The Impact of Mindfulness and Values on Caregivers

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ABSTRACT

Many caregivers can benefit from specific strategies to cope with the significant financial, physical, and emotional burdens of caregiving. Recent studies have shown that interventions promoting mindfulness and values clarification are promising treatments for reducing mental health symptoms and enhancing positive affect. This study determined the impact of dispositional mindfulness and values on measures of caregiver burden and positive affect. It was hypothesized that higher levels of mindfulness and values would be associated with lower levels of caregiver burden and higher levels of positive affect. Additionally, it was expected that values would mediate the relation between mindfulness and burden/positive affect. All study hypotheses were confirmed. Values mediated mindfulness and caregiver burden, and mindfulness and positive affect. Research and practice implications and study limitations are discussed.

Keywords: caregivers, mindfulness, values, positive affect, caregiver burden

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CHAPTER ONE

The Impact of Mindfulness and Values on Caregivers

Caregivers provide critical services for the health and financial wellbeing of many people facing chronic illness or medical conditions. According to the National Alliance for Caregiving (NAC) & AARP Public Policy Institute (2015), over 43 million adults in the U.S. provided unpaid care for a child or adult in 2015. Caregivers assist individuals who prefer to live at home or cannot afford long-term care. In 2015, the average cost per month in the U.S. in an assisted living facility was $3,600, and the average cost of care for individuals with higher care needs (such as advanced-stage dementia) was about $6,600 per month (Genworth, 2015). Medicare does not cover long-term (custodial) care (Centers for Medicare and Medicaid Services, 2015), leaving many older adults without financial resources dependent on family caregivers. Since 2003, the number of people 65 years and older has increased by nearly 25 percent to 44.7 million people, and is expected to double by 2060 (Administration on Aging, 2015). On average, adults over age 65 take 4.5 medications and have two chronic medical conditions (Hunter, Goodie, Oordt, & Dobmeyer, 2009), indicating caregivers will be in even higher demand for the expanding older adult population.

Due to caregiving responsibilities, caregivers are at risk of physical and mental health problems and lower levels of wellbeing. Rose-Rego, Strauss, and Smyth (1998) found that caregivers had statistically significant lower measures of physical health, depression, and negative affect than a comparison group of non-caregivers. Twenty-two percent of caregivers reported that their physical health declined because of caregiving (NAC & AARP, 2015). Additionally, caregivers have higher levels of stress and depression and lower subjective wellbeing than non-caregivers (Pinquart & Sörensen, 2003). Caregiving also has a significant outcome on physical health. Caregivers who reported caregiver burden (mental, emotional, or physical) had 63% higher risk of early mortality than those who were not caregivers (Schulz & Beach, 1999). Given the nature and severity of caregiver burden, interventions are needed to help caregivers stay healthy, accomplish their obligations, and minimize their own healthcare costs.

Caregiver Burden and Sources of Burden

Zarit, Reever, and Bach-Peterson (1980) defined caregiver burden as “the extent to which caregivers perceived their emotional, physical health, social life, and financial status a result of caring for their relative” (p. 261). Several models have been used to explain caregiver burden, including the stress model of caregiving, the individual development model, and the family dynamics model (Quails, 2011), as well as the stress process model, the diathesis-stress model, and the stress and coping model (Knight & Losada, 2011). These models contain variables such as level of exposure to stressors, developmental stage, and family communication (Quails, 2011). Additionally, conflicting roles, predisposing traits, and appraisal of stress have been proposed (Knight & Losada, 2011). Chou (2000) argued that although different degrees of problems influence caregiver burden, caregivers in similar situations experience different degrees of burden. This suggests that burden can be influenced by one’s own perception. From the perspective of the stress and coping model, caregivers appraise caregiving as stressful (Knight & Losada, 2011). Sörensen and Pinquart (2005) described how caregivers who appraised caregiving as burdensome were more likely to have negative mental and physical health outcomes. Therefore, the stress and coping model served as the theoretical basis for conceptualizing caregiver burden in this study.

Caregivers benefit society beyond their direct care services. Mittelman (2005) described how people in need of care often prefer living at home to living in institutional care. This is an important way for care recipients to maintain their autonomy and psychological wellbeing (Haug, 1985). Secondly, interventions that enhance caregivers' positive affect (Schulz, Martire, & Klinger, 2005) and reduce caregiver burden (Chou, 2000) can reduce the need for recipients to obtain institutional care. According to Chou (2000), without family caregivers, the need for public long-term healthcare would more than double. Caregiver interventions have also been found to reduce the formal costs of caring for recipients (Wray et al., 2010). In a study by Wray and colleagues (2010), caregivers who participated in an education and support intervention saved an average of $2,768 more per patient over 6 months than caregivers who did not participate in the intervention. Thus, the benefits of providing assistance to caregivers socially and financially outweigh the costs. One important variable of recent interest to caregiver mental health researchers is mindfulness, described below.

Mindfulness

Mindfulness is the "quality of consciousness or awareness that arises through intentionally attending to present-moment experiences in a non-judgmental and accepting way" (Gu, Strauss, Bond, & Cavanagh, 2015, p. 2). The concept originated from Buddhist meditative traditions and is a translation of the Pali word *sati*, meaning remembering to be aware of what is occurring (Siegel, Germer, & Olendzki, 2009). John Kabat-Zinn brought mindfulness to American therapeutic settings in the 1970s with the Mindfulness-Based Stress Reduction (MBSR) program at the University of Massachusetts (Kabat-Zinn & Hanh, 2009). Mindfulness practice seeks to reduce suffering by enhancing present-moment awareness in order to enhance compassion for oneself and others. The content of mindfulness practice can be on enhancing concentration on a particular experience, insight into the changing experiences of thoughts, sensations, and emotions, or compassion for oneself and others (Siegel et al., 2009).

Mindfulness-based stress reduction. Numerous studies have demonstrated a variety of benefits of MBSR interventions for caregivers, ranging from reduced stress (Bazzano et al., 2013), inflammation (Bloom et al., 2012), muscle tension, neurological/GI, and upper respiratory symptoms (Birnie et al., 2010). Additionally, MBSR therapies have resulted in higher levels of wellbeing, self-compassion (Bazzano et al., 2013), sleep quality (Paller et al., 2015) and quality-of-life (McBee, 2003; Paller et al., 2015). Effects have been found to last two months after intervention (Bazzano et al., 2013).

Mindfulness and burden. Increased mindfulness has been associated with reduced caregiver burden (Bazzano et al., 2013; Epstein-Lubow, McBee, Darling, Armey, & Miller, 2011; Whitebird et al., 2013). Bazzano and colleagues (2013) implemented MBSR among 76 caregivers of children with developmental disabilities. Following 8 weeks, there was a statistically significant reduction in caregiver burden and increase in mindfulness. In a study by Epstein-Lubow and colleagues (2011), MBSR led to a statistically significant reduction in burden among caregivers of elderly people, both at the end of intervention and at 1-month follow-up. MBSR also increased the participants’ self-report measures of calmness and mindful attention (Epstein-Lubow et al., 2011). Whitebird and colleagues (2013) administered MBSR to 38 caregivers and found a significant reduction in caregiver burden 6 months after the intervention concluded.

Dispositional mindfulness. Dispositional mindfulness is mindfulness that is inherent in individuals, occurring in different amounts, with or without the use of mindfulness-based interventions (Brown & Ryan, 2003). Self-report measures of dispositional mindfulness increased significantly following mindfulness-based interventions, suggesting that dispositional mindfulness might be able to influence outcomes associated with mindfulness-based interventions (Bazzanno et al., 2013; Birnie et al., 2010; Bloom et al., 2012; Brown & Ryan, 2003). Dispositional mindfulness has been linked with values clarification (Carmody, Baer, Lykins, & Oldendzki, 2009; Lundgren, Dahl, & Hayes, 2008; Shapiro et al., 2006). Values clarification involves individuals determining what is meaningful to them and whether their behavior is in line with what they value (Hayes et al., 1999). It is frequently discussed in literature regarding caregiver health outcomes.

Values Clarification

Caregivers who have clarified their values and are living in accordance with them might be more accepting of the difficulties of caregiving (Hayes et al., 1999). According to Hayes and colleagues (1999), values create a sense of meaning for people because values are chosen behaviors. They persist over long periods of time and keep individuals moving in a direction that gives them meaning. Furthermore, caregivers who find purpose in meaning in their caregiving role might experience lower levels of burden (Aneshensel et al., 1995). Aneshensel and colleagues (1995) wrote, “The ways caregivers decide to resolve their long-term roles are a matter of values” (p. 323). Caregiving is a subjective experience, with some caregivers focusing on the burden of their role and others finding a sense of purpose. For instance, if a caregiver identified altruism as an important value, a practitioner could help a caregiver accept unpleasant aspects of the experience in order to gain meaning from the altruistic aspects. Values have been linked to lower levels of caregiver burden in several studies (Dellasega, 1990; Farran, Miller, Kaufman, & Davis, 1997; Noonan, Tennstedt, & Rebelsky, 1996).

Values and burden. Noonan and colleagues (1996) conducted interviews with 48 caregivers and identified values that alleviated caregiver burden. Common values included responsibility, gratification, reciprocity, and friendship/company. Dellasega’s (1990) “Coping with Caregiving” program implemented values clarification exercises that resulted in reduced burden. Elderly caregivers were assigned to either a control group (support group format) or the stress management program, which contained values clarification exercises. Both groups had lower coping scores at post-treatment, and the group that participated in values clarification exercises had statistically significant higher levels of coping. In a study by Farran and others (1997), they found provisional meaning, defined as “the day-to-day events that provide caregivers a sense of purpose” (p. 317), reduced caregivers’ burden. Their study compared caregiver burden between African American and Caucasian caregivers of spouses with dementia. Higher levels of purpose statistically significantly reduced both groups’ levels of burden, and there were no statistically significant differences between racial groups on outcome variables.

Mindfulness and values. How do mindfulness and values interact? Shapiro and colleagues (2006) explained that increased mindfulness allows one to reperceive situations with a new perspective. Per the authors’ theory, mindfulness enhances values, self-regulation, exposure, and flexibility. These skills allow individuals to question the assumptions they have acquired from their ecological systems. Dispositional mindfulness and values clarification are correlated variables in several studies (Brown & Ryan, 2003; Brown & Kasser, 2005; Carmody et al., 2009; Lundgren et al., 2008). Among 327 university participants and 239 adults from 48 U.S. states, participants who were mindful were more likely to be living in accordance with their values (Brown & Ryan, 2003). The researchers attributed this to enhanced awareness that allows people to consider and explore their values, rather than automatic processing that prevents exploration. Participants with higher rates of mindfulness were also less stressed, depressed, and cognitively disoriented. Brown and Kasser (2005) found that high levels of intrinsic values such as personal growth were significantly positively correlated with dispositional mindfulness. Values also mediated the relation between mindfulness and positive mental health outcomes (Carmody, Baer, Lykins, & Olendzki, 2009; Lundgren, Dahl, & Hayes, 2008). Mindfulness and values have important influences on positive affect (Atkins, Hassed, & Fogliati, 2015; Hanley & Garland, 2014), another aspect of the present study discussed below.

Caregiver Affect

Affective states, defined as people's expressed emotions, are important predictors of wellbeing (Watson et al., 1988). Positive affect is characterized by energy, engagement, and focus, while negative affect includes fear, anger, and nervousness (Watson et al., 1988). Caregiver interventions have sought to lower caregivers' levels of negative affect (Gallagher-Thompson et al., 2003) and increase levels of positive affect (Gitlin et al., 2003). Though reducing negative affect does not necessarily increase positive affect, interventions designed to increase positive affect are likely to reduce negative affect (Bannink, 2012). Caregivers with higher levels of positive affect are less frail, as measured by unintended weight loss, bone fractures, and low energy (Park-Lee, Fredman, Hochberg, & Faulkner, 2009), less depressed (Robertson, Zarit, Duncan, Rovine, & Femia, 2007), and get better sleep (von Känel et al., 2014). Furthermore, positive affect is negatively correlated with caregiver burden (Robertson et al, 2007; Wilson-Genderson, Pruchno, & Cartwright, 2009). Stephens and colleagues (1988) discovered that caregivers who engaged in less avoidance and more positive reappraisal had higher levels of positive affect. Similarly, Gottlieb and Rooney (2004) found caregivers who had more coping strategies including acceptance, positive framing, emotional regulation, and social support had lower levels of negative affect. Positive affect frequently results from being mindfully aware (Hayes, 2004).

Mindfulness and affect. Mindfulness can be a tool to enhance positive affect (Hanley & Garland, 2014; Jain et al., 2007; Shapiro, Jazaieri, & Goldin, 2012). A 1-month mindfulness meditation intervention increased health-profession students' levels of positive affect (Jain et al., 2007). Shapiro and colleagues (2012) found that the more MBSR graduate students completed, the higher their positive affect became. Dispositional mindfulness was significantly positively associated with positive affect among five diverse samples, including American adults, college students, patients with chronic pain, individuals with regular meditation practices, and adults with alcohol use disorder receiving inpatient services (Hanley & Garland, 2014). In two studies by Brown and Ryan (2003), a sample of 327 U.S. university students and 239 non-university adults had higher levels of positive affect if they had higher levels of dispositional mindfulness. Gallegos and colleagues (2013a) found that older adults who participated in MBSR had higher levels of positive affect at the end of the intervention than prior to the start. Age and depressive symptom severity moderated the impact of MBSR on positive affect for adults over 70, such that older participants with lower depressive symptomatology had more improvements in positive affect (Gallegos et al., 2013b).

Values and affect. Values clarification has also been associated with positive affect (Atkins et al., 2015; Emmons, 1986; Hicks, Trent, Davis, & King, 2012). Emmons (1986) asked participants to list 15 personal strivings (objectives participants aimed to achieve) and rate how closely each striving aligned with 14 specific dimensions of personal strivings, including values, probability, difficulty, etc. Participants who endorsed values as the highest dimension of their strivings had the highest levels of positive affect. Emmons (1986) explained this outcome was likely a result of values influencing individuals' commitment to their goals, resulting in success, another correlate of positive affect. In a recent study, Atkins and colleagues (2015) measured affect among Australian university staff after they completed values clarification, professional, or leadership development programs, finding the values group to have the largest influence on positive affect. The connection between values and affect appears to be significant even among groups that are typically lower on measures of wellbeing; mothers and older adults who clarified their values by identifying what is meaningful to them had higher levels of positive affect (Zika & Chamberlain, 1992). In a study by Hicks and others (2012), older adults who perceived the rest of their lifespan as limited, and students who felt they had few opportunities remaining to achieve their goals, had higher levels of positive affect associated with their values. Pan, Wong, Chan, and Joubert (2008) administered surveys to Chinese international students studying in Australia and Hong Kong, finding students with high levels of meaning in life had more positive affect, with meaning mediating the relation between acculturative stress and positive affect. This suggests that values might cause individuals facing stress to be more resilient. Though the connection between values and positive affect has been studied among several groups, it is unknown whether dispositional mindfulness and values clarification relate to caregiver burden and positive affect. This study explored these individual variables, and whether they were associated with one another among a caregiver sample.

The Present Study

The current study examined the impact of caregivers' mindfulness and values on caregiver burden and positive affect. Though initial studies have indicated that mindfulness and values are helpful to caregivers facing depression, anxiety, burden, and other concerns, it is unknown whether mindfulness, values, or both aspects combined are most helpful to caregivers. Additionally, mediation analyses assisted in exploring whether mindfulness opens caregivers to exploring and committing to their values, as Shapiro et al. (2006) theorized. Two models were proposed. In the first, it was hypothesized that dispositional mindfulness would be significantly negatively correlated with caregiver burden. Additionally, dispositional mindfulness would be significantly positively correlated with values clarification, and values clarification would be significantly negatively correlated with caregiver burden. The relation between mindfulness and caregiver burden would be significantly reduced when values clarification was added to the regression.

In the second model, it was hypothesized that dispositional mindfulness would be significantly positively correlated with positive affect and values clarification. Values clarification would be significantly positively correlated with positive affect, and the relation between mindfulness and positive affect would be significantly reduced when values clarification was added to the regression.

Method

Participants

Using a definition from publications by Brown et al. (2009) and Fredman et al. (2010), caregivers were defined as those who have provided unpaid assistance with an activity of daily living (ADL) or instrumental activity of daily living (IADL) to someone with a disability or chronic illness weekly for at least the past 3 months. ADLs include basic self-care tasks such as bathing, grooming, feeding, and maintaining continence. IADLs include more complex skills such as managing medication and finances, shopping and preparing food, navigating transportation, and doing housework (Kernisan & Spencer Scott, 2015). Two hundred thirty-two participants completed the full survey.

Measures

Caregiver burden. The Zarit Burden Interview (ZBI, Bédard et al., 2001; Zarit, Reever,

& Bach-Peterson, 1980) contains 12 items developed to measure caregiver burden, on a 5-point scale from *never* (0) to *nearly always* (4). Higher summed scores indicate more burden (Cronbach's alpha = 0.78). Sample items include "Do you feel strained when you are around your relative?" and "Do you feel that because of the time you spend with your relative that you don't have enough time for yourself?" The instrument was adapted by changing "relative" to a broader "person you care for" to include caregivers taking care of people who are not family members.

Positive affect. The Positive Affect (PA) Scale of the Positive and Negative Affect Scale (PANAS; Watson, Clark & Tellegen, 1988) contains 10 words that describe an affective state where a person is engaged, concentrating, and energetic: Active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong. Participants rate the extent to which they have felt each item over the past week on a scale from *very slightly/not at all* (1) to *extremely* (5). Alpha reliabilities for the PA Scale were between .86 and .90, test-retest reliability was between .47-.68, and construct, factorial, and external validity were demonstrated.

Values clarification. Ryff's (1989) Scales of Psychological Wellbeing (SPWB) contains a 6-item Purpose in Life Scale that assesses whether participants have clarified what gives their lives purpose, and whether they are trying to accomplish things that give them meaning. Items are rated on a 6-point scale, with higher scores indicating the participants have higher levels of values clarification and commitment to their values. The SPWB scales have good reliability (internal consistencies > .87, test-retest reliabilities > .81) and high correlations of convergent validity. This scale has effectively measured values clarification in prior studies (Brown, Bravo, Roos, & Pearson, 2015; Carmody et al., 2009; Marco, Perez, Garcia-Alandete, & Moliner, 2015).

Dispositional mindfulness. The Philadelphia Mindfulness Scale (PHLMS; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008) has two subscales of dispositional mindfulness: Acceptance and present-moment awareness. The PHLMS contains 20 items with responses ranging from *never* (1) to *very often* (5). All acceptance items are reverse-scored and all awareness items are totaled, with higher scores indicating higher levels of acceptance and awareness. An example of an awareness item is “When someone asks how I am feeling, I can identify my emotions easily.” An acceptance item example is “When I have a bad memory, I try to distract myself to make it go away.” Alphas for the awareness subscale were between .75 and .91 and for acceptance they were between .75 and .86. The measure has good convergent and discriminant validity.

Demographic variables. Information was collected to control for demographics that could impact outcome variables such as age, gender, income, ethnicity, ADLs and IADLs for which they are caring, hours of care per week by the caregiver, number of hours of care by other providers, and physical and mental health condition of the caregiver and care recipient. Previous research has revealed that older, female, lower-income, and ethnic minorities who take care of more ADLs/IADLs experience higher levels of burden (Chou, 2000). Furthermore, people with their own physical and mental health problems are more likely to experience the burden of caring for another person (Chou, 2000; Sörensen & Pinquart, 2005).

Procedure

With approval from the Radford University Institutional Review Board, recruitment occurred online through caregiver forums (e.g., caregiveraction.org/forum; agingcare.com/caregiver-forum; alzconnected.org; caring.com/support-groups) and social media groups (e.g., www.facebook.com/TheCaregiverSpace), where a description of the study was provided. Interested participants were directed to a URL where they could take the survey on Qualtrics. Potential participants were invited to participate in the research study with a chance to win a $150, $75, or $25 Visa gift card. The first page of the survey contained informed consent, including information that the survey is confidential and would require between 15-20 minutes to complete. The potential benefits of the survey were to assist counseling practitioners who work with caregivers understand characteristics of caregivers and how they impact the caregiving experience. There were no foreseeable risks from participating in the study. Caregivers were provided with the phone number of a no-cost confidential 24-hour crisis hotline (the Substance Abuse and Mental Health Service Administration), which could provide services to callers in the event they experienced distress while taking the survey. Only participants with 100% completed data were included in the analyses.

Analyses

Data was analyzed using SPSS Version 22. To test the hypotheses, mediation analyses were conducted using the method described by Preacher and Hayes (2008). This method has been found to have benefits over traditional methods proposed by Baron and Kenny (1986) because it reduces Type I error, quantifies mediation effects, and does not rely on definitions of partial and full mediation. Preacher and Hayes (2008) recommended bootstrap sampling to test for bias on pathways between variables. Bootstrapping allows researchers to represent the population being studied by selecting different cases five thousand times (k) from the original sample. The coefficient of the independent variable predicting the mediator (a) and the coefficient of the mediator predicting the dependent variable (b) are estimated each time so that the researcher can infer the size of the indirect effect (ab) in the population. Then, the researcher can define a confidence interval where the lower bound is ab in the kth position, and the upper bound is *ab* in the 1 + *k*th position. Additionally, the macro includes significance tests for each covariate included in the analysis. Mediational paths included the predictor to the mediator (a), the mediator to the dependent variable (b), the predictor to the dependent variable (c), and the predictor and the mediator on the dependent variable (c’). If a and b are both significant and the confidence interval for the indirect effect does not contain zero, it can be concluded mediation is present.

Results

Preliminary Analyses

Caregivers ranged between zero and 48 (*M* = 25.22) on burden. This mean is comparable to other caregiver populations that have been studied using this measure (*M* = 20.95 in a study by Bédard et al., 2001). Per Bédard and colleagues (2001), scores 17 or higher are considered above the cutoff for identifying burden, and 83.6% of the sample fell in this range. Caregivers scored between 12 and 50 on positive affect (*M* = 29.13), which is somewhat lower than the undergraduate sample studied by Watson and colleagues (1998; *M* = 32 over the past few weeks). Caregivers’ dispositional mindfulness sum scores ranged between 40 and 90 (*M* = 62.45), with the awareness subscale mean at 35.77 and the acceptance subscale mean at 26.68. These means are somewhat lower than the measure validation means of undergraduate students (36.65 for awareness and 30.19 for acceptance). Caregivers’ values clarification total scores ranged between 6 and 36, (*M* = 22.04), which would result in an average scale score of 3.67. This is lower than the samples studied by Van Dierendonck (2003), who found an average of 4.28.

Study variables were evaluated for kurtosis and skewness with no abnormalities detected. To determine whether demographic variables were potentially confounding the results, study variables were regressed on demographic variables. Race, income, gender, and education level did not significantly predict positive affect, dispositional mindfulness, or meaning in life. Education significantly predicted caregiver burden, such that those with higher education degrees (bachelor's, master's, and advanced degrees) were significantly more likely to report higher levels of caregiver burden ($p = .01$). Education did not appear to confound the outcome, however, as it was not significantly associated with either of the predictor variables. Increased age significantly predicted increased dispositional mindfulness ($p = .01$), but age was not significantly associated with the dependent variables. Table 1 contains bivariate correlations among demographic variables and variables of interest.

Model 1

To test the first hypothesis that values clarification mediates the relationship between dispositional mindfulness and caregiver burden, a mediation analysis using PROCESS was conducted. Dispositional mindfulness was positively related to values clarification ($B = .32$, $p < .01$) and negatively related to caregiver burden ($B = -.19$, $p < .01$). Additionally, values clarification was negatively related to caregiver burden ($B = -.38$, $p < .01$). Finally, values clarification mediated the relation between dispositional mindfulness and caregiver burden, 95% CI [-.20, -.06]; see Figure 1.

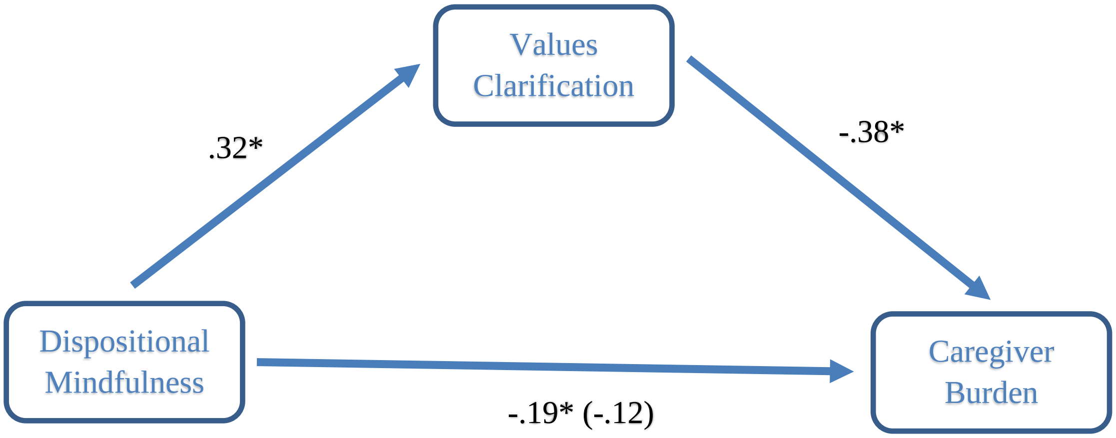

Figure 1. Beta weights are shown in the figure above. The indirect effect of dispositional mindfulness on caregiver burden, controlling for values clarification, is shown in parentheses.
* $p < .01$.

Model 2

To test the second hypothesis that values clarification mediates the relationship between dispositional mindfulness and positive affect, a mediation analysis using PROCESS was conducted. Dispositional mindfulness was positively related to values clarification ($B = .32$, $p < .01$) and positively related to positive affect ($B = .28$, $p < .01$). Additionally, values clarification was positively related to positive affect ($B = .65$, $p < .01$). Finally, values clarification mediated the relation between dispositional mindfulness and positive affect, 95% CI [.13, .30]; see Figure 2.

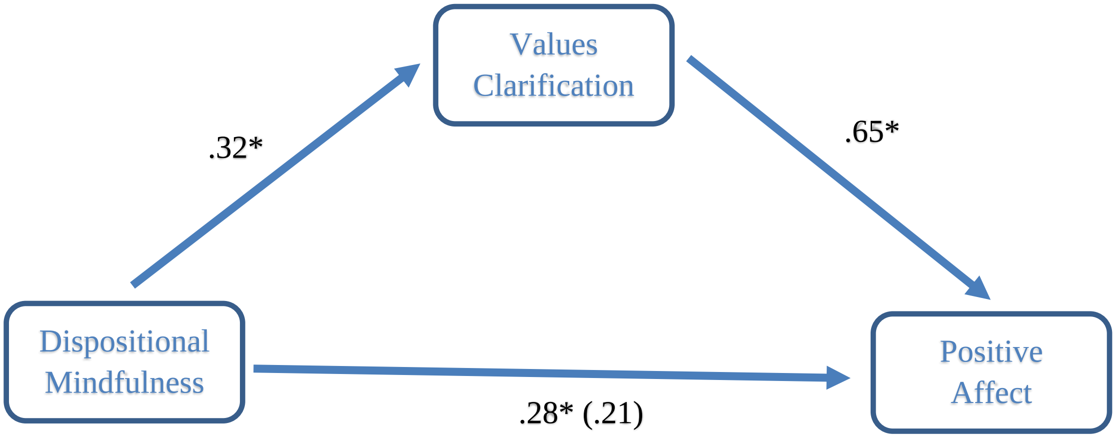

Figure 2. Beta weights are shown in the figure above. The indirect effect of dispositional mindfulness on positive affect, controlling for values clarification, is shown in parentheses.
$* p < .01$.

Effect Sizes

To determine the effect size of each independent variable on each dependent variable, regression analyses were performed. Values had a larger effect size than dispositional mindfulness in its ability to predict caregiver burden (values $R^2 = .14$, moderate effect; mindfulness $R^2 = .09$, small effect) and positive affect (values $R^2 = .46$, strong effect; mindfulness $R^2 = .27$ respectively, moderate effect).

Discussion

All study hypotheses were supported. In both models, the positive association between mindfulness and values clarification was consistent with findings by Brown and Ryan (2003), Brown and Kasser (2005), Carmody and others (2009), Lundgren and colleagues (2008), and Shapiro and others (2006). The negative association between mindfulness and caregiver burden was aligned with findings by Bazzano and colleagues (2013), Epstein-Lubow and others (2011), and Whitebird and colleagues (2013). Caregivers with higher levels of dispositional mindfulness, "the trait-like propensity to experience and express mindful qualities (e.g., nonjudgment, equanimity) and behavioral tendencies (e.g., acting with awareness rather than automaticity)" (Hanley & Garland, 2014), were more likely to report values that are meaningful to them. Researchers including Shapiro and colleagues (2006) and Brown and Ryan (2003) suggested that mindfulness allows individuals to engage in effortful processing that allows intentional selection and commitment to their values. In contrast, those who engage in more automatic processing are likely less mindful and more susceptible to selecting values based on others' values (Brown & Ryan, 2003).

Caregivers with higher levels of dispositional mindfulness also were more likely to report lower levels of caregiver burden. This aligns with studies that evaluated the impact of the therapy MBSR on caregivers experiencing burden (Bazzano et al., 2013; Epstein-Lubow, McBee, Darling, Armey, & Miller, 2011; Whitebird et al., 2013). With the mechanisms of action of MBSR including enhancement of emotional regulation and increased acceptance of stressors, mindfulness might equip caregivers to better manage the effects of caregiver stress (Bazzano et al., 2013). Emotion regulation occurs when individuals choose to "neutralize their mood states to satisfy instrumental goals" (Clore & Robinson, 2000, p. 163). In the case of caregiving, instrumental goals can involve aspects of caregiving itself, or goals that existed prior to taking on a caregiving role. Acceptance is defined as "the active and aware embrace of private experiences without unnecessary attempts to change their frequency or form" (Hayes, Pistorello, & Levin, 2012, p. 982). Acceptance can serve as a tool to counter the avoidance preventing caregivers from pursuing values-based action (Losada et al., 2015).

This study’s results were also consistent with other studies finding a negative association between values and caregiver burden (Dellasega, 1990; Farran et al., 1997; Noonan & Tennstedt, 1997). According to Farran and colleagues (1997), finding meaning in caregiving can help caregivers reappraise their stress in more adaptive ways, and can also serve as a coping strategy that emerges when caregivers must find new ways to manage their stress. Noonan and Tennstedt (1997) found that rather than the number or type of objective stressors (e.g., number of problem behaviors, frequency of care), caregivers’ perception of the stressors explained the extent of their burden. In their study, caregivers who valued their caregiving role were less likely to report feeling burdened. Perception can be changed through mindfulness (Birnie et al., 2010), and mindfulness can facilitate exploration of one’s values (Carmody et al., 2009; Lundgren et al., 2008); it is possible that caregivers can find meaning through mindful awareness. Caregivers who are mindful might take extra time to examine aspects of the caregiving role that are fulfilling, and evaluate how caregiving impacts their wellbeing.

Furthermore, the present study found positive associations between mindfulness and positive affect, demonstrated in earlier research by Hanley and Garland (2014), Jain and colleagues (2007), and Shapiro and colleagues (2012). Hanley and Garland (2014) described how mindfulness produces positive reappraisal, the ability to reevaluate a thought in a more helpful way. According to the authors, this might cause the higher levels of positive affect associated with mindfulness. Values and positive affect were also correlated, similarly to findings by Atkins and colleagues (2015), Emmons (1986), and Hicks and colleagues (2012). Emmons (1986) found that participants who endeavored for their values had the highest levels of positive affect. Emmons (1986) postulated that those who have clarified their values and strive for their goals might have higher levels of self-efficacy, even in the face of adversity, resulting in higher levels of positive affect. Higher levels of self-efficacy in caregivers might result from accomplishments that occur after overcoming barriers to their values. Caregivers with higher levels of self-efficacy related to caregiving are less likely to experience caregiver burden (Aneshensel et al., 1999), which is negatively correlated with positive affect (Robertson et al., 2007; Stephens et al., 1994; Wilson-Genderson, Pruchno, & Cartwright, 2009). Future studies should examine whether values mediate the relation between self-efficacy and positive caregiver outcomes. Caregiving often presents challenges, with many caregivers facing self-doubt in their ability to fulfill their role (Aneshensel et al., 1999). Therefore, self-efficacy is important for caregivers because even when mistakes occur, they can remind themselves of times they were effective and curb negative thoughts and emotions.

Contributions to the literature. With these findings, caregiver service providers, mental health professionals, and researchers have gained novel information regarding the associations between mindfulness, values, and caregiver mental health. This study is the first utilizing a caregiver sample to demonstrate that values mediate the relation between dispositional mindfulness and enhanced mental health outcomes. Prior studies by Carmody and colleagues (2009a) and Lundgren and others (2008) found values to mediate mindfulness outcomes in non-caregiver populations. The relation between mindfulness and caregiver burden was mediated by values clarification, providing support for Shapiro and colleagues' (2006) model of mindfulness, where increased mindfulness allows individuals to reperceive situations with a new perspective, clarifying their values. In turn, these values might serve as a buffer for enhanced stress (Farran et al., 1997). Additionally, values mediated the relation between mindfulness and positive affect. Mindful individuals can raise their awareness of what is important to them, leading to more striving toward their goals (Shapiro et al., 2006). According to Emmons (1986), goal striving can result in enhanced self-efficacy and produce higher levels of positive affect.

Values had a larger effect size than dispositional mindfulness in its ability to predict caregiver burden and positive affect, suggesting that lower levels of caregiver burden and higher levels of positive affect among caregivers might be more due to the impact of values than mindfulness. Per effect size interpretation suggestions by Ferguson (2009), the values measure had a strong effect in its ability to predict positive affect, with mindfulness having a moderate effect. Mindfulness had a small effect in its ability to predict caregiver burden, and values had a moderate effect size. These outcomes are supported by theory underlying Hayes and colleagues' (1999) Acceptance and Commitment Therapy (ACT), which utilizes both mindfulness and values clarification interventions. The authors stated, "All ACT techniques are eventually subordinated to helping the client live in accord with his or her chosen values" (p. 205). According to Hayes and colleagues (1999), individuals who are mindful do not endure uncomfortable experiences for their own sake, but rather, in order to live in accordance with their values. Individuals who avoid difficult thoughts, emotions, or present-moment experiences might also be neglecting experiences that allow them to live a valued life.

Practical applications. The study outcomes provide support for caregiver counseling interventions utilizing mindfulness and/or values clarification, specifically ACT, which utilizes both. ACT seeks to increase psychological flexibility by enhancing acceptance, defusion from unworkable thoughts, present-moment awareness, and caregivers' clarification of and commitment to their values (Hayes et al., 1999). Mindfulness is an intervention utilized in ACT to increase acceptance, defusion, and present-moment awareness. To date, there have been two randomized controlled trials evaluating the efficacy of ACT for caregivers of older adults

(Losada et al., 2015; Marquez-Gonzalez, Losada Baltar, & Romero-Moreno, 2014). Losada and colleagues (2015) and Marquez-Gonzalez and others (2014) found that ACT was clinically more significant than a control group in reducing caregivers' depression and anxiety. Losada and colleagues (2015) noted that counseling intervention research should examine specific mediators explaining the effects of ACT and other therapies on caregiver outcomes. The mediational models in the present study can help counseling psychologists understand the independent contributions of mindfulness and values for caregivers, and how study variables are connected. For instance, this study demonstrated that both mindfulness and values significantly contribute to lower caregiver burden and higher positive affect. Values explained the relation between mindfulness and dependent variables; therefore, counseling intervention development and delivery might benefit from the selection of therapeutic techniques that produce or strengthen values clarification.

Beyond ACT, other psychotherapies that include the specific ingredients of mindfulness and/or values interventions include MBSR (Carmody et al., 2009b), mindfulness-based cognitive therapy (MBCT; Oken et al., 2010), dialectical behavior therapy (DBT; Dimeff & Linehan, 2001), and existential and logotherapy (Frankl, 2014; Yalom, 1980). MBSR typically includes mindfulness exercises such as deep breathing and gentle yoga, and has been found to significantly reduce caregiver burden (Bazzano et al., 2013, Epstein-Lubow et al., 2011; Whitebird et al., 2013). Combining psychoeducation regarding stress, meditative exercises, and techniques to increase self-compassion, Oken and colleagues (2010) provided seven weeks of MBCT to caregivers of people with dementia. Compared to a respite-only condition, the MBCT group significantly reduced caregiver stress. DBT is typically administered to individuals with borderline personality disorder, but has also been successfully implemented among parents of children with the disorder (Woodberry & Popenoe, 2008). The core components of DBT include mindfulness, behavioral science, and dialectical philosophy, the philosophy of concurrent opposing positions (Woodberry & Popenoe, 2008). Existential therapy, with roots in logotherapy, addresses clients' frustrations with existence, its meaning, and the search for meaning (Frankl, 1962). Existential behavioral therapy has resulted in reduced distress and enhanced quality of life for caregivers (Fegg et al., 2013).

Other community resources providing services for caregivers could also implement mindfulness and values clarification into their existing programs. For instance, the Institute on Aging's (2014) mobile application CareZone could provide reminders for caregivers to engage in mindfulness meditations or activities. It could also provide caregivers with measures such as the Valued Living Questionnaire (Wilson, Sandoz, Kitchens, & Roberts, 2010), for caregivers to assess their most valued life domains and whether they are living in accordance with their values. REACH II, a behavioral and psychoeducation intervention (Nichols et al., 2011), and the U.S. Department of Veterans Affairs (2015) caregiver support programs could similarly integrate these techniques alongside existing relaxation and self-care strategies. Senior centers, such as those supported by the National Council on Aging's (2016) National Institute of Senior Centers, could provide mindfulness and values programming into their regular scheduling.

Caregivers are often the only individuals available to care for their loved ones (Pinquart & Sörensen, 2003), highlighting the importance of making formal and informal mindfulness and values clarification techniques more easily accessible to caregivers. Therapies or programming that involve both caregivers and recipients (e.g., MBSR for cancer patients and their caregivers; Birnie et al., 2010) or provide telephone therapy (e.g., REACH II; Nichols et al., 2011), can alleviate the need to obtain alternate care providers. With a team of providers, caregivers and recipients can meet concurrently in separate groups to tailor treatment to their specific needs (e.g., cognitive rehabilitation for stroke patients and ACT for caregivers).

This study's results suggest that commonly used therapeutic techniques such as mindfulness and values interventions might facilitate reductions in caregiver burden and increases in positive affect. Higher levels of caregiver burden have been associated with lower levels of physical/mental health, loss of self, reduced social activities, and family conflict (Chou, 2000). Therapeutic interventions that have reduced caregiver burden have resulted in more free time for caregivers, and greater levels of mastery and self-efficacy (Gitlin et al., 2008). Caregivers with higher levels of positive affect are less frail (as measured by unintended weight loss, bone fractures, and low energy; Park-Lee et al., 2009), less depressed (Robertson et al., 2007), and get better sleep (von Känel et al., 2014). A 2003 REACH intervention studied by Gitlin and colleagues significantly enhanced positive affect among caregivers compared to a control group provided with resources only. Mindfulness-based interventions have also been found to enhance positive affect among diverse populations (Jain et al., 2007; Shapiro et al., 2012; Spek, Ham, & Nyklíček, 2013) and reduce caregiver burden (Whitebird et al., 2013). Interventions incorporating values resulted in reduced caregiver burden (Dellasega, 1990; Farran et al., 1997; Noonan et al., 1997) and increased positive affect (Atkins et al., 2015; Emmons, 1986; Zika & Chamberlain, 1992). Given the recent empirical support of ACT for caregivers' reduction in negative mental health symptoms such as depression and anxiety (Losada et al., 2015; Marquez-Gonzalez et al., 2014), future caregiver studies evaluating ACT might also find reductions in caregiver burden and increased positive affect.

Limitations and future research. Though the directions of the mediational models conducted in this study are based on prior findings in the literature (e.g., Carmody et al., 2009; Lundgren et al., 2008), a limitation of the study is that it is cross-sectional, and the models do not prove causation. Future longitudinal studies that can examine the impact of mindfulness occurring prior to values clarification can potentially support a causal basis for these models. It is also unclear whether dispositional mindfulness would produce similar effects on caregiver burden as formal mindfulness techniques. Future research can compare this variable between individuals who have practiced mindfulness formally and those who have not, or conduct intervention research to evaluate whether differences exist. Researchers evaluating psychotherapies can expand on the findings of this study by determining whether mindfulness exercises alone are sufficient to enhance values clarification, or if values clarification exercises combined with mindfulness provide enhanced outcomes for caregivers in therapy.

Another limitation is the sample's lack of variability in race and gender, which limits generalizability of the findings to ethnic minority and male caregivers. It is possible that existing forums for caregiver support tend to attract primarily Caucasian women who are comfortable using the internet. Therefore, researchers should sample male and ethnic minority caregivers from websites they are already using (e.g., general Facebook/email advertisements), and engage in outreach for caregivers who do not have regular access to the internet. Furthermore, because this study only sampled caregivers from the United States, samples from other nationalities are needed to determine whether the findings can be extended to other countries' caregivers.

Conclusion

It has been demonstrated that both dispositional mindfulness and values clarification are potential protective factors against caregiver burden, and promotive factors of positive affect for caregivers. Dispositional mindfulness might provide caregivers with present-moment awareness that enables them to attend to the most important needs of the moment, rather than ruminating over what has been neglected or lost. Caregivers who can attend to the present moment likely experience more positive affect due to an enhanced awareness of pleasant things happening around them. Caregivers who had clarified their values were also less burdened and experienced more positive affect. This could be due to caregivers integrating their caregiving roles into their broader values (e.g., dedication to family, kindness), or recognizing how they could remain committed to their values despite the sacrifices required of caregiving. Individuals who are in touch with their values are likely higher in positive affect because they feel their lives are heading in intended directions. Earlier research revealing similar associations between mindfulness, values, caregiver burden, and positive affect were also discussed.

Values clarification mediated the relation between higher dispositional mindfulness and lower burden, and higher dispositional mindfulness and greater positive affect. This is likely due to a unique type of cognitive processing that can occur during mindfulness, enabling individuals to clarify what is most important to them (Shapiro et al., 2006). Caregivers who are mindful can examine beliefs that might otherwise have gone unquestioned. This can provide caregivers with clarity into how their beliefs are or are not serving their values. This finding provides support to earlier studies finding values to be a change mechanism of mindfulness (Carmody et al., 2009a; Lundgren et al., 2008).

The outcomes of this research have important applications for caregivers, their care recipients, their service providers, and caregiver researchers. Caregivers' responsibilities for recipients often limit their ability to access mental health resources (Pinquart & Sörensen, 2003), making it important for psychologists and other service providers to determine convenient methods to enhance these variables among caregivers. Psychotherapies such as MBSR and ACT, mobile applications, hospital services, and community senior centers are potential venues for delivery. It is still unknown whether psychotherapies that implement only mindfulness, or both mindfulness and values, are equivalent in reducing caregiver burden and increasing positive affect. Future research should determine whether mindfulness alone is sufficient to enhance values clarification, or if specific values-based strategies combined with mindfulness produces more desirable outcomes. This knowledge could improve the effectiveness of caregiver interventions.

CHAPTER TWO

Review of the Literature

As noted in Chapter One, the focus of the current study was to determine whether values clarification mediates the relation between dispositional mindfulness and caregiver burden, as well as mindfulness and positive affect among caregivers. In Chapter Two, (a) demographics of caregivers and care recipients are described; (b) models and sources of caregiver burden are discussed; (c) literature that discusses the relations between mindfulness, values, positive affect, and caregiver burden is provided; (d) current interventions for caregiver burden and positive affect are reviewed; finally, (e) hypotheses for the current study are introduced.

Demographics of Caregivers

Informal caregivers are individuals who are not compensated for assisting a person who is disabled or chronically ill with activities of daily living such as dressing, bathing, and feeding (Roth, Fredman, & Haley, 2015). This contrasts with formal caregivers, who are paid for their services. All research findings discussed in this literature review refer to informal caregivers. Most caregivers are spouses or adult children of the care recipient (Aneshensel et al., 1995). According to the National Alliance for Caregiving (NAC) and American Association for Retired Persons (AARP; 2015), 60% of caregivers are women. In their 2015 *Executive Summary: Caregiving in the US*, the average age of caregivers was 49.2. Among caregivers surveyed, they reported providing an average of 24.4 hours of weekly care to the recipient over the past 4 years. Only 22% of caregivers caring for a spouse received help from another caregiver (NAC & AARP, 2015). One-third of the caregivers in Aneshensel and colleagues' (1995) study received regular informal help, typically from their children or siblings, but two-thirds of caregivers reported that they needed more help than they received. A review of caregiver literature by

Schulz and colleagues (1995) found common problems among caregivers, including a lack of information regarding the role/process of caregiving and insight into the impact of caregiving on their own wellbeing.

Both mental and physical health outcomes have been studied among caregivers, suggesting that caregivers have worse health outcomes because of their caregiving role (Clay, Roth, Wadley, & Haley, 2008; NAC & AARP, 2015; Pinquart & Sörensen, 2007). According to the NAC and AARP (2015), 22% percent of caregivers reported that their physical health declined as a result of caregiving. Forty-six percent of caregivers providing care for 21 or more hours weekly reported they were highly stressed, especially if they were caring for a person with a chronic or long-term health problem. Only 16% of caregivers reported their healthcare providers attended to their needs related to caregiving and only 15% of caregivers reported using respite services. About 25% of caregivers attributed financial burden as a barrier to utilizing respite services (NAC & AARP, 2015). Clay and colleagues (2008) reported that participants caring for an individual with dementia were more likely to experience emotional distress than caregivers of mixed diagnoses. In their study, the authors noted that caregivers' levels of burden remained consistent over time, suggesting that burden can be chronic and might not improve with experience. Among the common stressors listed by caregivers (such as the caregiver's workload and functional status of the care recipient), higher amounts of behavioral problems among recipients were most related to health status of caregivers (Pinquart & Sörensen, 2007). Behavioral problems included situations such as wandering, repeated questioning, and intense suspicion. Behavioral problems were also associated with poor physical health among caregivers (Pinquart & Sörensen, 2007).

Due to caregivers’ increased risk of physical health problems, researchers have drawn attention to caregivers’ rates of early mortality (Brown et al., 2009; Roth et al., 2015). Brown and colleagues (2009) found earlier mortality rates among caregivers compared to non-caregivers, but Roth and colleagues (2015) pointed out that this was only found among spouse caregivers experiencing caregiver burden. A common flaw has occurred in many caregiver health studies: Their comparison groups were convenience samples rather than demographically matched samples (Roth et al., 2015). This is an issue because the convenience samples might be groups that already had higher rates of chronic illness or other factors that would predispose them to illness. Five studies conducted between 2009 and 2013 that sampled caregivers and their demographic matches found that caregivers had later mortality rates than non-caregivers when controlling for perceived stress or burden (Roth et al., 2015). Furthermore, caregivers under stress were not more likely to experience earlier mortality, and caregivers who reported low levels of stress were less likely to experience earlier mortality, suggesting that caregiving provides a health benefit in some cases. This finding should provide mental health professionals with caution when interpreting data regarding the extent of or external validity of caregiver health outcomes.

In contrast to studies emphasizing negative health outcomes of caregiving, many caregivers have reported positive outcomes of their experience such as mastery and psychological growth (Aneshensel et al., 1995; Roth et al., 2015). In a study conducted by the National Opinion Research Center in 2014, 83% of caregivers reported caregiving was a positive experience. Additionally, caregiving can provide other health benefits such as enhanced physical exercise (Fredman et al., 2009). Therefore, it is important to note that many caregivers do not experience negative health outcomes because of their caregiving role. Nevertheless, many caregivers report to mental health providers with symptoms related to their caregiving role, including sleep problems, depression, and anxiety (Marquez-Gonzalez et al., 2014; Nichols et al., 2011).

Several authors have identified common reasons that individuals become caregivers (Aneshensel et al., 1995; Marquez-Gonzalez et al., 2014; NAC & AARP, 2015). For many caregivers, taking care of a loved one with chronic illness at home is a familial or cultural norm, with institutional care shunned or never considered (Marquez-Gonzalez et al., 2014). Half of caregivers surveyed reported having no choice in becoming a caregiver due to lack of financial resources or institutional facilities in their geographic areas (NAC & AARP, 2015). According to Aneshensel and colleagues (1995), the quality of the relationship with the family prior to the caregiver's illness sometimes influences whether the care recipient will receive home or institutional care. In their study, participants who had more caring relationships with the care recipient were more likely to become caregivers. The authors described caregiving as a career with "a constellation of jobs held over time" (p. 18). Caregivers have changing roles and acquire new skills throughout the process of caregiving. However, caregiving is often unplanned, leading the authors to refer to it as "the unexpected career" (p. 22). Considering the lack of options many caregivers will face, mental health providers can help caregivers with the adjustment process.

Demographics of Care Recipients

Per a survey administered by NAC and AARP (2015), 65% of care recipients were female with an average age of 69.4. The data also revealed 59% of recipients had a long-term physical health problem (such as Parkinson's disease), 35% had a short-term physical health problem (such as bone fractures), and 26% had memory problems (such as vascular dementia). Thirty-seven percent had more than one health problem. The most common conditions reported were health and memory problems. Twenty-two percent of surveyed caregivers reported providing care for someone with Alzheimer's disease or dementia, 21% for someone with a mental health problem, and 4% for someone with a developmental or intellectual disorder (NAC & AARP, 2015).

Caregiver Burden and Sources of Burden

Zarit, Reever, and Bach-Peterson (1980) defined caregiver burden as "the extent to which caregivers perceived their emotional, physical health, social life, and financial status a result of caring for their relative" (p. 261). Caregiver burden is associated with earlier rates of mortality (Schulz & Beach, 1999) and depression, as well as lower ratings of quality of life and marital satisfaction (Schrag, Hovris, Morley, Quinn, & Jahanshahi, 2006). Several interventions have been designed to reduce caregiver burden, including Mindfulness-Based Stress Reduction (MBSR; Epstein-Lubow et al., 2011; Bazzano et al., 2013; Whitebird et al., 2013), the Coping with Caregiving program (Dellasega, 1990), REACH II (Substance Abuse and Mental Health Services Administration [SAMHSA], 2008) and Cognitive Behavior Therapy (Pinquart & Sörensen, 2006).

The following section will outline the stress and coping model (Knight & Losada, 2011), the theoretical basis for burden in the present study. Models of burden can assist readers in understanding the multiple pathways that can lead to caregiver burden. Several other models have been used to explain caregiver burden. Please see Quails (2011) for more information regarding the stress model of caregiving, the individual development model, and the family dynamics model, and Knight and Losada (2011) for descriptions of the stress process model, the diathesis-stress model, and the stress and coping model.

Stress and coping model. From the perspective of the stress and coping model, some caregivers appraise caregiving as more stressful than others in similar conditions (Knight and Losada, 2011). Cooper, Katona, Orrell, and Livingston (2008) examined mental health outcomes of caregivers with the stress and coping model, finding that negative coping styles such as denial were associated with anxiety levels after 1 year. Knight, Silverstein, McCallum, and Fox (1999) found that African American caregivers appraised caregiving as less burdensome than non-African Americans, resulting in less emotional distress. Picot (1995) found that caregivers who appraised the caregiving role as causing personal negative consequences had significantly fewer coping strategies than caregivers who did not perceive caregiving as costly.

According to Chou (2000), predisposing factors such as gender, health, age, employment, and socioeconomic status influence perceived burden. Older people, unemployed individuals, women, those in poor health, and people in low socioeconomic groups are more likely to report caregiver burden than young, employed, male, healthy, high socioeconomic groups (Chou, 2000). Cultural values, such as who is expected to take on the caregiver role, are important to subjective burden. Chou (2000) noted that individuals who benefit from the caregiving experience have specific values surrounding obligation, affection, reciprocity, and commitment to family. Degree of functional limitation, disruptive behaviors, tasks involved, and time commitment are positively correlated with caregiver burden (Chou, 2000). This suggests that caregiver and recipient demographic variables, cultural background, personal values, and the care recipient’s condition can all interact to impact the caregivers’ perception of the caregiving role.

A seminal text by Aneshensel and colleagues (1995) conducted a longitudinal study over 3 years of 555 caregivers from California. They determined factors that allow caregivers to adapt to caregiver burden. Using canonical correlation, they found strong overlap between objective and subjective stressors during the first phase of caregiving. Objective stressors included the care recipients' dependencies for ADLs, cognitive impairment, patient resistance, and problematic behaviors. Subjective stressors included role overload, role captivity, and loss of intimate exchange with the care recipient. Increased impairment and need for assistance were substantially correlated with caregivers' feelings of loss of the loved ones. Caregivers who experienced more disruptive behaviors (e.g., dementia-related behaviors such as wandering, fighting, yelling) from the recipient were more likely to feel trapped in their role or overwhelmed (Aneshensel et al., 1995).

Family conflict and financial problems are additional stressors contributing to caregiver burden. One quarter of caregivers in the Aneshensel et al. study reported experiencing "quite a bit of disagreement" with family members (1995, p. 86). Caregivers who got along with family members were more likely to feel competent as caregivers. Family conflict related to the care recipient was significantly correlated with work and financial strain. Having to alter or give up employment also contributed to caregiver burden. One quarter of caregivers in the study reported changing their work situation in order to care for the recipient. Caregivers experiencing financial burden were significantly more likely to report feeling burdened (Aneshensel et al., 1995). Eighteen percent of the caregivers surveyed in the NAC and AARP (2015) study reported being highly financially strained because of caregiving. Sixty-one percent of caregivers in the NAC and AARP (2015) study had to make accommodations at work to provide care, such as taking time off, turning down a promotion, or reducing work hours. Variables such as financial and family stress might proliferate into subjective experiences such as caregiver burden and depression (Aneshensel et al., 1995).

In the Aneshensel et al. (1995) study, stressors from one domain of caregivers' lives proliferated into other domains. Subjective stressors after several years were regressed on sociodemographic variables, subjective stressors at baseline, objective stressors at baseline (cognitive impairment, ADL dependencies, care recipient resistance, and behavioral problems), and stressors unrelated to caregiving. In some cases, subjective stressors were present due to objective primary stressors. For instance, problematic behaviors increased subjective role captivity and cognitive impairment increased subjective loss of intimate exchange with the care recipient. The effect of care recipients' deteriorating cognition on depression was mediated by subjective loss of personal identity. ADL dependencies only influenced depression when the caregiver had a subjective experience of caregiver burden (Aneshensel et al., 1995). Thus, researchers have looked closely at caregivers' subjective appraisals of stress (Sörensen & Pinquart, 2005; Stephens & Franks, 1999).

Due to the many different factors that influence caregiver burden, it is important to note that stressors do not explain most of the variance in caregiver wellbeing (4.4-26.5%; Stephens, Franks, & Townsend, 1994)**,** and the relation might be moderated by other variables (Stephens & Franks, 1999). For instance, Stephens and Franks (1999) found multiple stressful roles enhanced risk of burden, but caregivers' employment was generally beneficial when it was appraised as a positive role. This suggests that burden can be influenced by one's own perception. Through the lens of the stress and coping model, Sörensen and Pinquart (2005) described how caregivers who appraise caregiving as burdensome are more likely to have negative mental and physical health outcomes. Therefore, the stress and coping model is the theoretical model for conceptualizing caregiver burden in the current study. A reduction in caregiver burden has been associated with increased mindfulness (Bazzano et al., 2013; Epstein-Lubow, McBee, Darling, Armey, & Miller, 2011; Whitebird et al., 2013) and values clarification (Dellasega, 1990; Noonan, Tennstedt, & Rebelsky, 1997), two constructs that will be discussed in further detail in the following pages.

Mindfulness

Mindfulness is the “quality of consciousness or awareness that arises through intentionally attending to present-moment experiences in a non-judgmental and accepting way” (Gu, Strauss, Bond, & Cavanagh, 2015, p. 2). The concept as understood in Western psychology originated from Buddhist meditative traditions and is a translation of the Pali word *sati*, meaning remembering to be aware of what is occurring (Siegel, Germer, & Olendzki, 2009). John Kabat-Zinn brought mindfulness to American therapeutic settings in the 1970s with the MBSR program at the University of Massachusetts (Kabat-Zinn & Hanh, 2009). Mindfulness practice seeks to reduce suffering by enhancing present-moment awareness in order to enhance compassion for oneself and others. The content of mindfulness practice can be on enhancing concentration on a particular experience, increasing compassion for oneself and others, or gaining insight into the changing experiences of thoughts, feelings, and emotions (Siegel et al., 2009).

There are many settings and frameworks in which mindfulness can take place (Siegel et al., 2009). Mindfulness can occur in everyday life, such as when one tastes food or notices sights while driving. Some people engage in formal meditation practices where they set aside time specifically to be mindful, perhaps focusing their attention to their breath or bodily sensations. A review of mindfulness interventions by Carmody and Baer (2009) revealed that number of class hours in MBSR groups did not significantly impact its effect size, indicating that a manualized approach might not be necessary. However, most MBSR interventions producing improved psychological outcomes such as reduced depressive symptoms occurred over 26 hours (eight 2.5-hour courses and one day-long; Carmody & Baer, 2009). Over the long-term, Lazar and colleagues (2005) found that regular mindfulness produces better outcomes than short-term practice.

Siegel and colleagues (2009) described that the opposite of mindfulness is mindlessness, or “deliberate moments to try to escape the present moment” (p. 20). According to the authors, some common myths of mindfulness they described include a blank mind, emotionlessness, withdrawal, seeking bliss, and escaping pain. Rather than trying to think of nothing, mindfulness involves awareness of thoughts and emotions. Being mindful does not require being in a monastery, as mindful individuals can regularly engage with others. Mindfulness does not always indicate feeling good, as sometimes painful or uncomfortable feelings will arise. In other words, while being mindful, both pleasant and unpleasant states are observed (Siegel et al., 2009). By allowing ourselves to experience unpleasant states, we enhance our ability to cope with and accept them.

Siegel and colleagues (2009) argued that mindfulness is a transtheoretical construct, suggesting that it is an aspect of many effective therapies applied by a variety of therapists. The researchers described how psychodynamic, humanistic, dialectical-behavioral, acceptance and commitment, and cognitive-behavioral therapists utilize present-moment awareness and acceptance. Additionally, cognitive neuroscience research has increased our understanding of the neurobiological processes and outcomes of mindfulness practice (Davidson & McEwen, 2012; Klimecki, Leiberg, Lamm, & Singer, 2012; Mascaro, Rilling, Negi & Raison, 2012; Weng et al., 2013). One mindfulness practice of increased interest in neuroscience is compassion (loving-kindness) meditation, where the focus of the practice is cultivating inward and outward kindness. In studies by Weng and colleagues (2013), Klimecki and colleagues (2012), and Mascaro and colleagues (2012), functional magnetic resonance imaging (fMRI) has revealed significant neural changes among compassion-trained individuals compared to control groups, such as increased activation in the inferior parietal cortex, inferior frontal gyrus, and dorsomedial prefrontal cortex, which are areas of the brain involved in empathy and social relatedness.

Dispositional mindfulness. Dispositional mindfulness is mindfulness that is inherent in individuals, occurring in different amounts, with or without the use of mindfulness-based interventions (Brown & Ryan, 2003). Self-report measures of dispositional mindfulness increased significantly following mindfulness-based interventions, suggesting that dispositional mindfulness might be able to influence outcomes associated with mindfulness-based interventions (Bazzanno et al., 2013; Bloom et al., 2012; Brown & Ryan, 2003). Individuals with high levels of dispositional mindfulness have been found to exhibit lower levels of self-consciousness, depression, and anxiety, and higher levels of psychological wellbeing including self-esteem, subjective vitality, self-actualization, autonomy, competence, and optimism (Brown & Ryan, 2003).

Mindfulness and burden. Increased mindfulness has been associated with reduced caregiver burden (Bazzano et al., 2013; Epstein-Lubow, McBee, Darling, Armey, & Miller, 2011; Whitebird et al., 2013). Bazzano and colleagues (2013) implemented MBSR among 76 caregivers of children with developmental disabilities. Following 8 weeks, there was a statistically significant reduction in caregiver burden and increase in dispositional mindfulness. In a study by Epstein-Lubow and colleagues (2011), MBSR led to a statistically significant reduction in burden among caregivers of elderly people, both at the end of intervention and at 1-month follow up. MBSR also increased the participants' self-report measures of calmness and mindful attention (Epstein-Lubow et al., 2011). Whitebird and colleagues (2013) administered MBSR to 38 caregivers and found a significant reduction in caregiver burden 6 months after the intervention concluded. Mindfulness is also related to a construct known as values clarification (Carmody, Baer, Lykins, & Oldendzki, 2009; Lundgren et al., 2008; Shapiro et al., 2006) discussed in more detail in the following section.

Values Clarification

Values clarification occurs when individuals determine what is meaningful to them and whether their behavior is in line with what they value (Hayes et al., 1999). The construct has been mentioned frequently throughout the history of counseling psychology, having roots in phenomenological philosophy underlying Frankl’s (1962) logotherapy. According to Frankl (1962), people “are able to live and even die for the sake of [their] ideals and values” (p. 120). After living in concentration camps for 3 years, Frankl (1962) observed that those who understand what is important to them, and have a strong commitment to their values, can undergo intense suffering. For example, Branstetter-Rost, Cushing, and Douleh (2009) found that individuals who participated in a values clarification exercise were less likely to avoid pain and tolerated higher levels of pain than those who had not (as measured by a cold-pressor task). Frankl (1962) believed that frustration with existence, its meaning, and striving for its meaning could lead to mental health problems. As a logotherapist, Frankl (1962) helped individuals determine what they value and develop a will to pursue their values. He believed that there is no absolute meaning of life, and that every person has unique meaning(s) to his/her own life.

Values are frequently discussed in literature concerning caregiver health outcomes. Aneshensel and colleagues (1995) found that the more magnitude of change over time in care recipients’ conditions, the more likely caregivers were to experience value associated with their caregiving experience. However, caregivers who felt they were captive to their caregiver role were not likely to show this trend. The authors concluded, “The ways caregivers decide to resolve their long-term roles are a matter of values" (p. 323). Caregiving is a subjective experience, with some focusing on the burden of their role and others finding a sense of purpose. For instance, if a caregiver identified altruism as an important value, a practitioner could help a caregiver accept unpleasant aspects of the experience in order to gain meaning from the altruistic aspects. Noonan and colleagues (1996) conducted interviews with 48 caregivers and identified themes that alleviated caregiver stress. Common themes included responsibility, gratification, reciprocity, and friendship/company. Provisional meaning, as defined by Farran, Miller, Kaufman, and Davis (1997) as "the day-to-day events that provide caregivers a sense of purpose" (a construct related to values, p. 317), was found to reduce caregivers' depression. Participants who were in touch with their values were found to have lower levels of depression, anxiety, and stress (Carmody et al., 2009), suggesting values are an important aspect of mental health to be evaluated by counseling professionals. Therefore, the impact of values on caregiver burden was examined.

Values and burden. To date, three studies have found values to be related to lower levels of caregiver burden (Dellasega, 1990; Farran, Miller, Kaufman, & Davis, 1997; Noonan, Tennstedt, & Rebelsky, 1996). Noonan and others (1996) conducted interviews with 48 caregivers and identified values that alleviated caregiver burden. Common values included responsibility, gratification, reciprocity, and friendship/company. Dellasega's (1990) "Coping with Caregiving" program implemented values clarification exercises that resulted in reduced burden. Provisional meaning was also found to reduce caregivers burden among 77 African American and 138 Caucasian caregivers of people with dementia (Farran et al., 1997).

Mindfulness and values. How do mindfulness and values interact? Shapiro and colleagues (2006) explained that increased mindfulness allows one to reperceive situations with a new perspective. Per the authors' theory, mindfulness enhances values, self-regulation, exposure, and flexibility. These skills allow people to question the assumptions they have acquired from their ecological systems. Dispositional mindfulness and values clarification have been correlated constructs in the outcomes of several studies (Brown & Ryan, 2003; Brown & Kasser, 2005; Carmody, Baer, Lykins, & Olendzki, 2009a; Lundgren, Dahl, & Hayes, 2008). Among 327 university participants and 239 adults from 48 U.S. states, participants who were mindful were more likely to be living in accordance with their values (Brown & Ryan, 2003). The researchers attributed this to enhanced awareness that allows people to consider and explore their values, rather than automatic processing that prevents exploration. Participants with higher rates of mindfulness were also less stressed, depressed, and cognitively disoriented. Brown and Kasser (2005) found that high levels of intrinsic values such as personal growth were significantly positively correlated with dispositional mindfulness. Values also mediated the relation between mindfulness and positive mental health outcomes (Carmody et al., 2009a; Lundgren, Dahl, & Hayes, 2008). Mindfulness and values have important influences on positive affect (Atkins, Hassed, & Fogliati, 2015; Hanley & Garland, 2014), another outcome of interest in the present study.

Caregiver Affect

Affective states, defined as people's expressed emotions, are important predictors of wellbeing (Watson et al., 1988). Positive and negative affective states differ in that positive affect is characterized by energy, engagement, and focus, while negative affect includes fear, anger, and nervousness (Watson, et al., 1988). Compared to non-caregivers, caregivers have lower levels of positive affect (Savage, 2004). Caregiver interventions have sought to lower caregivers' levels of negative affect (Gallagher-Thompson et al., 2003; Robertson, Zarit, Duncan, Rovine, & Femia, 2007) and enhance levels of positive affect (Gitlin et al., 2003). Though reducing negative affect does not necessarily increase positive affect, interventions designed to increase positive affect are likely to reduce negative affect (Bannink, 2012). Caregivers with higher levels of positive affect are less frail (as measured by unintended weight loss, bone fractures, and low energy; Park-Lee, Fredman, Hochberg, & Faulkner, 2009), less depressed (Robertson et al., 2007), and get better sleep (von Känel et al., 2014). Furthermore, positive affect is negatively correlated with caregiver burden (Robertson et al., 2007; Stephens et al., 1994; Wilson-Genderson, Pruchno, & Cartwright, 2009). Stephens and colleagues (1988) discovered that caregivers who engaged in less avoidance and more positive reappraisal had higher levels of positive affect. Gottlieb and Rooney (2004) found that caregivers who had more coping strategies including acceptance, positive framing, emotional regulation, and social support had lower levels of negative affect. These variables frequently result from being mindful (Hayes, 2004).

Mindfulness and affect. Mindfulness can be a tool to enhance positive affect (Hanley & Garland, 2014; Jain et al., 2007; Shapiro, Jazaieri, & Goldin, 2012). A 1-month mindfulness meditation intervention increased health-profession students' levels of positive affect (Jain et al., 2007). Shapiro and colleagues (2012) found that the more MBSR graduate students completed, the higher their positive affect became. Dispositional mindfulness was significantly positively associated with positive affect among five diverse samples, including American adults, college students, patients with chronic pain, individuals with regular meditation practices, and adults with alcohol use disorder receiving inpatient services (Hanley & Garland, 2014). In two studies by Brown and Ryan (2003), a sample of 327 U.S. university students and 239 non-university adults had higher levels of positive affect if they had higher levels of dispositional mindfulness.

Gallegos and colleagues (2013) found that older adults who participated in MBSR had higher levels of positive affect at the end of the intervention than prior to the start. Age and depressive symptom severity moderated the impact of MBSR on positive affect for adults over 70, such that older participants with lower depressive symptomatology had more improvements in positive affect (Gallegos et al., 2013b).

Values and affect. Values clarification has also been associated with positive affect (Atkins et al., 2015; Emmons, 1986; Hicks, Trent, Davis, & King, 2012). Emmons (1986) asked study participants to list 15 personal strivings (objectives participants aimed to achieve) and rate how closely each striving aligned with 14 specific dimensions of personal strivings, including values, probability, difficulty, etc. Participants who endorsed values as the highest dimension of their strivings had the highest levels of positive affect. Emmons (1986) explained this outcome was likely a result of values influencing participants' commitment to their goals, resulting in success, another correlate of positive affect. In a recent study, Atkins and colleagues (2015) measured affect among Australian university staff after they completed values clarification, professional, or leadership development programs, finding the values group to have the largest influence on positive affect. The connection between values and affect appears to be significant even among groups that are typically lower on measures of wellbeing; mothers and older adults who clarified their values (i.e. what is meaningful to them) had higher levels of positive affect (Zika & Chamberlain, 1992). In a study by Hicks and others (2012), older adults who perceived their remaining lifespan as limited, and students who felt they had few opportunities remaining to achieve their goals, had higher levels of positive affect associated with their values. Pan, Wong, Chan, and Joubert (2008) administered surveys to Chinese international students studying in Australia and Hong Kong, finding students with high levels of meaning in life had more positive affect, with meaning mediating the relation between acculturative stress and positive affect. This suggests that values might cause individuals facing stress to be more resilient. Though the connection between values and positive affect has been studied among several groups, it is unknown whether dispositional mindfulness and values clarification relate to caregiver burden and positive affect. This study explored these individual variables, and whether they were associated with one another among a caregiver sample.

Psychosocial Treatments for Caregivers

Need to support caregivers. Caregivers benefit society beyond their direct care services by increasing a care recipient's choices and reducing community costs. Mittelman (2005) described how people in need of care often prefer living at home to living in institutional care. This is an important way for care recipients to maintain their autonomy and psychological wellbeing (Haug, 1985). Secondly, interventions that enhance caregivers' positive affect (Schulz, Martire, & Klinger, 2005) and reduce caregiver burden (Chou, 2000) can reduce the need for recipients to obtain institutional care. According to Chou (2000), without family caregivers, the need for public long-term healthcare would more than double. Caregiver interventions have also been found to reduce the formal costs of caring for recipients (Wray et al., 2010). In a study by Wray and colleagues (2010), caregivers who participated in an education and support intervention saved an average of $2,768 more per patient over 6 months compared to caregivers who did not participate in the intervention. The benefits of providing assistance to caregivers socially and financially outweigh the costs.

Psychoeducation. Psychoeducation programs provide caregivers with information about the care recipient's condition so caregivers can recognize symptoms of the condition and prepare for future symptoms. Psychoeducation also connects caregivers with resources and services to assist with caregiving, such as local agencies and training for responding to the recipient's symptoms. Psychoeducation groups are led by someone trained in the content and emphasize education over supportive techniques (Sörensen et al., 2002). Pinquart and Sörensen (2006) conducted a meta-analysis of caregiver interventions and found that psychoeducational interventions requiring caregivers to actively participate had the broadest effects in reducing burden, depression, and enhancing ability/knowledge and subjective wellbeing (compared to cognitive-behavioral therapy (CBT), case management, respite, and multi-component interventions). In a meta-analysis, psychoeducation significantly impacted all of the outcome variables, including caregiver burden, depression, subjective wellbeing, caregiving satisfaction, knowledge/ability, and symptoms of the care recipient (Sörensen et al., 2002). To date, this type of intervention has not been compared to newer treatments such as MBSR or acceptance and commitment therapy (ACT) for caregivers.

Respite/daycare interventions. Respite and adult day care interventions occur in the caregiver's home or off-site. They provide caregivers with assistance caring for the care recipient's daily needs. Oftentimes caregivers have difficulty leaving their home to work, run errands, or engage in self-care activities unless they have respite services. Respite and daycare services were effective in reducing caregiver burden and depression and enhancing caregivers' wellbeing (Sörensen et al., 2002). Schultz (2005) found, however, that respite care only accounts for a small proportion of variance in reduced burden and depression.

CareZone. In 2014, the Institute on Aging released a mobile application called CareZone to assist caregivers with organizing and coordinating care, in addition to generating and reaching out for social support. Features include journaling, medication management, contacts, to-dos and calendar, and relevant articles. To date, no outcome data is available regarding the application.

REACH II. Resources for Enhancing Alzheimer's Caregiver Health II is a behavioral and psychoeducational intervention designed for caregivers of people with dementia or Alzheimer's disease (SAMHSA, 2008). It was developed as a multicomponent intervention for caregivers of a person with Alzheimer's disease to reduce problem behaviors of care recipients, or to change the caregiver's response or appraisal of stressors (Schulz et al., 2003). Techniques involved in the intervention include relaxation and interpersonal techniques, health education, and role-playing. Its goals are to reduce caregiver burden and depression and to increase social support, self-care, and self-efficacy in managing dementia-related behaviors (SAMHSA, 2008). SAMHSA (2008) rated REACH II 3.3/4.0 in readiness for dissemination. Its highest rating was in REACH II's quality assurance procedures, followed by its implementation materials, and training and support resources. According to SAMHSA (2008), the strengths of the intervention's research base include its psychometric measures, training of intervention staff, high participant retention, inclusion/exclusion criteria, and adequate sample size. This intervention has not been compared empirically to MBSR or ACT for caregivers.

VA caregiver support. The U.S. Department of Veterans Affairs (VA; 2015) provides several services for veteran caregivers and caregivers of veterans. The VA's Office of Rural Health provides an online educational series for in-home dementia caregivers. The website contains 20 video modules covering topics such as safety, communication, caregiver self-care, legal issues, problem behaviors, wandering, and more. The VA Caregiver Support program includes a toll-free caregiver support line, coordinators who connect caregivers with resources, peer support mentors, adult care centers for day-time activities, home-based healthcare services, telehealth, respite services, and hospice services (VA, 2015).

REACH VA is an intervention designed for caregivers of veterans modeled on the REACH II program (Nichols et al., 2011). It is a behavioral intervention that provides caregivers with education, skills, and support. It initially occurred over 6 months and included 12 in-person sessions and five group telephone sessions. In the study by Nichols and colleagues (2011), caregivers experienced significant reductions in burden, depression, caregiving frustrations, and perceived problematic dementia-related behaviors. Of the 127 caregivers in the study, 96% reported they would recommend the program to other caregivers of veterans. A shorter, four-session intervention produced similar results to longer REACH interventions (Nichols et al., 2014).

Mindfulness-based stress reduction (MBSR). MBSR typically consists of eight 2.5-hour and one all-day course leading participants through mindfulness practices and discussion (Carmody et al., 2009b). Specific techniques include scanning the body for sensational awareness, hatha yoga exercises, and mindful breathing (Kabat-Zinn, 1982). To date, both small group studies and randomized controlled trials have been conducted for caregivers involved in mindfulness-based interventions. Epstein-Lubow, McBee, Darling, Armey, and Miller (2011) and McBee (2003) found that mindfulness interventions reduced caregiver burden. Birnie, Garland, and Carlson (2010) found that partners of cancer patients who participated in MBSR had significant reductions in mood disturbance, muscle tension, neurological/GI, and upper respiratory symptoms. Paller and colleagues (2015) provided eight weeks of mindfulness sessions to caregivers of patients with cognitive decline, resulting in caregivers' decreased depressive symptoms and improved sleep quality and quality-of-life. Bazzano and colleagues (2013) used MBSR for caregivers caring for people with developmental disabilities and found a significant reduction in stress and a significant increase in mindfulness, wellbeing, and self-compassion. The effects were significant 2 months after the intervention. Bloom, Ho, Vega, and Pasinetti (2012) found a significant relation between caregiver MBSR participants' response to treatment and changes in their plasma chemokines and cytokines, suggesting that MBSR might modulate inflammation. Jain, Nazarian, and Lavretsky (2014) researched an 8-week Central Meditation and Imagery Therapy for Caregivers (CMIT-C) group and found that anxiety, insomnia, and depression were reduced and mindfulness ratings increased. Whitebeard and colleagues (2013) compared two groups of dementia caregivers assigned to either MBSR or an education and support intervention. They found that MBSR was significantly more effective than education and support at decreasing depression and stress.

Cognitive-behavioral therapy. CBT is one of the most established empirically supported interventions for reducing affective distress and improving wellbeing of caregivers (Gallagher-Thompson & Coon, 2007). A review of studies by Gallagher-Thompson and Coon (2007) compared studies using psychoeducation, CBT, and multicomponent studies and found that CBT had the largest effect size for reducing caregivers' depressive symptoms. Pinquart and Sörensen (2006) found CBT for caregivers reduced burden and depression.

Acceptance and commitment therapy. ACT for caregivers seeks to reduce negative mental health outcomes by reducing experiential avoidance and clarifying caregivers' values (Losada et al., 2015; Marquez-Gonzalez et al., 2014). Experiential avoidance occurs when individuals habitually avoid unpleasant thoughts, feelings, and experiences (Hayes, Strosahl, & Wilson, 1999). Though experiential avoidance can provide temporary relief, in the long term, it exacerbates mental health symptoms and prevents people from pursuing their values (Marquez-Gonzalez et al., 2014). Spira and colleagues (2007) found that caregivers who had higher levels of experiential avoidance were more likely to be depressed. Therefore, targeting experiential avoidance is an important aspect of caregiver interventions. To date, there have been two randomized controlled trials (RCTs) evaluating the efficacy of ACT for caregivers (Losada et al., 2015; Marquez-Gonzalez, Losada Baltar, & Romero-Moreno, 2014). Losada and colleagues (2015) recruited 135 people caring for someone with dementia and assigned them to either eight weekly sessions of ACT, eight weekly sessions of CBT, or a 2-hour minimal support control group including psychoeducation on dementia. They collected measures of caregivers' depressive symptoms, anxiety, experiential avoidance, and dysfunctional thoughts about caregiving. The researchers found that ACT was clinically more significant than control in reducing caregivers' depression, anxiety, and experiential avoidance, and ACT had benefits over CBT in reduced anxiety at follow-up and reduced experiential avoidance 6 months after treatment.

Marquez-Gonzalez and others (2014) compared ACT, CBT, and a support group for caregivers among 44 dementia caregivers. They found clinically significant differences between ACT and control condition in reducing depression and anxiety symptoms below the diagnosis threshold, with a large effect size for ACT (Cohen's d = 1.35). In a pilot study with 16 dementia caregivers comparing ACT to control group, only the ACT group had a statistically significant decrease in experiential avoidance (Marquez-Gonzalez et al., 2010). Marquez-Gonzalez and colleagues (2014) wrote that it is too early to assume ACT is effective for caregivers; however, they wrote it is "worthy of empirical study in order to analyse its potential as a useful and effective therapeutic approach to help dementia caregivers" (p. 661).

Relational frame theory. ACT is based on Relational Frame Theory (RFT), which posits that humans use verbal/cognitive activities to liken situational contexts. Hayes, Luoma, Bond, Masuda, and Lillis (2006) posited that "the core of human language and cognition is the learned ability to arbitrarily relate events, mutually and in combination, and to change the functions of events based on these relations" (p. 6). These "relational frames" lead to experiential avoidance and cognitive fusion, the cause of clients' problems. Cognitive fusion occurs when contextual verbal thought processes become linked with feelings or behaviors. For example, a person who has a sick parent might fuse the thought of caregiving to the feeling of dread. The more fused a person's thoughts and feelings become, the more the individual tends to try to avoid thinking about or feeling unpleasant emotions. Avoiding unpleasant emotions, however, results in the avoidance of many situations that can also provide people with fulfillment (Hayes et al., 2006).

Hayes and colleagues (1999) developed ACT to address the mindfulness and values components that CBT was missing. Rather than encouraging a person to use thought disputation as CBT does, ACT utilizes mindfulness, acceptance, and cognitive defusion (discussed in more detail to follow) to change a person's relationship to psychological events (Hayes et al., 2006). Unlike in CBT, Hayes and colleagues (2006) argued that thoughts and feelings that lead to other actions are affected by context. Rather than changing thoughts and feelings, it is the context that should change. Next, the six core processes of ACT are discussed in detail.

Acceptance. Hayes and colleagues (2004) described acceptance as the alternative to experiential avoidance. Experiential avoidance is a behavior that is learned to avoid unpleasant thoughts and feelings. Though experiential avoidance provides temporary relief in the short-term, in the long-term, it exacerbates symptoms and prevents the pursuit of values (Marquez-Gonzalez et al., 2014). Barlow, Allen, and Choate (2004) cited examples of experiential avoidance in mood disorder symptomology, including seeking distraction, cognitive rituals, and suppressing emotion. Spira and colleagues (2007) found that caregivers who had higher levels of experiential avoidance were more likely to be depressed than caregivers who had lower levels of experiential avoidance. Marquez-Gonzalez and colleagues (2014) conveyed that caregivers engage in experiential avoidance because they do not want to accept the realities of the care recipient's illness, their emotions surrounding the illness, or their changing role as a caregiver. This is the reason caregivers might overestimate the recipient's abilities or underestimate the severity of the illness. They might also be resistant to accepting the responsibilities of being a caregiver and engage in experiential avoidance as an alternative. Alternatively, Quails (2001) described how caregiving can serve as a distraction from the changing roles in marriages and after children have left home. Counseling can help caregivers in this situation determine whether their identity is based on their values or avoidance of uncomfortable changes.

Hayes and colleagues (1999) differentiated between a "clean and a dirty discomfort" (p. 136) as variations of how to experience unpleasant thoughts and feelings. Dirty discomfort occurs when people try to control their unpleasant thoughts and feelings, while clean discomfort is a willingness to experience unpleasant thoughts and feelings. Caregivers might experience dirty discomfort when they feel guilty for feeling tired or burdened as a caregiver. Clean discomfort, on the other hand, is when caregivers accept that their role might sometimes be unpleasant and uncomfortable. Aneshensel and colleagues (1995) found that over 3 years, caregivers were more likely to feel burdened due to problematic behaviors than ADL dependencies. Caregivers might perceive ADLs, as opposed to problematic behaviors, as something the recipient has no control over, a clean discomfort. If caregivers can increase their acceptance of problematic behaviors in a similar way to ADLs, they might be able to reduce their stress.

Cognitive defusion. Cognitive fusion occurs when schemas contribute to a pattern of unhelpful thoughts. Schemas, described by Beck (1967), are cognitive structures that facilitate mental shortcuts known as heuristics. Schemas are helpful in that they utilize less mental resources than thoughtful awareness; however, they close individuals off to information that counters their schemas. Losada and colleagues (2010) found that schemas involving guilt are common among caregivers. Caregivers in therapy might mention situations where they thought they failed at being an effective caregiver and ruminate on their feelings of guilt. Hayes and colleagues (1999) proposed discussing the difference between blame and “response-ability” (p. 103). Blaming oneself will only result in feeling worse, but “response-ability” involves “acknowledging that you are able to respond and that were you to do so, the outcome would be different” (p. 103). When people are fused to painful thoughts and feelings, the thoughts and feelings exacerbate the pain.

Caregivers often fuse verbal rules to their identity of being a caregiver (Marquez-Gonzalez et al, 2014). For instance, caregivers might associate their role with complete selflessness at the expense of any personal time or relaxation. Cognitive defusion allows caregivers to become more psychologically flexible about the rules associated with being a caregiver. Caregivers who can label all-or-nothing thoughts, for instance, can experience thoughts and feelings as passing experiences rather than objective facts. An example of fusion could be when caregivers equate the care recipient’s loss of intellectual ability with loss of intimate exchange. Caregivers in the Aneshensel et al. (1995) study reported more loss of intimate exchange when recipients’ cognitive abilities deteriorated. Intimate exchange need not depend on cognition, and defusion combined with acceptance might decrease perceived loss.

Present-moment awareness. Caregivers often find themselves thinking about the past or the future, which is not always beneficial to their own peace of mind. For instance, many caregivers worry about future outcomes of the care recipient, such as whether they will recover or what things will be like if they worsen. Caregivers also ruminate over the past, and how things were easier for either/both themselves and the care recipient, leading to unpleasant emotions (Marquez-Gonzalez et al., 2014). Gu and colleagues (2015) conducted a study to determine mediators of mindfulness-based therapies and found that reduced rumination was a significant mediator of mindfulness-based therapies' effectiveness in improving mental health and wellbeing. Present-moment awareness is a useful technique of ACT that can assist caregivers with staying focused on what is within the caregiver's control in the present. Staying present-focused also assists caregivers with noticing pleasant events as they are occurring. Present-moment awareness has been found to enhance psychological wellbeing (Boisseau et al., 2010; Neff, Kirkpatrick, & Rude, 2007). Somov (2010) discussed using present-moment awareness as a remedy for guilt, as it shifts the focus of regrets from the past to what can be done in the present. This is a helpful component of therapy for caregivers who struggle with the pressure to be the perfect caregiver or ruminate over past disappointments.

Self-as-context. Self-as-context, or a "transcendent sense of self" (Hayes, 2004, p. 654) involves a perspective of oneself that is continuous and able to observe one's experiences. It allows people to observe the "I-here-now" (Hayes, 2004, p. 654), which provides a feeling of safety and normalcy around the quick shifts of one's emotions. The process of self-as-context encourages a person observing his/her emotions to recognize that one's "self" is not an emotion. Caregivers can use self-as-context to detach their sense of self from their struggles. Instead of becoming a difficult thought or feeling, ACT teaches people they can observe cognitions and feelings from a safe and consistent viewpoint.

Values. Marquez-Gonzalez and colleagues (2014) discussed using values in order to make "motive-focused judgments" (p. 655) in caregiving. For instance, caregivers experiencing feelings of guilt might judge their behaviors based on a consequence of a well-intentioned action rather than its intention. In situations where care recipients experience pain, injuries, or other negative outcomes, this can be harmful to the caregiver even if the caregiver had good motives. By clarifying the caregiver's values during an unfortunate situation, caregivers are more understanding that even though the outcome is painful, the intention was positive. Values clarification exercises such as the Valued Living Questionnaire (Wilson et al., 2010) assess the consistency between a person's values in 10 domains (family, intimate relations, parenting, social relations, employment, education/training, recreation, spirituality, citizenship/community life, and physical wellbeing) and his or her action toward those values. These interventions are helpful to individuals who are unsure what they value and need guidance considering values that range across broad areas. Additionally, the scale is useful for individuals who have already clarified their values, but are not currently living consistently with them.

One aspect of the theory behind ACT is that humans behave in ways that are inconsistent with their values due to verbal processes that were designed to avoid pain (Hayes et al., 2006). For instance, caregivers tell themselves that they must be very careful when assisting a care recipient so as not to hurt them. Though this thought is meant to be helpful, once it becomes automatic, it can cause a caregiver to be perfectionistic and unforgiving of any mistakes. Giorgio and colleagues (2010) described how automatic thinking gets in the way of processing emotions. People who hold many responsibilities conserve resources by functioning on autopilot and not considering the impact of their automatic thoughts. Mindfulness techniques provide caregivers with the ability to reconnect to the present moment, where they can consider their values and desired action (Epstein-Lubow, 2011; McBee, 2003).

Committed action. ACT emphasizes the importance of moving toward one's values despite the barriers that might arise. An exercise called "Passengers on the bus" (Hayes et al., 1999, p. 157) describes the barriers (passengers) that arise when one is moving in the direction of a value. The exercise assists clients with managing the thoughts that derail them from achieving their goals. For example, a caregiver might think about the difficulty of finding someone to stay home with the care recipient while he/she goes out for fun. Rather than focusing on the difficulty, the caregiver is taught to push forward toward his/her individual value, which in this case might be recreation. Marquez-Gonzalez and colleagues (2014) compared committed action to Heckhausen, Wrosch, and Schulz's (2010) Motivation Theory of Life Span Development. They described the theory's inclusion of values as a method for individuals to adapt to difficult loss or change.

Differences between ACT and CBT. CBT has been at the forefront of caregiver interventions, which might lead some counseling practitioners to question the need for data supporting the mindfulness and values components of interventions like ACT. Studies including people with depression have revealed a more significant reduction of symptoms for participants in ACT treatment than CBT (Zettle & Hayes, 1986). Ilardi and Craighead (1994) described how the response to cognitive-behavioral therapy occurs prior to cognitive techniques taking place, and is more likely a result of therapy alleviating a sense of hopelessness due to the therapeutic relationship, an outcome of most psychotherapies. Cognitive-behavioral therapy is thought to be effective when disputing irrational beliefs results in more helpful thoughts, but Marquez-Gonzalez, Romero-Moreno, and Losada (2010) noted that when it comes to chronic illness, many caregivers' thoughts are not irrational. For example, consider a caregiver whose husband has recently become incontinent. The caregiver's negative thought might be that taking care of this need is frustrating. A CBT therapist might encourage the client to challenge the thought of frustration with one of the importance of caring for her husband. An ACT therapist, on the other hand, would encourage the client to observe and label her thought and use a defusion technique such as a meditation exercise to accept the thought. Hayes (2004) argued that CBT techniques such as thought disputation sometimes worsen symptoms because they can lead to rumination and avoidance of one’s values. Caregivers who do not practice acceptance of their thoughts, feelings, and behaviors might be more likely to experience cognitively entangled thoughts such as guilt or shame, and to avoid pleasant or helpful activities (Marquez-Gonzalez et al., 2010; Spira et al., 2007).

Recent studies have shown ACT has benefits over CBT for improving caregiver outcomes. Losada and colleagues (2015) found ACT had long-term benefits over CBT in reducing experiential avoidance. Marquez-Gonzalez and colleagues (2014) found that 78.6% of caregivers in an ACT condition versus 58.8% in a CBT condition reduced their depressive symptoms below the diagnosis threshold. When ACT was compared to CBT for dementia caregivers, ACT was clinically more significant than CBT in reducing depression and anxiety (Losada et al., 2012). ACT had a lower number needed to treat (NNT; estimated number of participants needed to be treated for a person to have a positive effect) experiential avoidance than CBT, but CBT had a lower NNT than ACT for changing dysfunctional thoughts. CBT has a large amount of empirical support for treating symptoms of caregiver burden, but the studies discussed above suggest ACT can have benefits over CBT in reducing long-term experiential avoidance, and reducing depressive and anxious symptoms. Therefore, more research validating the theory behind processes of change in ACT for caregivers is warranted.

In summary, interventions for caregivers that include mindfulness and/or values clarification exercises have been shown to reduce caregiver burden and increase caregivers' positive affect. While many other aspects of caregiver interventions have had similar outcomes, mindfulness and values interventions tend to meet specific needs of caregivers who face difficult long-term circumstances (i.e. remaining connected to their present-moment needs, enhancing compassion for themselves and others, and attending to other important areas of their lives). The following section will discuss cultural considerations of the proposed study variables to explain the rationale for collecting and analyzing caregivers' demographic data.

Cultural Considerations

Mindfulness. Culture has an important impact on people's awareness of mindfulness practices and their levels of dispositional mindfulness. Though American psychology's conception of mindfulness is rooted in Buddhist traditions (Siegel, Germer, & Olendzki, 2009), there are critical distinctions between American and traditional Buddhist societies (Christopher, Charoensuk, Gilbert, Neary, & Pearce, 2009). First, Brown and Ryan (2003) found that participants who engaged in regular Zen meditation had significantly higher scores of dispositional mindfulness. Therefore, it is expected that individuals who engage in formal mindfulness practices and/or live in a culture where mindfulness is more pervasive, such as in countries with large Buddhist populations, will have higher levels of dispositional mindfulness. Attachment is another construct influencing dispositional mindfulness, with securely attached individuals reporting higher levels of mindfulness than insecurely attached individuals (Cordon & Finney, 2008). Different cultures value different attachment behaviors (Harwood & Irizarry, 2015), indicating that the interaction between culture and attachment could also influence dispositional mindfulness. In a study by Christopher and colleagues (2009), the researchers found that Thai college students conceptualized mindfulness differently than American students in that they did not make distinctions between non-judgmental acceptance and conscious actions, suggesting the Thai students had a more fluid perception of dispositional mindfulness factors. Therefore, religious, racial, and ethnic information was collected in the current study to determine whether these variables significantly influenced participants' levels of dispositional mindfulness.

Values. Similarly, different cultures reinforce the prominence of specific values, which can either aid or hinder individuals in exploring their individual values. Western cultures tend to be more individualistic and Eastern cultures more collectivistic, which leads collectivist societies to behave in ways more likely to benefit a group than the individual (Gardner, Gabriel, & Lee, 1999). According to Gardner and others (1999), cognitive constructs mediate the relation between one's culture and one's behavior. People who believe they should value what benefits them as an individual might be more reinforced by Western cultures, and opposed by Eastern cultures. The opposite is true for collectivist values. However, Shapiro and colleagues (2006) theorized that mindfulness serves as a mechanism of allowing the individual to clarify one's personal values despite social pressures. Additionally, because the values measure in the proposed study did not specify a worldview, it was unlikely that cultural factors influencing values would affect the outcome variables disproportionately.

Caregiver burden. Several cultural factors influence caregiver burden to varying extents (Aranda & Knight, 1997; Giesbrecht, Crooks, Williams, & Hankivsky, 2012; Marquez-Gonzalez et al., 2014). Marquez-Gonzalez and colleagues (2014) explained that for some people, putting others before themselves is an important part of their cultures and identities. Caregivers who put others first differed in that some engaged in dysfunctional avoidance of gratifying activities and others found meaning and purpose in their caregiving identities. Aranda and Knight (1997) found that culture and ethnicity impacted caregivers’ stress and coping abilities because of the different risk levels for disease, different cultural reactions to different stressors, and the differences in coping resources and social support. These topics are summarized as follows:

Health risks. Different demographic variables are associated with different risk levels for chronic health problems (Aranda & Knight, 1997; Giesbrecht et al., 2012). Ethnic minorities have less access to health care and resources than people of European descent due to income, employment, and educational inequalities, resulting in higher risk of chronic illness (Jackson, Knight, & Rafferty, 2010). Per Jackson and colleagues (2010), African Americans have a lower life expectancy than Caucasians, and African American women are twice more likely than Caucasian women to die from cardiovascular disease. Aranda and Knight (1997) found Latinos are between two and five times more likely to develop diabetes and are about twice as likely to require assistance with activities of daily living. It is important to consider how variables such as ethnic group, socioeconomic status, age, and education impact the risk of chronic health problems that can lead to caregiver burden.

Cultural norms. Aranda and Knight (1997) noted that certain ethnic groups are less burdened by the care recipient’s illness and some are more burdened by specific tasks than others (e.g., activities of daily living versus instrumental activities of daily living). For instance, African American caregivers reported most of their burden related to caring for ADLs, while Caucasians reported most of their burden relating to IADLs (Aranda & Knight, 1997). Marquez-Gonzalez and colleagues (2014) described how Spanish cultures might have more supportive social structures overall, alleviating burden for many.

Differences in coping resources. According to Aranda and Knight (1997), recent immigrants might lack social support and this also impacts burden. Level of acculturation can impact the closeness of familial bonds and in turn impact caregiving burden. Oppression and discrimination might negatively impact coping. However, higher levels of ethnic consciousness can also provide some groups with an enhanced network for coping. Aranda and Knight's (1997) commentary was reflected in the study by Aneshensel et al. (1995), who found that compared to Caucasians, caregivers from other ethnic groups reported more stressors outside of caregiving and more economic hardship related to caregiving. In contrast, ethnic minorities were more likely to have lower subjective role captivity.

Affect. Lastly, culture has been found to influence the extent to which people experience positive affect (Bagozzi, Wong, & Yi, 1999; Huebner & Dew, 1996). Bagozzi and colleagues (1999) found that for Chinese and Korean women, both positive and negative emotions were positively correlated, while for American women, they were negatively correlated. The researchers explained that categories that are seemingly contradictory to Americans might be perceived as related in collectivist societies where categories are considered more flexible, imprecise, and connected. Furthermore, Huebner and Dew (1996) found that African American adolescents had lower levels of positive affect than White adolescents. Additionally, adolescents from higher income families were less likely to report negative affect (Huebner & Dew, 1996). Demographic variables were examined in the present study to determine whether they influenced participants' reported levels of positive affect; however, in previous studies, demographic variables were not found to have large influences on the Positive and Negative Affect measure (Crawford & Henry, 2010).

Intersectionality. Giesbrecht and colleagues (2012) explained, “It is important to explicitly recognize that every caregiving situation is different and that every caregiver has unique concerns and difficulties” (p. 10). Feminist scholars termed the paradigm of reinforcing and interacting identities “intersectionality” (Crenshaw, 1989). In a qualitative study of 50 palliative caregivers, Giesbrecht and colleagues (2012) found that the intersecting identities of the caregivers led to different support systems and access to services. Unique combinations of gender, socioeconomic status, culture, geographic location, age, and financial resources all influenced caregiver outcomes in different ways. For instance, Giesbrecht and colleagues (2012) noted that non-English-speaking new immigrants faced barriers to completing applications that could provide them with caregiving resources. Individuals living far distances from urban areas reported barriers to receiving caregiver resources, and caregivers with small children often lacked access to child care. Many caregivers lacked medical insurance and financial resources to meet the needs of the care recipient. According to the authors, Canada’s Compassionate Care Benefit provides financial assistance to caregivers who must leave their jobs to care for a family member in the end-of-life phase. However, the financial assistance is calculated based on wages, causing a disadvantage for women who stay home or work part-time in order to care for children. The study by Giebrescht and others (2012) demonstrated why it is important for caregiver researchers to consider the intersecting and sometimes reinforcing identities of caregivers. Controlling for specific demographics is unlikely to explain the full degree of caregivers’ experiences. Therefore, the present study examined demographic variables to determine potential effects on outcome variables.

The Present Study

Given the findings noted in this chapter, the following hypotheses were proposed to test two separate models of mediation:

Model One:

H1. Dispositional mindfulness would be significantly negatively correlated with caregiver burden.

H2. Dispositional mindfulness would be significantly positively correlated with values clarification.

H3. Values clarification would be significantly negatively correlated with caregiver burden.

H4. The relation between mindfulness and caregiver burden would be significantly reduced when values clarification was added to the regression.

Model Two:

H5. Dispositional mindfulness would be significantly positively correlated with positive affect.

H6. Dispositional mindfulness would be significantly positively correlated with values clarification.

H7. Values clarification would be significantly positively correlated with positive affect.

H8. The relation between mindfulness and positive affect would be significantly reduced when values clarification was added to the regression.

The focus of chapter two was on evidencing the relation between dispositional mindfulness, values clarification, positive affect, and caregiver burden. As discussed, prior research has not examined the relations between these variables among caregivers. To fill this gap in the literature, eight hypotheses were proposed.

CHAPTER THREE

Method

As discussed in Chapter Two, the current study examined the impact of caregivers' mindfulness and values on caregiver burden and positive affect. Though initial studies have indicated that ACT is a useful treatment for caregivers facing depression, anxiety, burden, and other concerns, it was unknown whether mindfulness, values, or both aspects combined are most helpful to caregivers. Additionally, a mediation analysis assisted in exploring whether mindfulness opens caregivers to exploring and committing to their values, as Shapiro et al. (2006) proposed. The following hypotheses were proposed:

Model One:

H1. Dispositional mindfulness would be significantly negatively correlated with caregiver burden.

H2. Dispositional mindfulness would be significantly positively correlated with values clarification.

H3. Values clarification would be significantly negatively correlated with caregiver burden.

H4. The relation between mindfulness and caregiver burden would be significantly reduced when values clarification was added to the regression.

Model Two:

H5. Dispositional mindfulness would be significantly positively correlated with positive affect.

H6. Dispositional mindfulness would be significantly positively correlated with values clarification.

H7. Values clarification would be significantly positively correlated with positive affect.

H8. The relation between mindfulness and positive affect would be significantly reduced when values clarification was added to the regression.

This chapter offers information on the participants, tests and instruments used, and statistical techniques to test the hypotheses.

Participants

Using a definition from caregiver research publications by Brown et al. (2009) and Fredman et al. (2010), caregivers were defined as those who have provided unpaid assistance with an activity of daily living (ADL) or instrumental activity of daily living (IADL) to someone with a disability or chronic illness weekly for at least the past 3 months. ADLs include basic self-care tasks such as bathing, grooming, feeding, and maintaining continence. IADLs include more complex skills such as managing medication and finances, shopping and preparing food, navigating transportation, and doing housework (Kernisan & Spencer Scott, 2015). A G*Power a priori power analysis with an α error probability of .05, effect size of .15 (medium), and power of .95 suggested a total sample size of about 100 participants for each linear multiple regression conducted; therefore, participants were recruited until achieving a sample size of at least 200 completed surveys.

Two hundred thirty-two participants completed the full survey. Participants ranged in age from 21 to 100 years of age ($M = 51.83$). Caregivers had between one and ten other family members living in the home ($M = 3.03$), and were caring for between one and nine other individuals ($M = 1.26$). They reported spending an average of 7.33 years as a caregiver (ranging between .17 and 46 years), providing 71.23 hours of caregiving work weekly (ranging between 8 and 168), and receiving 15.68 other hours of assistance per week (ranging between zero and

168). Most respondents were female (91.8%) and 8.2% were male. Most were white (91.4%), 0.4% were Asian, 3.4% were African American, 2.2% were Latino, 0.9% were Native American or Alaskan Native, and 1.7% described themselves as "other." Most participants were married (73.3%), 6.9% were divorced, 2.6% were partnered, 14.2% were single, 2.2% were widowed, and 0.9% described their relationship status as "other." About one quarter of participants (25.9%) reported obtaining a bachelor's degree, 12.1% held master's degrees, 38.8% had completed some college, 6.5% completed advanced graduate work, 15.9% completed high school or GED, and less than 1% did not complete high school. Most participants were Christians (65.9%), 0.4% were Buddhist, 0.4% were Hindu, 1.3% were Jewish, 4.7% reported their religious group as "other," and 27.2% reported they were not religious. About 17% of caregivers reported their income is between \$0 and \$24,999, 25.4% between \$25,000 and \$49,999, 20.7% between \$50,000 and \$74,999, 12.1% between \$75,000 and \$99,999, and 11.6% reported incomes of \$100,000 or higher.

Most caregivers reported their physical or mental health as fair or good (30.2%, 40.1% respectively for physical health; 36.2%, 34.9% for mental health). For physical health, 3.4% selected "excellent," 19% selected "very good," 6% selected "poor," and 1.3% selected "very poor." For mental health, 1.3% selected "excellent," 9.1% selected "very good," 15.5% selected "poor," and 3% selected "very poor." On a depression/anxiety screening measure, 25.8% reported symptoms falling in the moderate range and 25.9% were in the severe range (6-12 on the PHQ-4; *M* = 5.95). About 32% of respondents were in the mild range, and 16.4% fell below the cutoff for psychological distress. Most caregivers were spouses of the care recipient (59.5%). Twenty-two percent were children of the care recipient, 3% were friends, 5.6% were other relatives, 8.2% were parents, and 1.7% were siblings. The majority of caregivers (72%) reported that no one else would take over for caregiving responsibilities if the caregiver was unable. Forty-four percent of caregivers reported they were “a little” satisfied with their social support, 18.1% said they were “very” satisfied, and 37.9% said they were “not at all” satisfied.

Most care recipients were male (68.1%), 31% were female, and 0.9% were another gender. Care recipients were receiving care for a wide range of conditions, with 6.9% reported to have severe mental illness (e.g., schizophrenia, bipolar disorder), 9.9% with Alzheimer’s disease, 9.1% with another form of dementia, 2.2% with cancer and 2.2% having multiple sclerosis, 6.9% with ALS, and 5.6% with Parkinson’s disease. Other conditions included muscular dystrophy (0.4%), cerebral palsy (0.4%), autism spectrum disorder (0.4%), and various combinations of conditions. Twenty-two percent of recipients were reported to hold Medicare alone, 12.5% held Medicare and another private insurance plan, 17.7% private alone, and 3.4% with Medicaid. The remaining 44% of participants reported recipients held other types of insurance such as a combination of these and social security disability or long-term care insurance.

Most caregivers (61.2%) reported caring for recipients’ grocery/other shopping, finances, outside services, transportation, and medication management. Other reported tasks included housework and preparing meals. Overall, caregivers believed recipients had fair (38.4%), good (22.8%), or poor (26.7%) mental health, with only 2.2% reporting excellent, 5.2% reporting very good, and 4.7% reporting very poor. Most caregivers (86.2%) did not have concerns about recipients’ use of alcohol or illicit substances. However, 10.8% reported concerns about alcohol use, 1.3% reported concerns about illicit substance use, and 1.7% reported concerns about use of both alcohol and illicit substances. For frequencies, means, and standard deviations of the sample’s demographic variables, please see Tables 1 and 2.

Measures

The following section will describe the measures of the independent variable (mindfulness), proposed mediator (values clarification), and dependent variables (caregiver burden and positive affect).

Caregiver burden. The present study utilized Bédard and colleagues' (2001) 12-item version of the Zarit Burden Inventory (ZBI; $\alpha = .78$). The original ZBI contained 29 items consisting of common caregiver problems (e.g., "I feel guilty about my interactions with my spouse"; Zarit et al., 1980). Zarit, Reever, and Bach-Peterson (1980) administered the measure to 29 caregivers of people with dementia (16 males, 13 females; mean age = 65). In the initial scale development study, the mean burden score was 31 out of 66, with a standard deviation of 13.3. Burden was statistically significant and negatively correlated with the frequency of visits from other family members. In 1985, Zarit, Orr, and Zarit validated a 22-item measure that has been used to assess the efficacy of caregiver interventions (Zarit, Antony, & Boutselis, 1987).

The ZBI has been studied in shorter-forms, including 18-, 14-, 12-, and 4-item versions. According to O'Rourke and Holly (2003), the 14-item scale by Knight and colleagues (2000) did not have an adequate sample size for a confirmatory factor analysis and therefore requires further study. Whitlatch, Zarit, and von Eye (1991) proposed an 18-item version with two factors: role strain with 12 items and personal strain with 6 items. A 12-item version proposed by Hébert, Bravo, and Préville (2000) contained the same factors, with 3 items relating to personal strain and 9 items relating to role strain. Neither the Whitlatch or Hébert and colleagues' measures were validated longitudinally. The 4- and 12-item versions had good psychometric properties and longitudinal data, discussed in more detail below.

Bédard and colleagues (2001) recruited 413 urban Canadian caregivers from a memory clinic and administered the ZBI twice with a 6-month gap. After conducting a principal component analysis on baseline, follow-up and change assessments, the authors found 2-factor solutions: 9 items on role strain (α = .89) and 3 items on personal strain (α = .77; Bédard et al., 2001). Hébert and colleagues' (2000) scale shared 7 items and Whitlatch and colleagues' (1991) scale shared 11 items. The shorter versions had concurrent validity on measures of ADL impairment and behavioral issues. The 4-item scale was derived from the items with highest correlations and factor weighting (items 2, 3, 9, and 19). Bédard and colleagues (2001) suggested this version should be used as a screener of caregiver burden when time is limited. The 12-item scale had a Cronbach's alpha of .88. The top quartile of the short version contains scores of 17 or higher, which Bédard and colleagues (2001) recommended as a cut-off score for identifying burden. The items remained on a 5-point scale from *never* (0) to *nearly always* (4). Higher summed scores indicate more burden (Cronbach's alpha = 0.78). Sample items include "Do you feel strained when you are around your relative?" and "Do you feel that because of the time you spend with your relative that you don't have enough time for yourself?" For the present study, the 12-item instrument was adapted by changing "relative" to a broader "person you care for" to include caregivers taking care of people who are not family members. This version was selected due to its brevity, validated factor-structure, and longitudinal data.

The interview has been translated into multiple languages and the scale's psychometrics studied among different ethnic groups, evidencing the scale's acceptable use among diverse groups. Translations of the ZBI include Hebrew (Brachner & Ayalon, 2010), German (Braun, Scholz, Hornung, & Martin, 2010), Spanish (Galindo-Vazquez et al., 2015), Chinese (Ko, 2008; Tang et al., 2015), Arabic (Bachner, 2013), Persian (Rajabi-Mashhadi et al., 2015), and Italian (Chattat, 2011). Galindo-Vazquez (2015) removed one item from the Spanish interview that did not load onto any factors (regarding uncertainty about what to do); the resulting scale had properties similar to the English version. Flynn Longmore (2011) found the interview items were normally distributed and reliable for both black and white caregivers. O'Rourke (2003) explored the psychometric properties of the interview among a sample of Canadian participants, finding the 12-item ZBI to predict depressive symptoms 5 years after the initial measure.

Positive affect. Watson, Clark, and Tellegen (1988) created the Positive and Negative Affect Scale (PANAS; $\alpha = .86$) to provide a brief, reliable, and valid measure of the two dominant dimensions of affective structure. The authors stated that positive and negative affect are distinct constructs and are related to individual state differences in emotional reactivity. Beginning with 60 mood descriptors from a broad sample of questionnaires measuring mood (three terms from each of 20 mood content categories determined by principal-components analysis), items with an average loading of .40 or higher and secondary loadings on the other factor of .25 or greater were selected, resulting in 12 Positive Affect (PA) items and 25 Negative Affect (NA) items. After conducting reliability analyses, the authors decided to drop 15 NA items (retaining two terms from each of the five triads) and two PA items that had higher secondary loadings than other items. The remaining 20 items are rated on a scale from 1 (*very slightly/not at all*) to 5 (*extremely)*, with the mean weekly score being 33.30 and the standard deviation 7.20 (Watson et al., 1988).

The PANAS (Watson et al., 1988) was based on data from 164 undergraduates at a southwestern university and 53 non-student adults in the area. The PA and NA scales had low correlations, with between 1-5% shared variance. One hundred one students completed the measure for seven time frames (moment, today, past few days, past week, past few weeks, past year, and on average) two times, with an 8-week interval between the two data collections. There were no significant differences between stability values. The authors compared questionnaires from the students to 164 employees of the university and 61 inpatient psychiatric patients and found no major differences in reliability. Psychiatric patients had significantly higher levels of NA than the college sample. All of the items had good primary loadings of .50 or higher. The authors also found evidence of external validity in its correlations with measures of anxiety (State-Trait Anxiety Inventory State Anxiety Scale r = .51 with PANAS NA; Spielberger et al., 1970), depression (Beck Depression Inventory r = .58 with PANAS NA; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and psychological distress (Hopkins Symptom Checklist r = .74 with PANAS NA; Derogatis et al., 1974).

The Positive Affect Scale of the PANAS (Watson et al., 1988), used in the present study, contains 10 words that describe an affective state where a person is engaged, concentrating, and energetic: active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong. Participants were asked to indicate the extent to which they have felt each of the 10 words over the past week. Alpha reliabilities for the PA Scale were between .86 and .90, and test-retest reliability was between .47 and .68. The scale has been tested among caregivers in studies examining factors predicting positive affect (e.g., appraisal of caregiving as rewarding, caregiving competence, lower care recipient ADL dependencies, and less perceived caregiver burden; Robertson et al., 2007). Compared to non-caregivers, caregivers had lower levels of positive affect (Savage & Bailey, 2004). Caregivers who had higher levels of positive affect were less frail (had lower rates of unintentional weight loss, slow walking speed, grip strength, and exhaustion; Park-Lee, Fredman, Hochberg, Faulkner, 2009), had higher levels of helping attitudes (Dulin & Dominy, 2008), were less depressed, and more likely to use problem-focused coping skills (as opposed to emotion-focused coping) than caregivers who had lower levels of positive affect (Robertson et al., 2007). An intervention designed for caregivers of people with dementia resulted in caregivers having higher levels of positive affect (Robertson et al., 2007). Positive affect outcomes were also influenced by care recipient variables—caregivers of stroke patients were more likely to have higher levels of positive affect than lower levels if the care recipients had low symptoms of depression and high cognitive functioning (Cameron et al., 2014). Positive affect has been an important outcome in caregiver literature due to its association with improved physical and mental health outcomes.

The psychometric properties of the PANAS have been studied among diverse groups, including African Americans (Merz et al., 2013), substance users (Serafini, Malin-Mayor, Nich, Hunkele, & Carroll, 2016), Hispanics (Ortuño-Sierra, Santarén-Rossell, de Albéniz, & Fonseca-Pedrero, 2015), Australians (Melvin & Molloy, 2000), and a multiethnic sample of adolescents and young adults (Villodas, Villodas, & Roesch, 2011). Korean (Lim, Yu, Kim, & Kim, 2010), Portuguese (Pires, Filgueiras, Ribas, & Santana, 2013), Serbian (Mihic, Novovic, Colovic, & Smederevac, 2014) and Hungarian (Gyollai, Simor, Koteles, & Demetrovics, 2011) translations have also been examined. Except for one of the above studies, among all these diverse groups the measure had good internal consistency and the same factor structure as the original PANAS. However, Villodas and colleagues (2011) found the original model did not fit their data from an ethnically diverse sample of 318 high school students. Though the results showed the measure to be valid and reliable, the researchers found a revised two-factor model with the items proud, alert, jittery, and distressed dropped to be a better fit. As this study assessed adults and not adolescents, the original two-factor model was retained for the present study. Ortuño-Sierra and colleagues (2015) found a three-factor model (including PA, NA Upset, and NA Afraid) as well as the original two-factor model fit Spanish-speaking adolescents and young adults. While the

English PANAS model in the study by Lim and colleagues (2010) had an adequate fit for the Korean sample, the authors found a modified model to fit best (a two-factor correlated model).

Values clarification. Ryff (1989) created the Scales of Psychological Well-Being (SPWB) to examine theoretical aspects of positive functioning that had not been previously studied empirically. Ryff and a research team wrote 80 items for each theoretical construct, including self-acceptance, positive relations, autonomy, environmental mastery, purpose in life, and personal growth. After removing items that were ambiguous, redundant, or extraneous, 16 positive and 16 negative items remained for each subscale. Ryff (1989) administered the instrument to three groups of adults (young, middle-age, and older) from a midwestern community. A principal-components analysis of the SPWB and previous measures of wellbeing revealed three factors: a general wellbeing factor mainly comprised of prior conceptualizations of wellbeing (e.g., self-esteem, life satisfaction), a factor containing new dimensions of wellbeing, and a third factor containing autonomy and other related measures. Each subscale (self-acceptance, positive relations, autonomy, environmental mastery, purpose in life, and personal growth) was reduced to 20 items based on item-to-scale correlations. In a confirmatory factor analysis, Ryff and Keyes (1995) reduced the scales to three items each and found support for the six theoretical constructs, as well as a second-order factor of psychological wellbeing. The SPWB scales have good reliability (internal consistencies > .87, test-retest reliabilities > .81) and high levels of convergent validity with other measures of psychological wellbeing (Ryff & Keyes, 1995).

Since the initial scale development (Ryff, 1989), a 42-item version of the measure has been utilized extensively (see Ryff, 2013 for a review). Van Dierendonck (2004) formulated a 42-item version with scale internal consistencies of at least .72. The confirmatory factor analysis found a reasonable fit of the model ($\chi^2_{(696)} = 1210.44$). Abbott and colleagues (2006) factor analyzed the 42-item version from data collected from a sample of 2,547 British women and found four of the constructs (environmental mastery, personal growth, purpose in life, self-acceptance) were correlated highly enough to be a second-order dimension of wellbeing. The measure had predictive validity of mental health (General Health Questionnaire-28) after 1 year. Morozink, Friedman, Coe, and Ryff (2010) also found support for the 42-item version from a national sample of 1,028 American adults aged 24-74. Internal consistency for each of the six scales ranged from .69 to .85. Items are ranked from *strongly disagree* (1) to *strongly agree* (6).

The Purpose in Life Scale from the SPWB utilized in the present study contains six items that assess whether participants have clarified what gives their lives purpose, and whether they are trying to accomplish things that give them meaning ($\alpha = 0.81$; Ryff, 1989; Van Dierendonck, 2003). The items are rated on a 6-point scale, one item is reverse coded, and higher scores indicate that participants have higher levels of values clarification and commitment to their values. This scale has effectively measured values clarification in prior studies (Brown, Bravo, Roos, & Pearson, 2015; Carmody et al., 2009). The Purpose in Life Scale of the SPWB has been used in the following caregiver studies. Kling, Mailick Seltzer, and Ryff (1997) found that older female caregivers had significantly higher levels of purpose in life than older women who were not caregivers. In 1998, Marks conducted a study comparing caregivers to non-caregivers and found that women caring for disabled children reported less purpose in life, but after controlling for family and work conflict, this effect was eliminated. He also found male caregivers reported more purpose in life unless they were caring for spouses (the effect being eliminated after controlling for family and work conflict). Female caregivers of parents reported more purpose in life than non-caregivers. Marks, Lambert, and Choi (2002) found that female spouse caregivers reported less purpose in life than female spouses who were not caregivers. However, female caregivers caring for a friend or neighbor reported more purpose in life than non-caregivers. Additionally, males taking care of in-laws reported higher levels of purpose in life than non-caregivers.

Dispositional mindfulness. The Philadelphia Mindfulness Scale (PHLMS; Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008) has two subscales of dispositional mindfulness: acceptance and present-moment awareness. Participants in the present study rated 20 items (10 awareness and 10 acceptance) on a 5-point Likert scale ranging from *never* (1) to *very often* (5). All acceptance items are reverse-scored and all awareness items are totaled, with higher scores indicating higher levels of acceptance and awareness. An example of an awareness item is "When someone asks how I am feeling, I can identify my emotions easily." An acceptance item example is "When I have a bad memory, I try to distract myself to make it go away."

Cardaciotto and colleagues (2008) developed the scale to measure dispositional mindfulness in populations that had not necessarily been exposed to meditation. Additionally, the authors designed the measure so it could distinguish acceptance from present-moment awareness—two theoretically different aspects of mindfulness (Brown & Ryan, 2003). Clinical psychology graduate students and faculty members developed 55 items measuring awareness and 50 items measuring acceptance. Six expert mindfulness researchers rated the items on a 5-point scale ranging from *very poor* to *very good*. Cardaciotto and colleagues (2008) retained items reflecting one of the two dimensions if they were rated highly by all judges ($V > .71$; intercorrelation of two discrete variables, Cohen (1988) deems > .50 large) and did not reflect the other dimension ($V < .29$). Twenty-nine items from each dimension met criteria (58 total items). The authors recruited 204 undergraduate students from psychology courses, excluding students who were receiving psychological or psychiatric treatment for clinical problems. The participants were 64.7% Caucasian and the mean age was 21.9 years.

Factor analysis of the Cardaciotto et al. (2008) data revealed a two-factor model. The authors retained items loading .45 and higher, leaving 11 acceptance and 14 awareness items. Internal consistency for the awareness subscale was .84 and acceptance was .87. The authors eliminated items that were not in the inter-item correlation range of .15-.50, resulting in 10 items for each subscale. The measure was validated on a sample of 559 university students. There were no significant differences between the samples on the subscales. In a confirmatory factor analysis, the authors found fit indices supporting the same two-factor model. Cronbach's alpha for the awareness subscale was .75 and acceptance was .82. Item-subscale correlations ranged from .34 to .51 for awareness and .40 to .64 for acceptance. The PHLMS had convergent validity with other measures of mindfulness, subjective happiness, and quality of life, and discriminant validity with measures of depression and anxiety (Cardaciotto et al., 2008).

Cardaciotto and colleagues (2008) conducted three additional validation studies. The fourth study on a psychiatric inpatient sample found good internal consistencies (Cronbach's alphas of .75), convergent and discriminant validity, in addition to the fifth study on a sample of individuals with eating disorders (awareness α = .85 and acceptance = .90). The sixth study conducted with a student counseling center sample had alphas of .86 for awareness and .91 for acceptance. Individuals in psychiatric samples who had higher scores on the acceptance subscale were less likely to report symptoms of rumination. The general psychiatric and eating disorder samples had significantly lower PHLMS scores than the nonclinical samples, suggesting lower levels of mindfulness might be related to mental health symptomology, and higher levels of mindfulness might be related to a reduction in symptoms.

The PHLMS has been used to research mindfulness among obesity-related eating behaviors (Jacobs, Cardacioto, Block-Lerner, & McMahon, 2013), inner-city patients at a federally qualified health center (Smith, Metzker, Waite, & Gerrity, 2015), occupational therapists in diverse occupational settings (Reid & Naseer, 2012), California female inmates (Grills et al., 2015), and Iranian teachers (Mardpour & Moghadam, 2015). In Jacobs and colleagues' (2015) study, participants who completed an MBSR intervention had higher levels of mindfulness and significantly lower levels of anxiety. Reid and Naseer (2012) found that occupational therapists working in mental health settings had significantly higher levels of mindfulness than occupational therapists working in other settings. Grills and colleagues (2015) found that female inmates who participated in Choice Theory interventions had significantly higher levels of mindfulness post-treatment. Mardpour and Moghadam (2015) evaluated the psychometric properties of the PHLMS among Iranian teachers, finding it to have the same factor structure, good validity and reliability, and internal consistency (Cronbach's alpha = .716).

Demographic variables. Information was collected to control for demographics that are likely to impact outcome variables such as age, gender, income, ethnicity, ADLs and IADLs for which they are caring, hours of care per week by the caregiver, number of hours of care by other providers, and physical and mental health condition of the caregiver and care recipient. Previous research has revealed that older, female, lower-income, and ethnic minorities who take care of more ADLs/IADLs experience higher levels of burden (Chou, 2000). Furthermore, people with their own physical and mental health problems are more likely to experience the burden of caring for another person (Chou, 2000; Sörensen & Pinquart, 2005).

Procedure

Upon approval from the Radford University Institutional Review Board, recruitment occurred online through caregiver forums (e.g., thecaregiverspace.org/forums; alzconnected.org) and social media groups (e.g., facebook.com/groups/caregiversupportcommunity), where a description of the study was provided (Appendix A). Interested participants were directed to a URL where they could take the survey on Qualtrics (Appendix C). Potential participants were invited to participate in the research study with a chance to win either a $150, $75, or $25 Visa gift card (Appendix D). The first page of the survey contained informed consent, including information that the survey is confidential (Appendix B). Participants were informed that the survey would require about 10-15 minutes to complete. The potential benefits of the survey are to assist counseling practitioners who work with caregivers understand characteristics of caregivers and how they impact the caregiving experience. There were no foreseeable risks from participating in the study. Caregivers were provided with the phone number of a no-cost confidential 24-hour crisis hotline (the Substance Abuse and Mental Health Service Administration), which could provide services to callers in the event they experienced distress while taking the survey. Only participants with 100% completed data were included in the analyses.

Analyses

Data was analyzed using SPSS Version 22. The hypotheses were tested via regression analyses, which predict the influence of one variable on another (Hinton, 2014). Regression uses the equation $Y = a + bx$, where a is where the straight line cuts the Y axis, x is a predictor variable, and b is the slope of the line. This type of analysis allows researchers to determine whether the effect of the predictor variable on the criterion variable is statistically significant.

Regressions can be used to determine whether the effect of the independent variable on the dependent variable is mediated by a third variable (i.e. how the effect of an independent variable on a dependent variable occurs). That is, the independent variable significantly affects a mediating variable, and the mediating variable significantly affects the dependent variable, and when controlling for the effects of these, the relation between the independent and dependent variables decreases (Baron & Kenny, 1986).

Using a macro by Preacher and Hayes (2008), mediation analyses were conducted. This method has been found to have benefits over traditional methods proposed by Baron and Kenny (1986) because it reduces Type I error, quantifies mediation effects, and does not rely on definitions of partial and full mediation. Preacher and Hayes (2008) recommended bootstrap sampling to test for bias on pathways between variables. Bootstrapping allows researchers to represent the population being studied by selecting different cases five thousand times (k) from the original sample. The coefficient of the independent variable predicting the mediator (a) and the coefficient of the mediator predicting the dependent variable (b) are estimated each time so that the researcher can infer the size of the indirect effect (ab) in the population. Then, the researcher can define a confidence interval where the lower bound is ab in the kth position, and the upper bound is ab in the $1 + k$th position. Additionally, the macro includes significance tests for each covariate included in the analysis. Mediational paths included the predictor to the mediator (a), the mediator to the dependent variable (b), the predictor to the dependent variable (c), and the predictor and the mediator on the dependent variable (c'). If a and b are both significant and the confidence interval for the indirect effect does not contain zero, it can be concluded mediation is present. Please see Figure 3 for the proposed mediational model.

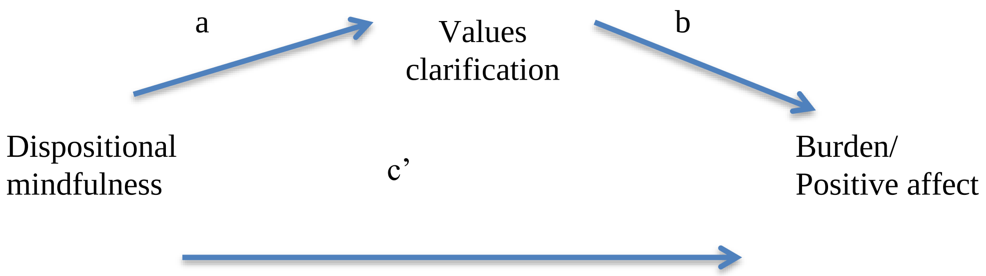

Figure 3. Proposed mediational model

Conclusion

Informal caregivers provide an invaluable service to people with chronic illness and disabilities. Caregiving produces increased stressors that result in many caregivers experiencing burden, a construct that is related to increased mental health problems and a reduction in positive affect. Interventions that provide caregivers with mindfulness techniques and values clarification have improved caregivers' mental health. Additionally, values have been found to mediate the relation between mindfulness and improved mental health outcomes in non-caregiver populations. However, it is unclear whether values clarification mediates the relation between mindfulness and reduced caregiver burden and increased positive affect for caregivers, specifically. Therefore, this study tested the significance of two mediational models. By understanding how caregivers' values and dispositional mindfulness impact their levels of burden and positive affect, counseling psychologists can incorporate this study's findings for practice and research with caregivers.

CHAPTER FOUR

Results

Preliminary Analyses

Caregivers ranged between zero and 48 (*M* = 25.22) on burden. This mean is comparable to other caregiver populations that have been studied using this measure (*M* = 20.95 in a study by Bédard et al., 2001). Per Bédard and colleagues (2001), scores 17 or higher are considered above the cutoff for identifying burden, and 83.6% of the sample fell in this range. Caregivers scored between 12 and 50 on positive affect (*M* = 29.13), which is somewhat lower than the undergraduate sample studied by Watson and colleagues (1998; *M* = 32 over the past few weeks). Caregivers' dispositional mindfulness sum scores ranged between 40 and 90, (*M* = 62.45), with the awareness subscale mean at 35.77 and the acceptance subscale mean at 26.68. These means are somewhat lower than the measure validation means of undergraduate students (36.65 for awareness and 30.19 for acceptance). Caregivers' values clarification total scores ranged between 6 and 36 (*M* = 22.04), which would result in an average scale score of 3.67. This is lower than the samples studied by Van Dierendonck (2003), who found an average of 4.28.

Study variables were evaluated for kurtosis and skewness with no abnormalities detected. To determine whether demographic variables were potentially confounding the results, study variables were regressed on demographic variables. Race, income, gender, and education level did not significantly predict positive affect, dispositional mindfulness, or meaning in life. Education significantly predicted caregiver burden, such that those with higher education degrees (bachelor's, master's, and advanced degrees) were significantly more likely to report higher levels of caregiver burden (*p* = .01). Education did not appear to confound the outcome, however, as it was not significantly associated with either of the predictor variables. Increased age significantly predicted increased dispositional mindfulness (*p* = .01), but age was not significantly associated with the dependent variables. Table 1 contains bivariate correlations among demographic variables and variables of interest.

Model 1

To test the first hypothesis that values clarification mediates the relationship between dispositional mindfulness and caregiver burden, a mediation analysis using PROCESS was conducted. Dispositional mindfulness was positively related to values clarification ($B = .31$, $p < .01$) and negatively related to caregiver burden ($B = -.19$, $p < .01$). Additionally, values clarification was negatively related to caregiver burden ($B = -.38$, $p < .01$). Finally, values clarification mediated the relation between dispositional mindfulness and caregiver burden, 95% CI [-.20, -.06]; see Figure 1.

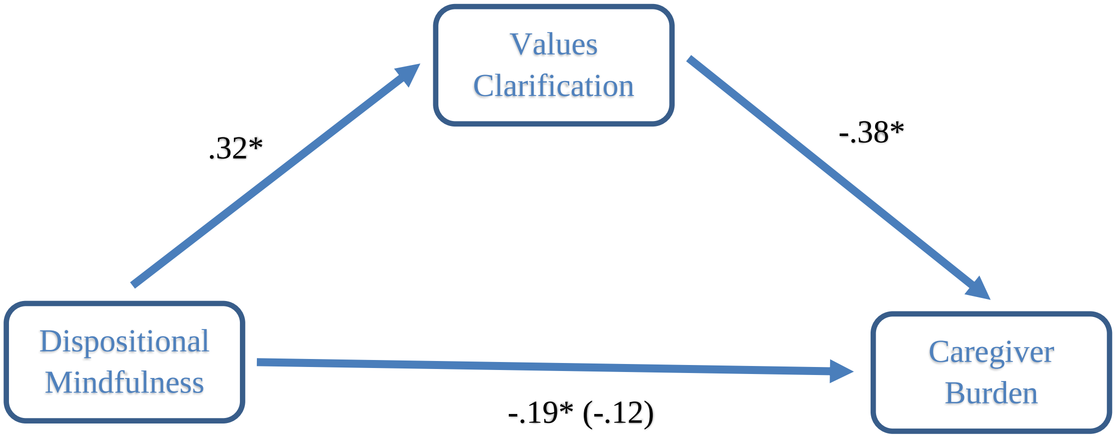

Figure 1. Beta weights are shown in the figure above. The indirect effect of dispositional mindfulness on caregiver burden, controlling for values clarification, is shown in parentheses.
* $p < .01$.

Model 2

To test the second hypothesis that values clarification mediates the relationship between dispositional mindfulness and positive affect, a mediation analysis using PROCESS was conducted. Dispositional mindfulness was positively related to values clarification (*B* = .32, *p* < .01) and positively related to positive affect (*B* = .28, *p* < .01). Additionally, values clarification was positively related to positive affect (*B* = .65, *p* < .01). Finally, values clarification mediated the relation between dispositional mindfulness and positive affect, 95% CI [.13, .30]; see Figure 2.

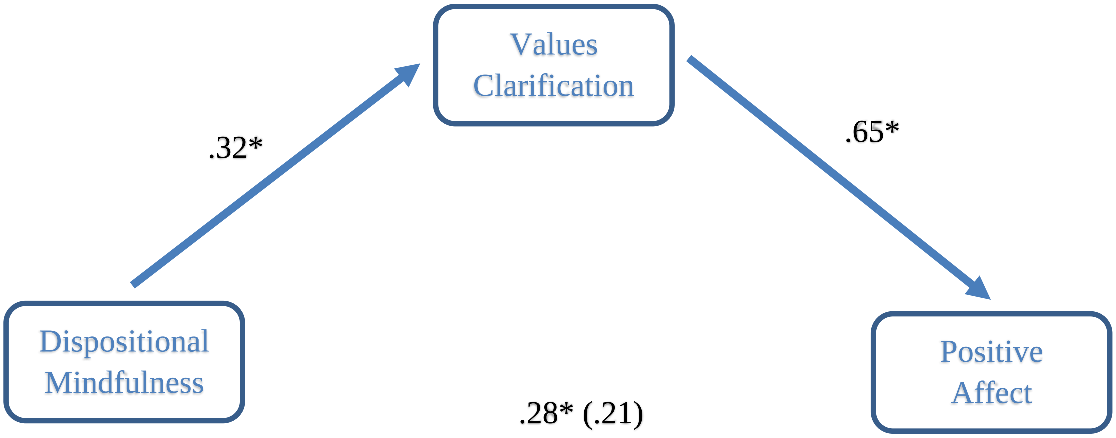

Figure 2. Beta weights are shown in the figure above. The indirect effect of dispositional mindfulness on positive affect, controlling for values clarification, is shown in parentheses.
* *p* < .01.

Effect Sizes

To determine the effect size of each independent variable on each dependent variable, regression analyses were performed. Values had a larger effect size than dispositional mindfulness in its ability to predict caregiver burden (values $R^2 = .14$, moderate effect; mindfulness $R^2 = .09$, small effect) and positive affect (values $R^2 = .46$, strong effect; mindfulness $R^2 = .27$ respectively, moderate effect).

CHAPTER FIVE

Discussion

The goal of the study was to determine whether values mediate the relation between mindfulness and caregiver burden, and mindfulness and positive affect. Two hundred thirty-two participants were recruited from online caregiver groups and forums to complete a survey measuring their levels of dispositional mindfulness, caregiver burden, and values clarification. This chapter will present theories supporting the findings from the current study and how these findings relate to existing literature. Next, the significance of the findings for caregivers and their providers will be addressed. Lastly, limitations of the present study and suggestions for future research will be discussed.

Study Findings

To review, the following hypotheses were tested for Model 1:

H1. Dispositional mindfulness would be significantly negatively correlated with caregiver burden.

H2. Dispositional mindfulness would be significantly positively correlated with values clarification.

H3. Values clarification would be significantly negatively correlated with caregiver burden.

H4. The relation between mindfulness and caregiver burden would be significantly reduced when values clarification was added to the regression.

The following hypotheses were tested for Model 2:

H5. Dispositional mindfulness would be significantly positively correlated with positive affect.

H6. Dispositional mindfulness would be significantly positively correlated with values clarification.

H7. Values clarification would be significantly positively correlated with positive affect.

H8. The relation between mindfulness and positive affect would be significantly reduced when values clarification was added to the regression.

All study hypotheses were supported. In both models, the positive association between mindfulness and values clarification was consistent with findings by Brown and Ryan (2003), Brown and Kasser (2005), Carmody and others (2009), Lundgren and colleagues (2008), and Shapiro and others (2006). The negative association between mindfulness and caregiver burden aligns with findings by Bazzano and colleagues (2013), Epstein-Lubow and others (2011), and Whitebird and colleagues (2013). Caregivers with higher levels of dispositional mindfulness, "the trait-like propensity to experience and express mindful qualities (e.g., nonjudgment, equanimity) and behavioral tendencies (e.g., acting with awareness rather than automaticity)" (Hanley & Garland, 2014), were more likely to report values that are meaningful to them. Researchers including Shapiro and colleagues (2006) and Brown and Ryan (2003) suggested that mindfulness allows individuals to engage in effortful processing that allows intentional selection and commitment to their values. In contrast, people who engage in more automatic processing are likely less mindful and more susceptible to selecting values based on others' values (Brown & Ryan, 2003).

Caregivers with higher levels of dispositional mindfulness also were more likely to report lower levels of caregiver burden, "the extent to which caregivers perceived their emotional, physical health, social life, and financial status a result of caring for their relative" (Zarit et al., 1980, p. 261). This aligns with studies that evaluated the impact of the therapy MBSR on caregivers experiencing burden (Bazzano et al., 2013; Epstein-Lubow, McBee, Darling, Armey, & Miller, 2011; Whitebird et al., 2013). With the mechanisms of action of MBSR including enhancement of emotional regulation and increased acceptance of stressors, mindfulness might equip caregivers to better manage the effects of caregiver stress (Bazzano et al., 2013). Emotion regulation occurs when people choose to “neutralize their mood states to satisfy instrumental goals” (Clore & Robinson, 2000, p. 163). In the case of caregiving, instrumental goals can involve aspects of caregiving itself, or goals that existed prior to taking on a caregiving role. Acceptance is defined as “the active and aware embrace of private experiences without unnecessary attempts to change their frequency or form” (Hayes, Pistorello, & Levin, 2012, p. 982). Acceptance can serve as a tool to counter the avoidance preventing caregivers from pursuing values-based action (Losada et al., 2015).

This study’s results were also consistent with other studies finding a negative association between values and caregiver burden (Dellasega, 1990; Farran et al., 1997; Noonan & Tennstedt, 1997). According to Farran and colleagues (1997), finding meaning in caregiving can help caregivers reappraise their stress in more adaptive ways, and can also serve as a coping strategy that emerges when caregivers must find new ways to manage their stress. Noonan and Tennstedt (1997) found that rather than the number or type of objective stressors (e.g., number of problem behaviors, frequency of care), caregivers’ perception of the stressors explained the extent of their burden. In their study, caregivers who valued their caregiving role were less likely to report feeling burdened. Perception can be changed through mindfulness (Birnie et al., 2010), and mindfulness can facilitate exploration of one’s values (Carmody et al., 2009; Lundgren et al., 2008); it is possible that caregivers can find meaning through mindful awareness. Caregivers who are mindful might take extra time to examine aspects of the caregiving role that are fulfilling, and evaluate how caregiving impacts their wellbeing.

Furthermore, the present study found positive associations between mindfulness and positive affect, demonstrated in earlier research by Hanley and Garland (2014), Jain and colleagues (2007), and Shapiro and colleagues (2012). Hanley and Garland (2014) described how mindfulness produces positive reappraisal, the ability to reevaluate a thought in a more helpful way. According to the authors, this might cause the higher levels of positive affect associated with mindfulness. Values and positive affect were also correlated, similarly to findings by Atkins and colleagues (2015), Emmons (1986), and Hicks and colleagues (2012). Emmons (1986) found that participants who endeavored for their values had the highest levels of positive affect. Emmons (1986) postulated that participants who clarified their values and strove for their goals would have higher levels of self-efficacy, even in the face of adversity, resulting in higher levels of positive affect. Higher levels of self-efficacy in caregivers might result from accomplishments that occur after overcoming barriers to their values. Caregivers with higher levels of self-efficacy related to caregiving are less likely to experience caregiver burden (Aneshensel et al., 1999), which is negatively correlated with positive affect (Robertson et al., 2007; Stephens et al., 1994; Wilson-Genderson, Pruchno, & Cartwright, 2009). Future studies should examine whether values mediate the relation between self-efficacy and positive caregiver outcomes. Caregiving often presents challenges, with many caregivers facing self-doubt in their ability to fulfill their role (Aneshensel et al., 1999). Therefore, self-efficacy is important for caregivers because even when mistakes occur, they can remind themselves of times they were effective and curb negative thoughts and emotions.

Contributions to the Literature

With these findings, caregiver service providers, mental health professionals, and researchers have gained novel information regarding the associations between mindfulness, values, and caregiver mental health. This study is the first utilizing a caregiver sample to demonstrate that values mediates the relation between dispositional mindfulness and enhanced mental health outcomes. Prior studies by Carmody and colleagues (2009a) and Lundgren and others (2008) found values to mediate mindfulness outcomes in non-caregiver populations. The relation between mindfulness and caregiver burden was mediated by values clarification, providing support for Shapiro and colleagues' (2006) model of mindfulness, where increased mindfulness allows individuals to reperceive situations with a new perspective, clarifying their values. In turn, these values might serve as a buffer for enhanced stress (Farran et al., 1997). Additionally, values mediated the relation between mindfulness and positive affect. Mindful individuals are able to raise their awareness of what is important to them, leading to more striving toward their goals (Shapiro et al., 2006). According to Emmons (1986), goal striving can result in enhanced self-efficacy and produce higher levels of positive affect.

Values had a larger effect size than dispositional mindfulness in its ability to predict caregiver burden and positive affect, suggesting that lower levels of caregiver burden and higher levels of positive affect among caregivers might be more due to the impact of values than mindfulness. Per effect size interpretation suggestions by Ferguson (2009), the values measure had a strong effect in its ability to predict positive affect, with mindfulness having a moderate effect. Mindfulness had a small effect in its ability to predict caregiver burden, and values had a moderate effect size. These outcomes are supported by theory underlying Hayes and colleagues' (1999) Acceptance and Commitment Therapy, which utilizes both mindfulness and values clarification interventions. The authors stated, “All ACT techniques are eventually subordinated to helping the client live in accord with his or her chosen values” (p. 205). According to Hayes and colleagues (1999), individuals who are mindful do not endure uncomfortable experiences for their own sake, but rather, in order to live in accordance with their values. Individuals who avoid difficult thoughts, emotions, or present-moment experiences might also be neglecting experiences that allow them to live a valued life.

Practical Applications

The study outcomes provide support for caregiver counseling interventions utilizing mindfulness and/or values clarification, specifically ACT, which utilizes both. ACT seeks to increase psychological flexibility by enhancing acceptance, defusion from unworkable thoughts, present-moment awareness, and caregivers’ clarification of and commitment to their values (Hayes et al., 1999). Mindfulness is an intervention utilized in ACT to increase acceptance, defusion, and present-moment awareness. To date, there have been two randomized controlled trials evaluating the efficacy of ACT for caregivers of older adults (Losada et al., 2015; Marquez-Gonzalez, Losada Baltar, & Romero-Moreno, 2014). Losada and colleagues (2015) and Marquez-Gonzalez and others (2014) found that ACT was clinically more significant than a control group in reducing caregivers’ depression and anxiety. Losada and colleagues (2015) noted that counseling intervention research should examine specific mediators explaining the effects of ACT and other therapies on caregiver outcomes. The mediational models in the present study can help counseling psychologists understand the independent contributions of mindfulness and values for caregivers, and how study variables are connected. For instance, this study demonstrated that both mindfulness and values significantly contribute to lower caregiver burden and higher positive affect. Values explained the relation between mindfulness and dependent variables; therefore, counseling intervention development and delivery might benefit from the selection of therapeutic techniques that produce or strengthen values clarification.

Beyond ACT, other psychotherapies that include the specific ingredients of mindfulness and/or values interventions include mindfulness-based stress reduction (Carmody et al., 2009b), mindfulness-based cognitive therapy (Oken et al., 2010), dialectical behavior therapy (Dimeff & Linehan, 2001), and existential and logotherapy (Frankl, 2014; Yalom, 1980). MBSR typically includes mindfulness exercises such as deep breathing and gentle yoga, and has been found to significantly reduce caregiver burden (Bazzano et al., 2013; Epstein-Lubow et al., 2011; Whitebird et al., 2013). Combining psychoeducation regarding stress, meditative exercises, and techniques to increase self-compassion, Oken and colleagues (2010) provided 7 weeks of MBCT to caregivers of people with dementia. Compared to a respite-only condition, the MBCT group significantly reduced caregiver stress. Dialectical behavior therapy is typically administered to individuals with borderline personality disorder, but has also been successfully implemented among parents of children with the disorder (Woodberry & Popenoe, 2008). The core components of DBT include mindfulness, behavioral science, and dialectical philosophy, the philosophy of concurrent opposing positions (Woodberry & Popenoe, 2008). Existential therapy, with roots in logotherapy, addresses clients' frustrations with existence, its meaning, and the search for meaning (Frankl, 1962). Existential behavioral therapy has resulted in reduced distress and enhanced quality of life for caregivers (Fegg et al., 2013).

Other community resources providing services for caregivers could also implement mindfulness and values clarification into their existing programs. For instance, the Institute on Aging's (2014) mobile application CareZone could provide reminders for caregivers to engage in mindfulness meditations or activities. It could also provide caregivers with measures such as the

Valued Living Questionnaire (Wilson, Sandoz, Kitchens, & Roberts, 2010), in order for caregivers to assess their most valued life domains and whether they are living in accordance with their values. REACH II, a behavioral and psychoeducation intervention (Nichols et al., 2011), and the U.S. Department of Veterans Affairs (2015) caregiver support programs could similarly integrate these techniques alongside existing relaxation and self-care strategies. Senior centers, such as those supported by the National Council on Aging's (2016) National Institute of Senior Centers, could provide mindfulness and values programming into their regular scheduling.

Caregivers are often the only individuals available to care for their loved ones (Pinquart & Sörensen, 2003), highlighting the importance of making formal and informal mindfulness and values clarification techniques more easily accessible to caregivers. Therapies or programming that involve both caregivers and recipients (e.g., MBSR for cancer patients and their caregivers; Birnie et al., 2010) or provide telephone therapy (e.g., REACH II; Nichols et al., 2011), can alleviate the need to obtain alternate care providers. With a team of providers, caregivers and recipients can meet concurrently in separate groups to tailor treatment to their specific needs (e.g., cognitive rehabilitation for stroke patients and ACT for caregivers).

This study's results suggest that commonly used therapeutic techniques such as mindfulness and values interventions might facilitate reductions in caregiver burden and increases in positive affect. Higher levels of caregiver burden have been associated with lower levels of physical/mental health, loss of self, reduced social activities, and family conflict (Chou, 2000). Therapeutic interventions that have reduced caregiver burden have resulted in more free time for caregivers, and greater levels of mastery and self-efficacy (Gitlin et al., 2008). Caregivers with higher levels of positive affect are less frail (as measured by unintended weight loss, bone fractures, and low energy; Park-Lee, 2009), less depressed (Robertson et al., 2007), and get better sleep (von Känel et al., 2014). A 2003 REACH intervention studied by Gitlin and colleagues significantly enhanced positive affect among caregivers compared to a control group provided with resources only. Mindfulness-based interventions have also been found to enhance positive affect among diverse populations (Jain et al., 2007; Shapiro et al., 2012; Spek, Ham, & Nyklíček, 2013) and reduce caregiver burden (Whitebird et al., 2013). Interventions incorporating values resulted in reduced caregiver burden (Dellasega, 1990; Farran et al., 1997; Noonan et al., 1997) and increased positive affect (Atkins et al., 2015; Emmons, 1986; Zika & Chamberlain, 1992). Given the recent empirical support of ACT for caregivers' reduction in negative mental health symptoms such as depression and anxiety (Losada et al., 2015; Marquez-Gonzalez et al., 2014), future caregiver studies evaluating ACT might also find reductions in caregiver burden and increased positive affect.

Limitations & Future Research

Though the directions of the mediational models conducted in this study are based on prior findings in the literature (e.g., Carmody et al., 2009; Lundgren et al., 2008), a limitation of the study is that it is cross-sectional, and the models do not prove causation. Future longitudinal studies that can examine the impact of mindfulness occurring prior to values clarification can potentially support a causal basis for these models. It is also unclear whether dispositional mindfulness would produce similar effects on caregiver burden as formal mindfulness techniques. Future research can compare this variable between individuals who have practiced mindfulness formally and those who have not, or conduct intervention research to evaluate whether differences exist. Researchers evaluating psychotherapies can expand on the findings of this study by determining whether mindfulness exercises alone are sufficient to enhance values clarification, or if values clarification exercises combined with mindfulness provide enhanced outcomes for caregivers in therapy.

Another limitation is the sample's lack of variability in race and gender, which limits generalizability of the findings to ethnic minority and male caregivers. It is possible that existing forums for caregiver support tend to attract primarily Caucasian women who are comfortable using the internet. Therefore, researchers should sample male and ethnic minority caregivers from websites they are already using (e.g., general Facebook/email advertisements), and engage in outreach for caregivers who do not have regular access to the internet. Furthermore, because this study only sampled caregivers from the United States, samples from other nationalities are needed to determine whether the findings can be extended to other countries' caregivers.

Conclusion

It has been demonstrated that both dispositional mindfulness and values clarification are potential protective factors against caregiver burden, and promotive factors of positive affect for caregivers. Dispositional mindfulness might provide caregivers with present-moment awareness that enables them to attend to the most important needs of the moment, rather than ruminating over what has been neglected or lost. Caregivers who can attend to the present moment likely experience more positive affect due to an enhanced awareness of pleasant things happening around them. Caregivers who had clarified their values were also less burdened and experienced more positive affect. This could be due to caregivers integrating their caregiving roles into their broader values (e.g., dedication to family, kindness), or recognizing how they could remain committed to their values despite the sacrifices required of caregiving. Individuals who are in touch with their values are likely higher in positive affect because they feel their lives are heading in intended directions. Earlier research revealing similar associations between mindfulness, values, caregiver burden, and positive affect were also discussed.

Values clarification mediated the relation between higher dispositional mindfulness and lower burden, and higher dispositional mindfulness and greater positive affect. This is likely due to a unique type of cognitive processing that can occur during mindfulness, enabling individuals to clarify what is most important to them (Shapiro et al., 2006). Caregivers who are mindful can examine beliefs that might otherwise have gone unquestioned. This can provide caregivers with clarity into how their beliefs are or are not serving their values. This finding provides support to earlier studies finding values to be a change mechanism of mindfulness (Carmody et al., 2009a; Lundgren et al., 2008).

The outcomes of this research have important applications for caregivers, their care recipients, their service providers, and caregiver researchers. Caregivers' responsibilities for recipients often limit their ability to access mental health resources (Pinquart & Sörensen, 2003), making it important for psychologists and other service providers to determine convenient methods to enhance these variables among caregivers. Psychotherapies such as MBSR and ACT, mobile applications, hospital services, and community senior centers are potential venues for delivery. It is still unknown whether psychotherapies that implement only mindfulness, or both mindfulness and values, are equivalent in reducing caregiver burden and increasing positive affect. Future research should determine whether mindfulness alone is sufficient to enhance values clarification, or if specific values-based strategies combined with mindfulness produces more desirable outcomes. This knowledge could improve the effectiveness of caregiver interventions.

Table 1. Correlations, Means, and Standard Deviations of Demographic and Study Variables (N = 232)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	*M*	*SD*
1. Age	--															51.83	12.77
2. Family Members	-.32**	--														3.03	1.51
3. Number Caring	.07	.32**	--													1.26	.82
4. Time Caregiving (years)	.24**	-.02	.11	--												7.33	7.98
5. Weekly Hours	.03	-.09	-.15*	-.05	--											71.23	51.31
6. Other Hours	.03	-.10	.09	.07	-.04	--										15.68	28.69
7. PHQ-4	-.13*	-.05	-.06	-.05	.08	-.04	--									5.95	3.37
8. ZBI	-.07	-.02	-.13	-.12	.12	-.02	.56**	--								25.22	8.98
9. PHLMS	.18**	-.06	-.04	.15*	.01	-.05	-.40**	-.30**	--							62.45	8.71
10. PILS	.07	-.01	.03	.09	-.09	.06	-.39**	-.37**	.39**	--						22.04	7.01
11. PANAS	.11	-.03	.02	.15*	-.04	.03	-.39**	-.38**	.52**	.68**	--					29.13	8.20
12. Education[1]	-.02	-.06	-.07	-.08	-.04	.16*	.16*	.19**	-.03	.03	-.07	--					
13. Gender[2]	-.25**	-.03	-.12	.04	.01	.04	.09	-.16*	.02	-.08	-.05	.07	--				
14. Race[3]	.01	.21**	.26**	-.01	-.07	.01	-.06	.02	-.02	-.03	.05	-.08	-.13*	--			
15. Income[4]	.11	-.01	-.02	.12	-.15*	.17*	-.13	-.05	.10	.15*	.08	.16*	-.02	.05	--		

Notes: PHQ-4 = Patient Health Questionnaire-4; ZBI = Zarit Burden Inventory; PHLMS = Philadelphia Mindfulness Scale; PILS = Purpose in Life Scale; PANAS = Positive Scale from the Positive and Negative Affect Scale

* $p < .05$, ** $p < .01$

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[1] Education coded no higher education = 1, higher education = 2

[2] Gender coded male = 1, female = 2

[3] Race coded white = 1, minority = 2

[4] Income coded $74,999 and below = 1, $75,000 and above = 2

Table 2. Frequencies of Demographic Variables (Total *N* = 232)

	N	%
Marital Status		
Divorced	16	6.9
Married	170	73.3
Other	2	0.9
Partnered	6	2.6
Single	33	14.2
Windowed	5	2.2
Income		
$0-$24,999	40	17.2
$25,000-$49,000	59	25.4
$50,000-$74,999	48	20.7
$75,000-$99,999	28	12.1
$100,000-$124,999	11	4.7
$125,000-$149,999	7	3.0
$150,000+	9	3.9
Education		
Did not complete high school	2	0.9
High school diploma/GED	37	15.9
Some college	90	38.8
Bachelor’s degree	60	25.9
Master’s degree	28	12.1
Advanced graduate work or Ph.D.	15	6.5
Religion		
Buddhist	1	0.4
Christian/Catholic	153	65.9
Hindu	1	0.4
Jewish	3	1.3
Not religious	63	27.2
Other	11	4.7
Physical Health		
Excellent	8	3.4
Very good	44	19.0
Good	93	40.1
Fair	70	30.2
Poor	14	6.0
Very poor	3	1.3

Table 2 Continued

	N	%
Mental Health		
Excellent	3	1.3
Very good	21	9.1
Good	81	34.9
Fair	84	36.2
Poor	36	15.5
Very poor	7	3.0
Care Recipient Mental Health		
Excellent	5	2.2
Very good	12	5.2
Good	53	22.8
Fair	89	38.4
Poor	62	26.7
Very poor	11	4.7
Have someone who would take over		
No	167	72
Yes	65	28
Social support satisfaction		
Not at all	88	37.9
A little	102	44.0
Very	42	18.1

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APPENDIX A

SOCIAL MEDIA INVITATION

Radford University Caregiver Survey

Please visit this website http://radford.qualtrics.com//SE/?SID=SV_cwJq2qso7DOBGVD to learn more about a research study seeking to learn about benefits and challenges of caregivers. You must be 18 years of age or older, and can win a $150, $75, or $25 gift card if you qualify and complete the survey. You can contact Alissa Goldstein at agoldstein2@radford.edu if you would like more information.

APPENDIX B

INFORMED CONSENT

College of Humanities and Behavioral Sciences
Department of Psychology

RU
RADFORD
UNIVERSITY

You are invited to participate in a research survey, entitled "Characteristics of Caregivers and the Caregiving Experience." The study is being conducted by Sarah Hastings, Ph.D. and Alissa Goldstein, M.C., Department of Psychology of Radford University PO Box 6946 Radford, VA 24142. 1-540-831-6169. slhasting@radford.edu, agoldstein2@radford.edu.

The purpose of this study is to examine the impact of caregivers' experiences and characteristics on their wellbeing. Your participation in the survey will assist psychologists in understanding what can be beneficial or unhelpful to caregivers. We estimate that it will take about 10-15 minutes of your time to complete the questionnaire. You are free to contact the investigator at the above address and phone number to discuss the survey.

You are eligible for this study if you are currently 18 years of age or older, living in the United States, and caring for someone with a chronic illness or medical condition who requires assistance with activities of daily living such as bathing, dressing, paying bills, taking medications, preparing meals, shopping, etc. for 8 hours per week or more for at least the past three months.

Risks to participants are considered minimal. There will be no costs for participating. Upon completion of the survey, you can optionally enter a drawing to win either a $150, $75, or $25 Visa gift card by entering your email address. Your email will not be associated with your responses. Two weeks after conclusion of the survey, the winner will be contacted via email to provide an address where the gift card can be mailed.

IP addresses will not be included in data analysis. A limited number of research team members will have access to the data during data collection. Your participation in this survey is voluntary. You may decline to answer any question and you have the right to withdraw from participation at any time without penalty. If you wish to withdraw from the study or have any questions, contact the investigator listed above.

If you have any questions or wish to update your email address, please call Sarah Hastings at 1-540-831-6169 or send an email to slhasting@radford.edu. You may also request a hard copy of the survey from the contact information above.

If you have questions about your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact Dr. Dennis Grady, Dean, College of Graduate and Professional Studies, Radford University, dgrady4@radford.edu, 1-540-831-7163.

If at any point you are experiencing distress while taking the survey, you may contact a no-cost confidential 24-hour crisis hotline (the Substance Abuse and Mental Health Service Administration) at 1-800-662-HELP (4357).

If you agree to participate, please press the “I agree” button below and the red arrow button to begin. Otherwise use the X at the upper right corner to close this window and disconnect.

Thank you.

APPENDIX C

SURVEY

1. What is your age? [Select # 18+]
2. What is your gender?
    a. Male b. Female c. Other (please describe)
3. What is your race/ethnicity?
    a. Black or African American b. White c. Native American or Alaskan Native d. Asian e. Native Hawaiian or other Pacific Islander f. Latino g. Other (please describe)
4. What is your relationship status?
    a. single b. married c. divorced d. widowed e. partnered f. other (please describe)
5. What is your income range?
    a. 0-24,999 b. 25,000-49,999 c. 50,000-74,999 d. 75,000-99,999 e. 100,000-124,999 f. 125,000-149,999 g. 150,000+ h. do not wish to report
6. What is the highest level of education you have completed?
    a. Did not complete high school b. High school/GED c. some college d. Bachelor's degree e. Master's degree f. Advanced graduate work or Ph.D.
7. Do you belong to any of the following religious groups?
    a. Christian/Catholic
    b. Jewish
    c. Muslim
    d. Buddhist
    e. Hindu
    f. Not religious
    g. Other (please describe)
8. How many family members live in your home, including yourself?
9. How would you describe your physical health? (1- very poor 2- poor 3- fair 4- good 5-very good 6-excellent)
10. How would you describe your emotional or mental health? (1- very poor 2- poor 3- fair 4- good 5-very good 6-excellent)
11. How many people do you care for who have a chronic illness or disability?
12. How long have you been a caregiver?

The following questions are about the person you are caring for. If caring for more than one person with a chronic illness or disability, please answer the questions regarding the person who needs the most assistance.

13. What condition does the care recipient have?
    a. Alzheimer's disease
    b. Other dementia

    c. Parkinson’s disease
    d. Lou Gehrig’s disease (ALS)
    e. Multiple Sclerosis (MS)
    f. Cerebral Palsy (CP)
    g. Severe mental illness (schizophrenia, bipolar disorder, PTSD, etc.)
    h. Muscular dystrophy
    i. Autism spectrum disorder (ASD)
    j. Cancer
    k. Other condition (please describe)

14. On average, how many hours per week do you spend caring for this person?
15. On average, how many hours per week does this person receive care from someone other than yourself?
16. How are you related to the person receiving care?
    a. spouse
    b. child
    c. sibling
    d. other relative
    e. friend
    f. parent
17. What is the gender of the person receiving care?
    a. Male b. Female c. Other (please describe)
18. What type of health insurance does the person you are caring for have?
    a. Medicare
    b. Social security disability
    c. Medicaid
    d. Private health insurance (e.g. Aetna, UnitedHealthcare, etc.)
    e. Private disability
    f. Long-term care insurance
    g. Other: (please describe)
19. Do you help the person receiving care with:
    a. Transportation
    b. Grocery/other shopping
    c. Housework
    d. Preparing meals
    e. Managing finances
    f. Medications, pills, or injections
    g. Arranging outside services
20. How would you describe the emotional or mental health of the person you are caring for? (1- very poor 2- poor 3- fair 4- good 5-very good 6-excellent)

21. Since becoming a caregiver, have you had concerns about the person receiving care's use of:
    a. Illicit substances (marijuana, heroin, cocaine, non-prescribed pain medications, etc.)?
    b. Alcohol (beer, liquor, wine, etc.)?
    c. No concerns

Over the past 2 weeks have you been bothered by these problems?

	Not at all	Several days	More days than not	Nearly every day
Feeling nervous, anxious, or on edge	0	1	2	3
Not being able to stop or control worrying	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3
Little interest or pleasure in doing things	0	1	2	3

Do you feel...	**Never**	**Rarely**	**Sometimes**	**Quite Frequently**	**Nearly Always**
1. that because of the time you spend with the person you care for that you don't have enough time for yourself?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
2. stressed between caring for the person and trying to meet other responsibilities (work/family)?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
3. angry when you are around your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
4. that your relative/friend currently affects your relationship with family members or friends in a negative way?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
5. strained when you are around your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
6. that your health has suffered because of your involvement with your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )

7. that you don't have as much privacy as you would like because of your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
8. that your social life has suffered because you are caring for your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
9. that you have lost control of your life since your relative/ friend's illness?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
10. uncertain about what to do about your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
11. you should be doing more for your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )
12. you could do a better job in caring for your relative/friend?	0 ( )	1 ( )	2 ( )	3 ( )	4 ( )

1. If you were unable to care for the person receiving care or yourself, do you have someone who would take over?	No ( )	Yes ( )	
2. Overall, how satisfied have you been <u>in the past month</u> with the help you have received from family members, friends, or neighbors?	Not at all ( )	A Little ( )	Very ( )

Please indicate how often you experienced each of the following statements within the past week.

1, Never | 2, Rarely | 3, Sometimes | 4, Often | 5, Very Often
1) I am aware of what thoughts are passing through my mind.
2) I try to distract myself when I feel unpleasant emotions.
3) When talking with other people, I am aware of their facial and body expressions.
4) There are aspects of myself I don't want to think about.
5) When I shower, I am aware of how the water is running over my body.
6) I try to stay busy to keep thoughts or feelings from coming to mind.
7) When I am startled, I notice what is going on inside my body.
8) I wish I could control my emotions more easily.
9) When I walk outside, I am aware of smells or how the air feels against my face.
10) I tell myself that I shouldn't have certain thoughts.
11) When someone asks how I am feeling, I can identify my emotions easily.
12) There are things I try not to think about.
13) I am aware of thoughts I'm having when my mood changes.
14) I tell myself that I shouldn't feel sad.
15) I notice changes inside my body, like my heart beating faster or my muscles getting tense.
16) If there is something I don't want to think about, I'll try many things to get it out of my mind.

17) Whenever my emotions change, I am conscious of them immediately.
18) I try to put my problems out of mind.
19) When talking with other people, I am aware of the emotions I am experiencing.
20) When I have a bad memory, I try to distract myself to make it go away.

	Strongly disagree					Strongly Agree
1. I feel good when I think of what I've done in the past and what I hope to do in the future.	1	2	3	4	5	6
2. I have a sense of direction and purpose in life.	1	2	3	4	5	6
3. I don't have a good sense of what it is I'm trying to accomplish in life.	1	2	3	4	5	6
4. I enjoy making plans for the future and working to make them a reality.	1	2	3	4	5	6
5. I am an active person in carrying out the plans I set for myself.	1	2	3	4	5	6
6. My aims in life have been more a source of satisfaction than frustration to me.	1	2	3	4	5	6

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you have felt this way over the past week.

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderately	Quite a Bit	Extremely

1. Interested

2. Excited

3. Strong

4. Enthusiastic

5. Proud

6. Alert

7. Inspired

8. Determined

9. Attentive

10. Active

APPENDIX D

GIFT CARD DRAWING

Thank you for completing the survey. Please enter your e-mail address if you would like to be entered to win one of 3 gift cards.