnosis severity, the Dementia Severity Rating Scale (DSRS) was used. This scale consists of 12 multiple choice questions that assess Alzheimer's severity from mild to severe and provides a simple yet valid measure of Alzheimer's diagnosis impairment as perceived by caregivers (Clark & Ewbank, 1996). The DSRS has been validated as a reliable tool for measuring caregivers' perceptions of functional impairment rather than objective clinical diagnoses (Clark & Ewbank, 1996; Sink et al., 2002). DSRS items measure memory, orientation to time and place, speech and language, personal hygiene maintenance, and physical abilities. The number of response choices for each question on the DSRS ranges from four to seven options, including "normal," "occasionally … " and "frequently … " with the number of options and responses slightly differing based on the question. For example, the question regarding memory has response options such as "Occasionally forgets things that they were told recently. Does not cause many problems," "Moderate memory loss. Worse for recent events. May not remember something you just told them. Causes problems with everyday activities," and "Does not remember even the most basic things." Total scores range from 0 to 54 points, with lower scores representing higher levels of functioning (0–18 is considered mild, 19–36 is considered moderate, and 37–54 is considered severe). For each participant, an aggregate score was calculated by summing the numerical values of their responses across all 12 items.

Table 3. Descriptive statistics and intercorrelations of the study's variables ($N = 152$).

Variable	1.	2.	3.	4.	5.	6.	7.	*M*	*SD*	ω
1. Diagnostic Severity	–							26.89	11.45	.95
2. Relational Maintenance Behaviors	−.65**	–						3.99	1.24	.96
3. Benefit Finding	−.07	.18*	–					3.06	.90	.92
4. Participant Age	.06	−.17*	−.01	–				40.27	12.11	–
5. Patient Age	.37**	−.26**	−.16*	.09	–			75.18	12.90	–
6. Days of Contact Per Week	.01	−.01	−.04	.01	.11	–		5.78	1.76	–
7. Time Since Initial Diagnosis	.17*	−.12	.09	−.01	−.01	.01	–	7.49	7.38	–
8. Relationship Length	.24**	−.13	−.04	.43**	.32**	.21**	−.08	29.56	16.71	–

*$p < .05$. **$p < .01$ (two-tailed). ω = the internal reliability statistic McDonald's *omega*. Age, Time Since Initial Diagnosis, and Relationship Length are reported in years. Alzheimer's diagnostic severity is a summed score that can range from 0 to 54. Relational maintenance behaviors were measured on a 1 to 7 scale. Benefit finding was measured on a 1 to 6 scale.

Prosocial relational maintenance behavior

The seven-factor Revised Relational Maintenance Behavior Measure (RMBM; Stafford, 2011) was used to evaluate the prosocial relational maintenance behaviors that caregivers received from those they cared for following the onset of their Alzheimer's disease. This scale measures efforts put forth to maintain positive and functional relationships. The scale's items measure positivity, understanding, self-disclosure, relationship talks, assurances, tasks, and networks. The RMBM consists of 28 questions with responses measured on a 7-point Likert-style scale ranging from (1) "strongly disagree" to (7) "strongly agree." Example items include "they are forgiving of me" and "they act optimistically when with me."

Benefit finding

The Posttraumatic Growth Inventory Scale (PGIS; Tedeschi & Calhoun, 1996) is a 21-item scale that was used to measure benefit finding in caregivers. Researchers chose to use this scale as a proxy for benefit finding in caregiving contexts based on previous research that shows caregivers can experience similar stress levels and psychological responses as an individual with PTSD (Losada et al., 2010). The PGIS measures the same factors as other benefit finding scales but offers additional assessment of personal strength and appreciation of life—domains that are relevant in high-stress caregiving roles. As such, researchers have previously used the PGIS as an instrument to measure benefit finding (e.g., Caserta et al., 2008; Jansen et al., 2014).

The PGIS measures self-improvement and post-trauma growth, and the 21 items are dispersed across five factors: personal strength, new possibilities, improved relationships, spiritual growth, and appreciation for life. Example items include "I have a greater appreciation for the value of my own life," "I discovered that I'm stronger than I thought I was," and "I established a new path for my life." Responses were measured on a 6-point Likert-style scale ranging from (1) "did not experience this" to (6) "experienced this to a great degree."

Results

Because there were only 30 instances of missing responses across a total of 11,258 potential data points (0.27%), instances of missing data were managed by imputing the mean. Preliminary bivariate correlations identified three potential covariates: patient age, time since diagnosis, and length of the relationship between the caregiver and patient. However, when running the model to test the hypotheses, all three covariates were nonsignificant and were subsequently removed from the model for the sake of parsimony.

Hayes's PROCESS macro (Model #4) was used to test the proposed mediation model. It was hypothesized that Alzheimer's patient diagnosis severity would be negatively related to caregiver benefit finding (H1a) and that a caregiver's perception of the amount of prosocial relational maintenance behaviors performed by the patient would mediate the relationship between diagnosis severity and benefit finding (H1b). Specifically, results showed a nonsignificant direct effect between Alzheimer's diagnosis severity and caregiver benefit finding, $B = .09$, $p = .418$. Therefore, H1a is not supported.

However, a significant indirect effect did occur in which caregivers' perceptions of prosocial relational maintenance behaviors mediated the relationship between Alzheimer's diagnosis severity and caregivers' benefit finding, $B = -.15$, 95% CI [−.30, −.01]. Specifically, Alzheimer's diagnosis severity was negatively related to caregivers' perceptions of patients engaging in prosocial relational maintenance behaviors ($B = -.65$, $p < .001$), and in turn, the extent that patients were perceived as engaging in prosocial relational maintenance behaviors was positively related to caregivers' engaging in benefit finding ($B = .24$, $p = .026$). These results are illustrated in Figure 1. H1b is supported.

We also note that the resulting total effect of the model (i.e., the combined direct and indirect effect) was nonsignificant, $F(1, 150) = .69$, $p = 41$, $R^2 = .01$. This does not nullify the significant indirect effects in support of H1b as it is well documented that competing indirect and direct effects can suppress each other (MacKinnon et al., 2000), and simulations have shown that mediation models often yield significant indirect effects even when the total effect is not significant (Agler & De Boeck, 2017).

Discussion

This study examined how the severity of Alzheimer's disease affects caregivers' propensity to engage in benefit finding. More specifically, we proposed and tested a model that explored the extent that caregivers' perceptions of patients' use of prosocial relational maintenance behaviors mediated the relationship between diagnostic severity and caregiver benefit finding—a relationship that has yet to be studied

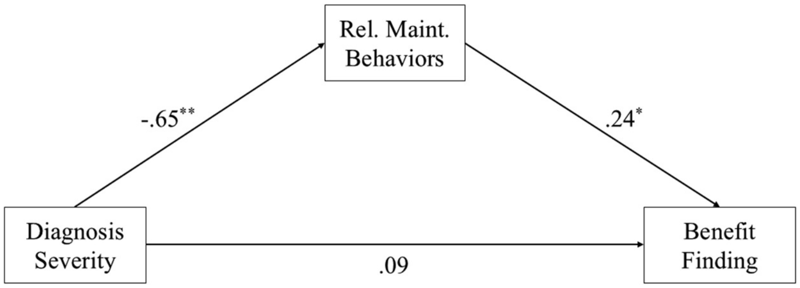

Figure 1. Relational maintenance behaviors as a mediator of the relationship between Alzheimer's diagnosis severity and caregivers' benefit finding ($N = 152$). $^{**}p < .001$, $^{*}p < .05$. Values are standardized coefficients.

extensively. The results revealed a significant mediation from diagnostic severity to prosocial relational maintenance behaviors, which subsequently influenced caregivers' engagement in benefit finding. As we will discuss in this section, these results provide useful insights into the Alzheimer's caregiving experience.

First, we proposed that Alzheimer's diagnostic severity would be negatively associated with benefit finding done by caregivers. The data did not support this hypothesis, indicating that diagnosis severity was not associated directly with the extent that caregivers engaged in benefit finding. This diverges from previous studies which found that a more severe Alzheimer's diagnosis negatively impacts caregivers' benefit finding (Culberson et al., 2023; Kim et al., 2007). One possible explanation for our nonsignificant result is that our sample was composed of an approximately equal number of men and women, unlike prior studies on caregiving whose samples were overwhelmingly composed of women. A meta-analysis conducted by Pinquart and Sörensen (2003) that looked at data mostly from women, found that women had greater sensitivity toward negative emotions and likelihood of reporting them (Lutzky & Knight, 1994). Additionally, the caregiving experience of women is studied more frequently, neglecting the point of view of men who are caregivers (Sharma et al., 2016). Although women account for 75% of the caregiver population, a sample mainly composed of women will likely influence results (National Alliance for Caregiving, 2020).

We also hypothesized that caregivers' perceptions of patients' use of prosocial relational maintenance behaviors would mediate the relationship between Alzheimer's diagnosis severity and caregiver's benefit finding. This hypothesis was supported, with the findings indicating that relational maintenance behaviors mediated this relationship. As Alzheimer's disease progresses, patients experience a decline in both their cognitive and communication abilities, which reduces their ability to engage in relational maintenance behaviors like emotional support (Caserta et al., 2008) or sharing tasks. This presents a particularly challenging course of events for Alzheimer's caregivers, as they are simultaneously caring for someone important to them and this person is likely also someone they would typically turn to for support during life's stressors. For example, someone acting as a caregiver for their spouse would face the dual stressors of caring for their spouse as they progress through the disease while also experiencing a deterioration in the patient's ability to act as a source of emotional or instrumental support.

Relational maintenance behaviors play a role in buffering against the psychological strain of caregiving. When caregivers receive relational support from their care patients, even in small ways, they are more equipped to view their experiences positively. However, as Alzheimer's severity increases and relational maintenance behaviors decrease, caregivers become more isolated and emotionally parched, making it more difficult for them to engage in benefit finding (Culberson et al., 2023). This indirect effect of relational maintenance behaviors highlights how greater disease severity disrupts both the emotional and relational foundations that caregivers need to cope effectively and find meaning in their experience. Through demonstrating the significance of relational maintenance behaviors on benefit finding, these findings contribute to the broader literature on caregiver well-being. This study underlies the relational nature of emotional resilience in caregivers, emphasizing the need for interventions that provide support to caregivers, especially as the disease progresses. In doing so, caregivers can improve their ability to engage in benefit finding and enhance their overall psychological well-being (Kim et al., 2007).

Practical implications

The primary implication of our results pertains to how caregivers should form and manage expectations about caregiving and their relationship with the diagnosed person. As Alzheimer's disease advances, patients' ability to engage in relational maintenance behaviors worsens. This significantly affects the quantity, quality, and types of relational maintenance behaviors they can enact. Relying solely on the patient for social support to build up the emotional reserves needed for benefit finding may become increasingly difficult as time and diagnosis severity progresses and the patient can no longer physically or mentally engage in relational maintenance behaviors. Caregivers need to expect these changes and be prepared by proactively seeking additional support from those besides the person for whom they are caring. This awareness can help caregivers adjust their strategies and expectations by highlighting the importance of seeking support from others in their network (e.g., friends, family, and support groups). These other sources of support can help caregivers to engage in benefit finding, and subsequently maintaining or improving their mental and physical health (Brodaty & Donkin, 2009; Schulz et al., 2020).

To facilitate this process, recent research has demonstrated the effectiveness of communication interventions in improving caregiver support-seeking behaviors. For example, Wittenberg et al. (2024) found that a brief communication module significantly enhanced caregivers' ability to navigate caregiving challenges and seek support effectively. Incorporating such interventions into caregiver support programs could help caregivers better manage the relational and emotional challenges associated with Alzheimer's disease progression, ultimately improving their well-being and caregiving outcomes. Professionals can further support caregivers by providing education on disease progression, offering strategies for managing relational changes, and facilitating access to support networks (Wittenberg et al., 2024).

Limitations and future directions

The researchers acknowledge that this study is not without limitations. First, benefit finding was the only coping mechanism measured in this study, but other coping mechanisms exist, and they may also be both beneficial and related to diagnosis severity and relational maintenance behaviors. For example, qualitative interviews have explored caregivers' information seeking behaviors as a coping mechanism (Mason et al., 2022), and future research should investigate how multiple coping mechanisms such as benefit finding and information seeking can work in tandem to improve caregivers' outcomes. Secondly, caregivers come from various cultures that have varying social norms and traditions that may result in them processing events differently and using different coping mechanisms (See & Essau, 2010). Thus, future research should seek to replicate our findings in cultures that are different from the United States and other societies that are considered W.E.I.R.D. (Western, Educated, Industrialized, Rich, and Democratic).

Third, although the prosocial relational maintenance behaviors scale measures several verbal and nonverbal behaviors, it does not explicitly measure nonverbal acts of affection (Stafford, 2011). Nonverbal communication, such as physical touch, gestures, and facial expressions may play a crucial role in relational maintenance, especially in the context of Alzheimer's caregivers, as the disease affects speech and language (Alzheimer's Association, 2024a). Alzheimer's patients communicate affection in nuanced nonverbal ways that the PRMB scale was not designed to measure and that patients may have to increasingly rely on as their disease progresses. Researchers looking to expand upon the literature on relational maintenance behaviors and benefit findings in Alzheimer caregivers should conduct additional studies that assess verbal and nonverbal communication separately. This will provide a more encompassing understanding of the dynamics between relational maintenance behaviors, caregivers, and their ability to engage in benefit finding.

We also note that this was a cross-sectional study in which we asked caregivers to provide data about the variables of interest at a single point in time. One issue this poses is that we cannot determine that the variables in our mediation model are causally related; however, others have noted that if a predictor variable precedes a mediator variable conceptually in time, then this concern is mitigated (see the Hyman-Tate conceptual timing criterion; Tate, 2015). Additionally, because some participants were previously caregivers as opposed to currently being caregivers, the use of retrospective, self-report data about relational maintenance behaviors may be distorted based on how participants recall these behaviors (Bernard, 1984; Huber & Power, 1985). For example, studies on memory have shown that it is one of the few domains in which people may engage in a positivity bias as opposed to a negativity bias—that is, a tendency to recall negative events more positively after they have concluded by minimizing their severity (Taylor, 1991). Therefore, future studies should be conducted longitudinally to track changes in diagnostic severity, prosocial relational maintenance behaviors, and caregiver's engaging in benefit finding over time as patients progress through various stages of Alzheimer's disease.

Additionally, future studies can empirically test whether former caregivers retrospectively recall caregiving more positively than current caregivers perceive this responsibility. Furthermore, it is important to note that the DSRS measures caregivers' perceptions of Alzheimer's severity rather than objective clinical assessments. Results may differ from clinical evaluations of severity. Future research could explore the relationship between caregiver-reported severity and clinical assessments to better understand these discrepancies.

Finally, future research should consider additional variables not measured herein that may affect perceptions of relational maintenance behaviors or the propensity to engage in benefit finding. In particular, measuring caregivers' level of stress may have an effect on the likelihood to engage in benefit finding. Additionally, factors such as the amount of care being provided, the length of time spent as a caregiver, and whether the patient lived with the caregiver or if the patient lived in long-term care or a memory care facility could all potentially affect the variables in our model.

Conclusion

As current healthcare trends indicate a continuously growing prevalence of Alzheimer's disease, supporting Alzheimer's patients' caregivers becomes increasingly important. To gain a more in-depth understanding of the Alzheimer's caregiver experience, we investigated the potential relationship between Alzheimer's diagnostic severity and caregiver's engagement in benefit finding. Although this direct relationship was non-significant, a significant indirect relationship emerged in which prosocial relational maintenance behaviors enacted by patients toward their caregivers mediated the relationship between diagnosis severity and caregivers' benefit finding. Our findings emphasize the importance of fostering positive relational maintenance behaviors in the caregiver-patient relationship to mitigate the negative consequences that accompany caregiving. In particular, our findings demonstrate the centrality of communication as both being affected by Alzheimer's diagnosis severity and subsequently acting as an antecedent to caregivers propensity to engage in benefit finding.

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ORCID

Julie Q. Ball http://orcid.org/0009-0002-4403-0431
Colter D. Ray http://orcid.org/0000-0003-0491-1517

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