Meaning, "Maker", and Morality: Spiritual Struggles as Predictors of Distress and Growth in Family Caregivers

Serena Wong, M.E.,[1] and Kenneth I. Pargament, Ph.D.[1]

Abstract

Caregiving work may elicit different types of spiritual struggles. The goals of the present cross-sectional study were to examine the frequency and function of six types of spiritual struggle on caregiver wellbeing. We administered an online survey to 173 dementia family caregivers. As hypothesized, struggles of meaning, with the "Maker" (the divine), and with morality were relevant to our sample and functioned differentially. The majority of participants reported experiencing at least some degree of moral (65%) and meaning struggles (62%). Divine and ultimate meaning struggles predicted depressive symptoms after controlling for caregiver religiosity, age, and care receiver's problem behaviors. Divine and moral struggles uniquely predicted higher levels of caregiver burden. Moral struggles predicted lower levels of personal growth. Furthermore, religious doubt predicted lower levels of depressive symptoms when other types of struggles were controlled. Given their potential for both distress and growth, spiritual struggles are important to address thoroughly in family caregivers who seek psychotherapy. We highlight some forms of spiritually integrated psychotherapy that target specific spiritual struggles relevant to caregivers.

In recent years, the number of individuals with dementia has surpassed 47 million worldwide (World Alzheimer Report, 2015). Family caregivers represent the largest group who have risen to the challenge of assisting adults with neurodegenerative illnesses. This help is informal; that is, the vast majority of this group work unpaid and are women (Alzheimer's Association, 2017). In addition, dementia caregivers accrue 40% more hours of work on average than non-dementia caregivers (Kasper, Freedman, Spillman, & Wolff, 2015). The behavioral problems associated with dementia can further intensify caregiver burden (Etters, Goodall, & Harrison, 2008; Ornstein & Gaugler, 2012) and increase risk for caregiver depression (Sallim, Sayampanathan, Cuttilan, & Chun-Man, 2015). Yet a few qualitative findings hint at the potential for personal growth as a result of caregiving (Peacock et al., 2010; Sanders, 2005). The levels of depression, burden, and personal growth are important factors to consider in terms of caregiver wellbeing. With Alzheimer's disease on the rise (Alzheimer's Association, 2017), the sustained health of family caregivers is of vital importance to dementia patients and society at large.

The spiritual dimension[2] of caregiving has been widely documented. According to Pargament's (1997) religious coping model, individuals can respond to stressors in ways related to the sacred. The *sacred* broadly encompasses perceptions of the divine or transcendent reality, manifestations of a Higher Power, and aspects of life imbued with the qualities of transcendence, boundlessness, ultimacy, and deep interconnectedness (Pargament, 1997; Pargament, Lomax, McGee, & Fang, 2014). Moreover, spiritual coping strategies can be a source of not only aid, but

[1] Bowling Green State University

[2] We draw from Pargament's (1997) conceptualizations of religion and spirituality, using these terms interchangeably in this paper to underscore the overlap in people's search for the sacred and significance.

struggle as well. Strains and tensions rooted in sacred matters are collectively known as *spiritual struggles* (Pargament, Murray-Swank, Magyar, & Ano, 2005; Exline & Rose, 2005). Numerous studies have identified spiritual struggles as a predictor of poorer health outcomes, particularly when struggles remain unresolved over time (e.g., Ano & Vasconcelles, 2005; Exline, Pargament, Grubbs, & Yali, 2014; Pargament, Koenig, Tarakeshwar, & Hahn, 2004; Smith, McCullough, & Poll, 2003). In one study, Herrera, Lee, Nanyonjo, Laufman, and Torres-Vigil (2009) noted that Mexican-American family caregivers who experienced spiritual struggles in coping tended to have more depressive symptoms. Yet there is evidence that individuals can grow from their experiences of struggle (Desai & Pargament, 2015; Gall, Charbonneau, & Florack, 2011; Huang, Ai, Lemieux, & Tice, 2011; Winter et al., 2009).

More recently, spiritual struggles have been empirically refined into six types: (a) ultimate meaning, (b) divine, (c) moral, (d) doubt, (e) interpersonal, and (f) supernatural evil (Exline et al., 2014; Stauner, Exline, Grubbs et al., 2016). It remains unclear what types of struggle precipitate growth and distress among family caregivers. In the context of caregiving, the role and relevance of each type of struggle warrants exploration.

First, ultimate meaning struggles focus on concerns about a life lived in vain. This type of struggle involves questions about a deeper purpose. According to Wong's (2008) meaning management theory, meaning-making is essential to resilience and wellbeing. For individuals with ultimate meaning struggles, the search itself becomes an overwhelming source of questions and confusion. We distinguish this type of struggle from meaninglessness. Of note, Wilt et al. (2018) delineated their respective conceptual boundaries and demonstrated the construct validity of ultimate meaning struggles. They also observed a stronger relation between depressive symptoms and meaning struggles compared to the absence or search for meaning. Qualitative findings suggest that existential concerns are highly relevant to family caregivers of patients with late-stage dementia (Albinsson & Strang, 2004).

Second, divine struggles are characterized by negativity in one's relationship with God or a Higher Power. Such negativity can take the form of anger towards God, questions about God's love, feelings of abandonment or being punished, or disappointment in God. Numerous studies have tied divine struggles to indicators of distress and pathology (e.g., Cowchock, Lasker, Toedter, Skumanich, & Koenig, 2010; Pargament et al., 2004; Park, Wortmann, & Edmondson, 2011). In the domain of caregiving, Shah, Snow, and Kunik (2002) found that divine struggles predicted burden and depressive symptoms in a sample of highly religious dementia family caregivers. Perhaps, in efforts to preserve the faultlessness of the patient, caregivers may direct their frustrations and resentment upwards toward the "Maker".

Third, moral struggles involve difficulties in reconciling behaviors and thoughts with one's own sense of morality. Often, it is religion that shapes people's sense of right and wrong, and morality is seen through a spiritual lens. Thus, perceived transgressions against one's moral code may be doubly construed as a violation against the sacred. Moral struggles tend to be accompanied by depression symptoms (Abu-Raiya, Pargament, Krause, & Ironson, 2015; Sedlar et al., 2018). This type of struggle may be exceedingly relevant to caregivers. Female caregivers, in particular, tend to feel excessive guilt and worry about their competence (Romero-Moreno et al., 2014). While caregiving, individuals may wrestle with their perceived shortcomings and unspoken desires for relief.

Fourth, doubt struggles refer to the confusion, concern, and worry regarding the ultimate truth of held religious beliefs. Interestingly, doubt has predicted both distress and wellbeing (Ellison & Lee, 2010; Krause & Wulff, 2004). These contradictory findings suggest that doubt

itself may not be harmful. In fact, several theorists and theologians have asserted that religious doubt is an essential contributor to growth (e.g., Allport, 1950; Batson, Schoenrade, & Ventis, 1993; Fowler, 1981; Tillich, 1957). For example, in Fowler's (1981) theory of faith development, the individuative-reflective stage requires processing doubts in order to progress towards spiritual maturity. Empirically, doubt struggles also seem to have a differential impact on wellbeing throughout the lifespan (Galek, Krause, Ellison, Kudler, & Flannelly, 2007). With the bulk of research centered upon religiously devout caregivers, the relevance and function of doubt struggles remains unknown.

Fifth, interpersonal struggles are marked by conflictual exchanges with others regarding spiritual matters. It encompasses anger at organized religion and the pain of rejection, invalidation, or mistreatment as a result of one's spiritual convictions (or lack thereof). Across numerous studies about negative interactions with fellow church members, the deleterious role of interpersonal struggles on mental health is clear (Ellison, Zhang, Krause, & Marcum, 2009; Exline & Grubbs, 2011; Krause, Chatters, Meltzer, & Morgan, 2000). The relational deprivation and loneliness inherent in caregiving may further distance dementia caregivers from their faith community.

Sixth, supernatural evil struggles pertain to clashes with demonic forces. This type of struggle involves perceptions of attacks, interference, or invasions by malevolent spirits. Not surprisingly, struggles with evil are predictive of depressive and post-traumatic stress symptoms in coping with divorce (Krumrei, Mahoney, & Pargament, 2011) and political events (Wong et al., 2018). Perhaps some caregivers would perceive dementia or care work as a curse, attributing supernatural causes to problem behaviors exhibited by their loved one. No studies to date have examined evil struggles related to caregiving.

Caregiving work may elicit different types of spiritual struggles. Few studies have examined the relations between specific struggles and caregiver wellbeing. Moreover, struggles may contribute to distress or offer significant opportunities for growth. Given the dearth of research on the potentially "darker side" of spirituality for dementia caregivers, the extension of spiritual struggles to this domain is justified.

Goals and Hypotheses

The goals of the present study were to examine the frequency and role of six types of spiritual struggle with respect to caregiver wellbeing. First, we predicted that each of the spiritual struggles would be correlated with indicators of caregiver distress (i.e., more depressive symptoms and burden). Second, a non-directional hypothesis was made regarding the relation between each type of struggle and personal growth. Third, we predicted that divine, meaning, and moral struggles would account for unique variance in caregiver wellbeing after controlling for religiosity, age, and the stressor of care receivers' problem behaviors related to dementia.

Method

Participants and Procedure

We recruited active family caregivers of people diagnosed with dementia through Amazon Mechanical Turk, the Alzheimer Association's *TrialMatch* website, and one mid-western university's electronic newsletter for caregivers. The data collection period went from December 2015 through July 2016. Brief definitions of caregiving and dementia were provided in the

recruitment script and consent form. Only individuals who identified as dementia family caregivers and were over the age of 18 could participate. Participants responded to an IRB-approved online survey. Upon completion of the survey, each person received an electronic gift certificate or small monetary reward. No significant demographic differences were found among the samples of caregivers recruited from the aforementioned pools. As such, the three datasets were merged, resulting in a total *N* of 173 caregivers who completed the survey.

Measures

Spiritual Struggles in Caregiving. Spiritual struggles were captured by the Religious and Spiritual Struggles Scale (RSS; Exline et al., 2014). In this study, participants were instructed to respond with their caregiving experiences in mind. The RSS has demonstrated good psychometric properties (Exline et al., 2014; Stauner, Exline, Grubbs et al., 2016). The full scale contains 26 items on a 5-point scale, ranging from 0 = *not at all/does not apply to me* to 5 = *a great deal.* Both the full scale and selected subscales have been widely used in religious coping research on adults (e.g., Abu-Raiya et al., 2015; Wilt et al., 2018). Total scores for each subscale were calculated by summing respective item scores. The six types of struggles assessed are detailed below.

Moral. The moral struggles subscale contained 4 items. A sample item is "I have felt guilty for not living up to my moral standards." The internal consistency of this subscale was good (α = .86) in this sample.

Ultimate meaning. The ultimate meaning struggles subscale had 4 items. A sample item is "I have had concerns about whether there is any ultimate purpose to life or existence." In this sample, the subscale had excellent internal consistency (α = .91).

Divine. The divine struggles subscale had 5 items. A sample item is "I felt as though God had abandoned me." The internal consistency of this subscale was excellent (α = .94) in this sample.

Doubt. The doubt struggles subscale contained 4 items. A sample item is "I have felt troubled by doubts or questions about religion or spirituality." This subscale had excellent internal consistency (α = .94) in this sample.

Interpersonal. The interpersonal struggles scale had 5 items. A sample item is "I have had conflicts with other people about religious/spiritual matters." The internal consistency of this subscale was excellent (α = .91) in this sample.

Supernatural evil. Struggles with supernatural evil were assessed using the demonic struggles subscale, which contained 4 items. A sample item is "I have felt as though the devil (or an evil spirit) was trying to turn me away from what was good." This subscale had excellent internal consistency (α = .92) in this sample.

Depressive Symptoms. Depressive symptoms were assessed with the Center for Epidemiological Studies-Short Depression Scale (CES-D-10), which is based on the original CES-D by Radloff (1977). The short version comprises 10 items scored on a 4-point scale, ranging from 0 = *none or rarely* to 3 = *most or all of the time*. The total score is calculated by summing item scores. Sample items include "I felt depressed" and "I could not 'get going'." Kohout, Berkman, Evans, and Cornoni-Huntley (1993) demonstrated that the shortened measure maintains robust psychometric properties. Good internal consistency was found in this sample of caregivers (α = .81).

Caregiver Burden. Caregiver burden was assessed with the Zarit Burden Interview-Short Form (ZBI-SF), which is based on the original Zarit Burden Interview (Zarit, Orr, & Zarit, 1985). The ZBI-SF contains 12 items and is scored on a 5-point scale, ranging from 1 = *never* to 5 = *nearly always* (Bédard et al., 2001). The total score is calculated by summing item scores. Sample items are "Do you feel that because of the time you spend with your relative that you don't have enough time for yourself?" and "Do you feel stressed between caring for your relative and trying to meet other responsibilities for your family or work?" The ZBI-SF has strong psychometric properties (Higginson, Gao, Jackson, Murray, & Harding, 2010; O'Rourke & Tuokko, 2003). This measure had good internal consistency (α = .86).

Personal Growth. Personal growth was measured by the Personal Gain measure (Pearlin, Mullan, Semple, & Skaff, 1990). This measure contains 4 items, scored on a 4-point scale ranging from 1 = *not at all* to 4 = *very much*. The total score is calculated by summing item scores. Sample items include "I have grown as a person" and "I have become more aware of my inner strengths" with reference to caregiving. The internal consistency of this measure was good (α = .83).

Problem Behaviors. As a measure of caregiver stress, problem behaviors exhibited by the care receiver were captured using a 6-item subscale from Bass, Noelker, and McCarthy (1999). Items are rated on a 4-point scale, ranging from 0 = *none of the time* to 3 = *most or all of the time.* The internal consistency of this measure was acceptable (α = .78).

Religiosity. The frequency of prayer was used as a measure of religiosity in this sample. It consisted of one item: "Outside of attending religious services, how often do you pray?" The range of this item was from 1 = *never* to 7 = *several times a day*.

Results

Preliminary Analyses

The demographics of this sample mostly reflected those of typical dementia caregivers. As seen in Table 1, the majority were female, Caucasian, Christian, and worked full-time in addition to their caregiving. On average, they had provided care for 3 years and were 42 years old (*SD* = 14.37). Most individuals reported a household income of less than US $50,000. This sample also had relatively pronounced depressive symptoms, as indicated by the mean score of 10.72 (*SD* = 5.75) on the CES-D-10. A score of 10 or greater suggests significant depressive symptomatology (Kohout et al., 1993). This level of distress is consistent with the elevated rates of depression typically observed in dementia caregivers (Alzheimer's Association, 2017).

Of note, however, religious characteristics were muted in this sample. There was a larger proportion (33%) of religiously unaffiliated individuals compared to national norms (23%; Pew Research Center, 2015). There were also fewer individuals who identified as Christian (64%) relative to national norms (71%; Pew Research Center, 2015). Furthermore, the frequency of prayer was lower than average in this sample compared to a large national sample of active and bereaved dementia family caregivers (Hebert, Dang, & Schulz, 2007). Overall, the spiritual profile of this sample is more comparable to typical samples from Amazon Mechanical Turk (Lewis, Djupe, Mockabee, & Wu, 2015).

Frequency of Spiritual Struggles by Type

The majority of participants reported experiencing at least some degree of moral (64.5%) and meaning struggles (61.6%). A notable percentage also endorsed at least some degree of doubt (48.0%), interpersonal, (44.5%), and divine (40.5%) struggles. Supernatural evil struggles were less commonplace, appearing to some degree in only 26.6% of participants. Displayed in Table 2, the total subscale scores in order from most to least common were ultimate meaning, doubt, interpersonal, moral, divine, and supernatural evil struggles. Family caregivers endorsed relatively low intensities of spiritual struggles overall, with the modal response of "a little bit".

Correlates of Spiritual Struggles

The six types of spiritual struggles significantly correlated with one another, but not overly so (i.e., ranging from .32 to .64). As hypothesized, the links between struggles and distress were consistent and, for the majority of struggles types, robust (see Table 2).

Control Variables

Potentially relevant control variables were determined by past research and theory. Caregiver age was controlled, given the links between age and fewer spiritual struggles (Krause, Pargament, Hill, Wong, & Ironson, 2017). Furthermore, age is an important control variable in dementia caregiver studies, given its nuanced relation with wellbeing (Steptoe, Deaton, & Stone, 2015). Problem behaviors and religiosity were also controlled in order to determine the unique variance accounted for by each type of spiritual struggle. The role of stressors is typically controlled for in studies on wellbeing and spiritual struggles (Pargament, 1997). Global religious measures such as frequency of prayer are recommended controls in studies on specific psychospiritual processes (Mahoney et al., 1999).

Table 1

Caregiver demographics and background.

Demographics	%
Marital status	
Married/stable union	55.1
Widowed	1.2
Divorced/separated	9.0
Single/never married	34.7
Employment Status	
Full time (35 hrs/wk or more)	56.9
Part time (less than 35 hrs/wk)	19.2
Leave of absence	3.6
Not employed	10.2
Retired	10.2
Ethnicity	
Caucasian/Euro-American	73.1
African-American/Black	8.4
Hispanic/Latino	6.6
Asian/Asian-American	4.8
Other	7.2
Household Income	
Under $10,000	6.0
$10-29,000	15.7
$30-49,000	32.5
$50-69,000	16.9
$70-89,000	9.0
$90,000 and above	19.9
Religious Affiliation	
Christian	63.5
Atheist	10.2
Agnostic	12.6
Other	13.8
Care Receiver Location	
Living with caregiver	51.4
Lives alone	8.5
With other family or friend	19.8
In assisted living	9.0
In a nursing home	6.8
Other	4.5

Note: Ethnicities and religious affiliations with less than 4% were aggregated as "Other". Percentages reported are valid percentages.

Table 2

Correlations between key constructs (N = 173).

Construct	*M* (SD)	α	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Divine struggles	2.51 (4.24)	.94	-	.61***	.52***	.61***	.48***	.53***	.42***	.32***	.18*	.18*
2. Moral struggles	2.62 (3.02)	.86		-	.58***	.57***	.46***	.48***	.35***	.34***	-.02	.17*
3. Ultimate meaning	3.41 (4.25)	.91			-	.59***	.42***	.32***	.44***	.25**	.06	.22**
4. Doubt struggles	2.79 (3.98)	.94				-	.64***	.35***	.26***	.18*	.09	.24**
5. Interpersonal	2.66 (4.28)	.91					-	.41***	.24**	.19*	.04	.22**
6. Supernatural evil	1.42 (3.03)	.92						-	.16*	.23**	.16*	.23**
7. Depressive symptoms	10.72 (5.76)	.81							-	.59***	-.02	.12
8. Burden	30.50 (8.42)	.86								-	-.08	.30***
9. Personal growth	12.39 (2.92)	.83									-	.02
10. Problem behaviors	1.00 (.59)	.78										-

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

Table 3

Hierarchical linear regressions of spiritual struggles on dependent variables.

	Unstandardized coefficients		Standardized coefficients					
	B	*SE*	*β*	*p*	R^2	*df*	*F*	*p*
Depressive symptoms								
Controls:								
Age	.01	.00	.13	.071				
Religiosity	.00	.02	.00	.990				
Problem behaviors	.07	.07	.07	.307				
Spiritual struggles:					.31	6, 156	7.89	.000
Divine	.27	.07	**.40**	.000				
Moral	.04	.08	.06	.556				
Ultimate meaning	.21	.05	**.38**	.000				
Doubt	-.14	.06	**-.25**	.025				
Interpersonal	.08	.06	.12	.207				
Supernatural evil	-.12	.06	-.16	.066				
Caregiver burden								
Controls:								
Age	.01	.24	**.24**	.002				
Religiosity	-.02	.00	-.06	.413				
Problem behaviors	.36	.02	**.29**	.000				
Spiritual struggles:					.28	6, 156	6.67	.000
Divine	.20	.09	**.24**	.022				
Moral	.20	.09	**.22**	.033				
Ultimate meaning	.06	.06	.09	.347				
Doubt	-.13	.08	-.19	.084				
Interpersonal	.06	.08	.07	.471				
Supernatural evil	-.02	.08	-.02	.854				
Personal growth								
Controls:								
Age	-.01	.27	**-.21**	.014				
Religiosity	.06	.03	**.19**	.026				
Problem behaviors	-.03	.10	-.02	.765				
Spiritual struggles:					.13	9, 156	2.48	.011
Divine	.21	.10	**.24**	.035				
Moral	-.25	.12	**-.26**	.020				
Ultimate meaning	.03	.07	.05	.628				
Doubt	-.00	.09	-.00	.985				
Interpersonal	-.03	.09	-.03	.758				
Supernatural evil	.10	.09	.12	.261				

Note: Boldface denotes significant predictors.

Multiple Regression Analyses

As shown in Table 3, we conducted multiple regression analyses using the six types of spiritual struggles as individual predictors for each of the dependent variables after controlling for age, religiosity, and problem behaviors. There was no evidence of multicollinearity issues according to guidelines by Bowerman and O'Connell (1990), Myers (1990), and Menard (1995). That is, the variance inflation factor (VIF) was less than 3 and tolerance was greater than .2 for all predictors.

For all three of our dependent variables (i.e., depressive symptoms, caregiver burden, and personal growth), the models significantly fit the data overall. With regard to the significant individual spiritual struggle subscale predictors, struggles of ultimate meaning significantly predicted depressive symptoms (β = .38, p = .000). Divine struggles predicted both higher levels of depressive symptoms (β = .40, p = .000) and caregiver burden (β = .24, p = .022). Moral struggles predicted higher levels of caregiver burden (β = .22, p = .033) and lower levels of growth (β = -.26, p = .020). Notably, doubt predicted lower levels of depressive symptoms (β = -.25, p = .025) when other types of struggles were controlled.

Discussion and Implications

Spiritual struggles of morality and ultimate meaning were reported by over half of dementia family caregivers. Moreover, struggles of all types were associated with distress, echoing previous research on the negative implications of struggles for mental health (Abu-Raiya et al., 2016; Stauner, Exline, & Pargament, 2016). In general, spiritual struggles signaled lower levels of caregiver wellbeing, but several nuances in the findings are noteworthy.

The spiritual struggles of ultimate meaning, divine struggle, morality, and doubt contributed independently to caregiver distress and growth. Ultimate meaning struggles remained a strong predictor of depressive symptoms. This finding reinforces the seriousness of ultimate meaning struggles for believers and atheists alike (Sedlar et al., 2018; Wilt et al., 2018). For caregivers, their quests for deep meaning may be uniquely challenging and laden with obstacles, given their limited personal time (Kasper, Freedman, Spillman, & Wolff, 2015) and emotional resources (Alzheimer's Association, 2017) to devote to the search. Witnessing the gradual decline of a loved one can also trigger new existential questions related to ultimate purpose and futility.

Divine struggles were a broader predictor of caregiver distress. It uniquely accounted for higher levels of caregiver burden and depression. As such, divine struggles seem to have a similar function in both religious family caregivers (Shah et al., 2002) and less religious individuals represented in this study. Indeed, some atheists and agnostics have reported past feelings of anger toward God and could generate anger towards a hypothetical God when describing an incident that involved suffering (Exline, Park, Smyth, & Carey, 2011). The notion of a Higher Power is widely ingrained in American culture. Caregiving could foreseeably challenge one's core assumptions about a Higher Power and shake efforts to reconcile a loving, protective God with pain and suffering (i.e., theodicy) for better or worse.

Unlike divine struggles, moral struggles seemed uniformly limiting for caregivers. They contributed to greater perceived burden and less personal growth. Caregivers with moral struggles may be placing undue pressure upon themselves and casting self-judgments for perceived failings or mistakes. In particular, moral perfectionism can perpetuate difficulties in drawing boundaries in caregiving and accepting one's human limitations. Our findings are

consonant with previous research using more heterogeneous samples of believers (Abu-Raiya et al., 2015) and non-believers (Sedlar et al., 2018). Although our less religious sample reported low levels of moral struggles, their occurrence in caregiving may forecast complications and stunted growth.

Interestingly, religious doubt-related struggles predicted lower levels of depression when other struggle types were controlled. In other words, the positive bivariate association between doubt and depression was reversed in the regression model. This reversal phenomenon for doubt struggles has previously been observed in Exline et al. (2014), where doubt predicted less depression, less anger, and more life satisfaction. That we were able to replicate this reversal strengthens the notion that religious doubt can be healthy under certain conditions. Although our sample of caregivers was less religious, such individuals often take a quest orientation in search of deeper truths (Batson et al., 1993). People who have a quest orientation prioritize the active pursuit of existential questions, even when answers are recognized as complex, changing, and perhaps never fully knowable (Batson & Schoenrade, 1991). This orientation has been linked with outcomes such as cognitive complexity, moral reasoning, tolerance, and compassion that seem relevant to caregiving work (Batson, Eidelman, Higley, & Russell, 2001; Batson & Schoenrade, 1991).

It is clear that family caregivers with spiritual struggles would benefit from spiritually integrated psychotherapy. Because these types of struggles function differentially, practitioners are encouraged to conduct a thorough spiritual assessment that probes into whether people are experiencing spiritual struggles and, if so, what kinds (Pargament, 2007). Once identified, struggles of ultimate meaning may be particularly well-suited for meaning therapy, which addresses existential concerns in a manner that is holistic, spiritual, relational, multicultural, and narrative (Wong, 2010). Meaning therapy is rooted in Viktor Frankl's logotherapy and incorporates components from cognitive behavioral therapy and positive psychology. Similarly, Neimeyer's (2000) grief therapy would facilitate caregivers' meaning reconstruction throughout and beyond their caregiving experience. Divine struggles can also be effectively addressed through lamentations, which can help some people feel closer to God (Snow, 2012). Moral struggles in caregivers may be alleviated by cultivating self-compassion (Smeets, Neff, Alberts, & Peters, 2014). Several evaluations of programs designed to help people experiencing spiritual struggles have shown promising results (e.g., Ano, Pargament, Wong, & Pomerleau, 2017; Bowland, Edmond, & Fallot, 2012; Gear, Krumrei, & Pargament, 2009; Pearce & Koenig, 2016). Given the danger of prolonged spiritual struggles, addressing the spiritual concerns of caregivers is a top priority.

Limitations and Future Directions

This study has several limitations. Our design was cross-sectional, such that inferences about the direction of causality are supported only in theory for this population. Longitudinal research is needed to establish whether spiritual struggles impact caregiver wellbeing, whether lower levels of caregiver wellbeing triggers spiritual struggles, or whether the struggles and wellbeing work in reciprocal fashion (see Pargament & Lomax, 2013). Nevertheless, our findings are congruent with numerous longitudinal studies that have substantiated the adverse impact of prolonged spiritual struggles on psychological health (e.g., Ahles, Mezulis, & Hudson, 2016; Currier, McDermott, McCormick, Churchwell, & Milkeris, 2018; Exline, Krause, & Broer, 2016; García, Cova, Páez, & Miranda, 2018; Park & Cho, 2017; Szczesniak, Zou, Stamper, & Grossoehme, 2017).

Furthermore, our findings were based on caregivers' self-report. Inviting reports from secondary caregivers about the primary caregivers' wellbeing may have strengthened our conclusions. Yet, given that participants responded anonymously, impression management was likely curtailed. We also attempted to reduce demand characteristics by presenting measures of the dependent variables first in the survey.

Another limitation was the non-random, online sampling of caregivers. Self-selection bias may have yielded a unique sample of individuals who could access the internet and possessed a degree of internet fluency, along with the time to participate in research. Thus, the generalizability of our findings to the entire population of dementia family caregivers is limited. Nonetheless, spiritual struggles of ultimate meaning, morality, and the divine were observed and predicted psychological adjustment in modestly religious caregivers.

With regard to future research, it would be important to identify factors that buffer the effects of spiritual struggles on poorer well-being (e.g., Abu-Raiya, Pargament, & Krause, 2016; Saritoprak, Exline, & Stauner, 2018). For example, Abu-Raiya et al. (2016) found that the relations between spiritual struggles and distress were moderated by religious commitment, life sanctification, religious support, and religious hope. Such moderators could interact differently depending on the stressor as well as the type of struggle, providing many avenues for exploration in the domain of family caregiving.

Conclusion

This study provided a snapshot into the spiritual concerns of family caregivers. We adopted a granular approach to spiritual struggles, exploring their relevance and function to caregiver wellbeing by type. Spiritual struggles of meaning, "Maker," and morality had distinct patterns of association with caregiver burden, depressive symptoms, and personal growth. Ultimate meaning struggles was a relatively strong predictor of depression. Divine struggles predicted both burden and depressive symptoms. Moral struggles related to more burden and less growth. As a whole, spiritual struggles seem to be more consistently linked to distress than growth. Thus, growth following spiritual struggles does not appear to be a given; practitioners should be careful of sentimentalizing spiritual struggles and assuming that they will inevitably lead to positive transformations. Given their potential for harm in this under-resourced population, it is critical to develop and apply spiritually integrated interventions that recognize the distinctive implications of ultimate meaning, divine, and moral struggles for caregiver wellbeing.

References

Abu-Raiya, H., Pargament, K. I., & Krause, N. (2016). Religion as problem, religion as solution: Religious buffers of the links between religious/spiritual struggles and well-being/mental health. *Quality of Life Research*, *25*(5), 1265-1274. https://doi.org/10.1007/s11136-015-1163-8

Abu-Raiya, H., Pargament, K. I., Krause, N., & Ironson, G. (2015). Robust links between religious/spiritual struggles, psychological distress, and well-being in a national sample of American adults. *American Journal of Orthopsychiatry*, *85*(6), 565-575. https://doi.org/10.1037/ort0000084

Ahles, J. J., Mezulis, A. H., & Hudson, M. R. (2016). Religious coping as a moderator of the relationship between stress and depressive symptoms. *Psychology of Religion and Spirituality*, *8*(3), 228-234. https://doi.org/10.1037/rel0000039

Albinsson, L., & Strang, P. (2004). Existential concerns of families of late stage dementia patients: Questions of freedom, choices, isolation, death, and meaning. *Journal of Palliative Medicine*, *6*(2), 225-235. https://doi.org/10.1089/109662103764978470

Allport, G. W. (1950). *The individual and his religion*. New York, NY: Macmillan.

Alzheimer's Association. (2017). 2017 Alzheimer's disease facts and figures. *Alzheimer's & Dementia*, *13*(4), 325-373. https://doi.org/10.1016/j.jalz.2017.02.001

Ano, G. G., Pargament, K. I., Wong, S., & Pomerleau, J. (2017). From vice to virtue: Evaluating a manualized intervention for moral spiritual struggles. *Spirituality in Clinical Practice*, *4*(2), 129-144. https://doi.org/10.1037/scp0000128

Ano, G. G., & Vasconcelles, E. B. (2005). Religious coping and psychological adjustment to stress: A meta-analysis. *Journal of Clinical Psychology*, *61*(4), 461-480. https://doi.org/10.1002/jclp.20049

Bass, D. M., Noelker, L. S., & McCarthy, C. A. (1999). The influence of formal and informal helpers on primary caregivers' perceptions of quality of care. *Journal of Applied Gerontology*, *18*(2), 177-199. https://doi.org/9443/10.1177/073346489901800204

Batson, C. D., Eidelman, S. H., Higley, S. L., & Russell, S. A. (2001). "And who is my neighbor?" II: Quest religion as a source of universal compassion. *Journal for the Scientific Study of Religion*, *40*(1), 39-50. https://doi.org/10.1111/0021-8294.00036

Batson, C. D., & Schoenrade, P. A. (1991). Measuring religion as quest: 1) Validity concerns. *Journal for the Scientific Study of Religion*, *30*(4), 416-429. https://doi.org/10.2307/1387277

Batson, C. D., Schoenrade, P., & Ventis, W. L. (1993). *Religion and the individual: A social-psychological perspective*. New York, NY: Oxford University Press.

Bédard, M., Molloy, D. W., Squire, L., Dubois, S., Lever, J. A., & O'Donnell, M. (2001). The Zarit Burden interview a new short version and screening version. *The Gerontologist*, *41(*5), 652-657. Retrieved from www.ncbi.nlm.nih.gov/pubmed/11574710

Bowerman, B. L., & O'Connell, R. T. (1990). *Linear statistical models: An applied approach*. Monterey County, CA: Brooks/Cole.

Bowland, S., Edmond, T., & Fallot, R. D. (2012). Evaluation of a spiritually focused intervention with older trauma survivors. *Social Work*, *57*(1), 73-82. https://doi.org/10.1093/sw/swr001

Cowchock, F. S., Lasker, J. N., Toedter, L. J., Skumanich, S. A., & Koenig, H. G. (2010). Religious beliefs affect grieving after pregnancy loss. *Journal of Religion and Health*, *49*(4), 485-497. https://doi.org/10.1007/s10943-009-9277-3

Currier, J. M., McDermott, R. C., McCormick, W. H., Churchwell, M. C., & Milkeris, L. (2018). Exploring cross-lagged associations between spiritual struggles and risk for suicidal behavior in a community sample of military veterans. *Journal of Affective Disorders*, *230*(1), 93-100. https://doi.org/10.1016/j.jad.2018.01.009

Desai, K. M., & Pargament, K. I. (2015). Predictors of growth and decline following spiritual struggles. *The International Journal for the Psychology of Religion*, *25*(1), 42-56. https://doi.org/10.1080/10508619.2013.847697

Ellison, C. G., & Lee, J. (2010). Spiritual struggles and psychological distress: Is there a dark side of religion? *Social Indicators Research*, *98*(3), 501-517. https://doi.org/10.1007/s11205-009-9553-3

Ellison, C. G., Zhang, W., Krause, N., & Marcum, J. P. (2009). Does negative interaction in the church increase psychological distress? Longitudinal findings from the Presbyterian

panel survey. *Sociology of Religion*, *70*(4), 409-431. https://doi.org/10.1093/socrel/srp062

Etters, L., Goodall, D., & Harrison, B. E. (2008). Caregiver burden among dementia patient caregivers: A review of the literature. *Journal of the American Academy of Nurse Practitioners*, *20*(8), 423-428. https://doi.org/10.1111/j.1745-7599.2008.00342.x

Exline, J., & Grubbs, J. (2011). "If I tell others about my anger toward God, how will they respond?" Predictors, associated behaviors, and outcomes in an adult sample. *Journal of Psychology and Theology*, *39*(4), 304-315. https://doi.org/10.1177/009164711103900402

Exline, J. J., Krause, S. J., & Broer, K. A. (2016). Spiritual struggle among patients seeking treatment for chronic headaches: Anger and protest behaviors toward God. *Journal of Religion and Health*, *55*(5), 1729-1747. https://doi.org/10.1007/s10943-016-0259-y

Exline, J. J., Pargament, K. I., Grubbs, J. B., & Yali, A. M. (2014). The Religious and Spiritual Struggles Scale: Development and initial validation. *Psychology of Religion and Spirituality*, *6*(3), 208-222. https://doi.org/10.1037/a0036465

Exline, J. J., Park, C. L., Smyth, J. M., & Carey, M. P. (2011). Anger toward God: Social-cognitive predictors, prevalence, and links with adjustment to bereavement and cancer. *Journal of Personality and Social Psychology*, *100*(1), 129-148. https://doi.org/10.1037/a0021716

Exline, J. J., & Rose, E. (2005). Religious and spiritual struggles. In R. F. Paloutzian, & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (2nd ed., pp. 380-398). New York, NY: Guilford Press.

Fowler, J. W. (1981). *Stages of faith: The psychology of human development and the quest for meaning.* San Francisco, CA: Harper & Row.

Gall, T. L., Charbonneau, C., & Florack, P. (2011). The relationship between religious/spiritual factors and perceived growth following a diagnosis of breast cancer. *Psychology & Health*, *26*(3), 287-305. https://doi.org/10.1080/08870440903411013

Galek, K., Krause, N., Ellison, C. G., Kudler, T., & Flannelly, K. J. (2007). Religious doubt and mental health across the lifespan. *Journal of Adult Development*, *14*(1-2), 16-25. https://doi.org/10.1007/s10804-007-9027-2

García, F. E., Cova, F., Páez, D., & Miranda, F. (2018). Brooding as moderator of depressive symptoms after a work accident: A longitudinal study. *Scandinavian Journal of Psychology*, *59*(2), 236-242. https://doi.org/10.1111/sjop.12433

Gear, M. R., Krumrei, E. J., & Pargament, K. I. (2009). Development of a spiritually-sensitive intervention for college students experiencing spiritual struggles: Winding road. *Journal of College and Character*, *10*(4). https://doi.org/10.2202/1940-1639.1048

Hebert, R. S., Dang, Q., & Schulz, R. (2007). Religious beliefs and practices are associated with better mental health in family caregivers of patients with dementia: Findings from the REACH study. *The American Journal of Geriatric Psychiatry*, *15*(4), 292-300. https://doi.org/10.1097/01.JGP.0000247160.11769.ab

Herrera, A. P., Lee, J. W., Nanyonjo, R. D., Laufman, L. E., & Torres-Vigil, I. (2009). Religious coping and caregiver well-being in Mexican-American families. *Aging & Mental Health*, *13*(1), 84-91. https://doi.org/10.1080/13607860802154507

Higginson, I. J., Gao, W., Jackson, D., Murray, J., & Harding, R. (2010). Short-form Zarit Caregiver Burden Interviews were valid in advanced conditions. *Journal of Clinical Epidemiology*, *63*(5), 535-542. https://doi.org/10.1016/j.jclinepi.2009.06.014

Huang, B., Ai, A. L., Lemieux, C. M., & Tice, T. N. (2011). Modeling the post-9/11 meaning-laden paradox: From deep connection and deep struggle to posttraumatic stress and growth. *Archive for the Psychology of Religion*, *33*(2), 173-204. https://doi.org/10.1163/157361211X575736

Kasper, J., Freedman, V., Spillman, B., & Wolff, J. (2015). The disproportionate impact of dementia on family and unpaid caregiving to older adults. *Health Affairs*, *34*(10), 1642-1649. https://doi.org/10.1377/hlthaff.2015.0536

Kohout, F. J., Berkman, L. F., Evans, D. A., & Cornoni-Huntley, J. (1993). Two shorter forms of the CES-D depression symptoms index. *Journal of Aging and Health*, *5*(2), 179-193. https://doi.org/10.1177/089826439300500202

Krause, N., Chatters, L. M., Meltzer, T., & Morgan, D. L. (2000). Negative interaction in the church: Insights from focus groups with older adults. *Review of Religious Research*, *41*(4), 510-533. https://doi.org/10.2307/3512318

Krause, N., Pargament, K. I., Hill, P. C., Wong, S., & Ironson, G. (2017). Exploring the relationships among age, spiritual struggles, and health. *Journal of Religion, Spirituality & Aging*, *29*(4), 266-285. https://doi.org/10.1080/15528030.2017.1285844

Krause, N., & Wulff, K. M. (2004). Religious doubt and health: Exploring the potential dark side of religion. *Sociology of Religion*, *65*(1), 35-56. https://doi.org/10.2307/3712506

Krumrei, E. J., Mahoney, A., & Pargament, K. I. (2011). Spiritual stress and coping model of divorce: A longitudinal study. *Journal of Family Psychology*, *25*(6), 973-985. https://doi.org/10.1037/a0025879

Lewis, A. R., Djupe, P. A., Mockabee, S. T., & Wu, J. S.-Y. (2015). The (non) religion of Mechanical Turk workers. *Journal for the Scientific Study of Religion*, *54*(2), 419-428. https://doi.org/10.1111/jssr.12184

Mahoney, A., Pargament, K. I., Jewell, T., Swank, A. B., Scott, E., Emery, E., & Rye, M. (1999). Marriage and the spiritual realm: The role of proximal and distal religious constructs in marital functioning. *Journal of Family Psychology*, *13*(3), 321-338. https://doi.org/10.1037/0893-3200.13.3.321

Menard, S. (1995). *Applied logistic regression analysis.* Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-106. Thousand Oaks, CA: Sage.

Myers, R. (1990). *Classical and modern regression with applications* (2nd ed.). Boston, MA: Duxbury.

Neimeyer, R. A. (2000). Searching for the meaning of meaning: Grief therapy and the process of reconstruction. *Death Studies*, *24*(6), 541-558. https://doi.org/10.1080/07481180050121480

Ornstein, K., & Gaugler, J. (2012). The problem with "problem behaviors": A systematic review of the association between individual patient behavioral and psychological symptoms and caregiver depression and burden within the dementia patient-caregiver dyad. *International Psychogeriatrics*, *24*(10), 1536-1552. https://doi.org/10.1017/S1041610212000737

O'Rourke, N., & Tuokko, H. A. (2003). Psychometric properties of an abridged version of the Zarit Burden Interview within a representative Canadian caregiver sample. *The Gerontologist*, *43*(1), 121-127. https://doi.org/10.1093/geront/43.1.121

Pargament, K. I. (1997). *The psychology of religion and coping: Theory, research, practice.* New York, NY: Guilford Press.

Pargament, K. I. (2007). *Spiritually integrated psychotherapy: Understanding and addressing the sacred*. New York, NY: Guilford Press.

Pargament, K. I., Koenig, H. G., Tarakeshwar, N., & Hahn, J. (2004). Religious coping methods as predictors of psychological, physical and spiritual outcomes among medically ill elderly patients: A two-year longitudinal study. *Journal of Health Psychology*, *9*(6), 713-730. https://doi.org/10.1177/1359105304045366

Pargament, K. I., & Lomax, J. W. (2013). Understanding and addressing religion among people with mental illness. *World Psychiatry*, *12*(1), 26-32. https://doi.org/10.1002/wps.20005

Pargament, K. I., Lomax, J. W., McGee, J. S., & Fang, Q. (2014). Sacred moments in psychotherapy from the perspectives of mental health providers and clients: Prevalence, predictors, and consequences. *Spirituality in Clinical Practice*, *1*(4), 248-262. https://doi.org/10.1037/scp0000043

Pargament, K. I., Murray-Swank, N. A., Magyar, G. M., & Ano, G. G. (2005). Spiritual struggle: A phenomenon of interest to psychology and religion. In W.R. Miller, & H.D. Delaney (Eds.), *Judeo-Christian perspectives on psychology: Human nature, motivation, and change* (pp. 245-268). Washington, DC: American Psychological Association.

Park, C. L., & Cho, D. (2017). Spiritual well-being and spiritual distress predict adjustment in adolescent and young adult cancer survivors: Spirituality in adolescent/young adult survivors. *Psycho-Oncology*, *26*(9), 1293-1300. https://doi.org/10.1002/pon.4145

Park, C. L., Wortmann, J. H., & Edmondson, D. (2011). Religious struggle as a predictor of subsequent mental and physical well-being in advanced heart failure patients. *Journal of Behavioral Medicine*, *34*(6), 426-436. https://doi.org/10.1007/s10865-011-9315-y

Peacock, S., Forbes, D., Markle-Reid, M., Hawranik, P., Morgan, D., Jansen, L. … & Henderson, S. R. (2010). The positive aspects of the caregiving journey with dementia: Using a strengths-based perspective to reveal opportunities. *Journal of Applied Gerontology*, *29*(5), 640-659. https://doi.org/10.1177/0733464809341471

Pearce, M., & Koenig, H. (2016). Spiritual struggles and religious cognitive behavioral therapy: A randomized clinical trial in those with depression and chronic medical illness. *Journal of Psychology and Theology*, *44*(1), 3-15. https://doi.org/10.1177/009164711604400101

Pearlin, L. I., Mullan, J. T., Semple, S. J., & Skaff, M. M. (1990). Caregiving and the stress process: An overview of concepts and their measures. *The Gerontologist*, *30*(5), 583-594. https://doi.org/10.1093/geront/30.5.583

Pew Research Center. (2015, May). *Religious landscape survey.* Retrieved from http://www.pewforum.org/religious-landscape-study/

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, *1*(3), 385-401. https://doi.org/10.1177/014662167700100306

Romero-Moreno, R., Losada, A., Marquez, M., Laidlaw, K., Fernandez-Fernandez, V., Nogales-Gonzalez, C., & Lopez, J. (2014). Leisure, gender, and kinship in dementia caregiving: Psychological vulnerability of caregiving daughters with feelings of guilt. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *69*(4), 502-513. https://doi.org/10.1093/geronb/gbt027

Sallim, A. B., Sayampanathan, A. A., Cuttilan, A., & Chun-Man Ho, R. (2015). Prevalence of mental health disorders among caregivers of patients with Alzheimer disease. *Journal of the American Medical Directors Association*, *16*(12), 1034-1041. https://doi.org/10.1016/j.jamda.2015.09.007

Sanders, S. (2005). Is the glass half empty or half full? Reflections on strain and gain in caregivers of individuals with Alzheimer's disease. *Social Work in Health Care*, *40*(3), 57-73. https://doi.org/10.1300/J010v40n03_04

Saritoprak, S., Exline, J., & Stauner, N. (2018). Spiritual jihad among US Muslims: Preliminary measurement and associations with well-being and growth. *Religions*, *9*(5), 158. https://doi.org/10.3390/rel9050158

Sedlar, A. E., Stauner, N., Pargament, K. I., Exline, J. J., Grubbs, J. B., & Bradley, D. F. (2018). Spiritual struggles among atheists: Links to psychological distress and well-being. *Religions*, *9*(8), 242. https://doi.org/10.3390/rel9080242

Shah, A. A., Snow, A. L., & Kunik, M. E. (2002). Spiritual and religious coping in caregivers of patients with Alzheimer's disease. *Clinical Gerontologist*, *24*(3-4), 127-136. https://doi.org/10.1300/J018v24n03_11

Smeets, E., Neff, K., Alberts, H., & Peters, M. (2014). Meeting suffering with kindness: Effects of a brief self-compassion intervention for female college students. *Journal of Clinical Psychology*, *70*(9), 794-807. https://doi.org/10.1002/jclp.22076

Smith, T. B., McCullough, M. E., & Poll, J. (2003). Religiousness and depression: Evidence for a main effect and the moderating influence of stressful life events. *Psychological Bulletin*, *129*(4), 614-636. https://doi.org/10.1037/0033-2909.129.4.614

Snow, K. N. (2012). *Resolving anger toward God: Lament as an avenue toward attachment* (Psy.D.). George Fox University, Ann Arbor. https://doi.org/10.1177/009164711103900204

Stauner, N., Exline, J., Grubbs, J., Pargament, K., Bradley, D., & Uzdavines, A. (2016). Bifactor models of religious and spiritual struggles: Distinct from religiousness and distress. *Religions*, *7*(6), 68. https://doi.org/10.3390/rel7060068

Stauner, N., Exline, J. J., & Pargament, K. I. (2016). Religious and spiritual struggles as concerns for health and wellbeing. *Horizonte*, *14*(41), 48-75. https://doi.org/10.5752/P.2175-5841.2016v14n41p48

Steptoe, A., Deaton, A., & Stone, A. A. (2015). Subjective wellbeing, health, and ageing. *The Lancet*, *385*(9968), 640-648. https://doi.org/10.1016/S0140-6736(13)61489-0

Szczesniak, R. D., Zou, Y., Stamper, S. M., & Grossoehme, D. H. (2017). Spiritual struggle in parents of children with cystic fibrosis increases odds of depression. *Depression Research and Treatment*, *2017*(5670651). https://doi.org/10.1155/2017/5670651

Tillich, P. (1957). *Dynamics of faith*. New York, NY: Harper Torchbooks.

Wilt, J. A., Stauner, N., Lindberg, M. J., Grubbs, J. B., Exline, J. J., & Pargament, K. I. (2018). Struggle with ultimate meaning: Nuanced associations with search for meaning, presence of meaning, and mental health. *The Journal of Positive Psychology*, *13*(3), 240-251. https://doi.org/10.1080/17439760.2017.1279208

Winter, U., Hauri, D., Huber, S., Jenewein, J., Schnyder, U., & Kraemer, B. (2009). The psychological outcome of religious coping with stressful life events in a swiss sample of church attendees. *Psychotherapy and Psychosomatics*, *78*(4), 240-244. https://doi.org/10.1159/000219523

Wong, P. T. P. (2008). Meaning management theory and death acceptance. In A. Tomer, E. Grafton, & P. T. P. Wong (Eds.), *Existential and spiritual issues in death attitudes* (pp. 65-88). Mahwah, NJ: Erlbaum.

Wong, P. T. P. (2010). Meaning therapy: An integrative and positive existential psychotherapy. *Journal of Contemporary Psychotherapy*, *40*(2), 85-93. https://doi.org/10.1007/s10879-009-9132-6

Wong, S., Waite, T., Wasson, R. S., Artschwager, A., Pargament, K. I., & O'Brien, W. H. (2018, August). *Demonization, desecration, and the 2016 U.S. presidential election: The role of negative spiritual appraisals on post-election psychological adjustment.* Paper presented at the Association of Contextual Behavioral Science 16th Annual World Conference, Montreal, Quebec, Canada.

World Alzheimer Report. (2015). *The global impact of dementia: An analysis of prevalence, incidence, cost and trends*. London, UK: Alzheimer's Disease International.

Zarit, S. H., Orr, N. K., & Zarit, J. M. (1985). *Families under stress: Caring for the patient with Alzheimer's disease and related disorders.* New York, NY: University Press.