

From Caregiving to Bereavement:
Trajectories of Depressive Symptoms among Wife and Daughter Caregivers

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Abstract

This study examined the trajectory of depressive symptoms for wife and daughter caregivers during the transition from caregiving to bereavement, and investigated whether the trajectory varies by caregivers' caregiving stress, social support, and background characteristics. Hierarchical linear modeling was used to analyze four-wave longitudinal data collected from 157 wife and daughter caregivers who lost elderly relatives to death. Results show that on average, caregivers experience increasing depressive symptoms as their care recipients are closer to death and decreasing symptoms after. Care recipients' problematic behavior, caregivers' feeling of overload, kinship, and income moderate the change in depressive symptoms during the transition. Services to support caregivers should target specific groups of caregivers, based on caregiving experience and background characteristics, at times when they are most in need.

From Caregiving to Bereavement:

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Caregiving and bereavement are often inter-related, as most deaths of older persons in America occur after a period of chronic illness, disability, and family caregiving (Bass, Bowman, & Noelker, 1991; Schulz, Newsom, Fleissner, Decamp, & Nieboer, 1997). The literature, however, tends to treat these events separately. Studies of family caregiving have largely focused on the time when caregiving is active, whereas bereavement studies usually focus on adjustment after the death (Schulz et al., 2001). Rarely is the same sample followed from caregiving through bereavement. In this study, caregiving and bereavement are viewed as an ongoing process that exists in a chronic context (Pearlin, 1989). The study has two aims: to examine how depressive symptoms of wife and daughter caregivers change in transitioning from caregiving to bereavement; and to investigate whether caregivers' trajectories of depressive symptoms during this transition vary by their pre-death caregiving stress and social support, and their kinship relationship with care recipients and income.

Bereavement Models

Death of a close relative is one of the most stressful life events (Holmes & Rahe, 1967). Studies of the general bereaved population, however, tend to concur that the mental health effect of bereavement attenuates over time; few bereaved persons experience prolonged adverse effects (Norris & Murrell, 1990). For those who have cared for the deceased, two models regarding their adjustment process have been proposed, both based on the stress and coping paradigm (Bass & Bowman, 1990; Schulz et al., 1997). The *depletion model* suggests that caregiving is a chronic stressor that depletes personal and social resources. Therefore in

facing another stressor (bereavement), caregivers are not equipped to cope and vulnerable to negative consequences. The *relief model* also asserts that caregiving is stressful; however, it proposes that death of care recipients provides stress relief to caregivers and allows them to reengage in other roles and activities, which ease their adjustment to bereavement.

Empirical studies on caregivers' change in mental health following their care recipients' death have been inconclusive. Some found that caregivers do not become less depressed after bereavement; rather, their pre-death levels of depression continue well into the post-loss period, with a trajectory similar to that of continuing caregivers (Bodnar & Kiecolt-Glaser, 1994; Seltzer & Li, 2000). Others found that caregivers' depressive symptoms increase in the months immediately after the death, then decline at varying rates over time (Chentsova-Dutton et al., 2002; Mullan, 1992; Schulz et al., 2003).

The different trajectories of depressive symptoms found in caregivers after the death of their care recipients might in part be due to study differences in timing, interval, duration, and number of observation. Caregivers' experience of distress is likely to vary during the time before and after care recipients die. The direction and extent of change therefore may depend on when pre- and post-loss assessments are conducted. The interval between assessments and the duration of observation matter because too long an interval may miss changes that are transient, whereas too short an observation period cannot detect long-term changes. Finally, using two time points to analyze change assumes linearity, which may not capture the dynamics of caregiver depression. Thus, a primary aim of this study is to examine changes in caregivers' depressive symptoms during the bereavement transition employing a design and methodology that overcomes limitations of prior studies.

Diversity Within Caregivers

Caregivers' response to bereavement is likely to vary, given their variation in responding to caregiving (Pinquart & Sorensen, 2003). Based on the caregiving stress process model proposed by Pearlin and colleagues (1990), this study examines the effects of three sets of factors (caregiving stress, social support, and caregiver background characteristics) on caregivers' trajectories of depressive symptoms during the transition from caregiving to bereavement.

Caregiving Stress

Caregiving stress refers to conditions, experiences, and activities arising from caregiving that are problematic (Pearlin et al., 1990). According to Pearlin et al.'s model, caregiving stress has both objective and subjective aspects. *Objective caregiving stress* refers to stressors that stem from care recipients' needs and the associated care demand, such as care recipients' problematic behavior and limitations in basic and instrumental activities of daily living (ADL/IADL; e.g., bathing, dressing, housekeeping). *Subjective caregiving stress* refers to caregivers' subjective experience of hardships in the caregiving role, such as feelings of overload and burden.

From the perspective of the relief model mentioned above, caregivers who experience high stress during caregiving should feel great relief upon exiting the caregiving role; hence, their mental health recovery should be faster than low-stress caregivers. On the contrary, the depletion model suggests that more intense stress during caregiving depletes more coping resources, so caregivers have more difficulties adapting to bereavement. Neither model specifies whether subjective and objective stress operate the same way.

Previous studies investigating the effects of caregiving stress on caregivers' bereavement adjustment have mostly focused on subjective stress, and the results are mixed. Schulz and colleagues (2001), for example, found that spouse caregivers reporting more strain associated with caregiving are more likely to improve in health risk behaviors and have no further increase of depressive symptoms following their spouse's death, compared to spouse caregivers with low strain and with spouse non-caregivers. Skaff et al. (1996) found that bereaved caregivers with higher levels of role captivity during caregiving have greater increase of mastery after their care recipients die. Bass and Bowman (1990), however, found that caregivers reporting more difficulties in caregiving also report more difficulties in bereavement. Bernard and Guarnaccia (2003) found that for husband (but not daughter) caregivers, greater pre-bereavement caregiver strain predicts worse bereavement adjustment. The latter two studies, however, did not control for caregivers' pre-death distress, which may confound their findings. Few studies have examined the effect of objective caregiving stress on bereavement adjustment, except Mullan (1992) who found that ADL assistance provided by caregivers predicts increased depressive symptoms of caregivers after their recipients' death.

Social Support

Social support has been conceptualized as a resource that has direct and indirect benefits to caregivers (Pearlin et al., 1990). Various dimensions of social support have been used to predict bereavement outcomes and well-being in the literature. Research consistently shows that perceived support, such as satisfaction with support, is the strongest predictor (Bass & Bowman, 1990; Krause, 2001). A prior study found that more satisfaction with the support received during caregiving predicts less difficulty experienced in bereavement by

caregivers, and that satisfaction with caregiving support is a better predictor than satisfaction with bereavement support for caregivers' bereavement adaptation (Bass et al., 1991).

Caregivers' Background Characteristics

It's been suggested that the influence of caregivers' key characteristics be threaded through the entire stress process (Pearlin et al., 1990). In this study, I examine two caregiver characteristics (kinship and income). Kinship matters because different role relationships involve different expectations, obligations, and identities. Wife and daughter caregivers, for instance, vary greatly in their obligation to care and the meaning of loss when their care recipients die. Wives should be more psychologically reactive to caregiving and bereavement than daughters because of the relative salience of the role of wife to women (Seltzer & Li, 2000).

Caregivers' income is an indicator of their socioeconomic status (SES). Prior research has shown that individuals with low SES are more susceptible to negative effects of caregiving (Roth, Haly, Owen, Clay, & Goode, 2001) and bereavement (Arbuckle & de Vries, 1995; Norris & Murrell, 1990), and caregivers with limited income are likely to decrease in mastery over time (Skaff et al., 1996).

Research Questions and Hypotheses

I ask two questions in this study:

1. How do depressive symptoms of wife and daughter caregivers change during the course of transitioning from caregiving to bereavement?

The relief and depletion models predict different patterns of change in caregiver depression following their care recipients' death, with the former suggesting a decline from high levels of depressive symptoms and the latter a continuation or elevation of previous

levels. Overall, the literature provides more support for the relief hypothesis (e.g., Mullan, 1992; Schulz et al., 2003). Changes in caregiver depression before the death are less clear (George, 2002). An increase in caregivers' depressive symptoms from about four months before to the time of the care recipients' death has been reported (Schulz et al., 2003). Hence, I expect the trajectory of caregivers' depressive symptoms during the course of caregiving and bereavement to be curvilinear, with symptoms increasing as care recipients are closer to death and decreasing thereafter.

2. How do objective and subjective caregiving stress, social support, kinship, and caregiver income affect caregivers' trajectories of depressive symptoms?

On the basis of the relief model and prior work (Schulz et al., 2001; Skaff et al., 1996), I hypothesize that caregivers who experience high levels of subjective caregiving stress have a greater sense of relief upon exiting the caregiving role, which leads to faster recovery, indicated by steeper decline in depressive symptoms. The literature does not provide enough information to specify a hypothesis regarding the effects of objective caregiving stress on caregivers' bereavement adjustment; therefore, this issue is an exploratory one in this study.

Social support has been found to ease the bereavement transition (e.g., Bass et al., 1991; Skaff et al., 1996). I hypothesize that more satisfaction with the support received during caregiving predicts faster decline in caregiver depression following the death. Wife caregivers are expected to experience more difficulties adjusting to bereavement (i.e., slower decline in depressive symptoms after the death) than daughter caregivers, because of the greater impact of bereavement on the identity and structure of life for wives. I also expect low-income caregivers to have more difficulties in this transition, based on previous research findings (Arbuckle & de Vries, 1995; Skaff et al., 1996).

METHODS

Sample

The caregivers included in this study were recruited for a longitudinal study of women and caregiving, Well-Being of Women (WBW; Figure 1). The WBW sample was a subset of a larger probability sample drawn by random-digit-dialing for the State of Wisconsin Bureau on Aging in 1991. The larger sample consisted of 2,250 persons aged 60 or older and 500 persons younger than age 60 who provided care to a relative aged 60 or older. In 1993, the WBW project staff telephoned all these persons to determine their current caregiving status. To insure a sufficiently large pool of caregivers, an additional 1,000 households were also contacted via random-digit dialing. If in the screening call, a wife or daughter was found to be providing care to a husband or parent due to his or her aging, illness, or disability, with at least one ADL/IADL, she was identified as a caregiver. (For details about the sample, see Seltzer & Li, 1996).

[Insert Figure 1 about here]

At baseline (Wave 1), 129 wife and 207 daughter caregivers were recruited to participate in the WBW study, representing 73.8% of the eligible women from the telephone screening. In addition, a sample of wife ($n = 119$) and daughter ($n = 86$) non-caregivers whose elderly relatives did not need care was recruited as comparison groups. Four waves of data were collected, with each wave about 18 months apart. In the first three waves, data were collected by interviewing the respondents in their homes plus self-administered questionnaires completed by respondents. At Wave 4, mail questionnaires were used, due to budget constraints. At each wave of data collection, the care recipient's condition was assessed. If the

care recipient was deceased, date of death was recorded and a modified set of data collection procedures was used. Data collection continued regardless of the status of the care recipient.

Among the 336 caregivers at Wave 1, 149 lost their care recipients due to death by Wave 4 and 60 were lost to follow-up (Figure 1). In addition, 8 non-caregivers at Wave 1 became caregivers at a later wave, prior to being bereaved. Hence, a total of 157 women experienced the transition from caregiving to bereavement during the 4-wave study period. These women constituted the sample for the present analysis.

The sample consisted of 53 wife and 104 daughter caregivers. Virtually all were White (96.2%). At baseline (Wave 1), they averaged 63.6 years old ($SD = 9.0$). Most had a high school or more education (83.4%). Their care recipients averaged 83.1 years old ($SD = 8.7$) at baseline, and were quite diverse in their reason for needing care, including dementia ($n = 31$), arthritis ($n = 21$), heart trouble ($n = 17$), asthma /emphysema ($n = 16$), stroke ($n = 15$), diabetes ($n = 7$), cancer ($n = 6$), blindness ($n = 6$), and other disease categories ($n < 6$ for each). About 20.2 % of the daughter caregivers cared for their fathers. The bereaved caregivers were comparable to the continuing caregivers and those who were lost to follow-up (no difference in Wave 1 measures of depressive symptoms, kinship, income, education, satisfaction with support, overload, burden, duration of care, dementia diagnosis and problematic behavior of care recipients). The bereaved caregivers, however, cared for elders with more ADL/IADL limitations and who were older, relative to continuing caregivers and those lost to follow-up.

Measures

Outcome variable was depressive symptoms, measured by the 20-item Center for Epidemiological Studies–Depression Scale (CES-D; Radloff, 1977). The CES-D asks respondents to report symptoms of depression in the previous week on a 4-point scale ranging

from rarely to most of the time. A scale score was computed, with higher scores indicating more depressive symptoms. Cronbach's alpha reliabilities of CES-D ranged from .85 to .88 throughout the 4 waves. Due to a skewed distribution, the variable was transformed (natural log of [1 + raw CES-D score]; 1 was added because some respondents scored 0 on CES-D).

Predictor variables included three sets—caregiving stress, social support, and caregiver background characteristics. Most predictors (except kinship) were measured at the wave before and closest to the death, which occurred .82 years (SD = .42) before the care recipients died, on average. As will be explained in the data analysis section, the sample varied in the number of measurement points before and after the death. Each respondent, however, had at least one assessment before the death, which made it possible to examine the effects of pre-death measures on changes in caregiver depression during the bereavement transition. Table 1 displays the ranges, means, standard deviations, Cronbach's alpha reliabilities, and correlations of all predictor variables.

[Insert Table 1 about here]

Caregiving stress included both objective and subjective stress. The former was indicated by four variables: care recipient's problematic behavior, limitations in ADL/IADL, dementia diagnosis, and duration of care. *Problematic behavior* was measured by a 14-item scale (e.g., trying to dress the wrong way, swearing or using foul language) (Pearlin et al., 1990). Caregivers rated each item from 0 (never) to 2 (usually). *ADL/IADL limitations* were measured by a modification of the Barthel Index (Mahoney & Barthel, 1965), which assesses care recipients' performance in 14 ADL/IADL areas. Caregivers rated each from 0 (independent) to 2 (not at all). The scale scores of problematic behavior and ADL/IADL limitations were the sum of their respective items.

Dementia diagnosis referred to whether the care recipient had Alzheimer's disease or other types of dementia (coded 1). Research shows that caring for older adults with dementia is more challenging (Ory, Hoffman, Yee, Tennstedt, & Schulz, 1999). *Duration of care* indicates the length of exposure to care-related stressors, measured by number of years that the caregiver had provided care to her care recipient before death.

Subjective caregiving stress was indicated by role overload and burden. *Overload* was assessed by a 4-item scale that asks about the caregivers' experience of being overwhelmed by care-related responsibilities, such as feeling exhausted at the end of the day and having more things to do than one can handle (Pearlin et al., 1990). Each item was rated from 1 (not at all) to 4 (completely). *Burden* was measured by the Zarit Burden Interview (Zarit, Reever, & Bach-Peterson, 1980), which assesses problems frequently faced by caregivers, including health, finances, and social life. Scale scores were computed for overload and burden, with higher scores indicating higher stress levels.

Social support was indicated by caregivers' satisfaction with the support received from their personal networks, assessed by a single item with 4 response categories (0 = completely dissatisfied to 3 = completely satisfied).

Caregiver background characteristics included kinship and income. *Kinship* was a dummy coded variable (wife = 1, daughter = 0). *Income* referred to total household income of the caregiver, measured in dollars. The income variable was transformed using natural log to reduce skew.

Data Analysis

Hierarchical linear modeling (HLM) based on maximum likelihood estimation was conducted, using the software developed by Raudenbush, Bryk, Cheong, and Congdon

(2000). The repeated measures of depressive symptoms were conceived as nested within individuals; thus the analysis of change had two levels: within-persons (level-1) and between-persons (level-2).

The HLM analysis proceeded in two stages. First, intra-individual variability in depressive symptoms over time was examined. In this study, *time* refers to the length of time before and since the death of the care recipient. It was created by subtracting the date of interview from the date of death, and was measured in years. Hence, a - sign of time indicated time before the death, 0 indicated the time at death, and a + sign indicated time since the death.

In the data set, each caregiver had 4 measurement points covering about 4.5 years (Waves 1 to 4), from before to after the care recipient's death. However, because care recipients died at different times during the study, the period of time covered by the sample can be 9 years, ranging from -4.5 years (care recipients died right before Wave 4) to +4.5 years (care recipients died right after Wave 1).

At the first stage analysis, three level-1 models, representing that caregivers' depressive symptoms (i) do not change over time (no time effect), (ii) change at a constant rate (linear time effect), and (iii) change at a rate that accelerates (or decelerates) over time (quadratic time effect), were compared, while constraining the level-2 model to be unconditional (i.e., no predictors). Likelihood ratio tests were used to determine the best model. This analysis would answer the first research question and identify the change parameters that best describe individual change in depressive symptoms over time.

Then, inter-individual differences in the trajectory of depressive symptoms were examined by modeling the individual change parameters as a function of the proposed

predictors at level-2. To improve estimation efficiency and construct a model that was parsimonious, each predictor variable was examined separately first; those with no significant correlation with any change parameters were dropped. All significant predictors from the separate analyses were then simultaneously entered to predict each individual change parameter; only significant predictors were retained in the final model.

Except kinship, all other study variables had missing data, with burden having the highest proportion (12.7% missing). Multiple imputation involving a regression approach and data augmentation algorithm was undertaken to impute these missing values, using the software developed by Schafer (1999). Three imputed data sets were analyzed. A single point estimate was obtained by averaging across the estimates from the three imputed data sets, and a formula was used to calculate the standard errors (Schafer & Olsen, 1998). An α level of $< .05$ was used for all statistical tests in this study.

RESULTS

Descriptive Findings

Table 2 displays the means and standard deviations of depressive symptoms at the four measurement points for all bereaved caregivers and for subgroups of caregivers who lost their care recipients at different waves, by kinship. Three observations are noted. First, the depression level of the bereaved sample was the lowest at Wave 4, when all had lost their care recipients. Their average depressive symptoms at Wave 4 were less than when they all were providing care (Wave 1). Second, caregivers' depression levels were the highest at the wave right after the care recipients' death (e.g., at Wave 2 for caregivers who lost their care recipients between Waves 1 and 2), and had a declining trend after the death. Third, wives had higher and more fluctuating depression levels across waves than daughters.

[Insert Table 2 about here]

For comparison, Table 2 (the bottom three rows) also presents depressive symptoms of continuing caregivers (WBW sample who continued to provide care throughout Waves 1 to 4). Note that depression levels of the continuing caregivers were relatively stable from Waves 1 to 4.

Individual and Mean Change of Depressive Symptoms

The first HLM analysis examined how depressive symptoms of the study sample changed during the course of caregiving and bereavement. Using likelihood ratio tests to compare three nested models: no time effect, linear and quadratic effects of time, respectively, the analysis suggests that quadratic change functions best describe intra-individual variation in depressive symptoms over time.

[Insert Table 3 about here]

Model A in Table 3 presents the estimated mean in quadratic change functions, and Figure 2 displays the mean depression trajectory of the sample. As shown, caregivers' depressive symptoms exhibited a curvilinear shape of change, increasing as their care recipients were closer to death and decreasing thereafter, which is consistent with the hypothesis.

[Insert Figure 2 about here]

Variation in Caregivers' Trajectories of Depressive Symptoms

The mean trajectory does not necessarily represent the trajectory of individual caregivers. Next, variation in the trajectory of depressive symptoms by caregivers' pre-death caregiving stress, social support, and background characteristics was examined. When each predictor variable was analyzed separately, ADL/IADL limitations and dementia had no

significant correlation with any individual change parameters; thus, they were omitted from subsequent analyses. The remaining variables were then entered simultaneously as predictors; duration of care became statistically insignificant and was dropped. Model B in Table 3 presents the final model.

Model B shows that at the time of the care recipients' death, caregivers who felt overloaded, burdened, were less satisfied with support received, and were wives of the care recipients had higher levels of depression. In addition, changes in depressive symptoms during the transition from caregiving to bereavement varied by care recipients' problematic behavior, caregivers' overload, kinship, and income. To illustrate their effects on caregivers' trajectories of depressive symptoms, Figures 2 and 3 display the adjusted change curves of depressive symptoms according to differences in problematic behavior, overload, kinship, and income.

[Insert Figure 3 about here]

Figure 2 shows that caregivers of recipients with more problematic behavior had higher depression levels than those who had cared for elders with fewer problematic behavior during caregiving, which continued into bereavement. Additionally, the change curves show that the former were less likely than the latter to decline in depressive symptoms after their care recipients died. Such findings suggest that caregivers who care for older persons with more problematic behavior are slower in mental health recovery during bereavement.

Caregivers who experienced high overload had steeper increase of depressive symptoms before their care recipients died, and a more rapid decline of symptoms following the death, compared to caregivers with low overload (Figure 2). This change pattern suggests

that caregivers who feel overloaded during caregiving are more likely to improve in mental health following their care recipients' death.

Wife and daughter caregivers had very different trajectories of depressive symptoms (Figure 3). Wife caregivers' depressive symptoms accelerated as their husbands were closer to death, and decelerated after the death. Daughters had lower levels of depression at all times and were relatively stable in depressive symptoms during the course of caregiving and bereavement. The interaction effects of kinship and other predictor variables were explored and found to be statistically insignificant.

Caregivers with high incomes were more likely to have a downward trajectory of depressive symptoms which began before their care recipients died and extended to after the death, whereas low-income caregivers were likely to increase in depressive symptoms during caregiving and their high levels of depression continued into bereavement (Figure 3). The longer the time since bereavement, the bigger the depression gap was between high and low-income caregivers.

DISCUSSION

This study shows that on average, wife and daughter caregivers experience increasing depressive symptoms as their care recipients are closer to death, and decreasing symptoms after their care recipients die. Such findings are consistent with that of Schulz et al. (2003) and suggest that the transition from caregiving to bereavement provides relief rather than poses mental health risks for caregivers.

Deviation from the average trajectory is evident, however. Care recipient's problematic behavior, caregiver's feeling of overload, kinship, and income were found to moderate caregivers' change of depressive symptoms during the bereavement transition. The

finding related to problematic behavior seems to support the depletion hypothesis. Prior research has shown that problematic behavior of care recipients has adverse effects on caregiver mental health, in part because they lead to an erosion of psychological and social resources (e.g., mastery, self-concept, social support; Aneshensel, Pearlin, Mullan, Zarit, & Whitlatch., 1995; Li, Seltzer, & Greenberg, 1999; Skaff & Pearlin, 1992). The diminishment of these resources may be the reason for the finding that caregivers of elders with more problematic behavior recover slower during bereavement. Such finding suggest that caregiving to elders with problematic behavior might have long-term negative effects on psychological well-being.

The finding related to overload, however, supports the relief model. While overload has been found to predict caregiver depression during active caregiving (Alspaugh, Stephens, Townsend, Zarit, & Greene, 1999); its adverse effects may be more role specific and limited to the time when one is an occupant of that role. Research shows that overload remains stable during caregiving, but decreases dramatically following care recipients' death (Aneshensel et al., 1995). The relief felt by caregivers might have therapeutic effects; for instance, it might evoke a new sense of control over their lives (Skaff et al., 1996). Caregivers who have felt more overloaded during caregiving may free up more time and energy to attend to neglected needs and roles after caregiving ends, which facilitates adaptation.

Wife caregivers had steeper decline of depressive symptoms than daughters following the death of their husband. Although this finding is unexpected, it is understandable considering the high depression level of wives before the death. Relief, however, does not mean freedom from grief (Skaff et al., 1996). Wife caregivers may experience competing feelings (grief and relief) upon the loss of their husband. Low-income caregivers are more

likely to endure high levels of depressive symptoms from before to after the loss of their care recipients. The vulnerability of low-income caregivers may be related to the fact that poverty itself is a chronic stressor that takes a toll on mental health, in addition to diminishing caregivers' coping capacity.

This study contributes to the literature in four significant ways. First, this study conceptualized caregiving and bereavement as an ongoing process and examined changes in caregivers' depressive symptoms in this process. Multiple measurement points spanning caregiving to bereavement were utilized and the analytic approach incorporated their information simultaneously in the same model rather than simply capturing changes between pairs of pre and post-loss measurements. Second, using the HLM approach, this study maximized the use of available data and examined the patterns of change in caregivers' depressive symptoms in a relatively long period of time. To my knowledge, this is the first study that has taken such a long view to understand the dynamics of caregivers' depressive symptoms during the bereavement transition. Third, the findings regarding problematic behavior and role overload have not been reported before. While future studies are needed to validate whether and understand why problematic behavior and overload have differential effects on caregivers' bereavement adjustment, research in this direction may shed light on our understanding of the long-term consequences of objective and subjective stress. Fourth, this study shows that social standing of the caregiver, including income and kinship, is relevant to caregivers' emotional adaptation during the bereavement transition. These findings illustrate the importance of social structural factors in psychological process.

The findings have practice implications. First, bereavement support services to caregivers should target vulnerable groups, including those with low incomes and those who

have cared for recipients with high levels of problematic behavior. Second, the year before care recipients die seems to be particularly distressing for caregivers. Services to help caregivers cope with the dying process may be needed. Third, some caregivers, including wife caregivers and caregivers who feel overloaded, have a great need for supportive services when they are active caregivers.

Limitations of this study include a virtually all White sample, relatively small sample size, and lack of a comparison group. The sample composition limits generalization of the findings to non-White populations. The limited sample size, coupled with the approach used to select predictors into the final model, warrant caution when interpreting the findings. Cross-validation of the findings on independent samples is needed. The lack of a comparison group makes it less clear whether the patterns and predictors of change found in this study are unique to caregivers and the bereavement transition (Amirkhanyan & Wolf, 2003). Also note that the care recipients in this sample had diverse diseases, which could affect caregivers' depression trajectory. The small number of care recipients in each disease category made it difficult to examine the effects of disease type in this study.

To conclude, a particularly important contribution of this study is that it describes a relatively long-term trajectory of caregivers' depressive symptoms during the transition from caregiving to bereavement, using prospective data and multiple measurement points. It shows that caregivers respond differently during the final stage of caregiving. Further research on individual differences in responding to the bereavement transition may illuminate the stress process and help to design interventions to support caregivers.

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Table 1. Ranges, Means, Standard Deviations, Cronbach's alphas, and Correlations of Predictor Variables (N = 157)

	1	2	3	4	5	6	7	8	Range	M (SD)	Cronbach's α
1. Problematic behavior	1								0-23	7.69 (4.54)	.80
2. ADL/IADL limitations	-.04	1							0-28	15.18 (7.36)	.87
3. Dementia	.27**	.19*	1						0-1	.22 (.42)	n.a.
4. Duration of care	.18*	.04	-.01	1					.67-35.61	8.31 (5.85)	n.a.
5. Overload	.10	.18*	.02	-.04	1				4-16	8.05 (3.17)	.81
6. Burden	.41**	.07	-.12	.08	.46**	1			16-55	31.87 (7.21)	.85
7. Satisfaction with support	.06	-.06	.10	.06	-.14	-.17*	1		0-3	2.57 (.62)	n.a.
8. Kinship	-.18*	-.08	-.06	-.20*	.12	-.09	.02	1	0-1	.34 (.47)	n.a.
9. Income (natural log)	-.13	-.04	.01	.01	-.09	-.10	.06	-.29**	8.44-11.46	10.27 (.75)	n.a.

Note. * $p < .05$; ** $p < .01$.
n.a. = not applicable.

Table 2. Descriptive Statistics of CES-D (raw score)

	Wave 1	Wave 2	Wave 3	Wave 4
Total Bereaved Sample (N = 157)	10.86 (9.78)	11.86 (10.86)	11.56 (10.84)	9.47 (9.59)
WC (n = 53)	13.36 (10.87)	16.37 (12.09)	15.95 (12.11)	11.06 (9.15)
DC (n = 104)	9.58 (8.98)	9.57 (9.36)	9.32 (9.42)	8.66 (9.18)
CR Died between Waves 1 and 2 (n = 63)	11.79 (10.37)	15.00 (12.48)	13.46 (13.22)	10.35 (10.78)
WC (n = 26)	15.93 (11.49)	20.01 (11.07)	18.06 (13.98)	11.85 (10.67)
DC (n = 37)	8.88 (7.44)	11.47 (11.59)	10.22 (11.68)	9.30 (10.66)
CR Died between Waves 2 and 3 (n = 52)	9.49 (8.91)	8.82 (8.04)	10.59 (9.37)	6.70 (6.42)
WC (n = 14)	8.57 (8.43)	12.84 (11.17)	14.65 (11.50)	5.72 (3.17)
DC (n = 38)	9.83 (9.16)	7.34 (5.91)	9.09 (7.98)	7.06 (7.27)
CR Died between Waves 3 and 4 (n = 42)	11.15 (9.93)	10.93 (9.09)	9.91 (7.97)	11.59 (9.10)
WC (n = 13)	13.37 (8.05)	12.87 (11.00)	13.15 (7.47)	15.26 (7.57)
DC (n = 29)	10.16 (10.63)	10.06 (9.48)	8.46 (7.87)	9.95 (9.35)
Total Continuing Caregivers (N = 127)	8.69 (7.55)	8.86 (7.53)	9.07 (8.34)	8.98 (7.06)
WC (n = 44)	9.37 (6.00)	10.35 (7.32)	9.74 (7.86)	9.20 (6.59)
DC (n = 83)	8.35 (8.23)	8.01 (7.56)	8.73 (8.60)	8.86 (7.33)

Note. Figures presented are means and (standard deviations).

CR = care recipients, WC = wife caregivers, DC = daughter caregivers

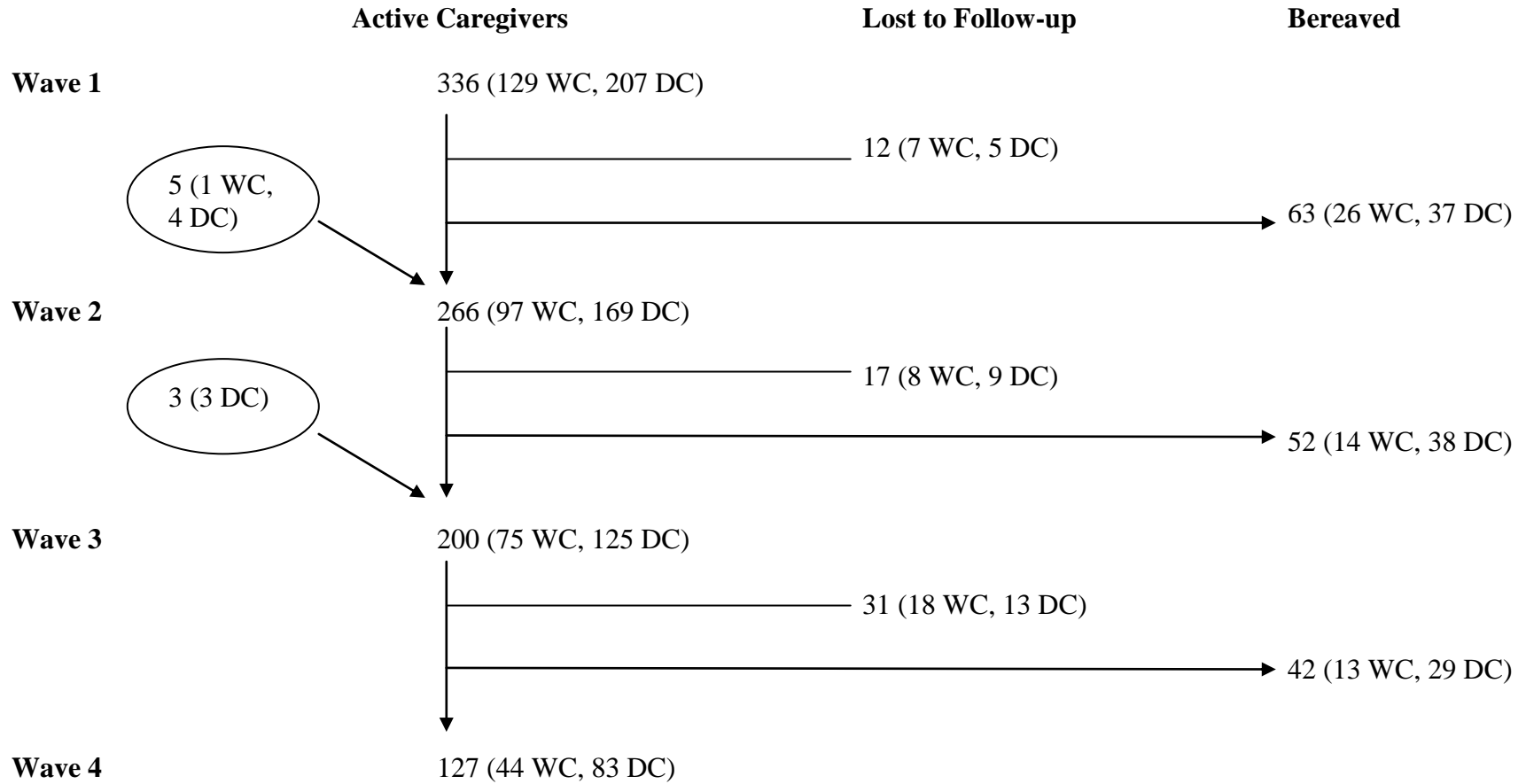
Table 3. HLM Estimation of Fixed Effects

	Model A (Mean trajectory)	Model B (Final model)
For depression status at death of care recipient		
Intercept	2.178 (.065)***	1.970 (.070)***
Problematic behavior	--	.011 (.014)
Overload	--	.065 (.019)***
Burden	--	.021 (.010)*
Satisfaction with support	--	-.341 (.073)***
Kinship	--	.609 (.108)***
Income	--	-.128 (.069)
For linear rate of change at death of care recipient		
Intercept	-.018 (.014)	-.010 (.017)
Problematic behavior	--	-.002 (.003)
Overload	--	-.006 (.005)
Kinship	--	-.011 (.034)
Income	--	-.063 (.024)*
For quadratic rate of change		
Intercept	-.012 (.005)*	-.005 (.007)
Problematic behavior	--	.002 (.001)*
Overload	--	-.004 (.002)*
Kinship	--	-.026 (.011)*
<i>Deviance (# of estimated parameters)</i>	<i>1330 (5)</i>	<i>1218 (18)</i>
<i>Likelihood ratio test [χ^2 (df)]</i>	--	<i>112 (13)***</i>

Note. Unstandardized regression coefficients and (standard errors) are presented. * $p < .05$; ** $p < .01$; *** $p < .001$.

a. Problematic behavior, overload, burden, satisfaction with support, and income were centered around sample mean.

Figure 1. Transition from Caregiving to Bereavement of the WBW Sample (Each wave about 18 months apart)



Note. a. ○ non-caregivers at baseline (Wave 1) who became caregivers prior to being bereaved.
 b. WC = wife caregivers, DC = daughter caregivers

Figure 2 Caregivers' Trajectories of Depressive Symptoms: Mean, by Problematic Behavior and Overload

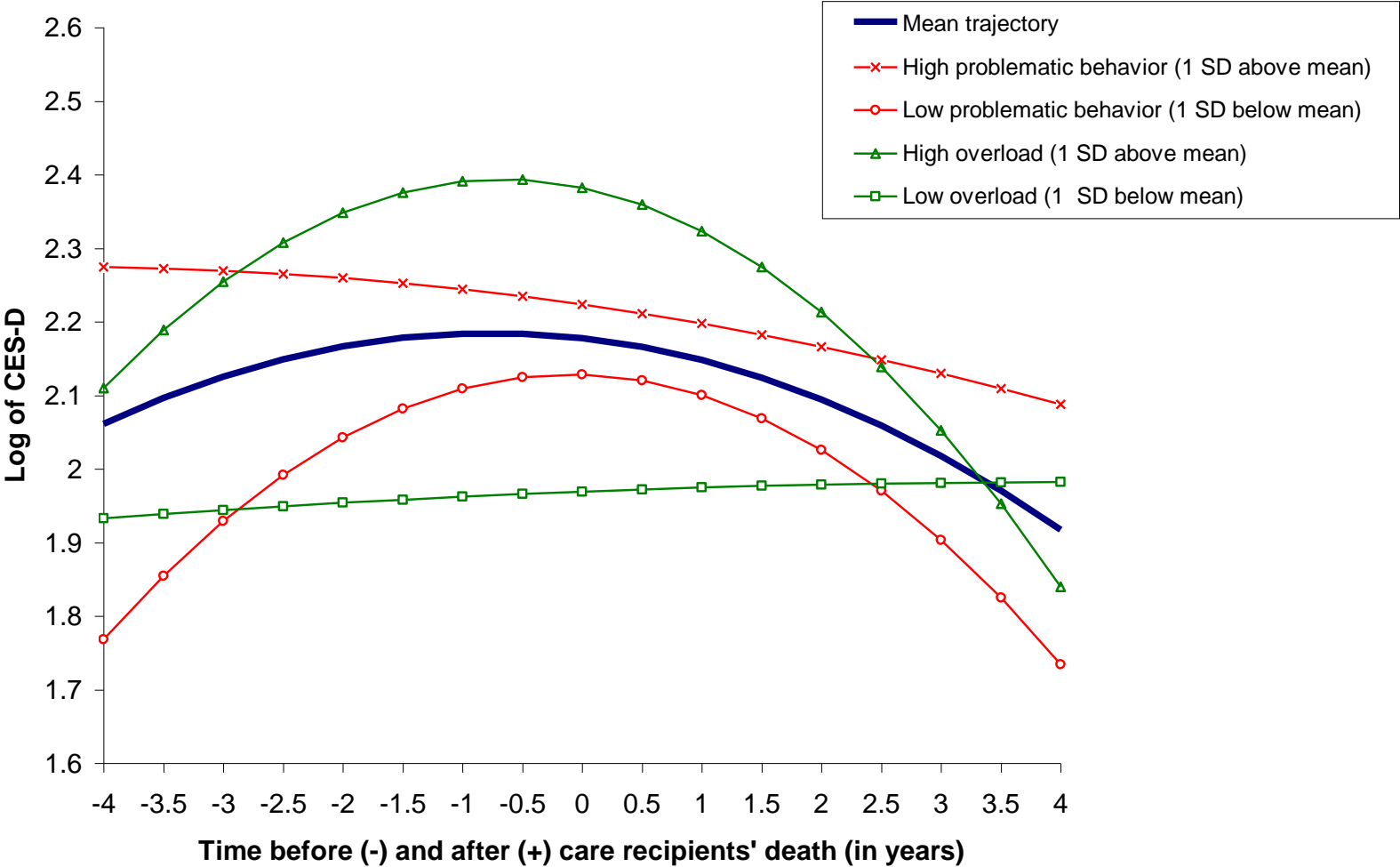


Figure 3 Caregivers' Trajectories of Depressive Symptoms by Kinship and Income

