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Testing an Attribution Model of Caregiving in a Latino Sample: The Role of Familismo and the Caregiver-Care Recipient Relationship

Bianca Teresa Villalobos
University of Arkansas, Fayetteville

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Bianca Teresa Villalobos
California State University, Channel Islands
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University of Arkansas

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_____
Dr. Ana J. Bridges
Thesis Director

_____
Dr. Jennifer C. Veilleux
Committee Member

_____
Dr. David A. Schroeder
Committee Member

ABSTRACT

The social and economic consequences of depression place a heavy burden on society. Many family members and friends often feel the need take on the role of informal caregivers when loved ones require assistance due to disabling conditions. However, caregiver burden can arise when providing support for a person with a chronic condition. Caregiver burnout is associated with numerous negative outcomes for both the caregiver and care recipient. As such, efforts to understand factors related to reducing caregiver burden are necessary. Research on help giving has been guided by an attribution model developed by Weiner (1988), which describes how attributions of controllability relate to emotional reactions, which in turn influence willingness to provide helping behavior. To date, this model has yet to be explored in the context of cultural variables, such as familismo, or the caregiver-recipient relationship. Moreover, past research has not examined how these factors may mediate the relation between attributions and helping in the prediction of various types of support. The present study examined this attribution model among a Latino sample with the goal of providing a cultural perspective to the model and analyzing the effects of different degrees of relationships between caregivers and care recipients. Structural equation modeling was used to test the overall attribution model, the model by types of supports, and the model by degree of caregiver-care recipient relationship. Overall, support was found for the basic attribution model. Expanding upon previous research, this study found that cultural beliefs of familismo were predictive of attributions of controllability, and the relations between attributions of controllability, empathic affect, and support differed by type of support. Furthermore, the inclusion of a relationship variable into the model indicated that the provision of support differed according to who the care recipient was. Specifically, participants were more willing to provide instrumental support to a

spouse, but had more empathic affect toward a sibling. The findings of this study provide important information about the contextual factors that may play a role in motivating a Latino caregiver to provide support to a care recipient.

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Major depression has been ranked as one of the three most disabling mental health illnesses associated with functional impairment (Eaton, Martins, Bienvenu, Clarke, & Alexandre, 2008). As a result, the social and economic consequences of this chronic condition place a heavy burden on society. According to the National Institute of Mental Health, serious mental illnesses yield an estimated total of over $300 billion in direct and indirect costs (Insel, 2008). Fortunately, informal caregiving helps defray some of these costs to society. Without these caregivers, the economic cost to U.S. healthcare would increase dramatically. The economic value of family caregiving in the U.S. is estimated around $450 billion in 2009 (AARP Public Policy Institute, 2011). Research also shows that those without family caregivers are more likely to be institutionalized (Talley & Crews, 2007).

Many family members and friends often feel obligated to take on the role of informal caregivers when loved ones require assistance due to disabling physical or mental health conditions. The need for such caregivers is rising as those requiring long-term care continue to rise. It is expected that the number of people requiring long-term caregiving assistance will increase from 13 million in 2000 to 27 million in 2050 (U.S. Department of Health and Human Services, 2003). According to the National Alliance of Caregiving (2009), 65.7 million Americans have served as caregivers who provide about 20 hours a week of unpaid care to a relative or friend who needs help caring for themselves or a child with a medical or behavior condition or disability. In addition, 89% of caregivers provide assistance to a relative, with about 1 in 3 taking care of a parent (36%), and 1 in 7 taking care of a child (14%). Thirty-two percent of caregivers also report that their care recipient suffers from an emotional or mental health problem and 31% of caregivers describing their caregiving situation as emotionally stressful.

Caregivers provide assistance with a number of activities of daily living (ADLs) including helping care recipients get in and out of bed, help getting dressed, bathing, feeding, and getting to and from the restroom. Caregivers also assist with instrumental activities of daily living (IADLs) such as providing transportation, helping with housework, grocery shopping, meal preparation, managing finances, giving medications, and arranging outside services. In addition to providing assistance with the previously mentioned ADLs and IADLs, caregivers also serve as advocates for care recipients and perform physical or medical therapies or treatments on their loved ones. The instrumental, emotional, and social support that caregivers deliver play a beneficial role in protecting against the rapid deterioration of an individual's mental and physical health, which otherwise might occur in the absence of care.

Yet, due to the overwhelming nature of caring for a loved one with a chronic condition, the burden that caregivers experience can lead to negative outcomes for both the caregiver and the care recipient. For instance, the decline in health of a family caregiver has been found to be a better predictor of institutionalization of the care recipient than decline in health of the care recipients (Horowitz, 1985). Care recipients with more disabling conditions require more intense caregiving. Research has shown that spousal caregivers who provide assistance with ADLs experience more strain than caregivers dealing with only the psychological stress of having a family member with an illness (Shaw et al., 1997). The need for caregivers to care for themselves in order to provide quality care to their loved ones is an important concept to consider. A study which examined risk factors for negative caregiving behaviors in caring for an impaired or disabled spouse over 60 years of age found that caregivers who reported a poor level of health, reported physical symptoms, and who were at risk for clinical depression were more likely to engage in negative verbal altercations and physical forms of abuse (Beach et al., 2005).

Given that caregiving impacts the condition of care recipients, efforts to understand factors related to reducing caregiver burden and stress are necessary.

Attribution Model

Research efforts on attributions and motivation to help have been guided by the attribution model developed by Weiner (1988), which describes how attributions of controllability and responsibility relate to affective reactions, which in turn influence helping behavior. According to the model, individuals are seen as responsible for conditions that are believed to be controllable. Caregiver attributions of responsibility and controllability lead to negative affective reactions (e.g., anger), which in turn lead to negative behavior toward the affected individuals. On the other hand, individuals are seen as not responsible for conditions that are believed to be uncontrollable. These attributions of low responsibility generate positive affective reactions (e.g., empathy), which lead to helping behavior toward the affected individuals.

Attribution theory has been applied to many domains including expressed emotion and schizophrenia (Lopez, Nelson, Snyder, & Mintz, 1999; Wiesman, Nuechterlein, Goldstein, & Snyder, 1998), expressed emotion and depression (Hooley & Licht, 1997), homosexuality (Haider-Markel & Joslyn, 2008), and HIV/AIDS (Cobb & de Chabert, 2002). A study by Weiner, Perry, and Magnusson (1988) examined the perceptions toward stigma related illnesses and reactions to stigmatized persons with university students. The sample consisted of 149 students who were asked to rate 10 conditions that carry stigmas (AIDS, Alzheimer's disease, blindness, cancer, child abuse, drug addiction, heart disease, obesity, paraplegia, and Vietnam War syndrome) on controllability and stability, their affective reactions (anger and sympathy) toward individuals with these conditions, and whether they would be likely to engage in help-

related behavior (assistance and charitable donations). They were also given additional information about each condition regarding the person's responsibility for the onset of the condition. Results indicated that individuals were held responsible for stigmas related to mental and behavioral problems, which were considered controllable, and were not held responsible for uncontrollable physical problems. People who were not held responsible for their mental or behavioral problem elicited pity and participants were more willing to help these individuals. Conversely, people who were considered responsible for their problem elicited anger and less willingness to help in participants (Weiner et al., 1988).

Menec and Perry (1998) found general support for Weiner's (1993) attribution model in an experiment with 133 Canadian university students. However, their findings revealed that the association between anger and willingness to help was not as consistent as the relation between pity and willingness to help, suggesting that perhaps sympathy might play a greater role in a person's decision to assist a stigmatized person. The researchers hypothesized that previous contact might also affect perceived controllability. Although results did not support this theory, increased previous contact was related to more willingness to help.

To build upon previous attribution research, Corrigan and colleagues (2003) examined attributions toward a mental illness by manipulating the information that was provided to participants concerning the cause of the illness. The sample of 518 college students was told that the character in a vignette had schizophrenia and that the cause was due to an accidental head injury, drug use, or they were given no information to infer the controllability of the cause. Findings indicated that when the cause of the illness was seen as controllable, people felt more anger and less pity, were less willing to help, and more likely to avoid the stigmatized person and endorse coercive treatment than people who perceived the cause of the illness as uncontrollable.

Perceptions of responsibility and affective reactions played a mediating role in the relation between controllability and help giving outcomes (Corrigan, Markowitz, Watson, Rowan, & Kibiak, 2003).

Studies that applied the attribution model by Weiner (1993) to patients with schizophrenia and their relatives have found some support for the theory. Investigators have shown that families who were designated as high in levels of hostility, criticism, and emotional overinvolvement viewed the patients' illness as more controllable by the patient as compared to families who were designated as low in expressed emotion (Brewin, McCarthy, Duda, & Vaughn, 1991; Weisman, Lopez, Karno, & Jenkins, 1993; Weisman et al., 1998). Several studies also confirmed the positive relationship between attributions of controllability and negative affect, as well as the negative relationship between attributions of controllability and warmth (Barrowclough, Johnston, & Tarrier, 1994; Lopez et al., 1999, 2004). Taken together, these studies support the relationships between attributions and affect in the attribution model.

Cross Cultural and Ethnic Group Comparisons

Researchers have also made advances in examining the consequences of relatives' attributions and affective reactions cross culturally. Chavira, Lopez, Balcher, and Shapiro (2000) examined the relationship between parents' attributions of responsibility and their emotional and behavioral reactions to their children with disabilities. The sample consisted of 149 Latina mothers who had a child with mental retardation and were the primary caregiver to the child. Findings suggested that the more the mothers judged their child as responsible for their problem behaviors, the more they reacted with harsh or aggressive behavior. Also, attributions of responsibility were positively related to negative emotional reactions like anger, desperation, and frustration with mother's being less likely to endorse empathic emotional reactions like sadness,

worry, and hope if they were high on attributions of responsibility. The researchers of this study emphasized the importance of helping parents judge which problem behaviors can be controlled by the child and how much of the behavior is due to the child's disability.

Lopez and colleagues (1999) have examined ethnic group comparisons and found that controllability attributions and criticism together reliably predicted higher relapse rates in Anglo-Americans. In a Mexican-American sample, an association between higher warmth ratings and lower relapse rates was observed (Lopez et al., 2004). More attention is needed on caregivers' positive behaviors that may help to protect patients from relapsing. Increased attention to families' strength has the potential to develop a more complete attribution model and to improve family treatments of mental illness. It may be that the warmth or empathic affect displayed by Latino families serves as a protective factor against negative outcomes.

Expanding the Attribution Model with Cultural Beliefs

Based on previous research that there are ethnic group differences in the attribution model, familismo, a cultural construct characteristic of Hispanic families, may account for these differences. This cultural value is characterized by an emphasis on family attachments, reciprocity, loyalty to family members, and group goals rather than individual goals (Andres-Hyman, Ortiz, Añez, Paris & Davidson, 2006). Family members high in familismo may feel obligated to take on the caregiver role when a relative becomes ill and express empathic emotional reactions when taking on this burdensome role.

Losada and colleagues (2006) investigated the role that familismo plays in relation to perceived burden and depressive symptomology among Hispanic subgroups of caregivers. The researchers recruited a sample of 48 Hispanic dementia caregivers from the United States and 60 Hispanic caregivers from Spain. The Hispanic samples showed a significant negative

relationship between familismo and burden and a positive and significant association between familismo and depression. One interpretation of these findings suggests that when caregivers hold these strong values of familial obligation but who are not able to meet important caregiver demands may experience feelings of guilt or frustration. In a later study, Losada and colleagues (2010) found that familismo could also have an indirect positive influence on caregiver outcomes. Findings from this study revealed that familismo was linked to more caregiver social support, providing evidence of familismo as a buffer against caregiver distress. One explanation might be that the caregiver's reliance on family lessens their perceived burden, which was linked to depressive symptoms (Losada et al., 2006).

Limitations of Attribution Model Research

Despite advances in applying the attribution model to the study of help giving, few studies have explored the model from a cultural perspective. There is still much to be learned about the influence of cultural values like familismo and its effect on the way attributions of controllability produce certain emotional reactions and help giving behaviors in caregivers. For example, Lopez and colleagues (2004) found that in a Mexican American sample, primary caregivers exhibited more warmth and less hostility and criticism towards their loved ones with schizophrenia, and this in turn was associated with lower relapse rates. However, this study did not examine a complete attributional model or cultural constructs characteristic of Hispanic families that might shed light on the mechanisms behind differences in expressed emotion. Studies by Losada and colleagues (2006, 2010) examined familismo in relation to caregiver burden, but did not directly assess caregiver emotional reactions toward their loved ones. One can infer that caregivers who feel less burden express more empathic affect than negative affect toward their ill relatives, but we cannot say so with complete certainty without measuring affect.

Another limitation is that previous research has yet to explore the effect of varying the degree of relationships between caregivers and care recipients with the complete attribution model. The potential to find differences in willingness to provide care to a relative versus a non-relative may provide useful information in regards to identifying those who are more likely to provide support to those in need. Given that cross-cultural differences have been found in populations of Latinos and non-Latino White caregivers, it is possible that familismo might also be predictive of support behaviors. The cultural value of familismo involves a sense of obligation to the family unit over others (Andres et al., 2006), increasing the likelihood that individuals would be more willing to help relatives over non-relatives. If an individual holds the belief that taking care of a relative is a duty, one would expect caregivers to prioritize the needs of a child, sibling, or parent over that of a friend or neighbor.

Furthermore, findings based on the attribution theory have focused primarily on willingness to provide instrumental forms of help giving or have not discriminated between instrumental and emotional types of support. For example, Menec and Perry (1998) asked one question to their participants about willingness to personally assist a person with a small problem. No further information was provided to participants about the kind of problem the care recipient was experiencing and this single item measure raises questions about the reliability of the helping variable. Corrigan (2003) assessed helping across items that asked participants if they would interview the care recipient for a job, if they would carpool with the care recipient, and if they would rent an apartment to the care recipient. This study used items that focused primarily on instrumental types of helping behaviors and did not include items that reflected emotional support. Similarly, Wiener and colleagues (1988) measured helping judgments with a question assessing willingness to personally assist a care recipient and a question assessing

willingness to give charitable donations. A comprehensive assessment of helping behaviors is necessary to determine differences in willingness to provide both emotional and instrumental support.

Study Overview and Hypothesis

The overall objective of the study was to test a comprehensive attribution model that incorporates perceptions of controllability of a mental illness, affect, and help giving behavior that a person would provide to a sibling, spouse, or neighbor. The following hypotheses and research questions were explored:

- H1: Caregiver attributions of care recipients' control over their mental illness will be associated with affect. Specifically, individuals who view the care recipient as having more control over their mental illness will express less empathic affect than those who view the care recipient as having less control over their situation.
- H2: There will be an association between empathic affect and behavioral intentions. Specifically, individuals who have empathic emotional reactions toward the care recipient will be more willing to provide support (helping behavior) to the care recipient than those who express less empathic affect.
- H3: The caregiver-care recipient relationship will influence caregiver attributions of control. Specifically, caregivers will perceive non-relatives as having more control over their mental illness compared to relatives. Furthermore, caregivers will perceive a sibling as having more control over their situation than a spouse.
- H4: The degree of empathic affect expressed by the caregiver will vary as a function of the caregiver-care recipient relationship. Specifically, individuals will express more empathic affect towards a relative (i.e., spouse and sibling) compared to a non-

relative (i.e., neighbor) in need of care. The most empathic affect will be expressed toward a spouse compared to a sibling.

- H5: It is hypothesized that the caregiver's behavioral intentions will also differ as a function of the caregiver-care recipient relationship. Specifically, individuals will be more willing to provide help to a relative compared to a non-relative in need of care. Individuals will be most willing to provide support to a spouse than a sibling.
- R1: When the attribution model is broken down by type of support, will the caregiver-care recipient relationship predict instrumental support and emotional support?
- R2: Will familismo predict caregiver attributions of control, affect, and support?

Method

Participants

For the current study, data were collected from 100 participants in Northwest Arkansas. To be eligible to participate in the study, all participants had to be of Hispanic origin, be 18 years of age or older, and agree to participate in the study. Data from four participants were excluded from analyses because they did not meet eligibility to participate. Descriptive statistics on demographic variables are reported in Table 1. In terms of gender, 71.9% of participants were female. Participants ranged in age from 18 to 61 years, with a mean age of 37.95 years (*SD* = 11.03). Regarding country of origin, 91.5% of participants reported being born in a country outside of the U.S.; the majority of participants (61.7%, *n* = 58) reported Mexico as their country of origin. Participants also reported Chile (*n* = 2), Colombia (*n* = 1), the Dominican Republic (*n* = 1), El Salvador (*n* = 15), Guatemala (*n* = 4), Honduras (*n* = 1), Puerto Rico (*n* = 3), Venezuela (*n* = 1), and the United States (*n* = 8) as their country of origin. Two participants did not report the country where they were born. Foreign-born participants had lived in the U.S. an average of

15.87 years (*SD* = 8.43). In terms of religiosity, 13.7% of participants reported that they were "not at all" religious, 61% of participants reported being "somewhat" religious, and 25.3% reported being "very" religious. Participants' level of educational attainment ranged from not graduating high school to having a graduate degree. Specifically, 44.8% of participants indicated that they did not graduate from high school, 25.0% graduated from high school or received their GED, 17.7% had attended some college, 7.3% received their Bachelor's degree, and 5.2% reported receiving a graduate degree. Regarding employment status, 43.2% of participants reported full-time employment, 26.3% indicated that they were homemakers, 14.7% reported part-time employment, and 12.6% reported being unemployed. When considering marital status of participants, 69.8% were married, 17.7% were never married, and 9.4% were divorced or separated. Overall, participants had an average of 4.78 persons (*SD* = 1.56) living in their household and when assessing caregiver status, 41.7% or participants reported at one point in their life providing care to a person with a physical or psychological condition.

Procedures

Participants were recruited from local festivals targeting the Hispanic community (*n* = 60) and waiting rooms in community health primary care clinics (*n* = 40). Individuals who attended the local festivities could approach a booth where researchers were conducting the study while those who were recruited from community clinic waiting rooms were approached by a bilingual researcher and asked if they would like to participate.

Individuals who chose to participate in the study were given a brief overview of the research protocol. Participants gave their written consent and, once informed consent was obtained, a member of the research team administered a battery of questionnaires.

Participants were presented with a vignette describing an individual with depression (Appendix A). Each vignette was manipulated on controllability (depression was explained as due to controllable or uncontrollable causes) and caregiver-recipient relationship (spouse, sibling, or neighbor). Controllable vignettes stated depression was caused by the way the care recipient thinks about and interprets events. The uncontrollable vignettes stated depression was caused by hormonal imbalances due to thyroid problems. Participants were randomly assigned to one of six conditions: controllable/sibling, uncontrollable/sibling, controllable/spouse, uncontrollable/spouse, controllable/neighbor, and uncontrollable/neighbor.

After completing the study, participants were debriefed and compensated for their time with five dollars. Debriefing forms contained educative information about depression, including causes and treatments. The time needed to complete the study was approximately 15 minutes.

Measures

Measures were administered in English or Spanish based on the preference of the participant. If requested by participants, researchers read each measure aloud to ensure that participants understood the questions. A bilingual research assistant translated measures into Spanish using forward translation procedures. Afterward, two other bilingual research assistants independently conducted backward translation on the Spanish measures. To resolve differences in translation, the use of conceptually equivalent translations was emphasized over linguistically equivalent translations or culture-specific idioms until consensus was reached. A total of seven participants were given assistance in the completion of measures. The majority of participants completed the study measures in Spanish (74%; $n = 71$).

Demographic information. Participants each completed a demographic sheet, which assessed variables such as age, sex, ethnicity, country of origin, religiosity, educational

achievement, marital status, employment status, number of and relationships to persons in the household, and caregiver status.

Attributions of control. Using similar questions created by Menec and Perry (1998), participants were asked to rate their perception of controllability with the following two questions: "How much control does your [spouse/sibling/neighbor] have over their depression?" (1 = *no control*; 9 = *total control*) and "How much is your [spouse/sibling/neighbor] to blame for their depression?" (1 = *no blame at all*; 9 = *totally blame*) (Appendix A). These two questions served as manipulation checks. Unfortunately, participants who read a vignette describing depression due to a controllable cause did not significantly differ from those who read a vignette describing depression as due to an uncontrollable cause on either the controllability question ($M_{\text{controllable}} = 4.65$, $SD = 2.91$; $M_{\text{uncontrollable}} = 3.73$, $SD = 3.02$; $t(94) = 1.52$, $p = .13$) or the blame question ($M_{\text{controllable}} = 4.21$, $SD = 2.89$; $M_{\text{uncontrollable}} = 3.67$, $SD = 2.72$; $t(93) = 0.95$, $p = .35$). Therefore, vignette controllability was not utilized as an independent variable in the analyses; instead participants' controllability and blame rating were used.

Empathic affect. Eight questions assessed the hypothetical emotional reactions of the participant towards the person depicted in the vignette (Appendix A). Compassion, sympathy, warmth and concern were used as indicators of empathic affect, while frustration, anger, indifference, and hostility indicated more damaging or detrimental emotional reactions. Items were rated on a 9-point scale, from 1 (*not at all*) to 9 (*totally*). Responses to negative emotion items were reversed scored and a total empathic affect score was calculated for each participant. The internal consistency coefficient for the eight items was found to be unacceptable ($\alpha = .48$). In order to improve internal consistency, four items were removed from the scale. The final four items (sympathy, warmth, and reverse coded anger and indifference) were averaged into a

composite affective score with an internal consistency of .57. The average of the two empathic emotion items and two negative emotion items were significantly negatively correlated (r = -.29, p = .004), thereby providing statistical justification for combining them into a global measure of affect. According to the alpha-if-item deleted statistics, all items contributed significantly to the reliability of this 4-item scale.

Support. Eight questions assessed participants' willingness to help the person in the vignette (Appendix A). Four of these questions measured emotional support: (1) willingness to visit regularly with the person to have fun or relax; (2) willingness to comfort the person in the vignette when they are down; (3) willingness to talk to them about their worries; and (4) willingness to give advice. Four questions measured instrumental support: (1) willingness to loan the person money if they were having financial difficulties; (2) willingness to help them with household responsibilities; (3) willingness to give them a ride to the doctor; and (4) willingness to let them borrow the participant's vehicle for a few hours. All eight support items were rated on a 9-point scale, from 1 (*not at all willing*) to 9 (*totally willing*). A total support score was calculated for each participant in addition to an instrumental support score and emotional support score. Cronbach's alpha coefficient for total support in the present study indicated acceptable internal consistency (.79). Comparably, internal reliability for the scale when broken down by emotional and instrumental support was .75 and .76, respectively. An exploratory factor analysis (EFA) using maximum likelihood estimation and an oblique (Oblimin) rotation provided support for two separate constructs (emotional and instrumental support. The two factors were correlated r = .43.

Familismo. Participants were asked to complete the familismo subscale of the Multiphasic Assessment of Cultural Constructs – Short Form (MACC-SF; Cuéllar, Arnold, &

Gonzalez, 1995; Appendix B). The familismo subscale consists of 12 items, which participants are asked to rate as true (1) or false (0). Examples of items from the subscale include: "Relatives are more important than friends," "No matter what the cost, dealing with my relatives' problems comes first," and "I expect my relatives to help me when I need them." Items are summed to for a total familismo score. Construct validity was demonstrated through a factor analysis, as well as comparison of the familismo subscale score with the Acculturation Rating Scale for Mexican-Americans-II (ARMSA-II) which confirmed that the constructs of familismo and acculturation were negatively and significantly correlated, consistent with acculturation theory (Cuéllar et al., 1995). Although internal consistency of this measure ranged from .65 to .67 in a sample of university students of Mexican-origin (N = 379; Cuéllar et al., 1995), research conducted with a Latino community sample reported an internal consistency of .99 for the 12-item familismo subscale (N = 80; Bridges, 2008). Individual mean substitution was utilized for participants with one missing data point on an item (n = 4 participants). In this study, internal consistency of the MACC-SF familismo subscale was .71.

Statistical Analyses

Correlations between familismo, attributions of control, affect, support variables, and contrast codes were computed through Pearson product moment correlation coefficients and are presented in Table 2. Assumptions regarding normality and linearity were evaluated with SPSS through examination of descriptive statistics, histograms, and scatterplots. Evidence of non-normality for instrumental, emotional, and total support prompted reflect square root transformations were performed on these negatively skewed variables resulting in skewness and kurtosis values within range. Models run using the transformed and untransformed variables were comparable. Therefore, untransformed variables are presented in the models and results for

ease of interpretation.

Three structural equation models were performed using the AMOS (Version 19) statistical package and hypothesized models were estimated using maximum likelihood estimation (Figure 1). Complete data were obtained for the 96 participants on the variables of interest. Participants' attributions of controllability were assessed as a latent predictor variable with two indicators (perceptions of controllability and perceptions of blame); empathic affect was assessed as an observed mediating variable (the average affect score after reverse-scoring negative affect items); and supports (total, instrumental, and emotional) served as observed criterion variables, one per model. In addition to these variables, all consistent with Weiner's (1988) attribution theory, this study included two additional predictors: familismo and caregiver-recipient relationship. Participants' average familismo scores and contrast coded caregiver-care recipient relationships (family versus neighbor; sibling versus spouse) were observed predictor variables. Overall model fit was evaluated with absolute fit indices (Chi-Square statistic [χ^2], root mean square error of approximation [RMSEA]), and an incremental fit index (comparative fit index [CFI]). CFI values greater than .95 and RMSEA values less than .06 were taken as indicative of good model fit (Hu & Bentler, 1999). Specific study hypotheses were evaluated through the examination of standardized path coefficients.

Results

Descriptive Analyses

Overall, participants attributed a moderate degree of blame and control to the care-recipient for the character's depression (blame: $M = 3.94$, $SD = 2.80$; control: $M = 4.19$, $SD = 2.99$), see *Figure 2*. In addition, participants displayed a high level of familismo (*Figure 3*),

empathic affect (*Figure 4*) and willingness to provide overall total support, emotional support, and instrumental support (*Figure 5*).

Global Model Fit

Results revealed that the hypothesized attribution model for support fit the data well, $\chi^2(5) = 3.07, p = .69$. This result is supported by other goodness-of-fit indices that suggest a very good fit of the model to the obtained data: RMSEA = .00 (90% CI = .00 - .11), CFI = 1.00. When broken down by type of support, the hypothesized models fit the data well for emotional support, $\chi^2(5) = 3.10, p = .69$ (RMSEA = .00 [90% CI = .00 - .11]; CFI = 1.00) and instrumental support, $\chi^2(5) = 3.11, p = .68$ (RMSEA = .00 [90% CI = .00 - .11]; CFI = 1.00). Familismo and the two contrast codes explained 17.2% of the variance in attributions of controllability. Altogether, attributions of controllability, familismo, and the contrast codes predicted 22.8% of the variance explained in empathic affect. When assessing for variance explained for each type of support, results showed that 30.4% of the variance in total support was explained by familismo, attributions of controllability, empathic affect, and both caregiver-recipient relationship contrast codes. For the emotional support model, these variables predicted 41.2% of the variance in support. Finally, the model explained 27.4% of the variability in willingness to provide instrumental support. The significance of individual paths is described below according to their corresponding hypotheses.

Attributions of Controllability, Empathic Affect, and Behavioral Intentions

As hypothesized, caregiver's attributions of controllability were related to less empathic affect ($\beta = -.42$) and empathic affect was in turn found to be a significant predictor of behavioral intentions (total support), such that more empathic affect was related to more willingness to provide support ($\beta = .38$). The standardized indirect effect of attributions of controllability to

total support was .16.

Caregiver-Care Recipient Relationship

Contrary to hypothesis 3, the caregiver-care recipient relationship was not found to be a significant predictor of attributions of controllability (Table 3). Some support was found for hypothesis 4; individuals expressed more empathic affect toward a sibling compared to a spouse ($\beta = -.25$). However, distinguishing between family relatives (i.e., spouse and sibling) and non-relatives (i.e., neighbor) did not yield any significant differences in empathic affect (Table 3). It was also hypothesized that the caregiver-care recipient relationship would influence participant's willingness to provide support. Support was found for this hypothesis. Individuals were more willing to provide overall support to a family member (i.e., spouse and sibling) compared to a non-relative (i.e., neighbor) depicted in the vignette (Table 3). In addition, among family members, participants were most willing to provide support to their spouses than their siblings (Table 3).

Caregiver-Care Recipient Relationship and Emotional and Instrumental Support

Due to a lack of specificity in research with the attribution model, an exploratory question was asked: Will the caregiver-care recipient relationship predict the degree to which one is willing to provide instrumental versus emotional support? Results from the tested models of support showed that individuals were more willing to provide both emotional and instrumental support to a relative than a non-relative ($\beta_{instrumental} = .43$; $\beta_{emotional} = .18$) (Table 3). When the models included a variable that distinguished between two types of family members (i.e., spouses and siblings), results were less consistent. Participants were most willing to provide instrumental support to their spouses compared to their siblings ($\beta = .31$), though the spouse

versus sibling contrast code was not found to be a significant predictor of emotional support (β = .16).

Familismo and Attributions of Controllability

A second research question was asked regarding the role of familismo in predicting attributions of controllability, affect, and support. The tested attribution model revealed that higher familismo marginally predicted attributions of controllability (β = .31) and did not predict empathic affect (β =-.07). In terms of support, familismo was not predictive of overall support (β = .04), emotional support (β = -.01), or instrumental support (β = .07).

Model Modifications

The hypothesized models for total support, emotional support, and instrumental support were trimmed by eliminating non-significant paths between variables (Figure 6 – 8). Chi-square difference tests revealed that model fit for all of the trimmed models was not significantly different from that of the hypothesized models (Table 4), suggesting the use of the trimmed models would enhance parsimony of the attribution-affect-support model.

Post Hoc Analyses

Post hoc analyses were conducted on the average levels of empathic affect to negative affect experienced by the caregiver in a one-way analysis of variance comparing individuals presented with a spouse, sibling, and neighbor vignette (Figure 9). No differences were found in average ratings of empathic affect among relationship types (M_{spouse} = 8.00, SD = 1.14; $M_{sibling}$ = 7.88, SD = 1.26; $M_{neighbor}$ = 7.90, SD = 1.04; $F(2, 93) = 0.10$, $p = .91$). Analyses revealed that significant differences did exist in negative affect between the vignette relationship types, $F(2, 93) = 12.59$, $p = .01$. Those asked to rate their affective reactions towards a depressed spouse showed the highest negative affect (M = 4.33, SD = 1.82) compared to those asked to rate their

negative affect toward a sibling ($M = 3.26$, $SD = 1.56$) or neighbor ($M = 3.23$, $SD = 1.61$).

Discussion

Previous studies analyzing the attribution-affect-helping model of support have been limited in three domains. First, researchers have yet to predict different types of supportive behaviors (i.e., instrumental and emotional) with the model. Second, studies have not analyzed the influence of the relation between the caregiver and the care recipient in the prediction of affect or support. Third, the roles of cultural constructs like familismo have yet to be determined within the context of attributions of controllability, affect, and support. The current study sought to explore each of these areas further in a population of Hispanic community participants.

Results from the current study confirmed Wiener's (1988) basic attribution model. The relation between attributions of controllability and help giving was not direct and instead was mediated through empathic affect. As Weiner suggested, caregivers who perceive their ill relatives as having control or responsibility over their condition were less likely to display empathic affective reactions, and in turn were less likely to provide support. Building upon this basic attribution model of help giving, the current study tested the model's predictive ability for emotional and instrumental support. Analyses showed the basic attribution model significantly predicted emotional support, but not instrumental support. Although attributions of controllability predicted empathic affect, the direct path from affect to instrumental support was non-significant. This finding suggests that supportive behaviors, like loaning money to a care-recipient having financial difficulties, helping a care-recipient with household chores, or giving them a ride to the doctor, are acts that caregivers are willing to provide regardless of their emotional state toward the care-recipient. In contrast, behaviors associated with comforting a person and providing advice were more likely to depend on whether the caregiver felt empathy

toward the care-recipient. In other words, caregivers who do hold more negative views of the care-recipient are not willing to make themselves available to provide emotional support. It appears that providing emotional support might require some degree of compassion, sympathy, warmth and concern, though the provision of instrumental support might only require availability in the form of time and resources.

The current study was the first to propose that caregiver and care-recipient relationships would influence the degree to which a caregiver would have attributions of controllability, display empathic affect, and provide support to a care-recipient. Although previous research has been conducted in samples of spouses (Hooley & Licht, 1997), social service providers (Cobb & Chabert, 2002), and mothers of children with developmental disabilities (Chavira & Lopez, 2000), none assessed whether the type of relationship between the caregiver and care-recipient held predictive power in the attribution model of support. The current study expected to find that a closer relationship, such as that between spouses or siblings, would lower attributions of controllability, increase empathic affect, and result in greater willingness to provide support. On the other hand, a distant relationship resembling one that a person would have to a neighbor was expected to produce higher attributions of controllability in the caregiver, decreased empathic emotional reactions, and result in less willingness to provide support. Due to the qualitative difference in the relationship between siblings and spouses, it was predicted that these relationships would also have differential effects on the attribution model, such that caregivers would be most willing to provide support to a spouse with depression compared to a sibling with depression.

Examination of the hypothesized models revealed that a variable distinguishing between relationship types did not predict the caregiver's perceptions of controllability. However, the

relationship was an important factor that influenced affective reactions. Individuals expressed more empathic affect towards siblings than spouses, though individuals were no more likely to display empathic affect to a family member versus a non-familial neighbor. As predicted, individuals were more willing to provide support, both emotional and instrumental, to a family member compared to a non-family member. Also in support of the study hypothesis, participants were most willing to provide instrumental support to a spouse with depression, compared to a sibling. No differences were found in willingness to provide emotional support to either a spouse or sibling.

These results provide a more comprehensive look at Weiner's attribution model of help giving. With respect to the types of support that one may provide, it may be important to consider distinguishing between emotional and instrumental types of support, as well as the relationship between the caregiver and care-recipient when predicting help giving. Overall, the model reveals that in general caregivers are more willing to provide support to family members who are depressed compared to non-family members, regardless of the amount of empathic affect they express toward them. In the case of a sibling relationship, a caregiver may express more empathic affect, but not necessarily provide more support. The story of the model in the context of a spousal relationship predicts that caregivers, although not necessarily experiencing empathic affect, would be more willing to provide instrumental support behaviors.

Post-hoc examinations of affect revealed a number of interesting findings. First, participants generally indicated a high degree of empathic affect towards depressed individuals presented in the vignettes. Second, participants expressed a moderate degree of negative affect towards depressed characterization of siblings, spouses, and neighbors. Third, it was found that although individuals expressed more negative emotional reactions toward depressed spouses,

their ratings of empathic affect were in fact the highest. These points highlight the orthogonality of negative and empathic affect in this study as two different types of emotions that participants can endorse at the same time. In the case of those asked to rate their affect toward spouses, this might explain why individuals are most willing to provide support towards spouses even though models showed greater affect towards siblings. Caregivers may feel the most empathy and simultaneously the most negatively toward depressed spouses. The emotional reactions involved in caretaking can vary greatly, encompassing both empathic affect (i.e., sympathy and warmth) and negative affect (i.e., anger and indifference).

It is possible that individuals express less empathic affect to spouses in need of care for a number of reasons. Burden has been found to be a negative consequence of caregiving and considering the amount of time an individual spends with their spouse versus the amount of time they might spend with a sibling, time spent with the care recipient may increase the risk of experiencing burden with a spouse. In addition, couples usually share responsibilities of the household, each person perhaps accountable for certain activities. However, when one person in the couple can no longer perform their household duties, the responsibility is likely placed on the other. According to Phillips and Crist (2008) the demands of caregiving become greater, in terms of complexity and intensity, as time passes. The added stress of providing care to a spouse with depression, in addition to performing all other household duties, may increase the probability that caregivers experience burden and feel negatively toward their spouse.

Phillips and Crist (2008) also highlighted the importance of social support for the caregiver. They found that Mexican-American's support networks showed significant declines in social support compared to Non-Hispanic Whites and greater family size did not necessarily mean more people were available to help the caregiver. The limited availability of others to

assist the caregiver may have important implications in the caregiver's experience of burden.

In terms of participant's more empathic emotional reactions to siblings, but reluctance to provide support, results might be explained by perceptions or expectations of responsibility. One might feel less obligated to provide support to a sibling if the burden to provide care could be placed on another individual, for example, the sibling's spouse or adult children. Other factors such as physical proximity to their sibling may play a role in the participant's decision to provide care. Only seven participants indicated having a sibling currently living in their household. If one could not physically be present to provide support to a sibling, one might expect others to carry the responsibility of caregiving. Many participants were immigrants (91.5%) and had spent approximately 16 years living in the United States. Considering the immigration experience, some members of the participant's family may still remain in the country of origin. It is possible that one would be less willing to be the caregiver of a sibling who is currently living in another country if it implied the need to relocate.

Lastly, familismo was found to be a significant predictor of attributions of controllability and found to make a significant impact particularly at the initial stages of the model. What appears to be less clear is why a construct like familismo would lead to greater attributions of controllability. Familismo emphasizes the importance of the family over others and the adherence to guidelines set forth by the family unit. Perhaps individuals who have more familistic values place demands on and have expectations of their family members to express loyalty and contribute to the family. Those who fall into a state of depression and fail to perform their duties to the family might be viewed with higher expectations of recovery along with a higher degree of controllability over their depression.

Limitations

The current study, like many conducted with the attributional model, utilized vignettes which prompt the need to make careful interpretations based on the generalizability of results. Overall, participants were asked to rate perceived attributions of controllability, affect, and willingness to provide support based on hypothetical scenarios of depressed individuals. And although participants generally held high levels of empathic affect regardless of the manipulations of controllability or relationship types, one cannot assume that individuals would feel as empathic or carry out actual supportive behaviors in real life scenarios. The models established by the current study can only be used to make predictions of hypothetical emotional reactions and willingness to provide support, not enacted emotional or instrumental support.

Another limitation exists related to the use of vignettes. Participants were randomly assigned to one of six conditions in which vignettes depicted scenarios of controllability or uncontrollability and depicted either a spouse, sibling, or neighbor with depression. Participants were then asked to imagine one of these hypothetical situations and answer questions of controllability, blame, affect, support, and familismo based on the assumption that they had or could imagine having a spouse, sibling, or neighbor with depression. In reality, a participant without a spouse or partner could be asked to complete questionnaires pertaining to a depressed spouse, or, as an only child, they might be asked to complete the questionnaire about a depressed sibling. In these cases, participants are asked to imagine not only that the person depicted in the vignette is depressed, but that they also have a relationship to this person that may not really exist. Those in the sample who could not apply the scenario to their lives because it was not reflective of their family might have some influence on the results of this study. Although participants were asked to indicate each person in their household, they were not asked if they had any siblings and one can only infer based on responses about marital status that those

indicating they were never married are currently not in a relationship.

A third limitation of the study is related to the failure of manipulation checks to systematically alter participant's perceptions of controllability and blame. However, this also provided useful information that indicated participants beliefs that when depression is caused by some internal cause, the depressed person is no more controllable or to blame than those with depression caused by an external cause. Related to this notion of external or internal controllability, future research with this attribution model in Latinos may benefit from the measurement of the cultural value of *fatalismo*. Fatalismo involves a perceived lack of personal control and endorsement of external locus of control related to the ability to have influence over one's fate (Añez, Paris, Jr., Bedregal, Davidson, & Grilo, 2005). Perhaps those with high fatalismo would be less likely to endorse attributions of controllability even if manipulations indicated that the depressed individual in the vignette had an internal locus of control and been active in their development of depression.

A final limitation of the study was that the composite measurement of affect showed unacceptable internal consistency among the eight original items, and only poor reliability when reduced to four items (i.e., sympathy, warmth, anger, and indifference). This measure of affect could be substituted with an established measure of affect with acceptable internal consistency.

Implications and Future Directions

The results of the current study suggest that willingness to take on the role of caregiving may be predicted by the caregiver's attributions of the care-recipients control over their illness and their emotional reactions. Furthermore, willingness to provide certain types of support behavior depends on the relationship between the caregiver and care-recipient. In terms of caregiving relationships, identifying them as detrimental or beneficial based on attributions and

affect can aid in predicting those who are less likely to receive adequate help from their potential caregivers. The current literature on familial caregiving is dominated by research analyzing parental-child relationships, in which adult children are the primary caregivers for older parents with illnesses like dementia and Alzheimer's disease. The current study suggests that efforts to analyze other familial relationships in which a person might take on the caregiver role should be examined. Siblings and spouses are also likely sources of support for those in need of caregivers. Of course, the current study did not provide an exhaustive analysis of all the possible familial caregiving relationships possible, but this study did attempt to analyze willingness to provide support to a stranger through the depiction of a neighbor in order to mimic non-familial caregiving.

In terms of implications for treatment and family interventions, efforts to reduce attributions of controllability and increase empathic affect in caregivers and social support networks may be the key to increasing the amount of support provided. Interventions can also focus on helping caregivers understand that their attributions and affect have a significant impact on themselves, in terms of negative outcomes related to burden, which can then impact the care-recipient in terms of the quality of caregiving.

It would be formative for future studies to utilize samples of caregivers currently providing support to predict actual enacted emotional and instrumental support behaviors. Furthermore, it may be beneficial to include the perspective of the care-recipient in analyses as a way to gain insight into perceived affect. For example, caregivers might believe they express highly empathic emotions, but their sympathy and warmth might not be perceived as positively by the care-recipient. As previously mentioned, future analyses of the attribution model can also investigate the role that the expectation of caregiving plays in determining willingness for an

individual to provide support to a family member or stranger, as well as the role of other cultural values like fatalismo. The findings of the current study underscore the importance of considering the cultural context and other environmental factors that may factor in determining those who take on the caregiver role for those in need.

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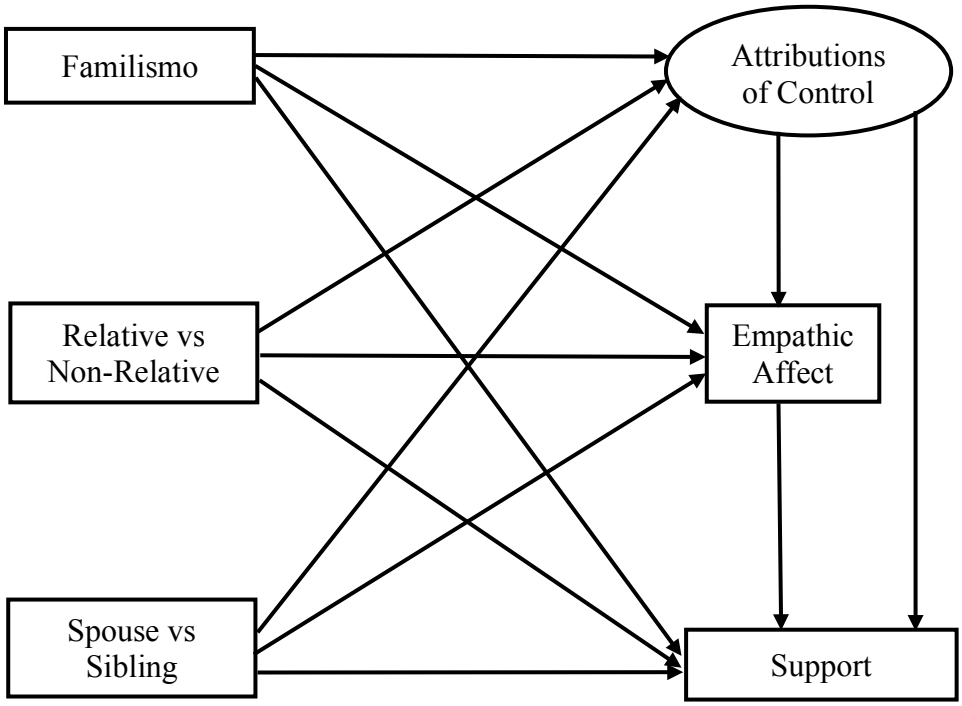

Figure 1. Hypothesized model for support.

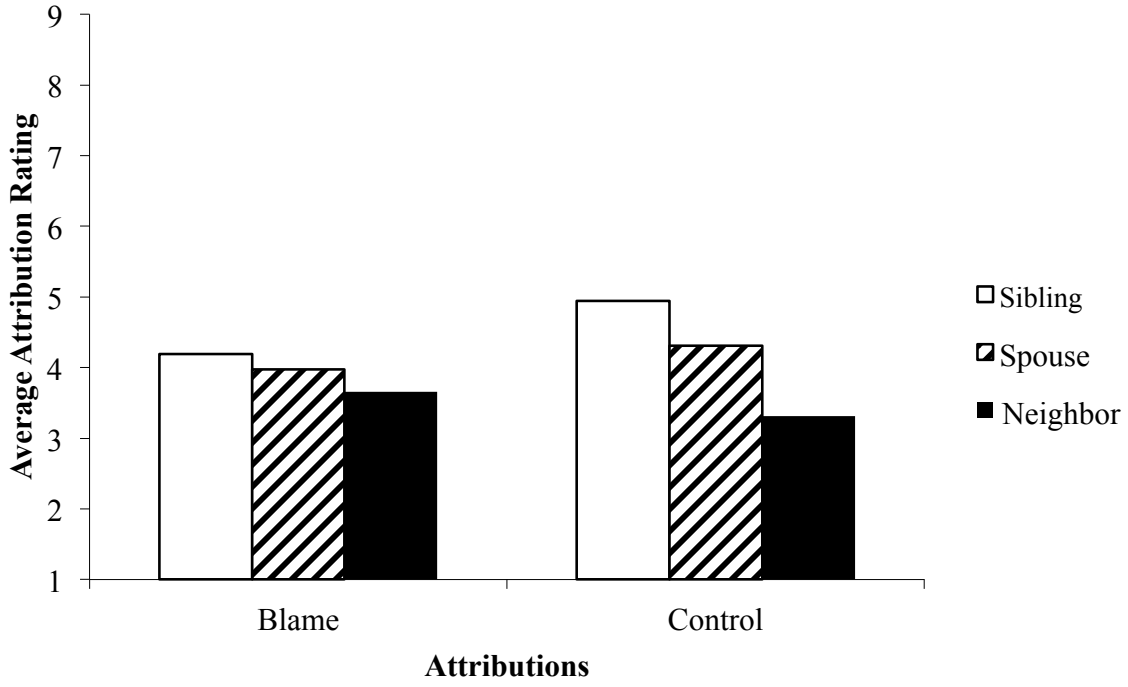

Figure 2. Comparison of mean attributions of blame and control ratings between caregiver-care recipient relationships.

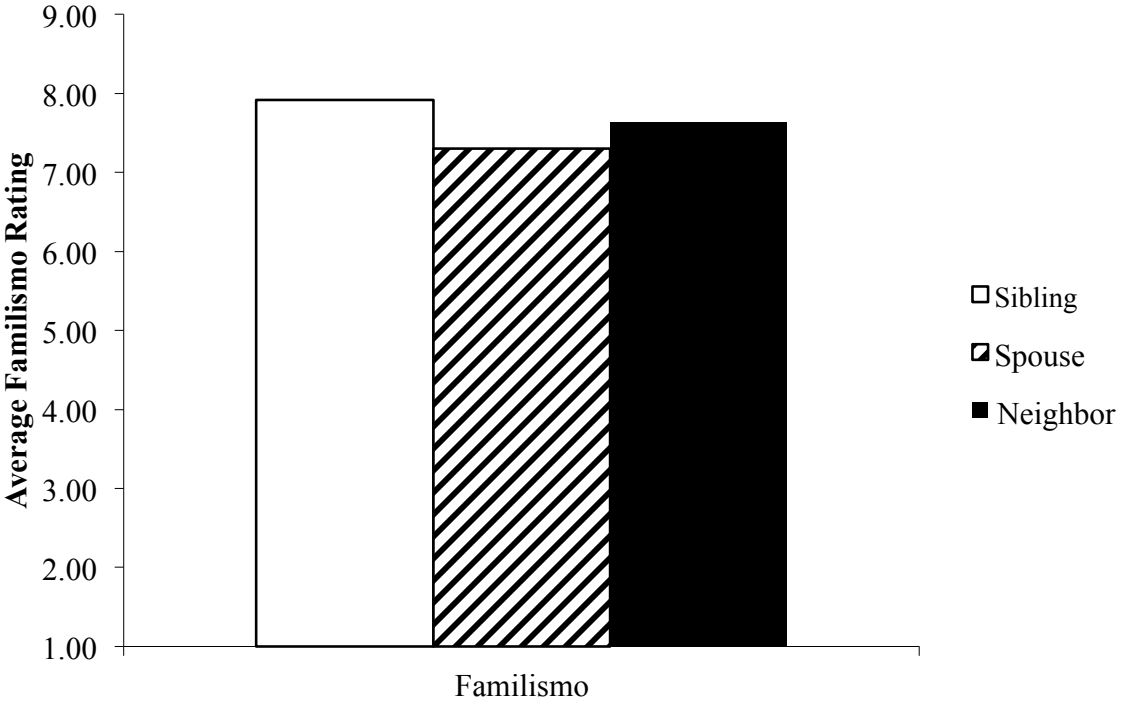

Figure 3. Comparison of mean familismo ratings between caregiver-care recipient relationships.

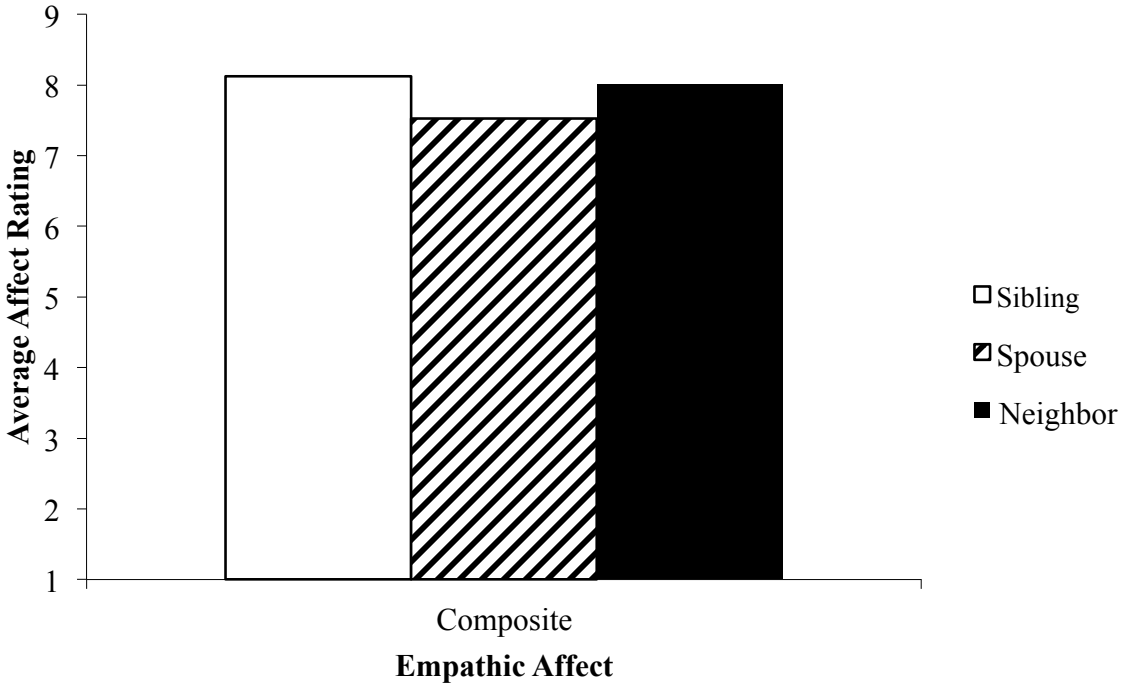

Figure 4. Comparison of mean empathic affect (composite score) ratings between caregiver-care recipient relationships.

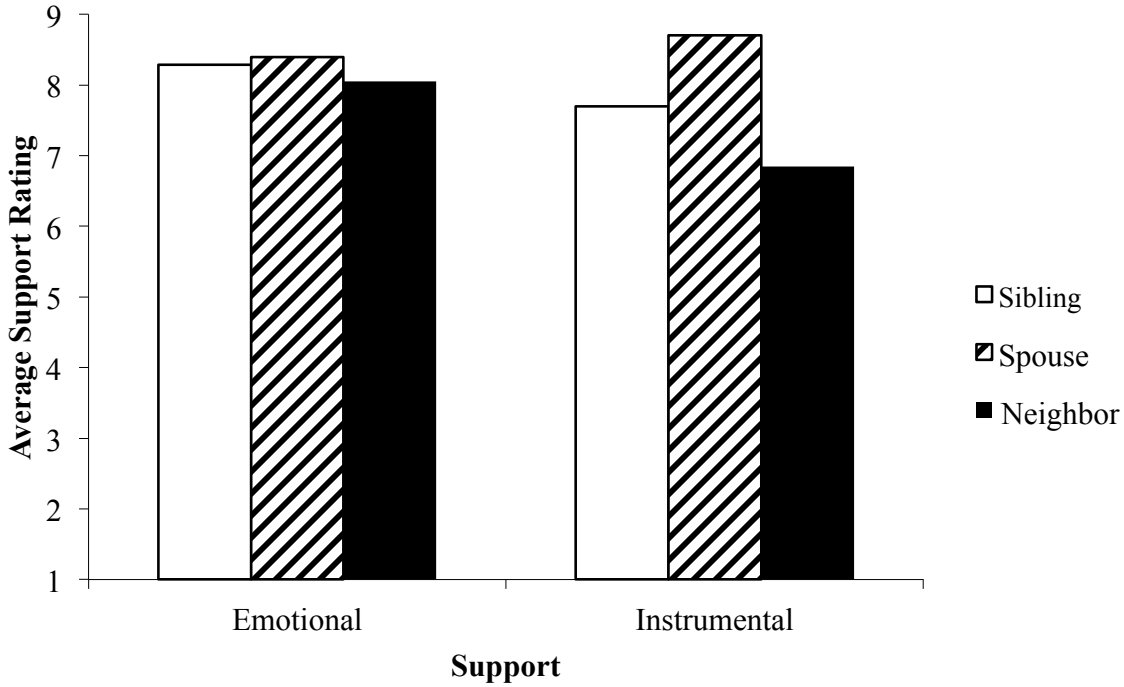

Figure 5. Comparison of mean emotional and instrumental support ratings between caregiver-care recipient relationships.

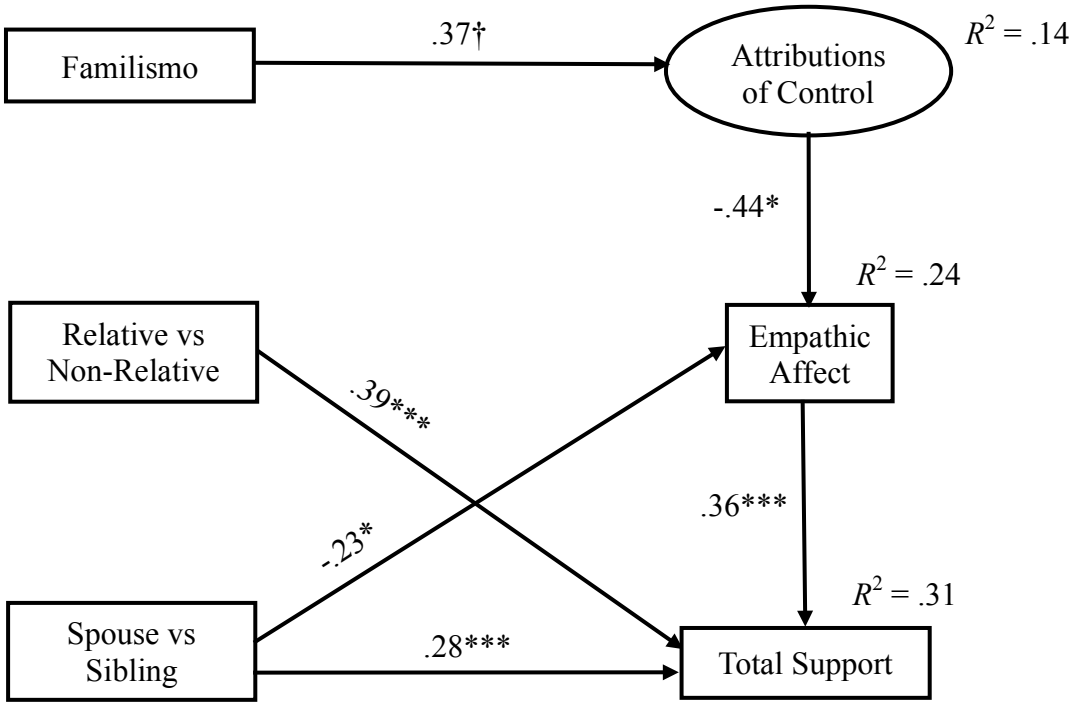

Figure 6. Trimmed model for total support with standardized coefficients. CFI = 1; RMSEA = 0; chi-square = 7.62; degrees of freedom = 13; p = .87. The Relative vs Non-Relative contrast code was coded: Spouse (1), Sibling (1), and Neighbor (-2). The Spouse vs Sibling contrast code was coded: Spouse (1), Sibling (-1), and Neighbor (0).

†p < .10. *p < .05. **p < .01. ***p < .001.

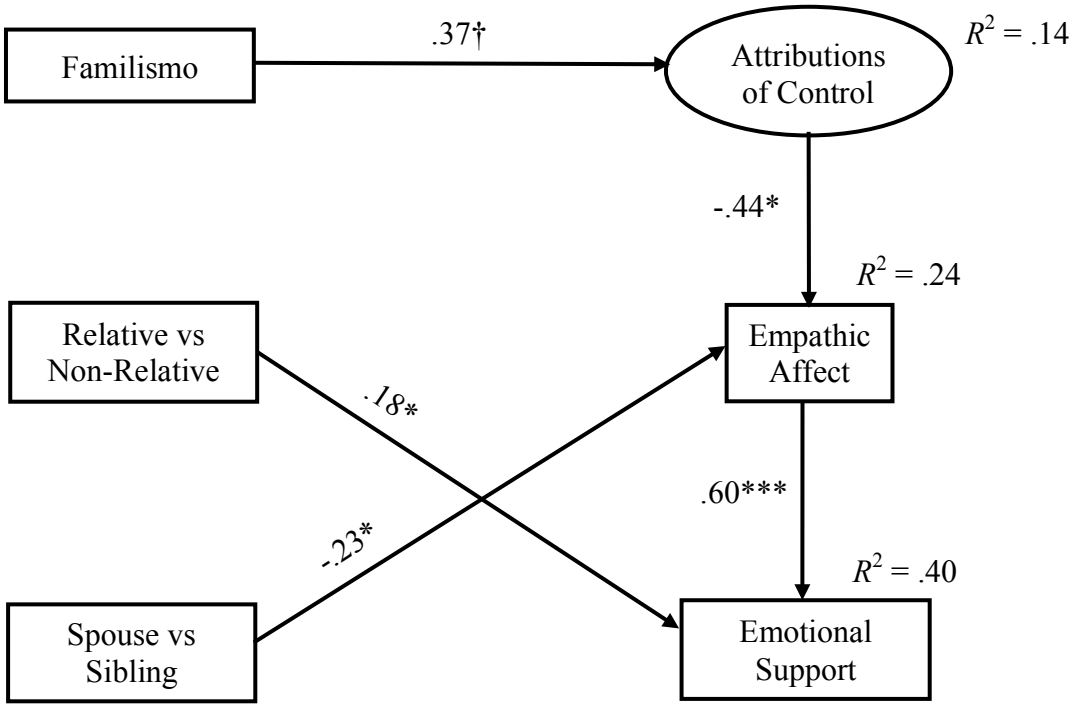

Figure 7. Trimmed model for emotional support with standardized coefficients. CFI = 1; RMSEA = 0; chi-square = 11.85; degrees of freedom = 14; p = .62. The Relative vs Non-Relative contrast code was coded: Spouse (1), Sibling (1), and Neighbor (-2). The Spouse vs Sibling contrast code was coded: Spouse (1), Sibling (-1), and Neighbor (0).

†p < .10. *p < .05. **p < .01. ***p < .001.

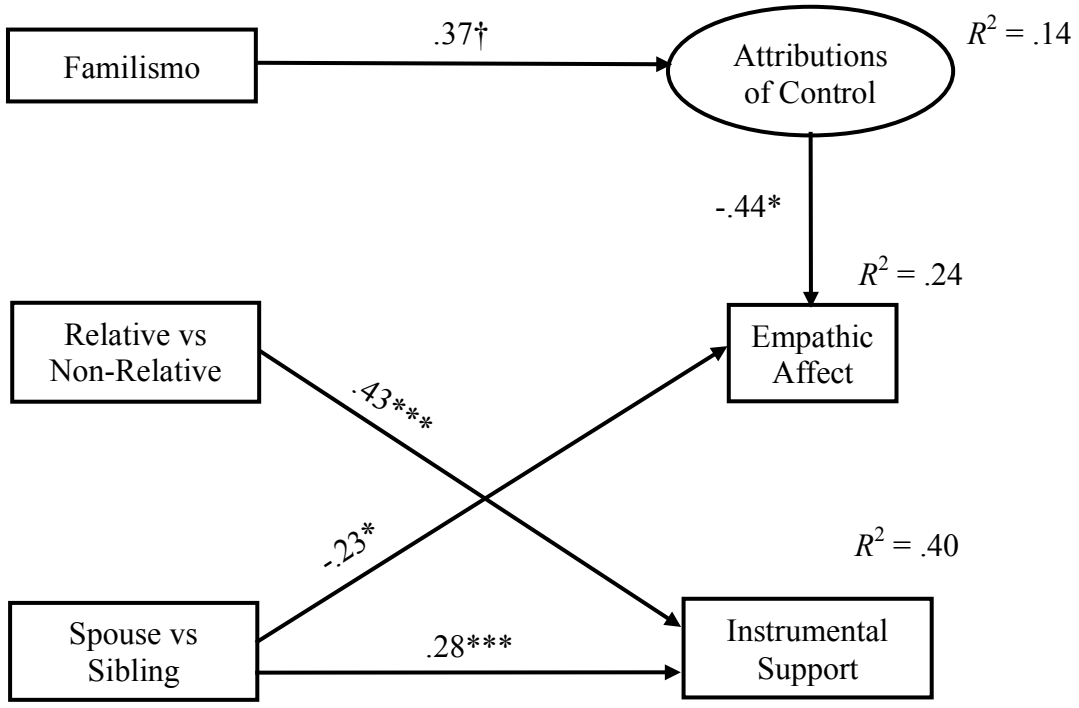

Figure 8. Trimmed model for instrumental support with standardized coefficients. CFI = 1; RMSEA = 0; chi-square = 9.01; degrees of freedom = 14; p = .83. The Relative vs Non-Relative contrast code was coded: Spouse (1), Sibling (1), and Neighbor (-2). The Spouse vs Sibling contrast code was coded: Spouse (1), Sibling (-1), and Neighbor (0).

†p < .10. *p < .05. **p < .01. ***p < .001.

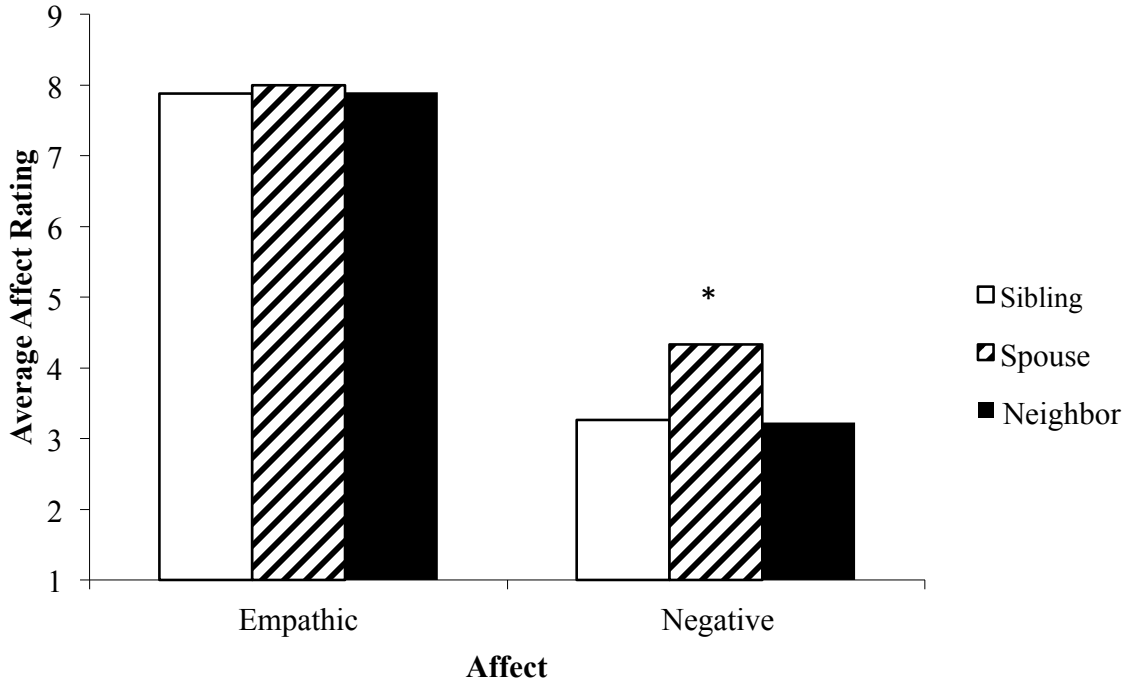

Figure 9. Comparison of mean empathic and negative affect ratings between caregiver-care recipient relationships. Empathic affect = sympathy, warmth, concern, and compassion. Negative affect = anger, indifference, hostility, and frustration.

*$p < .05$.

Table 1

Descriptive Statistics

N = 96	*M (SD) or N (%)*
Age	37.95 (11.03)
Sex	
Female	69 (71.9%)
Questionnaire Language	
English	25 (26.0%)
Spanish	71 (74.0%)
Born outside the US	
Yes	86 (91.5%)
No	8 (8.5%)
If born outside US, years in the US	15.87 (8.43)
Religiosity	
Not at all	13 (13.7%)
Somewhat	58 (61.0%)
Very	24 (25.3%)
Educational attainment	
None	12 (12.5%)
Less than high school	31 (32.3%)
High school or GED	24 (25.0%)
Some college	17 (17.7%)
BA	7 (7.3%)
MA	4 (4.2%)
PhD	1 (1.0%)
Employment	
Full-time	41 (43.2%)
Part-time	14 (14.7%)
Homemaker	25 (26.3%)
Unemployed	12 (12.5%)

Other (i.e., student, retired, disabled)	3 (3.3%)
Persons living in household	4.78 (1.56)
Marital status	
Married	67 (69.8%)
Never married	17 (17.7%)
Divorced/separated	9 (9.4%)
Other	3 (2.1%)
Caregiver	40 (41.7%)

Table 2

Correlations, Means, and Standard Deviations of Variables (N = 96)

Variables	1	2	3	4	5	6	7	8	9
1. Familismo	—								
2. Blame[a]	0.25*	—							
3. Control	0.10	0.30**	—						
4. Empathic affect	-0.18†	-0.22*	-.22*	—					
5. Total support	-0.04	-0.03	-0.02	0.28**	—				
6. Emotional support	-0.15	-0.14	-0.12	0.59***	0.78***	—			
7. Instrumental support	0.04	0.05	0.05	-0.01	0.90***	0.43***	—		
8. Contrast 1[b]	0.03	0.07	0.21*	-0.07	0.36***	0.13	0.43***	—	
9. Contrast 2[c]	-0.10	-0.03	-0.09	-0.20†	0.21*	0.04	0.28**	0.00	—
Mean	7.56	3.94	4.19	7.89	8.00	8.25	7.75		
Standard Deviation	2.52	2.80	2.99	1.25	1.07	1.02	1.50		

Note. Empathic affect refers to the composite score of empathic affect items and reverse-coded negative affect items.

[a]$n = 95$. [b]Spouse and Sibling versus Neighbor. [c]Spouse versus Sibling.

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3

Unstandardized and Standardized Parameter Estimates for Hypothesized Attribution Models for Total, Instrumental, and Emotional Support

Model	*B*	*β*	*SE*	*CR*	*p*
Total support					
Familismo → Attributions	.188	.306	.097	1.943	.052
Familismo → Affect	-.037	-.074	.059	-.621	.534
Familismo → Support	.018	.042	.041	.436	.662
Attributions → Affect	-.336	-.417	.174	-1.927	.054
Attributions → Support	.009	.013	.115	.079	.937
Affect → Support	.322	.377	.094	3.447	< .001
Contrast 1[a] → Attributions	.273	.249	.167	1.634	.102
Contrast 1[a] → Affect	.035	.040	.099	.354	.724
Contrast 1[a] → Support	.290	.384	.071	4.106	< .001
Contrast 2[b] → Attributions	-.160	-.085	.276	-.580	.562
Contrast 2[b] → Affect	-.385	-.252	.157	-.2451	.014
Contrast 2[b] → Support	.382	.293	.121	3.166	.002
Emotional support					
Familismo → Attributions	.189	.306	.097	1.950	.051
Familismo → Affect	-.036	-.073	.059	-.620	.535
Familismo → Support	-.006	-.014	.036	-.160	.873
Attributions → Affect	-.335	-.417	.174	-1.928	.054
Attributions → Support	-.012	-.019	.100	-.123	.902
Affect → Support	.512	.629	.082	6.264	< .001
Contrast 1[a] → Attributions	.273	.249	.167	1.634	.102
Contrast 1[a] → Affect	.035	.040	.099	.352	.725
Contrast 1[a] → Support	.131	.183	.062	2.131	.033
Contrast 2[b] → Attributions	-.161	-.085	.277	-.581	.561
Contrast 2[b] → Affect	-.385	-.253	.157	-.2452	.014

Contrast 2[b] → Support	.204	.164	.105	1.936	.053
Instrumental support					
Familismo → Attributions	.189	.306	.097	1.947	.051
Familismo → Affect	-.036	-.073	.059	-.619	.536
Familismo → Support	.043	.073	.058	.743	.458
Attributions → Affect	-.335	-.417	.174	-1.925	.054
Attributions → Support	.029	.030	.164	.178	.859
Affect → Support	.130	.108	.134	.971	.332
Contrast 1[a] → Attributions	.273	.249	.167	1.633	.103
Contrast 1[a] → Affect	.035	.040	.099	.352	.725
Contrast 1[a] → Support	.450	.427	.101	4.464	< .001
Contrast 2[b] → Attributions	-.160	-.084	.277	-.579	.563
Contrast 2[b] → Affect	-.385	-.252	.157	-.2450	.014
Contrast 2[b] → Support	.564	.309	.172	3.272	.001

Note. Affect refers to the composite score of empathic affect items and reverse-coded negative affect.

[a]Relative versus Non-Relative. [b]Spouse versus Sibling.

Table 4

Full and Trimmed Model Fit Indices

Model	X^2	*df*	*p*	*CFI*	*RMSEA*
	X^2 difference	*df*	*p*		
Total support model	4.55	8	> .05		0.00
Full model	3.07	5	.69	1.00	0.00
Trimmed model	7.62	13	.88	1.00	0.00
Emotional support model	8.75	9	> .05		
Full model	3.10	5	.69	1.00	0.00
Trimmed model	11.85	14	.62	1.00	0.00
Instrumental support model	5.90	9	> .05		
Full model	3.11	5	.68	1.00	0.00
Trimmed model	9.01	14	.83	1.00	0.00

Note. X^2 = Chi-square; df = Degrees of freedom; CFI = Comparative fit index; RMSEA = Root mean square error of approximation.

Footnotes

[1]A similar pattern of results were found when the models were run using a two-item version of empathic affect (i.e., sympathy and warmth; $\alpha = .71$).

Appendix A
Vignette

INSTRUCTIONS: Imagine that **____(1)____** is currently depressed.

[*Person*] has changed in many ways since they started feeling depressed a month ago. For example, they have been sleeping more hours than usual, but continue to feel tired during the day. [*Person*] has been eating more than normal and has gained about 10 pounds in the past month. At home, [*person*] used to watch their favorite television show every night and loved to take their dog out for a walk in the park, but now they have lost all interest in activities they used to enjoy.

These changes in their mood have also affected their performance at work. [*Person*] has a hard time concentrating on their work and their boss has noticed that [*person*] no longer shows motivation to complete tasks and has difficulty making decisions. [*Person's*] close friends have also noticed this change in them and they are concerned because [*person*] has become more withdrawn and hardly speaks to them anymore. [*Person*] has even stated that they would be better off dead. It was clear to you that their situation was not normal.

When [*person*] finally sought professional help, they learned that their depression was caused by **____(2)____**.

1. your sibling **OR** your spouse **OR** your neighbor
2. the way [*person*] thinks and interprets life events. [*Person*] completed a depression inventory in which they reported having many negative thoughts, such as hopelessness, so the doctor suggested they go to therapy in order to learn new ways to react to situations and manage their stress. The doctor told [*person*] that they might feel better in a few weeks with therapy and the support of others. **OR** a hormonal imbalance due to a problem with their thyroid. A blood test showed that [*person's*] thyroid gland was not producing enough of a certain hormone so the doctor prescribed a medication that would help regulate their underactive thyroid. The doctor told [*person*] that they might feel better in a few weeks with this medication and the support of others.

Record your answers in response to the scenario for each question using the scales provided. Please circle only one number per question.

1. How much is your neighbor to blame for their depression?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No blame at all Totally blame

2. How much compassion would you feel toward your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No compassion at all Total compassion

3. How much control does your neighbor have over their depression?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No control Total control

4. How willing would you be to regularly get together with your neighbor to have fun or relax?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

5. How much frustration would you feel towards your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No frustration at all Totally frustrated

6. How willing would you be to comfort your neighbor when they feel down?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

7. How much sympathy would you feel toward your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No sympathy at all Total sympathy

8. How willing would you be to talk to your neighbor about worries that were personal to them?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

9. How much anger would you feel towards your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No anger at all Totally angry

10. How willing would you be to give your neighbor advice about their problems?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

11. How much warmth would you feel toward your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No warmth at all Total warmth

12. How willing would you be to loan your neighbor money if they were having financial difficulties?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

13. How much indifference would you feel towards your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No indifference at all Totally indifferent

14. How willing would you be to help your neighbor with household responsibilities?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

15. How much concern would you feel toward your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No concern at all Totally concerned

16. How willing would you be to give your neighbor a ride to the doctor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

17. How much hostility would you feel towards your neighbor?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
No hostility at all Total hostility

18. How willing would you be to let your neighbor borrow your car for a few hours?

1 - - - - - - 2 - - - - - - 3 - - - - - - 4 - - - - - - 5- - - - - - 6 - - - - - - 7 - - - - - - 8 - - - - - - 9
Not at all willing Totally willing

Appendix B

Multiphasic Assessment of Cultural Constructs - Short Form
Familismo Subscale

INSTRUCTIONS: Read each statement and decide whether it is true as applied to you or false as applied to you. You are to circle the letter "T" if the statement is TRUE or MOSTLY TRUE. You are to circle the letter "F" if the statement is FALSE or MOSTLY FALSE. Remember to give YOUR OWN opinion and try to answer every statement.

	True	**False**
1. All adults should be respected.	T	F
2. More parents should teach their children to be loyal to the family.	T	F
3. It is more important for a woman to learn how to take care of the house and the family than it is for her to get a college education.	T	F
4. The stricter the parents, the better the child.	T	F
5. Some equality in marriage is a good thing, but for the most part the father ought to have the main say so in family matters.	T	F
6. Even if a child believes that his parents are wrong, he should obey without question.	T	F
7. Relatives are more important than friends.	T	F
8. For a child, the mother should be the dearest person in the world.	T	F
9. A girl should not date a boy unless her parents approve.	T	F
10. No matter what the cost, dealing with my relatives' problems comes first.	T	F
11. I expect my relatives to help me when I need them.	T	F
12. My family frequently participates in school sponsored activities for our children.	T	F

UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

Appendix C
Institutional Review Board Approval Letter

May 3, 2012

MEMORANDUM

TO:	Bianca Villalobos Ana Bridges
FROM:	Ro Windwalker IRB Coordinator
RE:	New Protocol Approval
IRB Protocol #:	12-04-669
Protocol Title:	*Caregiving Attitudes and Cultural Values*
Review Type:	☒ EXEMPT ☐ EXPEDITED ☐ FULL IRB
Approved Project Period:	Start Date: 05/03/2012 Expiration Date: 05/02/2013

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 100 participants. If you wish to make *any* modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.