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FACTORS ASSOCIATED WITH STROKE SURVIVOR BEHAVIORS AS IDENTIFIED BY FAMILY CAREGIVERS

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Abstract

Stroke survivor behaviors that caregivers identify as bothersome can lead to family caregiver stress, which can result in premature institutionalization of the survivor. The purpose of this study was to explore demographic and theory-based factors associated with survivor bothersome behaviors as identified by family caregivers. A secondary analysis of a combined sample of 96 family caregivers of stroke survivors was conducted using baseline data from 2 existing studies. Bothersome behaviors were measured using the Revised Memory and Behavior Problems Checklist (RMBPC). Theory-based factors were measured using well-validated scales. Male stroke survivors exhibited more bothersome behaviors ($t = 3.53, p < .01$). After controlling for survivor gender, 35% of the variance in bothersome behaviors was explained by caregiver depressive symptoms, task difficulty, life changes, and threat appraisal [$F(5,88) = 10.82, p < .001$]. These results identify potential areas for nursing interventions designed to reduce bothersome behaviors as identified by family caregivers.

Keywords

family caregiving; stroke; psychosocial issues

Introduction

Stroke is a leading cause of disability in the United States and is a sudden event that families cannot prepare for (Roger, et al., 2011). Stroke survivor behaviors that are bothersome or upsetting to the family caregiver can lead to caregiver stress, which can result in premature institutionalization of the survivor (Gaugler, Duval, Anderson, & Kane, 2007; Gaugler, Kane, Kane, Clay, & Newcomer, 2003a; Gaugler, Kane, Kane, Clay, & Newcomer, 2003b; Han & Haley, 1999). Research findings have indicated that providing emotional support and managing behaviors are the most difficult aspects of providing care and are most often associated with caregiver stress (Bakas et al., 2002; Baum & Edwards, 2000; Cameron et al., 2008; Clark et al., 2006; Grant, 1996; Grant et al., 2004; Williams, 1994).

Although a number of studies have explored survivor behaviors that are bothersome to caregivers (Bakas, Austin, Okonkwo, Lewis, & Chadwick, 2002; Bakas, Austin, Jessup,

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Institutional Review Board

This study was approved by the Indiana University Purdue University at Indianapolis Institutional Review Board. Informed consent of all subjects was obtained prior to data collection.

Williams, & Oberst, 2004; Bakas, Kroenke, Plue, Perkins, & Williams, 2006; Cameron, Cheung, Streiner, Coyte, Singh, & Stewart, 2008; Cameron, Cheung, Streiner, Coyte, & Stewart, 2006; Clark, Dunbar, Aycok, Courtney, & Wolf, 2006; Grant, 1996; Grant, Glandon, Elliott, Giger, & Weaver, 2004; Haley, Allen, Grant, Clay, Perkins, & Roth, 2009; Stephens, 2009; Williams, 1994; Williams & Dahl, 2002), only a few have explored what demographic factors are associated with caregiver perceptions bothersome behaviors (Grant, 1996; Grant, et al., 2004; Haley et al., 2009; Stephens, 2009; Williams, 1994; Williams & Dahl, 2002). Furthermore, no studies were found that used a theoretical model to explore factors associated with perceptions of bothersome behaviors. The purpose of this study was to perform a secondary data analysis to explore demographic and theory-based factors associated family caregiver perceptions of bothersome behaviors.

Caregiver perceptions of bothersome behaviors for this study were identified using a subscale score from the 24-item Revised Memory and Behavior Problems Checklist (RMBPC) (Teri, Truax, Logsdon, Uomoto, Zarit, & Vitaliano, 1992). Examples of potentially bothersome behaviors from this scale included asking the same questions over and over again, trouble remembering recent events, bothering people by things he or she says, arguing, irritability, complaining, engaging in behavior that is potentially dangerous, not trying to improve, feeling tired all the time, appearing anxious or worried, or appearing sad or depressed. The bothersome subscale is completed by the caregivers and elicits their perceptions of how bothersome each survivor behavior is to them.

Review of Literature

Caregivers deal with a variety of problems when caring for a stroke survivor including lack of information, emotional and behavioral changes, and providing personal care (Bakas et al., 2002). Of these problems, emotional and behavioral changes of the survivor have been found to be most difficult and stressful for family caregivers (Bakas et al., 2002; Baum & Edwards, 2000; Cameron et al., 2008; Clark et al., 2006; Grant, 1996; Grant et al., 2004; Williams, 1994). A literature search was performed using MEDLINE and CINAHL using the key words stroke, behaviors, cognitive impairment, caregivers, and family. The reference lists from articles that were located were explored as well. Findings cited a variety of behaviors as being most bothersome, with irritability, cognitive problems, emotional problems, depression, and anger being the most common (Clark et al., 2006; Cameron et al., 2008; Williams, 1994; Haley et al., 2009). These behaviors affected caregivers emotionally and sometimes resulted in the caregivers lashing out at the survivor or placing them in a nursing home (Cameron et al., 2008; Stephens, 2009). Without help in managing problematic behaviors, caregivers may become depressed or unable to provide care for the stroke survivor (Cameron et al., 2006; Cameron et al., 2008).

Although a number of studies have explored patient, caregiver, and social support factors that contribute to increased caregiver burden (Rigby, Gubitz, & Phillips, 2009), very few studies have explored associations between demographic characteristics and the extent to which caregivers perceive stroke survivor behaviors as bothersome. In the few articles that did explore these relationships, younger caregivers and female caregivers perceived survivor behaviors as being more bothersome (Bakas et al., 2004; Bakas, Kroenke et al., 2006; Cameron et al., 2008). Clark and colleagues (2006) found no significant differences in memory and behavior changes among stroke survivors based on the survivor's age or gender. Only one study was found that compared caregiver race with managing emotions and behaviors of the stroke survivor (Bakas et al., 2002). Although this was a small qualitative study, managing emotions and behaviors were similar between Caucasian and African American caregivers (Bakas et al., 2002). No studies were found that addressed survivor race, caregiver or survivor years of education, type of relationship to stroke

survivor, perceived income, or employment in relation to bothersome behaviors. Identifying key demographic characteristics of the family caregiver or the survivor will help to identify family caregivers most in need of assistance in dealing with the survivor's emotions and behaviors.

In addition to demographic factors, identifying theory-based factors that are associated with bothersome behaviors will reveal potential areas for future caregiver intervention development. No studies were found that explored theory-based factors associated with bothersome behaviors using a conceptual model as a guide. Using a conceptual model derived from Lazarus' theory of stress and coping (Lazarus & Folkman, 1984), theory-based factors measured for this study included caregiver task difficulty, threat appraisal, depressive symptoms, and life changes (See Figure 1). Task difficulty is defined as caregivers' self-reported difficulties associated with such tasks as finding information about stroke, providing physical or instrumental care, and managing emotions and behaviors of the stroke survivor (Bakas et al., 2004). Threat appraisal is defined as the expectation of harm or loss associated with providing care and involves the extent to which caregivers' tasks, relationships, interpersonal support, lifestyle, emotional and physical health, and the overall impact of caregiving are seen as threatening for the future (Oberst, 1991). Depressive symptoms consist of such things as caregiver reports of having little interest or pleasure in doing things, a poor appetite or overeating, and feeling tired or having little energy (Kroenke, Spitzer, & Williams, 2001). Life changes are caregiver outcomes that deal with perceived changes in social functioning, subjective well-being, and physical health as a result of providing care for a stroke survivor (Bakas, Champion, Perkins, Farran, & Williams, 2006). Bothersome behaviors are defined as survivor behaviors that are upsetting to the family caregiver (e.g., arguing, irritability, or complaining), or may include emotional reactions (e.g., feelings of sadness, anxiety, or worry) (Bakas, Kroenke, et al., 2006). Bothersome behaviors may also include memory or confusion issues (Bakas, Kroenke, et al., 2006). Although task difficulty, threat appraisal, depressive symptoms, and life changes are interrelated (Bakas, Champion, et al., 2006; Bakas & Burgener, 2002), no studies were found that related these theory-based factors to how bothersome particular survivor behaviors are to family caregivers.

Methods

Guided by the conceptual model in Figure 1, a secondary analysis of baseline data was used to explore demographic and theory-based factors associated with bothersome behaviors as identified by family caregivers. The data were from a randomized controlled clinical trial testing a caregiver intervention (Bakas, Farran, Austin, Given, Johnson, & Williams 2009a; 2009b), and from a descriptive study with stroke caregivers (Bakas, Champion, et al, 2006; Bakas, Kroenke, et al., 2006). The trial had a sample of 50 family caregivers of stroke survivors who were recruited within two months of being discharged home after a stroke. The descriptive study had a sample of 46 family caregivers of stroke survivors who had aphasia. Both studies, as well as the current secondary analysis, were approved by an institutional review board for protection of human subjects. All study participants provided informed consent prior to data collection. Both studies used the same measures for the variables used in this secondary analysis.

Demographic factors were measured using the Demographic Data Form, which included such things as caregiver and survivor age, gender, years of education, type of relationship, and caregiver race, employment, and income. Bothersome behaviors were measured using the Revised Memory and Behavior Problems Checklist (RMBPC) (Teri, et al., 1992). This instrument, which was completed by the family caregiver, consisted of 24 items rated on 2 different response scales. The first response scale measures the frequency of particular

survivor behaviors with responses ranging from 1 = *not in the past week* to 4 = *daily or more often*. The second response scale measures how bothersome each behavior is for the caregiver, with responses ranging from 0 = *not at all* to 4 = *extremely*. Total summed scores were used for each response scale. Only the second response scale was used to represent the extent to which behaviors were bothersome, which was the dependent variable for this study. Although the RMBPC was developed and tested with family caregivers of those with dementia (Teri, et al., 1992), it had also been used with family caregivers of those with stroke (Bakas, Kroenke, et al., 2006; Clark et al., 2006). The bothersome subscale had an acceptable Cronbach alpha of .85.

Task difficulty was measured using the 15-item Oberst Caregiving Burden Scale (OCBS) (Bakas, et al., 2004; Carey, Oberst, McCubbin, & Hughes, 1991). Items in this scale were rated on a 5-point scale ranging from 1 = *not difficult* to 5 = *extremely difficult*, with total possible scores ranging from 15–75 (Bakas et al., 2004). A total summed score was used for analysis. Evidence of content and construct validity has been reported in cancer caregivers (Oberst, 1990), as well as evidence of construct validity in stroke caregivers (Bakas et al., 2004). Internal consistency reliability in stroke caregivers has been acceptable with alphas ranging from .84–.94 for task difficulty (Bakas et al., 2004; Bakas & Burgener, 2002; Bakas & Champion, 1999; Oberst, Thomas, Gass, & Ward, 1989).

Caregiver threat appraisal was measured using the Appraisal of Caregiving Scale Threat Subscale (Carey et al., 1991; Oberst, 1991; Oberst et al., 1989). The 12 items on this subscale were rated on 5-point response scales with 1 = *strongly disagree* to 5 = *strongly agree*. Possible scores ranged from 12–60 (Bakas et al., 2009), with the total summed score used for analysis. Good internal consistency reliability as well as content and construct validity have been reported in cancer caregivers (Carey, 1991; Oberst, 1991). Acceptable internal consistency reliability has also been reported in stroke caregivers, with alphas ranging from .86 to .92 (Bakas & Burgener, 2002; Bakas & Champion, 1999; Bakas, Champion, et al., 2006; Bakas et al., 2009a; 2009b).

Caregiver depressive symptoms were measured using the 9-item PHQ-9 Depressive Symptoms scale (Kroenke et al., 2001; Spitzer, Williams, Kroenke, Hornyak, & McMurray, 2000). Items for this scale were rated on 4-point response scales with 0 = *not at all* to 4 = *nearly every day*. The total possible scores ranged from 0–27 (Spitzer, Kroenke, & Williams, 1999; Spitzer et al., 2000). A total summed score was used for analysis. There was evidence of internal consistency reliability, validity, specificity, and sensitivity in stroke survivors (Williams et al., 2005). Internal consistency reliability has also been reported in stroke caregivers with alphas ranging from .80 to .86 (Bakas, Champion, et al., 2006; Bakas et al., 2009b).

Caregiver life changes were measured using the Bakas Caregiving Outcomes Scale (BCOS) (Bakas & Champion, 1999; Bakas, Champion, et al., 2006). This scale has 15-items, which were rated on 7-point response scales that ranged from *changed for the worst* (–3) to *changed for the best* (+3) (Bakas et al., 2009). The –3 to +3 were recoded to 1 to 7 for analyses. The total scores can range from 15–105, with the lesser scores signifying more negative life changes (Bakas, Champion et al., 2006). A total summed score was used for analysis. There was evidence of content validity, internal consistency reliability, test-retest validity, and unidimensionality in three different samples of caregivers of stroke survivors (Bakas & Champion, 1999; Bakas, Champion et al., 2006). Internal consistency reliability ranged from .77–.90 (Bakas & Champion, 1999; Bakas, Champion, et al., 2006).

Data Analysis

Descriptive statistics were used to describe demographics characteristics of caregivers and survivors. To determine the best independent variables to include in the hierarchical multiple regression analysis predicting the extent to which caregivers perceived behaviors as bothersome, many tests were performed. Associations between categorical demographic characteristics (i.e., caregiver and survivor gender, relationship, race, employment, and income) and caregiver perceptions of bothersome behaviors were analyzed using independent samples t tests and One way Analysis of Variance. Association between continuous demographic characteristics (i.e., caregiver and survivor age, education in years) and bothersome behaviors was analyzed using Pearson *r*. Association between theory-based factors (e.g., task difficulty, threat appraisal, depressive symptoms, and life changes) and bothersome behaviors were also analyzed using Pearson *r*. Demographic and theory-based factors found to be significantly associated with bothersome behaviors ($p < .05$) were included as independent variables in the hierarchical multiple regression. The dependent variable was bothersome behaviors of stroke survivors as perceived by their family caregiver. Demographic factors were entered in Step 1 in the equation to control for their influence. Step 2 of the regression equation included the theory-based factors. An alpha of $p < .05$ was used to determine significance of the results. According to Tabachnick and Fidell (1996), the number of cases for multiple regression should be at least $50 + 8$ (the number of independent variables). Given our sample of 94 family caregivers of stroke survivors, we had enough subjects to test up to 5 predictors in our regression equation ($50 + 8(5) = 90$).

Results

Table 1 shows descriptive statistics for the measures used in this study. Cronbach alphas were acceptable and ranged from .82 to .91. All instruments met the assumption for normality using one-sample Kolmogorov-Smirnov *z* tests. Demographic characteristics are summarized in Table 2. The average age for the caregivers was 55 years with a range of 31 to 79 years. The average age for the survivors was a bit older at 64 years with a range of 39–87 years. Most of the caregivers were female (78%) and either spouses (48%) or adult children (34%). A little over half of the stroke survivors were female (52%). About half of the caregivers were employed either part time or full time (52%), and almost three fourths of the caregivers were Caucasian (72%), 26% were African American, and 2% were Asian. In terms of income, a little over a third (38%) reported being comfortable, 42% reported they made enough, and 20% reported not making enough to make ends meet. Caregiver and survivor education both averaged close to 13 years, with a range of 9 to 22 years.

As proposed, the associations between demographic characteristics and caregiver perceptions of bothersome behaviors were explored using t tests, ANOVA, and Pearson *r*. The only demographic characteristic found to be significantly associated with bothersome behaviors was the gender of the stroke survivor. Male stroke survivors exhibited more bothersome behaviors than female stroke survivors as perceived by their family caregivers ($t = 3.53, p < .01$).

Testing of the model relationships in Figure 1 was accomplished through hierarchical multiple regression to determine factors associated with perceptions of bothersome behaviors (See Table 3). All 94 subjects were entered into the analysis. The stroke survivor's gender was entered in step 1 to control for that influence. The theory-based factors were entered in step 2 of the regression equation to determine their association with bothersome behaviors. *R* for regression was significantly different from zero ($F[1,92] = 12.85, p < .01$) with 11% of the variance being accounted for by Step 1. After step 2, *R* for regression was significantly different from zero ($F[5,88] = 10.82, p < .001$) with 35% of the

variance being accounted for by all of the independent variables. Depressive symptoms, task difficulty, life changes, and threat appraisal together accounted for an additional 26% of the variance in bothersome behaviors after controlling for survivor gender. However, task difficulty and depressive symptoms were significant independent predictors with Beta scores of .23 and .26. These findings indicated that caregivers with more depressive symptoms, task difficulty, negative life changes, and threat appraisal perceived stroke survivor behaviors as being more bothersome. The factors most strongly associated with survivors' bothersome behaviors were caregiver depressive symptoms and task difficulty.

Discussion

Although Cameron and colleagues (2008) found that younger caregivers perceived stroke survivor behaviors to be more bothersome, caregiver or survivor age were not associated with bothersome behaviors in this study. In fact, the only demographic factor found to be associated with such perceptions was the survivor's gender. The finding that male survivor behaviors are perceived as relatively more bothersome was not found in the literature. The reason for this is not entirely clear, although family caregivers of male stroke survivors are more likely to be female spouses or adult children, who may have more difficulty dealing with their own stress. Although some studies suggest that caregiver gender is unrelated to burden (Rigby et al., 2009), others have found that female caregivers experience more problems with caregiving tasks, have more depressive symptoms, and more negative stroke-related outcomes than male caregivers (Bakas, Kroenke, et al., 2006). Female caregivers are also more likely to assume responsibility for more impaired male survivors (National Alliance for Caregiving and American Association of Retired Persons, 2009). A sense of duty on the part of the female caregiver may account for male survivors being more complex than female survivors. The female caregiver is forced to take on more roles to account for the male survivor's impairments, further increasing caregiver perceptions of bothersome behaviors exhibited by the male survivor. It is possible that male survivors might exhibit more aggressive behaviors than female survivors after stroke; whereas female survivors tend to experience role changes that contribute to depression and irritability (Pierce & Steiner, 2004). Though Clark et al. (2006) did not find that memory and behavior changes differed with respect to patient gender, our findings suggest the contrary, and therefore further research in this area is warranted. The fact that caregivers of male survivors are predominately female complicates interpretation of these findings. More research is needed to determine the etiology of bothersome behaviors in male survivors as perceived by their family caregivers. Probably more important is how well female caregivers and male survivors pull together and feel connected (Pierce et al., 2004). Pierce and Steiner (2004) reported that male caregivers perceived closer family ties and felt connected with their wives, despite their challenges in learning how to deal with their wives' depression and irritability after stroke. These additional discussions may better lead to further research directions.

Controlling for survivor gender, findings from this study identified caregiver task difficulty, depressive symptoms, threat appraisal, and life changes as factors associated with the extent to which caregivers view survivor behaviors as bothersome. Caregiver task difficulty and depressive symptoms had the strongest associations with perceptions of bothersome behaviors, indicating that these were the most important. These findings were consistent with a review by Rigby and colleagues (2009) who found that the time and effort required of stroke caregivers, along with their mental health, were significant determinants of caregiver burden. No previous research was found that related these theory-based factors to bothersome behaviors. These findings provide important clinical implications for assisting family caregivers in dealing with survivor behaviors. The extent to which caregiver task difficulty and depressive symptoms result in increased perceptions of bothersome behaviors

versus the extent to which difficult survivor behaviors result in caregiver task difficulty and depressive symptoms is not known. It is likely that these relationships are reciprocal. Nevertheless, these findings underscore the importance of screening caregivers for task difficulty and depressive symptoms, so that individualized interventions may be provided to assist caregivers in coping with bothersome behaviors.

Used in this study, the 15-item OCBS has been recommended for assessing task difficulty in stroke caregivers (Bakas et al., 2004; Miller et al., 2010). The OCBS measures the tasks of providing personal care, dealing with finances, and interacting with health professionals. A more detailed assessment tool is the Caregiver Needs and Concerns Checklist (CNCC), a 32-item checklist that addresses needs in 5 main areas: finding information about stroke, managing survivor emotions and behaviors, providing personal and instrumental care, and dealing with one's own personal responses to providing care (Bakas et al., 2002). The CNCC has been used as the basis for the development of the Telephone Assessment and Skill-Building Kit (TASK), an intervention program that has documented evidence of content validity and high satisfaction ratings by caregivers (Bakas et al., 2009a).

While caring for stroke survivors, family caregivers put themselves at risk for depression, loneliness, waning health, and even mortality (Tooth, McKenna, Barnett, Prescott, & Murphy, 2005). The prevalence of depression is reported to be higher in caregivers than in stroke survivors (Berg, Palomaki, Lonnqvist, Lehtihalmes, & Kaste, 2005; King, Shade-Zeldow, Carlson, Knafl, & Roth, 1995), with an estimated range from 30–52% of depression in stroke caregivers (Andersen, Vastergaard, Ingemann-Nielsen, & Lauritzen, 1995; Han & Haley, 1999). Scientific guidelines by Miller and colleagues (2010) include recommendations that caregivers be screened for depressive symptoms. The PHQ-9 Depressive Symptoms scale mirrors the 9 Diagnostic Statistical Manual of Mental Disorders-IV depression criteria and has strong psychometric properties when used either as a diagnostic tool or screening instrument (Kroenke et al., 2001; Miller et al., 2010; Spitzer et al., 2000; Williams et al., 2005). The 2-item version of this tool also has strong psychometric support as a screening tool, although, for a more complete depression evaluation, all 9 items should be administered (Miller et al., 2010; Williams et al., 2005).

Although addressing caregiver task difficulty and depressive symptoms may reduce caregiver perceptions of bothersome behaviors, Clark and colleagues (2006) emphasized the importance of also assessing caregiver perceptions of whether the survivor can actually control their own behaviors. Many of the bothersome behaviors exhibited by stroke survivors are consistent with depressive symptoms, underscoring the need to screen and treat depressive symptoms in the stroke survivors as well (Clark et al., 2006). The PHQ-9 also has strong psychometric properties in stroke survivors (Williams et al., 2005). Another study by Clark and colleagues (2004) noted that family conflict worsened the impact of memory and behavior changes on caregiver mental health. There is no “one size fits all” solution to improving caregiver perceptions of bothersome survivor behaviors, therefore an individualized approach should be considered when assisting family caregivers in dealing with bothersome behaviors.

Limitations

Limitations of this study include the small sample size and the lack of representation from other racial and ethnic groups besides Caucasian and African American caregivers. This study was also a secondary data analysis from an existing intervention study, which might have enrolled a unique group of caregivers that might not represent all family caregivers of stroke survivors. Caregivers in this study were enrolled within 8 weeks of hospital

discharge, so may not reflect family caregivers of stroke survivors who have been discharged home for longer periods of time.

Conclusions and Implications for Practice

Family caregivers have a difficult, yet important job to do. It is difficult to care for another person, especially when they experience cognitive and emotional changes. This study, guided by a well validated conceptual framework, fills an important gap in the literature regarding demographic and theory-based factors that are associated with family caregiver perceptions of stroke survivor bothersome behaviors. In this study, the finding that male stroke survivors are perceived to exhibit relatively more bothersome behaviors has implications for nurses when discharging male stroke survivors to the home setting. Assessing family caregivers for task difficulty and depressive symptoms, and informing them of the potential for bothersome behaviors of the stroke survivor, are suggested based on the findings from this study. These suggestions are consistent with scientific guidelines that recommend: (a) assessment of caregiver needs and concerns; (b) asking caregivers about survivors' depressive symptoms, emotions, and difficult behaviors; and (c) attending to caregivers' emotional and physical health (Miller et al., 2010). Nurses are key players in the rehabilitation of stroke survivors, and their focus on family caregivers is an important aspect of holistic care for stroke survivors and their families.

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Figure 1. Conceptual Model

OCBS = Oberst Caregiving Burden Scale

ACS = Appraisal of Caregiving Scale

PHQ-9 = PHQ-9 Depression Scale

BCOS = Bakas Caregiving Outcomes Scale

RMBPC = Revised Memory and Behavior Problems Checklist

Table 1

Descriptive statistics for measures (N = 94).

Measure	# items	M(sd)	(Possible range) Actual range	Cronbach alpha
Revised Memory and Behaviors Problems Checklist (Bothersome subscale)	24	10.22 (10.89)	(0–96) 0–49	.85
Depressive symptoms	9	4.78 (4.88)	(0–36) 0–20	.82
Task difficulty	15	26.81 (9.18)	(15–75) 15–54	.85
Life changes	15	53.81 (10.53)	(15–105) 25–92	.84
Threat Appraisal	12	32.23 (8.40)	(12–60) 14–50	.91

Table 2

Demographic characteristics.

Caregiver Characteristics	Percent or mean (SD) range	Stroke Survivor Characteristics	Percent or mean (SD) range
Caregiver age	54.94 (11.54) 31–79	Survivor age	64.16 (13.48) 39–87
Caregiver Gender		Survivor Gender	
Male	22%	Male	48%
Female	78%	Female	52%
Relationship		Employment	
Spouse	48%	Employed	52%
Adult Child	34%	Unemployed	48%
Other	18%		
Race		Income	
African American	26%	Comfortable	38%
Caucasian	72%	Enough	42%
Asian	2%	Not enough	20%
Caregiver Education (years)	13.80 (2.76) 9–22	Survivor Education (years)	13.22 (3.08) 9–22

Table 3

Hierarchical multiple regression predicting bothersome behaviors (N = 94).

Independent variable	B	Beta	t	Bivariate r	Unique r ²
Survivor gender	-.2.69	-.12	-1.33	-.35 ***	.01
Step 1 R = .35 ***; R² = .12; Adjusted R² = .11 Intercept = 21.38; F(1,92) = 12.85 ***					
Depressive symptoms	.57	.26	2.39 *	.51 ***	.04
Task difficulty	.27	.23	2.38 *	.44 ***	.04
Life changes	-.18	-.17	-1.73	-.45 ***	.02
Threat Appraisal	.09	.07	0.68	.41 ***	.00
Step 2 R=0.62 ***; R² =0.38; Adjusted R² =0.35; R² Change= 0.26; Intercept = 10.91; F Change (4,88) = 9.17 ***; Total F (5,88) = 10.82 ***					

* p<.05

** p<.01

*** p<.001.

Note: Survivor Gender is coded as 1 = male, 2 = female.