Attitudes Towards Infidelity in Spousal Caregivers

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Dedication

This dissertation is dedicated to my family, especially my grandmother who was the reason I began researching caregiving.

Abstract

Spousal caregivers for partners with chronic illness often report experiencing relational losses in their marital relationships that cause them to feel less like a spouse and more like a parent. Because of relationship changes, caregiving spouses may begin to desire companionship and seek extramarital relationships. Through the lens of the investment model and data from Wave 1 of the 2005-2006 National Social Life Health and Aging Project (NSHAP), this dissertation investigated the relationship between satisfaction, attitudes towards alternatives, and investment and attitudes towards infidelity. Results from a series of multiple regression analyses suggest that: (a) Individuals identifying as Hispanic expressed more permissive attitudes towards infidelity and those who attended church regularly reported less permissive attitudes towards infidelity, (b) Rewards and not costs were associated with satisfaction in spousal caregivers, and (c) Attitudes towards alternatives was the most influential factor in determining attitudes towards infidelity. Surprisingly, satisfaction and investment were not significant in this sample. These findings suggest that these investment model concepts may hold different meanings for spousal caregivers. However, as this is the first testing of the investment model in a sample of spousal caregivers, further research is needed before conclusions can be made regarding the appropriateness of the investment model when examining relationships in the context of chronic illness among aging couples. Future research should expand on these findings by conducting qualitative and longitudinal research to deepen our understanding of this phenomenon and create therapeutic interventions for working with aging couples experiencing chronic illness.

Keywords: spousal caregiver, alternative quality, infidelity, investment model, National Social Life Health and Aging Project

Table of Contents

List of Tables

List of Figures

Attitudes Towards Infidelity in Spousal Caregivers

Chapter One: Introduction

The struggle of caring for a spouse with chronic illness is gaining increasing attention as caregivers are more willing to share their stories and challenges. In fact, Barry Petersen, a CBS correspondent, wrote a book describing his experience caring for his wife with Alzheimer's Disease (AD).

> "I became less of a husband and more like a father to a child; she was growing younger and simpler. How could I approach her, how could I make love with Jan when her magnificent sensual womanhood was ebbing away" (Petersen & Couric, 2010, p.66). "And how do I live with a loneliness made worse because of what we once were? I am drifting without her" (Petersen & Couric, 2010, p.136). In an interview, Barry shared that the grief he felt over his wife's disease, and the emotional toll of caregiving, brought him so low he considered suicide. Brian says that developing a new relationship when Jan was stricken with Alzheimer's was his way of choosing to live when Alzheimer's took so much from him (Ramnarace, 2010). "By going on and by having a life, I was looking in the face of the disease and saying, you're not going to win twice. You took one. You won't get me. I am going to have the rest of my life" (Ramnarace, 2010, p. 2).

As the aging population continues to rapidly increase, the effects of health and spousal caregiving on marital relationships becomes increasingly important to

understand. This is particularly important for mental health professionals who will likely be working with caregiving couples at an increased rate. The purpose of this dissertation was to understand factors that may affect older married adults' attitudes towards infidelity in instances of significant physical and psychological impairment, particularly when they serve as spousal caregivers. In order to accomplish this, the reader will first be introduced to background literature regarding aging and care, the role and experiences of spousal caregivers with the intention of illuminating the presence of physical and psychological impairment, and the impact of these impairments on relationship dynamics for older married adults.

Caring for an older adult who is physically or cognitively impaired has primarily been the responsibility of family members. Currently, family members provide the bulk of care and assistance in unpaid services. The most recent estimate available states that approximately 52 million caregivers are providing care for an adult (18 and older) with an illness or disability (Coughlin, 2010). Of these caregivers, approximately 43.5 million are caring for someone over 50 years of age, and 14.9 million are caring for someone with AD (National Alliance for Caregiving, 2009). In their sample of approximately 1400 older adults, The National Alliance for Caregiving (2009) found that the primary care recipient conditions reported by caregivers were AD (26%) and long term physical conditions (69%).

An established, formal definition of caregiving does not exist (Schulz & Martire, 2004). Previous studies have generally referred to caregivers as family members or friends who provide unpaid care and support to a loved one who is disabled, chronically ill, or elderly individuals (CABC, 2005). Schulz and Martire (2004) expand that

definition by stating it is the provision of care that exceeds the bounds of what is considered normative within family relationships. It is not clear, however, at which point help and support shift from normative family support to caregiving activities. For the purposes of this dissertation, the term spousal caregiver referred to a spouse who has self-identified as a caregiver to their partner with a chronic illness. Chronic illness specifically refers to an illness that has lasted three months or longer and can include multiple conditions such as diabetes, heart disease, cancer, and AD (National Health Council, 2014).

Research has suggested that family members who are emotionally closest and geographically accessible to the patient are the family members most likely to adopt the role of caregiver. This has been referred to as the hierarchical compensatory model (Cantor, 1979; Gaugler, Wackerbarth, Mendiondo, Schmitt, & Smith, 2003). Based on this model, spouses are typically the first relatives providing care, followed by adult children, then by other relatives, friends, neighbors, and finally by formal support services (Cantor, 1979). This is especially true for older adults, as those 65 years of age and older are more likely to be caring for a spouse than younger caregivers. Spousal caregivers perform a range of tasks including managing finances, managing medication, and housework (examples of instrumental activities of daily living (IADLs)) and personal care such as bathing, feeding, and helping with toileting (examples of activities of daily living (ADLs)) (National Alliance for Caregiving and AARP, 2004). Caregivers typically spend many hours performing these tasks, but the amount of time spent assisting another is magnified when recipients reside in the same home as the caregiver, as is likely the case with spousal caregivers. In instances where the caregiver and care recipient

reside in the same home, caregivers spend approximately 39.3 hours/week providing care, compared to the average 12.9 hours/week for caregivers who do not reside with the care recipient (National Alliance for Caregiving, 2009). These caregivers are also likely to serve in the caregiving capacity longer than the average length of the role. Caregivers who lived with the care recipient were in the role for 6.5 years on average compared to the 3.8 years of care provided by caregivers who did not live with the care recipient (National Alliance for Caregiving, 2009). Also, caregivers over the age of 65 were in the caregiver role for an average of 7.2 years vs. 4.9 years for caregivers between the ages of 50-64 and 3.7 years of caregiving for younger caregivers.

Caregiving can be a very psychologically and emotionally taxing experience and a substantial body of literature documents the intangible costs associated with caregiving. This is most commonly described as caregiver burden. Burden refers to the physical, psychological, emotional, social, and financial costs of caregiving (Kasuya, Polgar-Bailey, & Takeuchi, 2000). Caregivers caring for someone with a long-term physical illness are likely to experience high amounts of burden (National Alliance for Caregiving, 2009). For example, caregivers who provide long-term care (five years or more) and those who live with the care recipient are more likely to acknowledge a negative impact on their own health (National Alliance for Caregiving, 2009). Burden is also exacerbated when caregivers feel as though they did not have a choice in adopting the caregiving role. The National Alliance for Caregiving and AARP (2004) showed that caregivers who felt they had no choice in assuming the role were typically primary caregivers, lived with a care recipient, provided the highest levels of care, and reported being in fair to poor health. Thus, spousal caregivers are subject to an increased risk for caregiver burden.

Pearlin and Aneshensel (1994) acknowledged this when they stated that the spouse adopting the role of caregiver may reflect a desire to continue the commitment to the welfare of the spouse, but it may also be associated with a response to social and familial pressures.

It should be acknowledged that while caregiving can be a very stressful experience with potentially negative consequences, that is not the global experience. Caregivers vary in the amount of pressure they feel to adopt the role, the tasks they undertake, and the costs and benefits they experience as a consequence of adopting the role (Montgomery & Kosloski, 2009). In fact, many caregivers report finding caregiving to be a rewarding and fulfilling task and experience a closer relationship with the care recipient (Carbonneau, Caron, & Desrosiers, 2010). Shim, Barroso, and Davis (2012) state that existentialism, the philosophical approach, may provide a worldview that allows some caregivers to experience positivity in the role. Through this philosophy, caregivers are able to seek meaning through situations where they feel helpless, experience anxiety, and isolation. Shim et al. (2012) analyzed interviews of 21 spousal caregivers who either felt negatively, ambivalent, or positively about their caregiver role. The authors found that those who had negative experiences often reported having an unsatisfying marriage prior to becoming a caregiver. Caregivers who were ambivalent described a mostly positive relationship history but experienced both negative and positive emotions resulting from caring for their spouses. Ambivalent caregivers felt satisfied that they were doing their job but had difficulty finding the positive meaning in caregiving. Shim et al. (2012) found that the defining characteristic of the positive group was the shift in their focus from what they lost to cherishing what remained.

Findings are somewhat mixed regarding the health outcomes of spousal caregivers. The majority of studies examining spousal caregiving conclude that caring for a partner has a negative impact on the caregiver's health (Beach et al., 2000; Jenkins, Kabeto, & Langa, 2009). Some findings suggest that caregivers who provide some care for their spouses, but do not perceive caregiving to be stressful, report lower rates of anxiety and depression than non-caregiving spouses with "well" partners who did not require assistance (Beach et al., 2000). In this study, the most commonly reported disabilities were chronic conditions such as stroke and arthritis and, to a lesser extent, heart disease and memory impairment. It should be noted that the average caregiver in Beach et al.'s sample reported that their spouses needed help with one to four ADL and IADL difficulties of the twelve tasks included in their study. The relatively low levels of care these spouses required might be responsible for the low levels of physical and emotional strain reported by caregivers, as it is far more common for researchers to conclude that caregiving has negative consequences on the health of the caregiver.

Some researchers have found that caregiving can worsen or contribute to the development of diseases in the caregiver, such as heart disease, hypertension, stroke, or cancer (Capistrant, Moon, & Glymour, 2012; Jenkins, Kabeto, & Langa, 2009). Capistrant et al. (2012) found the risk of hypertension onset increased significantly in a nationally representative sample of older (50+) spousal caregivers who provided care for 14 hours or more per week. Jenkins et al. (2009) also found that caregivers who engaged in caregiving tasks for 14 hours or more per week were more likely to report high blood pressure, heart disease, and psychiatric problems.

In addition to health concerns, spousal caregivers are likely to report emotional and psychological concerns including increased stress, depression, psychological distress and anxiety, reduced self-care, and in some cases, caregiving leads to higher rates of divorce (Davis, Gilliss, Deshefy-Longhi, Chestnutt, & Molloy, 2011; DeVivo & Fine, 1985; Jenkins, et al., 2009; Pinquart & Sorenson, 2003; Weitzkamp, Gerhart, Charlifue, Whiteneck, & Savic, 1997). Also, although caregivers for both AD and Parkinson's Disease reported feeling grief over the loss of the relationship, caregivers for Parkinson's were more likely to describe the tension they felt in making care decisions in the relationship. The challenges experienced within the marital relationship during caregiving may, in some cases, lead to the dissolution of the relationship. Yorgason, Booth, and Johnson (2008) found that when health declined, caregivers reported declines in happiness, increases in disagreements, and were more likely to consider divorce. DeVivo and Fine (1985) also reported trends of increased divorce rates in spinal cord injury cases. Although conflict and divorce have been found to occur in caregiving relationships, additional research is needed to provide a greater understanding about why this occurs. In addition, providing care to a spouse has been shown to restrict the caregiver's personal life, social life, and employment, which often leads to feelings of emotional stress (Pinquart & Sorenson, 2003). Pinquart and Sorenson (2003) also found that spousal caregivers had higher levels of objective burden and fewer psychological resources available for coping with the stressors of caregiving when compared to adult children who were primary caregivers.

The challenges that may occur within the marital relationship once caregiving has been adopted may also impact the experience of burden and psychological distress. When

spousal caregivers believe that their relationship with the care recipient has deteriorated, they are more depressed and resentful and the quality of care provided is diminished (Svetlik, Dooley, Weiner, Williamson, & Waters, 2005). In Davis et al. (2011) study of spousal caregivers for spouses with both Alzheimer's and Parkinson diseases, they found that in both illnesses, spouses reported difficulty in their relationships and feelings of loss regarding their partners, who either could no longer recognize them, or could not participate in the relationship in a meaningful way. The authors also found that these spouses were more burdened and more depressed than other spouses who might not have felt these relationship losses.

As demonstrated above, relational losses can lead to increased psychological distress for spousal caregivers but caregiving burden may also lead to significant relationship difficulties. Regardless of whether the care recipient experiences psychological or physical impairment, once care recipients require more assistance, caregivers' perception of the relationship often begins to shift. Using a sample of caregivers for both psychically and/or cognitively impaired spouses, Svetlik et al. (2005) found that when caregivers had to provide more assistance to care recipients, their overall satisfaction with the relationship and opportunities for physically intimate behavior decreased. When a spouse became a caregiver for someone with spinal cord injury, Dickson et al. (2010) stated the shift that occurred in the relationship dynamic created significant conflict in the relationship and increased relationship strain. Spinal cord injury caregivers also expressed feelings of great loss regarding the former relationship and concern about how the relationship would evolve in the future. They expressed awareness of a relationship shift where they felt their roles changed and caring was no longer

reciprocal. Participants also mourned the loss of the sexual relationship, explaining that they felt the shift from lover to mother/father because the sexual part of the relationship was no longer characteristic of their partnership. Although this study is not generalizable to all spousal caregivers of chronic illnesses, or even all spinal cord injury caregivers, it serves to demonstrate the importance of the reciprocal nature of relationships and how chronic illness can potentially alter that experience. The inability of the care recipient to reciprocate emotional and/or physical intimacy may leave the caregiver feeling unloved with feelings of ambiguity about the relationship because s/he neither feels married nor single (Hanks, 1992; Keene, 1995). It is at this point that a caregiver may begin considering other alternatives to the current marital relationship (Hanks, 1992). However, this connection is seldom explored in research, possibly because of the moral and cultural challenges underscoring our understanding of infidelity.

Previous research highlights that spousal caregiving is not only highly prevalent, but the act of spousal caregiving can have a significant effect on the physical and mental health of the caregiver. Previous research also demonstrates spousal caregiving can have lasting deleterious effects on the relationship between the caregiver and care recipient in varying degrees depending on the chronicity of the illness. This experience often leaves the healthy partner in a state of psychological distress and potentially questioning the validity of the relationship. At this point, the healthy partner may seek therapeutic assistance, and clinicians and other health professionals need a better understanding of relationships and illness to offer effective assistance. Prior to this, however, further research is needed to understand several relational aspects of the caregiving marriage and

how these may be tied to older spousal caregivers' attitudes towards infidelity. This is the gap in research that this dissertation aimed to fill.

Purpose and Research Questions

The purpose of this dissertation was to investigate how older spousal caregivers perceived infidelity. Specifically, this study explored attitudes towards infidelity in instances of spousal mental and physical impairment. Because spousal caregivers, particularly experience the most strenuous caregiving experience (National Alliance for Caregiving, 2009), the study focused on a sample of older spousal caregivers who were 57 years and older based on a sample from the National Social Life Health and Aging Project. The present study employed a secondary analysis of data collected in Wave 1 of the 2005-2006 National Social Life Health and Aging Project (NSHAP) (Waite et al., 2007). These cross-sectional data were used to examine modified elements of the investment model (satisfaction, attitudes towards alternatives, investment) on attitudes towards infidelity in a caregiving sample. Multiple regression analyses were utilized to accomplish the goals of this work, which included: 1) examining the relationships among satisfaction, attitudes towards alternatives, and investment on attitudes towards infidelity in older adults; and 2) interpreting the meaning of these findings for therapeutic interventions and strategies.

This dissertation explored several research questions:

1. What was the relationship between costs and rewards, and marital satisfaction in a caregiving sample?
2. Did marital satisfaction mediate the effects of rewards and costs on infidelity in a caregiving sample?

3. What was the relationship between marital satisfaction, investment, attitudes towards alternatives, and infidelity in a caregiving sample?

Significance of the Study

This was the first study to examine the relational concepts of the investment model and attitudes towards infidelity in older spousal caregivers. This study was timely because available research about infidelity among married couples experiencing chronic illness is limited, and although many studies have found a negative impact on the marital relationship due to caregiving, few have suggested a potential link to infidelity. Research that connects caregiving and infidelity is almost non-existent. An extensive literature search, using advanced search combinations on Google Scholar, Psychinfo, and ProQuest Digital Dissertations, yielded two studies of similar content. Additional follow-up with the author of one of the studies also resulted in one unpublished article currently under review. This dissertation research continues to build on the knowledge produced by the small number of existing studies. The goals of the dissertation were met by addressing specific relational factors tied to both caregiving and infidelity based on theory, which also have therapeutic significance. Additionally, study findings contribute to the literature on infidelity in older adults and have significant implications for therapeutic approaches with these couples.

Chapter Two. Theoretical Frameworks

Chapter Two describes the guiding theoretical framework for this dissertation. For the purpose of understanding attitudes towards infidelity in instances of both mental and physical impairment, exploration of the investment model (Rusbult, 1980) was used.

Before exploring the investment model used for this dissertation, it should be acknowledged that other theories are well known in the literature for understanding caregiving dynamics. Two common theories include the stress process model and the life course perspective. The stress process model is potentially the most commonly used theoretical approach for understanding family caregiving. This theoretical model focuses on the types of risk factors associated with caregiving such as stressors that exist because of the caregiving role and other stressors such as the health of the caregiver (Haley, LaMonde, Han, Burton & Schonwetter, 2003). The model also considers protective factors such as coping responses and social support. These variables are typically used to predict factors of well-being such as depression and life satisfaction (Haley et al., 2003). The life course perspective is another theoretical approach commonly used to understand family caregiving. Through this perspective, researchers are able to explore how caregivers transitioned into the role of caregiving, the timing and consequences (positive and negative) of adopting the role, and how individuals eventually relinquish the role. Both of these theories have significant value in understanding the caregiving experience, both identify that the caregivers' roles, as well as the personal and social resources available to them, influence how the caregiver role is experienced over time (Matzek, 2011). However, because the focus of this study was not solely on the caregiver experience, but rather the marital relationship, these theories were not ideal in this instance as neither provided an explicit exploration of relationship factors that could explain infidelity.

Although the investment model has not previously been used to study caregiving, its focus on romantic relationships and commitment is deemed to be particularly useful in

understanding the experience of caregiving spouses and the possibility of infidelity. The investment model concepts of marital satisfaction, alternative quality, and investment, provided the opportunity to explore factors that had not only been used to understand infidelity, but factors that also seemed particularly relevant for this population who are at risk for experiencing significant changes to the quality of their marital relationships.

Investment Model

The investment model is based largely on principles from interdependence theory; therefore, this section will begin with a brief discussion of interdependence theory before addressing the investment model. One of the assumptions of interdependence theory is that humans have diverse social and emotional needs that can only be satisfied in the context of dyads or groups, such as a sense of belonging, intimacy, and companionship (Rusbult, 2003; Rusbult & Van Lange, 2003). Interdependence theory explores the interactions between partners in a relationship, specifically examining the needs, thoughts, and motives of one person in relation to another (Kelley & Thibaut, 1978; Rusbult & Buunk, 1993). The theory focuses on the interdependence of partners and explores the ability by which each partner can influence the other's outcomes (Rusbult & Buunk, 1993). This largely depends on the level of dependence between partners and implies that partners influence each other's experiences and partners need each other to obtain outcomes of affection, emotional closeness, and sexual fulfillment (Rusbult & Buunk, 1993). When only one partner depends on the other, they develop unilateral dependence, and the dependent partner loses power in the relationship. When both partners depend on each other, they have mutual dependence and are both more likely to behave in a way that sustains their relationship (Rusbult, 2003).

Social exchange theories explore how relationships develop and are experienced. This group of theories is based on norms of fairness and reciprocity experienced within a relationship. They are characterized by interdependence where one's profits within a relationship depend on whether they can provide a partner with rewards (Sabatelli & Shehan, 1993). As with other social exchange theories, interdependence theory assumes that a primary motivation for initiating and maintaining a relationship is the benefits received from that relationship (Rusbult & Buunk, 1993). In order to assess the benefits of the relationship, individuals evaluate their relationships. This is accomplished by weighing rewards received from the relationship against incurred costs. Relationships are also assessed based on how they compare to our expectations of what relationships should be like. These expectations are influenced by our own experiences with previous relationships, observations of peers' relationships, and comparison to a partner's outcomes; this is known in interdependence theory as the comparison level (Rusbult, 2003; Rusbult & Buunk, 1993). When the outcome of the relationship is favorable, individuals are likely to feel satisfied (i.e. believe his/her partner fulfills important needs). If personal expectations surpass current relationship outcomes, individuals experience dissatisfaction (Rusbult, 1983). The investment model extends this theory by illuminating the feeling of commitment, making it a better fit for this current study because the spousal caregivers for chronic illness typically demonstrate significant levels of commitment to caring for their loved one. According to Rusbult (1980), "the goal of the investment model is to predict the degree of commitment to and satisfaction with a variety of forms of ongoing association (e.g., romantic, friendship, business) with wide ranges of duration and involvement" (p. 173). Through the lens of this model,

commitment is essentially determined by three elements: satisfaction, alternative quality, and investments. In the paragraphs that follow, each element of the investment model will be explored, along with their expected relationships.

Commitment is defined as the tendency to maintain and feel psychologically attached to one's relationship with the intention to remain in that relationship (Rusbult, 1980). Commitment influences one's decision to remain in or leave a relationship (Rusbult, 1983; Rusbult, Martz, & Agnew, 1998). According to the investment model, commitment is determined by three factors - satisfaction, alternative quality, and investments. Commitment to the relationship should be strengthened when an individual feels high satisfaction, has poor alternatives, and is greatly invested in the relationship (Bui, Peplau, & Hill, 1996; Rusbult, Johnson, & Morrow, 1986). Commitment is also expected to increase over time and as individuals become more dependent on their partners (Rusbult, 2003). Some of the reasons suggested for this may include that, over time, the physical and emotional resources invested in the relationship increase the costs of withdrawing from the relationship (Rusbult, 1980).

Satisfaction refers to one's evaluation of the positive and negative aspects of the relationship (Le & Agnew, 2003). The positive and negative aspects of the relationship are referred to as the rewards and costs. *Rewards* are defined as the attributes of the partner and the relationship that are evaluated positively. These can include characteristics such as partner's physical attractiveness and intelligence, and sexual satisfaction (Bui et al., 1996; Rusbult, 1980). Whereas, *costs* are the characteristics of the relationship and partner that are evaluated negatively, such as embarrassing habits and conflict (Bui et al., 1996). When perceived rewards from the relationship are high, costs

are low, and partners are seen as fulfilling important needs, individuals are expected to be more satisfied with the relationship (Fricker, 2006).

Alternative quality refers to the perceived quality of available options other than remaining in the relationship (Fricker, 2006; Rusbult, 1983). This is based on an individual's assessment of his/her most important needs and whether those needs could be fulfilled more effectively outside of the relationship (Rusbult, Martz, & Agnew, 1998). Available options do not refer solely to other relationships, but can include dating, spending time with oneself, or associating with family or friends. Alternative quality can determine if individuals will have an active or passive response to dissatisfaction in the relationship. When good alternatives to the relationship exist, they may serve as motivation for leaving the current relationship. However, if more attractive alternatives do not exist, individuals may remain in the current relationship (Le & Agnew, 2003; Rusbult, Zembrodt, & Gunn, 1982).

*Investment*s are the resources linked to the relationship (Rusbult et al., 1998). It represents both the tangible (shared possessions) and intangible (traditions) rewards that would be lost if the relationship ended (Drigotas, Safstrom, & Gentilia, 1999; Rusbult, 1980). Investments may be rewarding, such as mutual friendships and possessions gained from the relationship, or costly, such as the money and emotional effort put into the relationship (Fricker, 2006). As a relationship persists, partners invest more into it in the hope that it will continue improving their relationship (Rusbult et al., 1998). Investments increase commitment because they often cannot be easily removed, which adds to the cost of ending the relationship (Rusbult et al., 1998).

It is important to note that the three elements described in the model (satisfaction, alternative quality, and investment) have been individually and collectively associated with commitment. For example, individuals may lack satisfaction in a relationship but remain committed because they are highly invested, perhaps because of children, or an individual may be highly satisfied and remain uncommitted because of potential alternatives (Le & Agnew, 2003). It is considered a strength of this model that all three factors do not need to be present for commitment to exist (Le & Agnew, 2003).

Investment Model in Research

As a theoretically rich model with constructs from sociology and psychology, the investment model has been tested and empirically supported in several fields (van Dam, 2005). However, studies reviewed for this dissertation focused only on findings regarding romantic relationships. Studies examining the model in the context of romantic relationship span approximately 30 years of research but only a few have examined its usefulness in the context of infidelity.

Rusbult (1983) was the first to conduct a longitudinal study to test the investment model in romantic relationships. The study included 34 college undergraduates who were in relationships and completed questionnaires for one academic year. Rusbult (1983) found both men and women reported higher levels of commitment when satisfaction and investment were high. However, the two differed in reports about alternative quality. Having low alternative options increased commitment for women, but it was not significantly associated with commitment for men. The general expected trajectory of the commitment model is that rewards, costs, satisfaction, investment, and commitment all increase over time and alternative quality declines (Rusbult, 1983). However, this

trajectory was different for individuals who decided to leave a relationship. When examining how this model predicted individuals who stayed in the relationship versus those who left, Rusbult (1983) found that "leavers" reported increased costs, decreased satisfaction, little increase in rewards, increases in alternative quality, and decreases in investment and commitment. It might be expected that caregiving partners would report a similar pattern in a situation where the costs of caring are high physically and emotionally, and marital satisfaction is potentially lower. Bui et al. (1996) tested the investment model in a 15-year study of college-aged heterosexual couples between 1972 and 1987. Their results supported investment model previous findings. The authors reported that rewards and costs accounted for a significant portion of the variance in satisfaction, and satisfaction, investments, and alternative quality accounted for significant variance in commitment. In a more recent examination, Impett, Beals, and Peplau (2001) tested the investment model in a longitudinal study of over 3500 married couples who ranged in age from 17-77 years. Their findings showed that satisfaction, quality of alternatives, and investments were associated with commitment for both husbands and wives, with no differences between husbands and wives. Their results also suggested that satisfaction was a stronger predictor than quality of alternatives and investment.

Utilizing the investment model to understand the impact of dementia on marital relationships, Baikie (2010) hypothesized that if a spouse perceived the relationship as good or equitable prior to the illness, the cost of caregiving would continue to be seen as equitable. Partners also reported loss in experiences of affection, shared activities, decision-making, and practical support, experiences that can be seen as costs or

investments of caregiving. Findings showed, however, that spouses all continued to report love and compassion for their partners.

Although the investment model has successfully predicted commitment or stay/leave behaviors, to the author's knowledge, it has not been used to predict the likelihood of infidelity, with the exception of one study. Drigotas, Safstrom, and Gentilia (1999) explored the investment model in relation to infidelity. They believed that the model was ideal for infidelity research because it allowed for exploration of multiple explanations shown to be related to infidelity such as satisfaction, alternative quality, and investment. It would be expected that commitment and infidelity are directly linked. Poor satisfaction and investment and high alternative quality can erode commitment over time and potentially lead to infidelity. Feelings of commitment can cause individuals to consider the negative consequences of infidelity for themselves, their relationships, and their partners, which may in turn reduce the likelihood of infidelity (Drigotas et al., 1999). Results from their study demonstrated that the investment model was successful in explaining infidelity in dating relationships. As expected, Drigotas et al. (1999) found that individuals who were more committed, satisfied, and had fewer alternatives were more invested in their relationships and less likely to engage in extramarital relationships. The authors also found that highly committed individuals were highly concerned with the well-being of their partners and engaged in what is known by interdependence theorists as "transformation of motivation" where individual needs and wants are subsumed and transformed into concern for what is best for the relationship or one's partner.

Summary

In summary, the investment model provides a strong theoretical foundation for exploring spousal caregiver's attitudes towards infidelity in instances of psychological or physical impairment. The investment model provides a framework for understanding the potential costs and rewards of relationships and caregiving that may influence satisfaction and ultimately a decision to leave, or in this case perceive an extramarital relationship as an appropriate alternative.

Chapter Three. Literature Review

This chapter examines three main areas: 1) Relationship satisfaction in spousal caregivers; 2) Infidelity for older adults; and 3) Therapeutic approaches with spousal caregivers.

Relationship Satisfaction and Caregiving

Much of the research about relationship satisfaction and caregiving focuses on caring for an individual with AD. However, because the dependent variable for this study examined perceptions of infidelity in the context of both AD and significant physical impairment, the literature review for this study explored what is known about spousal caregiving in a broader context.

Researchers have studied the loss of emotional and physical intimacy, changing roles, and other intricacies of intimate partner relationships in the presence of chronic illness. Few studies report positive changes in the marital relationship when the marital couple experiences chronic illness. For example, Eloniemi-Sulkava et al. (2002) examined 42 spousal caregivers caring for a partner with a chronic illness and found that 5% (n=2) of their participants reported increased tenderness and 2% (n=1) reported general improvement in marital sexual behavior during the caregiving experience for

dementia. However, most reported negative changes in the relationship. Harris et al. (2011) found mixed results in dementia caregiver reports regarding the loss of intimacy. In their qualitative study, some caregivers attempted to adjust to the changes associated with the illness and attempted to maintain a level of physical and emotional intimacy, others were too upset by the symptoms of the illness to maintain intimacy with their partners, and others just accepted the loss of physical intimacy of the relationship. In some instances, emotional intimacy replaced the lack of physical intimacy in the relationship. Although some results from a study by Yorgason et al. (2008) showed signs of positive marital relationship changes such as some partners reporting increased marital quality at the onset of disability; changes in a partner's health have most frequently been linked to the deterioration of marital quality and satisfaction and the authors believe that marital quality declines once health continues to decline.

Perhaps the most frequently cited challenge in marital relationships when chronic illness occurs is the loss of intimacy and marital satisfaction. The sense of loss occurs because the ill partner is now no longer available to provide emotional and practical support, and partners feel as though they have lost their companion, support, lifestyle, and often sense of self (Baikie, 2010; Buhse, 2008). These feelings appear to be consistent across both psychological and physical illnesses, for example AD (Baikie, 2010) and Multiple Sclerosis (Buhse, 2008). Younger and middle-aged adults are more likely to experience greater declines in marital satisfaction because of this loss of a reciprocal relationship (Yorgason et al., 2008). The authors also found that younger adults were more likely than adults over 50 years of age to report a decrease in marital happiness with the onset of a disability. This may also be related to the fact that younger

spousal caregivers, like those in their early to mid-50s, are experiencing the additional loss of the future they expected with their spouses, which included social activities and a shared emotional and intellectual intimacy that is no longer available (Boylstein & Hayes, 2012). Many researchers can agree that illness results in lower relationship satisfaction, but it remains unclear whether this is different for males and females. For instance, Yorgason et al. (2008) found that wives were more likely to report declines in marital quality when husbands became ill than husbands were when wives became ill. On the other hand, Simonelli et al. (2008) found that men were more likely to perceive worse affective marital satisfaction after the onset of AD than women.

Quality of the relationship prior to illness onset may also account for differences in marital satisfaction and loss of intimacy. Some researchers found that spouses who reported satisfactory marriages prior to the illness were at greater risk for emotional and physical health problems when the marriage deteriorated because they experienced greater loss of intimacy (Keene 1995; Morris, Morris & Britton, 1988). In contrast, others found that spouses who reported happy relationships prior to illness onset expressed less resentment and more positive memories toward their spouses than those who had negative relationships prior to illness onset (Harris et al., 2011). Adams, Mcclendon, and Smyth (2008) also agreed that happy relationships prior to the illness may serve as a buffer for symptoms of depression.

Researchers suggest that loss of intimacy and marital satisfaction leads to role ambiguity in the relationship and loss of self-identity. According to caregiver identity theory, as caregivers experience incongruence in their role identity, they either have to change their identity or engage in some form of intervention to regain congruence

(Savundranayagam & Montgomery, 2009). When a spouse becomes a caregiver, his or her identity as a spouse is altered and so are the rules of that relationship (Savundranayagam & Montgomery, 2009). As roles shift during the caregiving process, many spouses report feeling more involved in a parent-child relationship versus a romantic partnership (Harris et al., 2011; Hayes, Boylstein, & Zimmerman, 2009). Role change from partner to more of a parental figure may be more likely to occur if the caregiving partner believes that his/her spouse may not be able to willingly engage in sexual activity (Harris et al., 2011). At this point, spouses may report feeling that sexual activity is inappropriate with their spouses. Hayes et al. (2009) found that wives, in particular, described a decrease in sexual interest or intimacy because they saw themselves in the role of mother instead of wife. The authors also found that men were less likely than wives to view their partners in a role different from spouse during cognitive impairment. Because of these changes, some partners view sexual intimacy as more incestuous than satisfying (Baikie, 2010).

Over the decades, researchers have established that although the intensity and degree of sexual response changes with age, the desire for intimacy involving sexual activity does not change over the life course (Keene, 1995). In fact, sexuality continues to be an important component of life (Keene, 1995). However, as described above, emotional and physical intimacy may significantly diminish in the presence of chronic illness. This has led researchers to examine the role of sexual intimacy in spousal caregiving research.

Researchers have questioned the interaction between the demands of caregiving and sexual intimacy. In the case of AD, Baikie (2010) suggested that researchers

continue trying to understand whether a level of attraction can exist between partners when the ill partner changes so significantly due to the illness and the extent to which the demands of the caregiving role reduce sexual feelings toward the ill partner. Some researchers have found that, even in the earlier stages of AD, some spousal caregivers prematurely isolate themselves from their mates, often reporting guilt about intimately touching their ill partners because they do not believe that intimate contact can still be consensually welcomed (Hanks, 1992).

Certainly, there are spouses who continue to be sexually active with their partners, despite cognitive impairment (Harris et al., 2011). Based on findings of this review, it seems that men are more likely to try to remain sexually active with their spouses than women. Similarly, Hayes et al. (2009) found that caregiving husbands were more likely to pursue sexual relations and desire sexual intimacy with their impaired wives than caregiving wives. Although caregiving husbands were more likely to approach their ill wives for sex, they also stopped making sexual advances when they could no longer ascertain a wife's interest (Hayes et al., 2009). Caregiving wives seem to give sex a low priority once a dementing illness is present and often feel guilty or feel it is inappropriate to tend to their own sexual needs because it is more important to focus their attention solely on care for their spouses (Simonelli et al., 2008). In addition, spousal caregivers often experience feelings of abandonment and loss as they adjust to their new roles and even though thoughts of desire regarding sexuality do not cease for caregivers, they may feel guilty about having those thoughts (Hanks, 1992). When conflict between the caregiver role and role of spouse arise, Keene (1995) suggested that caregivers typically choose four methods to resolve them. These include: 1) altering expectations to stay in

the marriage, 2) controlling their lives via a coping mechanism, 3) forming friendships and having confidants outside the marriage, and 4) dating and engaging in extramarital intimate relationships. In instances of chronic illness, the physical presence of a spouse exists, but the well spouse may feel emotionally and sexually abandoned. When caregivers still express sexual interest, but spouses are no longer available to fulfill these needs, attempts may be made to begin an extramarital relationship in an attempt to replace the emotional, social, and physical loss in the marital relationship (Hanks, 1992; Keene, 1995).

Infidelity and Older Adults

This section of the review begins with a broad overview of what is known about extramarital relationships in older adults and concludes with a discussion of the articles that explicitly examined extramarital relationships among spousal caregivers.

Infidelity refers to both physical and emotional involvement with an outside partner that violates the norms of a current romantic relationship (Barta & Kiene, 2005). Emotional infidelity may manifest without a sexual component; in fact, a person may engage in an emotional affair without visual or physical contact as in the case of computer-mediated infidelity (Barta & Kiene, 2005). Similarly, extramarital sexual relationships can occur without emotional involvement. According to Barta and Kiene (2005), the majority of infidelities fall in the middle regions of this continuum and many individuals claim that their extramarital relationship satisfied both their emotional and sexual needs. In some cases, extramarital affairs begin without individuals explicitly seeking to engage in another relationship. For example, Barta and Kiene (2005) discuss emotional infidelity that begins over the internet in forums like chat rooms without the

individual intentionally being engaged in seeking a sexual relationship. Similarly, individuals who engage in casual sexual encounters, such as “hookups,” frequently state that it happened spontaneously (Barta & Kiene, 2005).

Many studies examining infidelity use samples consisting of younger university students, making it more difficult to generalize to a mature population (Fricker, 2006). However, some studies have included older adults and have linked numerous variables to infidelity such as gender, age, relationship and sexual satisfaction, and commitment (Atkins, Baucom, & Jacobson, 2001; Blow & Hartnett, 2005; Fricker, 2006; Keene, 1995; Liu, 2000).

Marital and sexual satisfaction are often found to be associated with infidelity, with researchers commonly finding that low marital satisfaction increases the desire to become involved in an extramarital relationship (Atkins et al., 2001). These authors found that participants who reported dissatisfaction in their relationships were four times more likely to report extramarital relationships than those who reported being very happy in their relationships. Even participants who reported their marriages as “pretty happy” were still twice as likely to engage in extramarital relationships compared to those who reported that their relationships were “very happy”. After an extensive review of infidelity literature, Blow and Hartnett (2005) agree that relationship satisfaction is likely related to infidelity. Using a sample of adults between the ages of 18-59, Liu (2000) found that a decline in frequency and quality of sexual activity led to a higher incidence of infidelity. This was especially true for men.

Age, gender, and religion have also been significantly related to infidelity. Of the studies found that explored infidelity with an older sample, most reported differences

between older and younger couples (Atkins et al., 2001; Blow & Hartnett, 2005; Liu, 2000; Waite, Laumann, & Schumm, 2009). Waite et al. (2009) compared descriptive information using measures of sexuality from the NSHAP for men and women. They found that older adults were more conservative in their attitudes about sexuality than younger adults, and the likelihood of believing that extramarital sex was always wrong increased with age. However, when chronic illness was introduced, participants reported less negative attitudes toward extramarital relationships across all age groups.

Additionally, there may be an interaction between gender and age with regard to extramarital relationships; however, findings are mixed. Atkins et al. (2001) found that men between 55-65 years of age were the most likely to have had an extramarital relationship when compared with men in both the younger (18-54) and older age groups. In addition, women between the ages of 40-45 were more likely to report infidelity than women in younger and older cohorts. Whereas, Wiederman (1997) found that participants under 40 years of age did not demonstrate a gender difference in their reports of extramarital sex.

Atkins et al. (2001) also found that participants who attended religious services frequently were less likely to report infidelity; however, when participants evaluated themselves in “pretty happy” or “not too happy” relationships, religion did not have an effect on infidelity. Atkins et al. (2001) suggested that dissatisfaction in the relationship may be powerful enough to override the effect of religious values. Blow and Hartnett (2005) also agree that religious beliefs, or maybe more specifically, attending religious services, is important in understanding infidelity, but that religion may serve as a mediating variable between relationship satisfaction and infidelity.

Infidelity in Spousal Caregivers

A thorough review of the literature revealed that infidelity is not commonly explored in spousal caregivers. To the author's knowledge, only two studies and one study in review, have explored attitudes towards infidelity among spousal caregivers.

Keene (1995) completed a qualitative study with 12 older adult spouses between the ages of 65 and 86 years of age, who had been caring for a spouse with a diagnosis of dementia, and who had been involved in extramarital relationships. All caregivers in this study became involved in extramarital relationships because of feelings of loneliness when they lost significant interaction with their marital partners. Some participants reported that their extramarital relationships made them feel less lonely, less depressed, and more alive. Very few participants reported disadvantages of engaging in the relationship. Of those who reported disadvantages, spouses reported feeling as if they had to "sneak around", and they indicated not being able to set goals or make future plans as disadvantages of the extramarital relationship. In addition, all of the participants reported that they would not divorce their ill spouses, but they would continue their extramarital relationships. Most participants believed that they would not remarry, and very few said that marriage to their current partner would be an option for them once their spouse died. Keene (1995) noted that, regardless of the marriage being happy or unhappy or whether caregivers remained married out of love and respect or duty and obligation, all caregivers still chose to manage the difficult aspects of caregiving by engaging in extramarital relationships. This study consisted of a small sample and resulted in a lack of representativeness; nonetheless, it highlights information that is

pertinent for family therapists as they seek to understand that extramarital relationships may be an option for older spousal caregivers.

At the time of her study, Keene (1995) reported that other independent studies examining extramarital relationships among older adult caregivers existed. Since then, based on this author's search, only one other author has taken on the task of exploring infidelity in older spousal caregivers. An exploratory mixed methods study was recently conducted by London and Wilmoth (2014) to explore older adults' attitudes regarding infidelity. The authors utilized findings from a sample in the NSHAP and a sample of responses from individuals who commented about online news articles (*The Wall Street Journal* and the *New York Times*). To identify their NSHAP sample, the authors first created a variable that compared AD caregivers (spouses and others who identified as caregivers) (N=78) to the rest of the sample (N=2167). Then they created another variable with five categories: 1) spousal caregivers who had partners with AD (N=18), 2) spousal caregivers whose partners were not diagnosed with AD (N=77), 3) non-spousal AD caregivers (such as adult children) (N=60) , 4) non-spousal caregivers of persons without AD (N=202), and 5) non-caregivers of any relation (N=1888). For their online study, they selected individuals who identified either as spousal caregivers or those who did not identify as spousal caregivers. They first analyzed the NSHAP sample to examine individual attitudes toward extramarital sex when a spouse had AD and found that individuals who identified as caregivers were more likely than non-caregivers, although not significantly so, to believe that extramarital sex in the context of spousal AD was always wrong. However, when they analyzed these findings further, they found that non-spousal caregivers were the driving force for these negative perceptions, and in fact,

spousal caregivers expressed the least negative attitudes about extramarital relationships in the context of AD.

Second, London and Wilmoth (2014) conducted a sub-study exploring attitudes towards extramarital sex in the context of AD based on discussion postings made in the *New York Times* and the *Wall Street Journal* regarding caregivers in extramarital relationships. In their review of public postings, they found that individuals who expressed negative attitudes regarding extramarital sex in the context of AD also expressed traditional religious and family values.

Finally, in an article currently in review, London and Wilmoth extended their research by exploring attitudes of older adults toward infidelity in general and in the context of AD and physical impairment. They explored factors that may be related to attitudes of infidelity such as age, race, religious affiliation, religiosity, education, household income, and veteran status in older adults. They found that across all three contexts of infidelity presented (general, dementia, and physical), favorable attitudes towards extramarital sex were higher for those with a college education, higher income ($50,000+), prior incarceration, those who were divorced/separated or never married, and those who were not high in religiosity.

As more individuals become caregivers to a spouse with a chronic illness, we will have more individuals facing ambiguity about their relationship/marital status. To date, research concerning spousal caregivers and infidelity is in its infancy. We have yet to develop an understanding of the mechanisms that are associated with relational loss and infidelity in the context of spousal caregiving. Research on individuals engaging in extramarital relationships indicates that those individuals report greater depressive

symptoms and lower well-being than those who did not engage in extramarital relationships (Hall & Finchman, 2008). Engaging in an extramarital affair also caused individuals to experience greater feelings of guilt and lower levels of self-forgiveness when compared to individuals who did not engage in extramarital relationships. Extramarital relationships may also affect other family relationships as Thorson (2009) reported that adult children may have negative reactions to learning of a parent's infidelity. Thorson (2009) reported that adult children may see a parent's infidelity as a betrayal of the expectations that they had for both their parents and for marriage. Thorson (2007) also suggested that learning about the affair may cause adult children to wonder about the possibility of a parent's divorce and how they might be affected by inheritance issues surrounding that relationship. However, in the case of caring for an older adult, it would be reasonable to assume that an adult child may wonder how an extramarital relationship would affect the continuity of care being offered to their ill parent. Taken together, these findings suggest that psychological distress from caregiving may potentially lead spousal caregivers to engage in an extramarital relationship, but engaging in an extramarital relationship may also cause additional psychological distress in the caregiver and difficulties in their other familial relationships, making this an important population for therapists to understand.

Mental health professionals need to position themselves to better understand these issues and know how changes associated with care affect the caregiver's feelings about marital expression, commitment, and fidelity. Keene (1995) suggested that future research in this area should include factors such as socioeconomic levels, gender, family support, and racial and ethnic group differences. This dissertation included an

examination of many of the factors that Keene (1995) suggested such as gender, income, and ethnicity. It also included an examination of age, education, and religion. Each of these factors included in this dissertation analysis have been described in the research above as relevant to understanding infidelity (Atkins et al., 2001). Because the dissertation did not focus on spousal caregivers caring for a partner with one specific chronic illness, the dissertation also included care (i.e. caring for a spouse with Alzheimer's or another chronic illness) to determine if there was a difference in spousal reports based on reason for care.

The dissertation also surpassed recommendations made by Keene (1995) by examining relational factors grounded in theory provided by the investment model to advance this area of study. It is expected that the findings from this study will be useful to those pursuing research in this area and provide important information for practitioners who will increasingly work with spousal caregivers.

Therapeutic Approaches for Spousal Caregivers

Some therapeutic approaches already exist that aid clinicians in working with caregivers. Currently, most studies utilizing an intervention for working with caregivers fall into three categories: 1) psychoeducational-skill building, 2) psychotherapy-counseling, and 3) multicomponent therapies (Coon, Keaveny, Valverde, Dadvar, & Gallagher-Thompson, 2012; Gallagher-Thompson & Coon, 2007). Psychoeducational-skill building approaches refer to interventions where the goal is to increase caregivers' knowledge of the illness while teaching them coping skills such as problem solving and mood management. The goals of this type of approach often include increasing life satisfaction, reducing stress, and increasing anger management. The psychotherapy-

counseling approach typically refers to interventions that utilize either group or individual counseling and most often use behavior therapy and cognitive behavior therapy, with the goal of targeting psychological distress and reducing depression and anxiety. Finally, multicomponent approaches refer to those that include two or more approaches as the intervention, for example combining skill building with family counseling. This approach also has common goals of managing depression and anxiety and teaching coping skills to caregivers (Coon et al., 2012; Gallagher-Thompson & Coon, 2007). Each of these evidence-based interventions demonstrates a current commitment in the field to helping caregivers cope with the psychological distress that can be experienced through caregiving. However, they each aim at identifying coping skills for caregivers to reduce symptoms, but do not demonstrate consideration for the state of the spousal relationship and the impact this may have on the caregiver's distress.

Review of literature has shown that there is little information available for healthcare and mental health providers about how age and illness affect intimacy in older adults. In addition, because of the current state of information concerning this issue, health professionals may not willingly broach the subject of infidelity with clients (Benedict, 2013; Harris et al., 2011; Langer, 2009). Simonelli et al. (2008) reported that caregivers in their sample stated that no healthcare professional had inquired about their sexuality or provided information about potential intimacy problems related to cognitive impairment. In order to address this issue, it is important that practitioners not assume that elderly adults no longer have an interest in physical intimacy and are satisfied with the intimacy in their relationships. In addition, family therapists may be the first professionals that caregivers confide in about extramarital-intimate relationships (Keene,

1995). Therefore, therapists must be able to be professionally aware and increase awareness of the these relationships. It is also imperative that therapists examine their own perceptions and biases about the moral and ethical issues involved when they are working with this population (Harris et al., 2011; Keene, 1995). However, researchers suggest that healthcare providers often have the same biased attitudes about intimacy and older adults that society at large holds and may be reluctant to discuss sexuality (Eloniemi-Sulvaka et al., 2002; Langer 2009; Lindau, Schumm, Laumann, Levinson, O'Muircheartaigh, & Waite, 2007).

Traditionally, therapy focused on infidelity aimed to foster forgiveness, heal the relationship, create new patterns and expectations, and rebuild attachment (Dupree, White, Olsen, & Lefleur, 2007; Johnson, 2005). However, these may not be the appropriate goals for treatment in instances of infidelity when couples experience chronic illness. For example, in the instance where a partner has advanced stages of dementia, healing the love relationship is not a likely option. Even in instances of significant physical impairment, infidelity may be perceived differently and the goals of treatment may be different should be explored more broadly.

Therapeutically, some attempts have been made to work with couples to intervene during illness. For example, Ingersoll-Dayton, Spencer, Kwak, Scherrer, Allen, and Campbell (2013) describe a life story approach with couples where one partner has dementia. During this approach, the therapist focuses on the strengths of the patient versus his/her deficits and encourages the couple to develop a new life story focusing on the couple's resilience. Understanding ambiguous loss also has significant implications for practitioners. Findings from a qualitative study conducted by Blieszner, Roberto,

Wilcox, Barham, and Winston (2007) suggested that families would benefit from interventions specifically tailored to address ambiguity and the relationship losses that families are experiencing. Boss and Couden (2002) state that clinicians need to be willing and able to assist families in the context of illnesses that may not be curable. Otherwise, we risk reinforcing the perception that chronic illness is a hopeless situation for families. Instead, a better clinical goal is to help families learn how to live with the stress of long-term ambiguity and maintaining a connection to their partner (Betz & Thorngren, 2006).

When Keene (1995) conducted her study, she stated that research in clinical psychology lacked sufficient information to address treatment issues for older caregivers. Although the clinical field has made significant advancements in discussing treatment approaches for adult caregivers, the issue of intimacy is an area in need of greater focus.

Summary

Knowledge of the relational factors that influence perceptions of infidelity in older spousal caregivers is a missing link in our understanding of the caregiver experience. From this review of the literature, it is apparent that spouses caring for partners with chronic illness are in a unique position where the marital limbo they experience may lead them to consider engaging in extramarital relationships. It is clear that our understanding of this phenomenon is limited, and further exploration is needed so mental and healthcare professionals can better serve the needs of this population. To address this gap, a framework utilizing the investment model has been designed and is described in the next chapter.

Chapter Four. Conceptual Framework and Methodology

This chapter describes a study of spousal caregivers' perceptions of infidelity. Some modifications have been made to the original investment model for use in this caregiving sample due to data restrictions. More specifically, two modifications were made to the investment model. The first was measuring attitudes towards infidelity instead of measuring the act of infidelity and the second was measuring attitudes towards alternatives instead of alternative quality. The justification for these changes is detailed in the subsequent discussion of the research questions. A conceptual framework for this study was proposed to examine how concepts derived from the investment model might be related to caregivers' attitudes towards infidelity (See Figure 1). In this section, the research questions are presented along with the justification for each linkage.

Marital Satisfaction ⟶ Attitudes towards Infidelity

The first research question examines the relationship between marital satisfaction and attitudes towards infidelity. As demonstrated in the review above, marital satisfaction has been found to be a strong predictor of infidelity and the most frequently studied relationship factor (Atkins et al., 2001). Atkins et al. (2001) found that participants who reported dissatisfaction in their relationships were more likely to have extramarital relationships. Also, based on the findings of Drigotas et al.'s (1999) use of the investment model, satisfaction should have a significant negative relationship with infidelity. Research has also demonstrated that spousal caregivers may experience greater marital dissatisfaction (Simonelli et al., 2008; Yorgason et al., 2008), making this an important path to be tested in this analysis.

For the purpose of this dissertation, attitudes towards infidelity was used as the outcome variable because it was judged to be an indicator of one's commitment. This

was the first modification made to the investment model. The data did not allow for direct measurement of the participant's behavior (i.e. whether they actually engaged in an extramarital relationship). Nonetheless, the measure of their attitudes was expected to produce similar results because attitudes can influence and predict behavior (Ajzen & Fishbein, 2005; Glasman & Albarracin, 2006). Therefore, it was expected that marital satisfaction would have a significant negative relationship to attitudes towards infidelity, after controlling for demographic variables.

Rewards and Costs ⟶ Marital Satisfaction ⟶ Attitudes towards Infidelity

The investment model posits a mediational effect between rewards and costs and marital satisfaction (Bui et al., 1996; Rusbult, 1983). As stated above, individuals should be more satisfied with their relationship if these relationships provide high rewards, low costs, and satisfaction. In turn, better marital satisfaction has been associated with commitment (Rusbult, 1983). To this author's knowledge, this mediational effect has only been tested once by Bui et al. (1996). The authors found that the relationship between rewards and commitment was mediated by satisfaction, but satisfaction did not mediate the relationship between costs and commitment. This mediational effect was also tested in this caregiving study, to determine whether results might be different in a population that may experience high costs and low rewards in the context of chronic illness.

Attitudes towards Alternatives ⟶ Attitudes towards Infidelity

In the investment model, alternative quality has a direct relationship to commitment. Perceiving that an attractive alternative will provide superior outcomes to

the current relationship can result in an individual pursuing the alternative and moving away from the current relationship. If an alternative does not exist, an individual may persist in the current relationship for lack of better options (Le & Agnew, 2003). This link is typically assessed by determining whether an individual identifies attractive alternatives to his/her current relationship. Because the NSHAP does not include questions that can address choices of another relationship, for the purpose of this dissertation, the argument was made that factors can exist that serve as barriers for individuals even considering possible alternatives and this concept is referred to as attitudes toward alternatives. This concept was addressed by identifying factors that may have affected attitudes towards alternatives, such as one's behaviors being heavily influenced by religious beliefs or that love is a necessary component for sex. It was expected that these barriers would reduce the likelihood of considering infidelity as an acceptable choice. It was hypothesized that beliefs about love and sex would be strong predictors of one's behaviors and commitment in relationships (Hendrick & Hendrick, 2002). Fricker (2006) also suggested that a belief that love and sex are connected has been shown to be a deterrent for extramarital relationships.

Religious beliefs are also expected to impact an individual's attitude towards alternatives. An individual's religious beliefs are said to strengthen and stabilize the marital relationship (Call & Heaton, 1997), and religious factors have been found to influence other relationship aspects such as cohabitation, marital satisfaction, and duration (Burdette, Ellison, Sherkat, & Gore, 2007). In addition, Wiederman and Hurd (1999) stated that individuals who reported more religious behavior and made an association between sex, love, and marriage would be less likely to engage in extradyadic

relationships. Therefore, these items are well suited in establishing attitudes towards alternatives and would be expected to be negatively associated with attitudes towards infidelity.

Investment ⟶ Attitudes towards Infidelity

This part of the model examined the resources (costs and rewards) linked to the relationship (Bui, 1996). Some examples of investments are time, emotional effort, and shared memories and activities (Bui, 1996; Rusbult, 1983). Investment can be rewarding or costly, with investments such as emotional effort or monetary investments seen as more costly (Rusbult, 1983). In research utilizing the investment model and infidelity, Drigotas et al. (1999) found that investment is negatively associated with infidelity, a trend expected with this sample. Within this sample, the act of caring for a spouse and the time and emotional effort involved in that act were posited to represent strong commitment to the relationship. Therefore, when spouses were not highly invested, they could be expected to have permissive attitudes towards infidelity.

Methodology

Data and Analytic Sample

The chosen data set for this dissertation research was the National Social Life Health and Aging Project (NSHAP). The NSHAP is a longitudinal, population-based study examining health and social factors of older adults (Waite, Laumann, Levinson, Lindau, & O'Muircheartaigh, 2014). Starting in 2005-2006, NSHAP researchers completed more than 3000 interviews with a nationally representative sample of older adults between 57 and 85 years of age (adults born between 1920 and 1947), which included an oversampling of African-American and Hispanic adults, and men between

the ages of 75-84. Data collection for the NSHAP included in-home interviews, biomeasures, and leave-behind respondent-administered questionnaires. The weighted response rate for in-home interviews was approximately 75% and an 84% response rate for the leave-behind questionnaires (Waite et al., 2014). In 2010 and 2011, the NSHAP completed wave 2 of data collection. However, the second wave was not included in this study because the questions of interest were not included in the more recent wave. The NSHAP is the ideal data set for this study because it includes a large sample of older adults and, to the author's knowledge, it is the only nationally representative data set that includes questions regarding both extramarital sex and chronic illness for older adults.

Sample Description

The present study employed a secondary analysis of NSHAP data collected in Wave 1. These cross-sectional data were used to examine the role of marital satisfaction, alternative quality, and investment in relation to attitudes towards infidelity in a caregiving sample. Sample selection began by identifying married participants (N = 1801). Of these participants, those who identified as caregivers to their spouses were selected (N = 100). These spousal caregivers served as the primary sample for this dissertation. Husband caregivers made up 43% of this sample and wives 57%. Eighty-one percent of the caregivers were White, 11% were Black, and 8% were Hispanic. Caregivers reported either caring for someone with AD (20%) or another disease that was not specified (74%); 6% did not answer type of illness. Eighteen percent of caregivers were between 57-64 years old, 35% between 65-74 years old, and 47% between 75-85 years old, with a mean caregiver age of 72 (M = 72.6).

Measures

Rewards. Items were identified throughout the NSHAP as being characteristics that could be perceived positively about one's partner or relationship. The sum of two items was used as a measure of rewards. Participants rated the frequency of relying on "How often can you open up to (name) if you need to talk to about your worries?" and opening up to their spouses " How often can you rely on (name) for help if you have a problem?" These were rated on a 4-point scale (*1 = hardly ever or never*, 2 = *some of the time,* 3 = *often*). The summed items demonstrated acceptable internal reliability (α = .73).

Costs. Items were identified throughout the NSHAP data set as potential costs with one's partner or relationship. The sum of two items was used to measure relationship costs. Participants were asked to rate how often they felt isolated ("How often do you feel isolated from others?"), and lacked companionship ("How often do you feel that you lack companionship?"). Response options for each item included (*1= hardly ever or never,* 2 = *some of the time,* 3 = *often*). The reliability coefficient for these 2 items was acceptable (α = .76).

Marital Satisfaction. Marital satisfaction was measured by combining three items: relationship happiness, emotional satisfaction, and physical satisfaction. Relationship happiness was assessed by asking participants: "taking all things together, how would you describe your [marriage/relationship] with your partner?" Possible scores ranged from 1 (*very unhappy*) to 7 (*very happy*). Emotional satisfaction was assessed by asking: "How emotionally satisfying do you find your relationship with [him/her] to be?", with possible scores ranging from 0 (*not at all satisfying)* to 4 (*extremely satisfying*); and physical pleasure was assessed by asking " How physically

pleasurable do you find your relationship with your partner?" With possible scores ranging from 0 (n*ot at all pleasurable)* to 4 (*extremely pleasurable)*. As a summed scale, these items have previously demonstrated high internal consistency with for adults included in this study (α. = .82 for women and α = .74 for men) (Waite et al., 2009). The reliability for the scale in this sample was also high (α = .79). Because the items had different scales, the scores were standardized before they were summed to form the satisfaction scale.

Attitudes Towards Alternatives. Three items were identified through the NSHAP that were posited to impact an individual's attitude towards seeking alternatives to their current relationships, or more specifically, engaging in an extramarital relationship. Participants were asked to respond to the following statements: "I would not have sex with someone unless I was in love with them", "My religious beliefs have shaped and guided my sexual behavior," and " I try hard to carry my religious beliefs into other dealings in life." Response options for these statements included (1 = *strongly disagree,* 2 = *disagree*, 3 = *agree*, 4 = *strongly agree*). The items were summed to produce the attitudes towards alternatives scale and internal reliability for these items was acceptable (α = .77).

Investment. Items assessing investment included length of marriage, and hours spent caregiving. Length of marriage was measured in years and was obtained by subtracting the year of marriage from the year of interview (*M* = 43.7, *SD* = 17.2). Hours spent caregiving was also included as a measure of investment within the relationship and was operationalized by asking the participants: "How many hours per day do you typically spend caring for this person?" Response options included (1 = *less than 2 hours*,

2 = *2 hours or more but less than 4 hours*, 3 = *4-8 hours*, 4 = *more than 8 hours*, 5 = *all of the time*). These items did not demonstrate internal reliability and were included separately in the analysis.

Attitudes Towards Infidelity. Attitudes towards infidelity was measured with three interrelated variables examining attitudes toward extramarital sex. The response options for each question were: (1) *always wrong*; (2) *almost always wrong*; (3) w*rong only sometimes*; or (4) *not wrong at all*. Participants were asked the following questions: "A married person having sexual relations with someone other than their marriage partner. Is this [*insert response options*]? The second question asked: "What about if the spouse is in advanced stages of dementia, such as Alzheimer's or another mental disease? Is this *[insert response options*]? The third question continued: "What about if the spouse has a serious, long-term physical illness and cannot have sex? Is this [*insert response options*]? The mean of the three items was calculated to develop an attitudes towards infidelity scale. This scale demonstrated acceptable internal reliability ($\alpha = .78$).

Control variables. Demographic variables were measured using self-report items. The items included in this analyses are gender (1 = *male*, 2 = *female*), education (1= *less than high school*, 2 = *high school diploma or equivalent*, 3 = *some college, vocational education*, and 4 = *college education or higher*), religious attendance (0 = *never*, 1= *less than once a year*, 2 = *about once or twice a year*, 3 = *several times a year*, 4 = *about once a month*, 5 = *every week*, 6 = *several times a week*), reason spouse requires care (1 = *Alzheimer's disease or dementia*, 2 = *other*). In the NSHAP ethnic group was coded into 4 categories (1 = *white*, 2 = *black*, 3= *Hispanic, non-black*, and 4 = *other*). This item was then dummy coded for analysis. Age was also coded into 3

categories (1 = *57-64 years*, 2 = *65-74 years*, and 3 = *75-85 years*). Finally, a variable was created to assess household income in the following categories (1 = *less than $25,000*, 2 = *$25,000-$50,000*, 3 = *more than $50,000*).

Analytic approach

This study utilized a series of four multiple regression analyses to examine cross sectional data using SPSS 21. Multiple regression was used to examine hypotheses about the relationship of multiple independent variables to a dependent variable (Higgins, 2005). Multiple regression has four underlying assumptions that must be met for analyses to be conducted. One assumption of regression is multicollinearity. In multiple regression, variables should be correlated to the dependent variable, but not correlated too highly with one another. Multicollinearity occurs when there are high correlations between a set of the variables. Another assumption is normality. Normality assumes that the residuals are normally distributed about the dependent variable scores. Linearity is another assumption of regression and assumes that residuals have a straight line relationship with the dependent variable. Finally, there is the assumption of homoscedasticity. This is the assumption that the variance of the residuals about the dependent variables is similar for all values of the independent variable (Leech, Gliner, Morgan, & Harmon, 2003; Osborne & Waters, 2002).

Data were screened for several characteristics such as missing data, normality, linearity, homoscedasticity, and multicollinearity to ensure that the assumptions of regression were met. Most correlations were not within range to cause concern about multicollinearity ($r < 0.5$). Correlations for each variable are provided in Table 3. Two

moderate correlations (i.e. correlations greater than .5), the highest being r = .58, raised concerns about multicollinearity. To ensure that variables did not share variance, collinearity diagnostics were performed. Tolerance scores ranged from .283 to .851 and variance inflation factors (VIF) scores were all at or below 4.11. According to Kleinbaum, Kipper, Mulluer, and Nizzam (1998), concerns about collinearity exist when the tolerance score is greater than 1.00 and the VIF scores are greater than 10. Therefore, collinearity scores were within accepted ranges. *A priori* power analysis was also conducted. Based on Cohen's power diagnostics, a sample of 97 can test up to 6 variables within one analysis and a sample of 102 can test 7 variables to attain a desired power of .80, with a significance threshold of $\alpha = .05$, and a medium effect size with a regression analysis (Cohen, 1992). Given the sample of 100 spouses, there was sufficient power to conduct this series of analyses, testing each path of the model separately.

Three of the four models of this analysis utilized hierarchical multiple regression (Models 1, 3, and 4). Hierarchical multiple regression is used when researchers have an interest in examining the influence of independent variables so that they explain the contribution of one set of variables over and above what can be accounted for by other variables (Petrocelli, 2003). The hierarchical method was used in this analysis because the aim of the analysis was to estimate the contribution of the investment model variables beyond the contribution of demographic variables (gender, age, education, religion, income, ethnicity, and reasons for care). In hierarchical regression, variables are entered in steps and the change in R^2 is examined (Leech et al., 2003). For the three hierarchical regression analyses in this study, demographic variables were always entered as the first step of the analyses.

Missing Data Analysis

A missing value analysis was performed on all variables included in the analyses. This analysis was used to determine the amount of missing data and the pattern of the missing variables. In large national data sets, it is impossible to avoid missing data but statistical approaches exist to handle missing data effectively (Acock, 2005; Langkamp, Lehman, Lemeshow, 2010). The percentage of missing values for this study ranged from 0% (age, gender, education, ethnicity, religious attendance, care reason, open to spouse, relationship happy, care hours, length of marriage) to 15% (religious beliefs). Information on missing values can be found in Table 1. Missing data in this sample in the NSHAP was a result of item non-response where participants refused to answer some questions without explanation, or the participant stated they "did not know". In addition to an individual examination of missing values for each variable, T-test analyses were also conducted to investigate differences between respondents who had complete data and those who had missing data. Only variables that had more than 5% of missing data were analyzed because a missing rate of 5% or less tends to be inconsequential (Schafer, 1999). T-test results indicated no significant differences between respondents with complete and incomplete data indicating that the data were missing at random, and therefore acceptable for further analysis (Acock, 2002).

Missing data were handled using multiple imputation, identified as one of the preferred methods for handling missing data and minimizing bias (Acock, 2002; Enders, 2010; Graham, 2009; Johnson & Young, 2011). A multiple imputation approach was selected instead of listwise or pairwise deletion because these methods would have reduced an already small sample, but also because these methods may produce biased

results (Acock, 2002; Langkamp et al., 2010). Multiple imputation creates a complete data set using prediction algorithms (Johnson & Young, 2011). The process is conducted through a series of steps. First, plausible values are generated for each unobserved data point, using information in the observed data, to create a complete data set, and then each data set is analyzed using statistical algorithms. Finally, the results are pooled together to yield a single parameter estimate (Dong & Peng, 2013). The number of imputed data sets needed typically depends on the rate of missing information, with five typically seen as sufficient and there being little benefit to using more than five to ten imputations unless there is an unusually high level of missing data (Dong & Peng, 2013; Schafer, 1999). Using SPSS version 21.0 software, five imputations of the data set were created to replace missing values with imputed values for the eleven variables that contained missing data.

Descriptive and bivariate analyses. Descriptive statistics were utilized to report sample statistics such as age, gender, ethnicity, caregiving reason, income, and religious beliefs. Bivariate correlations were used to examine the relationships between variables. These correlations are listed in Table 3.

Summary

Because of NSHAP data restrictions, the following modifications were made to the investment model tested for this dissertation: 1) Attitudes towards infidelity was tested instead of behaviors related to infidelity; 2) Attitudes towards alternatives was tested instead of identifying existing alternatives to an individual's relationship. A sample of 100 spousal caregivers was identified and data were tested to ensure the assumptions of multiple regression were met. In addition, a missing values analysis was performed to

identify patterns of missing data. No concerning patterns were identified and missing data were handled through multiple imputation.

Chapter Five. Results

The primary goal of this dissertation was to test a modified version of the investment model using a spousal caregiving sample. Direct paths between marital satisfaction, attitudes to alternatives, investments, and attitudes towards infidelity were tested. A mediational path was also tested with satisfaction mediating the relationship between rewards and costs and attitudes towards infidelity. Below, the results for each research question will be discussed.

Model 1: ***Marital Satisfaction*** $\longrightarrow$ ***Attitudes towards Infidelity*****.**

The research question testing the relationship between marital satisfaction and attitudes towards infidelity was tested using a hierarchical multiple regression analysis. In the first block, demographic variables (age, gender, reason adult requires care, ethnic group, religion, and income) were introduced to the model and marital satisfaction was entered as the second step of the model. The first step was found to be significant, explaining 22.8 % (adjusted R^2) of the variance in infidelity F (8, 91) = 4.66, $p < .001$, with Hispanic ethnicity ($\beta = .49$, $p < .001$) and religion ($\beta = -.29$, $p < .05$) being the significant contributors in this step. Hispanic ethnicity is associated with a partial regression coefficient of 1.2 and signifies that on average, Hispanics rate 1.2 points higher on attitudes towards infidelity than White and African American participants. The model also shows that for a one-unit increase in religion, attitudes towards infidelity will decrease by .07, holding the other independent variables constant. With the addition of

the second step, the overall variance explained decreased to 22% (adjusted R^2). The introduction of satisfaction was not significant (β = -.011, *p* = .69). These results did not provide support for hypotheses relating to the first research question. Marital satisfaction was not significantly associated with attitudes towards fidelity. However, the results did suggest that being religious resulted in less permissive attitudes towards infidelity. In addition, being Hispanic was significantly positively associated with attitudes towards infidelity (i.e. individuals who identified as Hispanic reported more permissive attitudes towards infidelity). Table 4 shows the results of this model.

Model 2: ***Rewards and Costs*** $\longrightarrow$ ***Marital Satisfaction*** $\longrightarrow$ ***Attitudes towards Infidelity***

This mediational analysis (marital satisfaction mediates the relationship between rewards and costs and attitudes towards infidelity) was tested using Baron and Kenny's (1986) techniques for examining mediation effects. Baron and Kenny (1986) identified three statistical steps for testing mediation. The first step involved finding a significant relationship between the mediator (marital satisfaction) and the independent variables (rewards and costs). The second step included finding a significant relationship between the outcome variable (attitudes towards infidelity) and the independent variables (rewards and costs). Finally, for there to be meditational relationships, a significant relationship between the mediator (marital satisfaction) and the outcome variable (attitudes towards infidelity) should be significant.

The first step of the mediation analysis (i.e. significance between marital satisfaction and rewards and costs) produced significant results F (2, 97) = 21.45, $p <$ .001. Rewards (β = .45, $p <$ .001), but not costs (β = -.12, p =.12), was significantly

correlated with marital satisfaction. When caregivers reported rewards in their relationships, they also reported greater marital satisfaction. However, significant results were not found during the second step (i.e. association between rewards and costs and attitudes towards infidelity) and did not produce significant results F (2, 97) = 1.85, p = .16. In addition, the third step (the relationship between marital satisfaction and attitudes towards infidelity F (2, 97) = .23, p = .62 was not significant. Therefore, based on these results, marital satisfaction did not mediate the relationship between rewards, costs, and infidelity in this sample. Thus, hypotheses relating to the research question that marital satisfaction mediated the relationship between costs and rewards and attitudes towards infidelity were not supported. Table 5 shows the results for this mediation model.

Model 3: ***Attitudes towards Alternatives*** $\longrightarrow$ ***Attitudes towards Infidelity***

Similar to the first regression analysis, demographic variables (age, gender, education, reason adult requires care, ethnic group, religion, and income) were introduced to the model in the first step, and attitudes towards alternatives was entered as the second step in the model. As before, the demographic variables produced significant results F (8, 91) = 4.97, p <.001 and explained 24.3% (adjusted R^2) of the variance in attitudes towards infidelity, with ethnicity and religion significantly related to attitudes toward alternatives. In the second step of this analysis, entering attitudes towards alternatives was also significant F (9, 90) = 7.63, p <.001. The addition of alternatives to attitudes significantly improved the variance explained by demographic variables in step one, explaining an additional 13.3% of the overall variance in the two-step model (37.6 %) of attitudes towards infidelity. In the second step, religion attendance was no longer significant, however ethnicity continued to be significant. Attitudes towards alternatives

is associated with a partial regression coefficient of -.37. Therefore, the model indicates that for a one-unit increase in attitudes towards alternatives, attitudes towards infidelity will decrease by .37, holding the other independent variables constant. Results also showed that Hispanics rate 1.03 higher on average on attitudes towards infidelity than White and African American participants. The significant relationship between attitudes towards alternatives and attitudes towards infidelity supports the hypothesis that attitudes towards alternatives would be negatively associated with attitudes towards infidelity. In other words, these findings demonstrated that an individual who had strong values about relationships (attitudes towards alternatives) had less permissive attitudes towards infidelity. Table 6 shows the results of this regression model.

Model 4: ***Investment*** $\longrightarrow$ ***Attitudes towards Infidelity***

As with previous research questions, the relationship of investment to attitudes toward infidelity was examined with a two-step regression analysis. In the first block, demographic variables (age, gender, reason adult requires care, ethnic group, religion, and income) were introduced and items assessing investment (caregiving hours and length of marriage) were entered as the second step of the model. Once again, the first step was significant, explaining 22.8 % (adjusted R^2) of the variance in infidelity F (8, 91) = 4.66, $p < .001$ with ethnicity and religion significantly related to attitudes towards infidelity. The second step of the model was also found to be statistically significant, explaining an additional .5% of the overall variance (23.3%) in attitudes towards infidelity. However, neither hours spent caregiving ($\beta = -.15$, $p = .11$) or length of marriage ($\beta = -.00$, $p = .95$) were found to be significant. As a result, hypotheses related to the relationship of investments to attitudes towards infidelity was not supported as

investment did not explain significant variation in attitudes towards infidelity beyond the contribution of the demographic variables entered in step 1 of the model. Table 7 shows the results of this regression model.

Summary

Four regression models, including one mediational analysis, were used to test the hypotheses of this dissertation. Ethnicity and religious attendance were the only significant demographic variables t and these were significant in Models 1, 3 and 4 (analyses that examined the relationship of marital satisfaction, attitudes towards alternatives, investment, and attitudes towards infidelity). Religious attendance was significant in the first step of Model 3, but was not significant once attitudes towards alternatives had been added. Satisfaction and investment were not significant in explaining variance in attitudes towards infidelity beyond the contribution of demographic variables. Attitudes towards alternatives significantly explained variance in attitudes towards infidelity beyond the contribution of demographic variables. In addition, satisfaction did not mediate the relationship between rewards and costs and attitudes towards infidelity.

Chapter Six: Discussion

As discussed in the preceding chapters, spousal caregiving is a unique challenge where significant psychological or physical impairment in one's partner may change the way spouses perceive their marriages. The previous research, discussed in the literature review, demonstrated that caregivers for spouses with chronic illnesses often feel a shift from spouse to parent once the caregiver role is adopted and illnesses progress. When a partner's impairment is so significant that s/he can no longer fulfill one's marital roles of

providing emotional, intellectual, and physical intimacy, spousal caregivers may find themselves on the cusp of redefining their relationship or redefining their attitudes towards infidelity.

The purpose of this dissertation was to use a modified version of the investment model to understand attitudes towards infidelity in spousal caregivers. In addition to using investment model concepts of rewards, costs, satisfaction, and investment, this dissertation added the concept of attitudes towards alternatives to determine how caregivers may feel about infidelity in general and in instances of psychological and physical impairment. Because of limited NSHAP sample size, the study conducted separate regression analyses for each path of the model (Models 1, 3, and 4), as well as testing satisfaction as a mediator between rewards and costs and attitudes towards infidelity (Model 2). Previous literature on infidelity suggested that age, gender, ethnicity, education, income, and religious attendance have been relevant to understanding infidelity. These demographic variables, plus the reason for care, were included as controls in this study. Of the demographic variables (age, gender, ethnicity, education, income, reason for care, and religious attendance) entered as the first step of each model (Models 1, 3, and 4), only ethnicity and religious attendance were significant in explaining variance in attitudes towards infidelity. However, religious attendance was not significant once attitudes towards alternatives was added in Model 3. Even though attitudes towards alternatives and religious attendance were not correlated enough to be eliminated because of concerns regarding multicollinearity, their high correlation may explain why religion was no longer significant once attitudes towards alternatives was added to the model.

The results of this study showed no age or gender differences in attitudes towards infidelity, which is not consistent with some prior research findings (Atkins et al. 2001; Blow & Hartnett, 2005). As other studies have found, it is possible that gender differences may be associated with age and differences in age groups may no longer exist over time. In a meta-analysis of research conducted between 1993 and 2007, Petersen and Hyde (2010) also found no gender differences between men and women in attitudes towards extramarital sex. Petersen and Hyde (2010) reported that the gender gap in sexuality may have been reduced over time due to cultural shifts in views of sexuality (i.e. women may have become more permissive in their attitudes over time and narrowed the gap of their views with men). Another explanation may be that gender differences in sexual attitudes decrease with age. Petersen and Hyde (2010) found gender differences in younger samples (adolescents, young adults, and adults) in attitudes towards extramarital sex with men reporting more permissive attitudes than women, but these gender differences decreased in older adults. Eighty-two percent of this NSHAP sample was 65 years of age and over, therefore, gender differences in attitudes towards infidelity may not exist in this sample.

The findings of this dissertation also indicated no significant education or income differences. This is in contrast to the findings of London and Wilmoth (in review). The different samples used in the two studies may account for this difference in findings (i.e. London and Wilmoth compared attitudes for all older adults in the NSHAP data set, whereas, this dissertation used a sample of older adults who identified as spousal caregivers). In addition, findings on education and income and infidelity are mixed. Atkins et al. (2001) reported that individuals who were more highly educated were more

likely to have extramarital sex, specifically their findings showed that individuals with a graduate degree were more likely than those with less than a high school education to engage in extramarital sex. Based on those findings, it could be that participants in this sample did not exhibit enough variation in education to produce a significant finding as only 18% reported having a Bachelor's degree. Blow and Hartnett (2005) also reported that the significance of education may also depend on the education of both partners but further research is needed to understand the relationship between education and infidelity. With regard to income, Blow and Hartnett (2005) reported that it may not be actual income that leads to infidelity, but rather factors such as employment status as extramarital relationships are less likely to occur when both partners are unemployed (Atkins et al., 2001). Employment status of the caregiver was not assessed in this sample of older adults, and therefore, was not available for examination but it should be examined in the future.

The significant demographic results found in this study indicate that individuals who attend church regularly exhibit less permissive attitudes towards infidelity. This is consistent with other research that found religion to be negatively associated with infidelity (Atkins et al., 2001). Religion is often reported to be a deterrent for extramarital relationships and most researchers find that individuals with high religiosity, whether measured as frequency of church attendance (Atkins & Kessel, 2008) or religion guiding life choices (Whisman, Gordon, & Chatav, 2007), are less likely to engage in extramarital relationships. The demographic results also demonstrate that individuals who identified as Hispanic were more likely to exhibit permissive attitudes towards infidelity when compared to individuals identifying as White or Black. Ahrold and Meston (2010) also

found that Hispanic-Americans were more liberal in their attitudes towards extramarital sex than Asian and Euro-Americans. The authors suggest that Hispanic men may have the cultural value of machismo, which includes power to decide sexual decisions is associated with having multiple partners, essentially letting extramarital sex be condoned for men. However, they did not explain why Hispanic women may also be more permissive. In her review of literature exploring relationship patterns in Hispanic couples, Orengo-Aguayo (2015) found that level of acculturation may be responsible for higher rates of marital instability in the Hispanic population. She reported that level of acculturation and higher educational attainment have been linked to greater marital instability in first generation Mexican American couples. Ideas of acculturation and Machismo may begin to clarify why Hispanic Americans exhibit more permissive attitudes towards infidelity, but further research is needed to understand this finding.

The first path (Model 1) examined the relationship between satisfaction and attitudes towards infidelity while controlling for demographic variables. Previous research of the investment model suggested that satisfaction was one of the stronger predictors of commitment, sometimes over and above quality of alternatives and investment (Impett et al., 2001). Use of the investment model to test infidelity in the past suggests that satisfaction should have a significant negative relationship with infidelity (Drigotas et al., 1999). Contrary to this expectation, satisfaction did not produce a significant relationship with attitudes towards infidelity when accounting for the contribution of the demographic variables.

One possible explanation for this finding is that this analysis could not account for the role of commitment due to limitations of power in the sample. Bui et al. (1996) found

that commitment mediated the effect of satisfaction on relationship stability. The concept of commitment to the relationship may be greater for a caregiving population than for the non-caregiving populations. Johnson, Caughlin and Huston (1999) describe a phenomenon of moral commitment experienced in committed relationships. Within this type of commitment, an individual may feel obligated to remain in a relationship because they place value on this dissolution of the marriage (i.e. feeling that a marriage should last until death). The individual may also feel a sense of moral obligation to a partner (i.e. they feel they need to honor the promise they made to their partner) or have a personal value of finishing what they started. Spousal caregivers may experience strong feelings of moral commitment and feel obligated to honor the promise made to the spouse regardless of their own feelings of satisfaction. Hanks (1992) stated that marital commitment to an impaired spouse depends on how the caregiver perceives the marital bond, their sense of loyalty and responsibility to the care recipient and the relationship, and the cultural and ethical values of their generation. This may be particularly salient in this population, because older adults are expected to have more conservative views about marriage and sexual relationships and are more likely to categorize their views in terms of "black and white" (Hanks, 1992; Waite et al., 2009). Although more attention is being drawn recently to the struggle of loneliness and lack of intimacy experienced by caregivers and the complexity of engaging in extramarital relationships, the black and white thinking of older caregivers may cause them to demonstrate stronger feelings about remaining committed and sexually faithful to their spouses (Hanks, 1992). Conservative views of marriage and commitment may be a stronger predictor of attitudes towards infidelity than the satisfaction that remains in one's relationship. That sense of commitment combined

with the more conservative views of marriage that may be held by this population may account for the lack of a relationship between satisfaction and attitudes toward infidelity in this sample. The link between commitment and infidelity remains unclear and limited research suggests mixed findings. For example, a study by Mattingly, Clark, Weidler, Bullock, Hackathorn, & Blankmeyer, 2001 found that commitment only partially mediated the relationship between one's restricted or unrestricted attitudes about sex and infidelity. In other words, commitment was only associated with infidelity when the individual had less restrictive attitudes about sex and relationships (i.e. individuals who did not feel that a committed relationship was necessary for sex). Whereas, Le, Korn, Crockett, and Loving (2010) found that when partners were separated by geographic distance, their commitment to the relationship was associated with physical infidelity. Additional research is needed to understand the relationship between commitment and infidelity.

Satisfaction was also tested as a mediator between costs and rewards and attitudes towards infidelity in the second path (Model 2). Although rewards and costs were not significantly associated with attitudes towards infidelity and satisfaction did not serve as a mediator, the findings suggest that the rewards experienced in a relationship have a significant relationship with satisfaction felt by spouses. Rewards and costs together accounted for approximately 30% of the variance in satisfaction. This suggests that for caregiving couples, satisfaction with the relationship may be more dependent on the positive qualities of their partner and their relationship. However, it should be noted that due to reliability concerns of the scales, the measures of rewards and costs were not conceptually comparable. Whereas, rewards measured positive qualities about one's

partner (e.g. someone you can depend on), costs measured negative qualities about relationships (e.g. feeling isolated). This difference may make it difficult to accurately interpret the importance of both rewards and costs.

Several explanations may exist to account for the lack of association between satisfaction, costs, rewards, and attitudes towards infidelity. One possible explanation for these findings is the role of personal and cultural values. Many values and expectations are placed on the vows of marriage in our society, and according to Rusbult (1980; 1983) once individuals make those vows, they may be less likely to admit that they have become less committed if the costs of the relationship have increased. In addition, costs of ending the relationship may be particularly high depending on the rules and norms that have been established. Rusbult (2003) stated that temptation to become involved with another partner may exist, but the costs of doing so are higher because they go against the expected societal norms. If the costs of ending the relationship and establishing a new relationship are too high, individuals may remain in the current relationship even if it is no longer satisfying (Rusbult, 2003). One such cost in spousal caregiving relationships may be disapproval from family and friends (Hanks, 1992).

Additionally, interdependence theory offers two concepts (transformation of motivation and willingness to sacrifice) that may be helpful in understanding why satisfaction, costs, and rewards were not associated with attitudes towards infidelity. The interdependence concept of transformation of motivation may provide some insight into a spousal caregiver's behavior. According to interdependence theory, transformation of motivation occurs when an individual's behavior shifts from one of self-interest to one of concern for their partner's well-being and long-term goals (Rusbult, 2003). When

individuals are highly committed, their response to situations is more likely to become pro-relationship (i.e. desire to maximize joint outcomes of the relationship) or acting in the interest of their partner rather than acting in self-interest, in other words, behaving in a benevolent manner (Rusbult, 2003).

When acting in the interest of their partner or the relationship, individuals may exhibit a willingness to sacrifice in order to maintain the ongoing relationship. Willingness to sacrifice is a characteristic of couples who persist, as these couples are willing to sacrifice their own self-interest for the good of the partner and of the relationship (Rusbult, 2003). These couples demonstrate very strong commitment that might account for variance beyond satisfaction, alternatives, and investment and, therefore, partners are less likely to leave the relationship (Rusbult, 2003; Van Lange, Rusbult, Drigotas, Arriaga, Witcher, & Cox, 1997). As a result, caregiving spouses who are willing to sacrifice their own needs or desires are more likely to be strongly committed to the relationship and less likely to have permissive attitudes towards infidelity.

Considering how important one's moral attitudes are to marital behavior, it was not surprising that the hypothesis about a negative association between attitudes towards alternatives and attitudes towards infidelity was supported in this study (Model 4). As described above, attitudes towards alternatives was a modification on the alternative quality concept typically assessed in the investment model. The measure utilized items based on how values of love and religion shape behavior. Sex and love are typically conceptualized together as being on the same continuum and, love, with or without sex, is an important predictor of commitment (Hendrick & Hendrick, 2002). In addition, as it

has been shown throughout this dissertation, religious beliefs shape one's attitudes towards marital commitment and moral obligations (Burdette et al., 2007; Weiderman & Hurd, 1999). This may also be particularly salient in this sample because the participants were largely religious, with 79% reporting regular church attendance throughout the year. In addition, older spousal caregivers are also expected to experience more intense feelings of guilt and loss when their moral boundaries are pushed in their marital relationship (Hanks, 1992) which may make older caregivers less likely to consider alternatives to their marital relationship. Therefore, the caregivers in this sample may be more inclined to have less permissive attitudes towards infidelity, regardless of other relational factors and losses that may occur.

Finally, investment in the relationship was not found to have a significant relationship with attitudes towards infidelity, beyond the contributions of demographic variables (Model 4). One possibility for the lack of association between investment and attitudes towards infidelity may be that the types of assessments included from the NSHAP were not well suited to this population. For example, hours spent caring was the identified measure of caregiver investment available for this study, but a more cumulative measure of the amount of time and care provided by caregivers may be a better assessment of investment. Perhaps more specific questions about sacrifices made to maintain the relationship or the caregiver role may also have been a more meaningful assessment of investment. For example, as Baikie (2010) suggested, a couple's positive memories of their relationship prior to the illness could be seen as an important investment for the caregiver and something that is vital to maintain in times of sickness and health.

In addition, in the investment model, the concept of investment is essentially seen as a cost where individuals will sacrifice important resources if they leave the current relationship. Poulin et al. (2011), however, suggest that spousal caregivers may experience interdependence in their relationships and may be more willing to invest in them because they feel a shared physical or emotional fate with their spouses. They also found that caregivers who felt a sense of interdependence with their spouses reported greater positive affect. Hence, investment among caregivers may not hold the same meaning as it does in the traditional investment model or behave in the way we would expect among spouses who are not dealing with chronic illness.

Limitations and Weaknesses

All research studies are conducted with recognition of strengths, limitations, and weaknesses. One strength of this dissertation was the ability to connect relational concepts that may be important for both infidelity and caregivers through a theoretical model. Of the other two studies that examined spousal caregivers and infidelity, this is the first to be theory driven. The use of theory is particularly important to an emerging area because it creates a way to develop and organize ideas that may explain the phenomena and create testable ideas (Doherty, Boss, LaRossa, Schumm, & Steinmetz, 1993). Another strength of this study was the connections made between findings and clinical practice. This topic will only continue to gain recognition with an increasing aging population and changing cohort values, and mental health professionals will need to be prepared to work with clients experiencing these relational issues. This dissertation provides some preliminary thoughts on how the phenomenon can be conceptualized and ways therapists can begin thinking about working with extramarital affairs in a different

context. Use of the NSHAP data was important because it is currently the only national data set examining attitudes towards extramarital relationships in general and in the context of chronic illness specifically.

However, as with many studies at the early development stages of a content area, it is often difficult to conduct research under ideal conditions. Despite the significant contribution of this study, there were limitations to using this secondary data for the current research. One limitation was the sample size. Although over 3000 people participated in NSHAP, only 100 participants identified as caregivers for a spouse and could be included in this study. The initial goal of this dissertation was to test a structural equation model to explore hypotheses. However, this was not appropriate with this small sample size. The sample size also placed restrictions on the analyses used to examine research questions because to insure enough power, each path had to be tested separately. A second limitation occurred because of the cross-sectional analysis of the data. Although the NSHAP is a longitudinal data set, the questions necessary to examine questions aimed at testing investment theory as a framework for examining attitudes toward infidelity among spousal caregivers were only asked during Wave 1. Therefore, it was not possible to address whether spousal caregiver attitudes towards infidelity changed over time or as the illness progressed.

Another, and perhaps the most important, limitation was the inability to ascertain variables that could most directly test the investment model in this population. For example, the concept of alternative quality could not be measured based on information available and additional items that may have contributed to understanding the context of the caregiving relationship were not included in the data set, such as severity of the

impairment in the care recipient. It should be noted, that the measures created for this dissertation were not inclusive of all the variables thought to be related to attitudes towards infidelity. However, methodological decisions were made based on sample size and the best scale reliability possible to produce a succinct and testable model that closely aligned with the theoretical premise. Even with some of these compromises, items could not be combined to create an effective scale of investment. This was a limitation that could not be overcome given the restrictions of using a secondary data set.

Implications for Research and Practice

The findings of this dissertation hold many implications for research. This is a prime area of research that has only begun receiving attention and will likely continue to receive more attention in the future. At this stage, there are only three studies, including this dissertation, that have examined infidelity among caregivers. Future studies should expand this work by examining whether the investment model is relevant when a spousal caregiver actually engages in an extramarital relationship versus examining spousal caregivers' attitudes about these relationships. Additional distinctions should also be made for the type of extramarital relationship in which individuals may become involved. For example, Blow and Hartnett (2005) reported that women may be more likely to engage in emotional affairs whereas men may be more likely to engage in sexual relationships. This distinction may be particularly important for spousal caregivers whose experiences are often described as lonely and lacking companionship. Also, although this study was only able to assess values that may impact one's attitudes towards alternatives, there are other factors that should be considered. Keene's (1995) sample of spousal caregivers all engaged in extramarital relationships with consistent reports including the

belief that their partners were already dead to them and they experienced intense loneliness. Brian Petersen (2010) also describes those feelings of loss and loneliness in the introduction of this dissertation. It was not possible to explore these feelings with this data set, but future research should explore these concepts in more depth as they may be important in a caregiver's decision to consider alternative relationships.

In addition, the investment model provides a starting point for concepts that should be explored when we consider infidelity in spousal caregivers. However, future research should account for this and develop scales specifically designed to test this model with spousal caregivers. Qualitative work is pertinent in this stage of research to understand if the concepts of rewards, costs, satisfaction, alternative quality, and investment hold the same meaning for spousal caregivers. Qualitative research will also be necessary to determine the cultural differences that may exist for caregivers. Furthermore, future research may benefit from including a focus on the meaning of marital commitment for spousal caregivers. To further delineate the role of commitment in regards to infidelity, future research may even go beyond the meaning of commitment offered by the investment model and consider the moral and religious obligations of commitment such as what is described in the work of Johnson et al. (1999). According to Johnson et al.'s (1999) theory of tripartite commitment, there are three types of commitment demonstrated in relationships: personal (i.e. attraction to partner, attraction to relationship, and couple identity), moral (i.e. obligation to continue the relationship), and structural (i.e. barriers that stop one from leaving the relationship). Research on commitment in caregivers may benefit from the additional exploration of this theory. Examining these three types of commitment in relation to the investment model concepts

of satisfaction, alternative quality and how they influence infidelity may provide a better understanding of the role of commitment and infidelity. It could be that there are more layers to the role of commitment than those previously explored. For example, a caregiver's moral commitment to remain in the relationship because of vows they made may be a more meaningful commitment for spousal caregivers than structural commitment where there are barriers such as children that may prevent a spouse from leaving. Examining the different types of commitment may help us understand more than just whether an individual intends to stay or leave, but help us understand which types of commitment are more meaningful and powerful in determining why an individual stays or leaves. Within a caregiving sample, it would also be interesting to ascertain whether individuals were already highly committed and likely to act in a benevolent manner or whether the presence of the illness changed the relationship dynamics to a focus on the partner's well-being. Longitudinal research will also be necessary in this area of research to determine if caregiver attitudes change over time or as illnesses progresses in the care recipient.

A goal of this dissertation was to interpret the findings to determine therapeutic implications for this work. Through the literature review, it has been established that an increasing number of therapists will be faced with helping clients navigate the challenges of being a spousal caregiver for a partner with chronic illness. As described above, many evidence-based interventions already exist to help caregivers identify coping strategies and resources to cope with the anger, depression, and anxiety experienced by many caregivers. However, these interventions do not often explore the intimacy of the spousal

relationship and how possible relational losses experienced through illness may impact the couple relationship and potentially lead to the development of a new relationship.

Through the discussion of the findings, it is clear that this phenomenon has significant moral and cultural roots that may need to be addressed with clients. Some provocative thoughts on therapy and infidelity exist that may be relevant to consider when working with this population. Some researchers have suggested that therapists should not characterize extramarital relationships as either acceptable or unacceptable; rather these relationships should be approached with a utilitarian perspective to identify the degree to which the relationship is problematic, or focusing on identification of the costs and benefits of each option (Linquist & Negy, 2005). When considering the marital relationship in the presence of chronic illness, Baikie (2010) suggests that given all the changes that occur in the spousal caregiving relationship, future caregiving support needs to consider issues related to the meaning of marriage vows in the context of chronic illness and marital satisfaction and obligation. She also suggests a policy change where expectations of marriage shift more from an institutional view of "til death do us part" to a more companionate view of marriage based on love, friendship, and common interests (Amato, 2004). This aligns with Daines' suggestion (1988) that therapists may need to challenge the view that one cares in marriage through sickness and health, putting the needs of a partner before the caregiver's own satisfaction and personal growth. These approaches may hold some value when working with spousal caregivers because they encourage a less rigid stance to a complex situation. However, to date, there is little to no information about how to accomplish these suggestions effectively.

One therapeutic approach and theory that is particularly relevant for work with these families is ambiguous loss. Illnesses that are difficult to diagnose or impossible to cure can create immense ambiguity for families. In the study of family caregiving in the context of chronic illnesses, the concept of ambiguous loss has been identified as a particularly helpful way of conceptualizing the experience of caregivers (Boss, 2007; Dupuis, 2002). Ambiguous loss is defined by Boss (1999) as an unclear loss, or a loss that lacks clarity of information regarding whether one is dead or alive, absent or present. In ambiguous loss, a loved one is "missing" either psychologically (as in the case of dementia) or physically (due to a deteriorating chronic physical condition) (Boss, 2006; Sampson, Yeats, & Harris, 2012). Boss has described two types of ambiguous loss: psychological presence with physical absence and psychological absence with physical presence. When an individual is psychologically present but physically absent, family members are unsure of next steps and whether they should remain hopeful or begin the process of closure, making family boundaries unclear (Boss, 2006). This type of loss is seen often in the context of war and natural disasters, but it can also be applied to an illness where a loved one's status such as dying or being in remission remains unclear (Boss & Couden, 2002). In the case of chronic illness, individuals often experience two opposing ideas: the person he or she used to be is gone, but the person is still physically present in the lives of loved ones (Boss & Couden, 2002). This type of loss has the potential to disturb relational boundaries (Boss, 2006). In these instances, when an individual is physically present but psychologically absent, family members often do not know how to enact their own roles and day-to-day functions as they can no longer relate to their loved ones in the same way, and family emotional processes are likely to freeze.

This loss is often seen in the case of brain injury, addiction, and dementia (Boss, 2006). Ambiguous loss in the case of chronic illness, either physical or psychological, is fraught with challenges for the family and can be seen across a range of illnesses such as rheumatoid arthritis, multiple sclerosis, fibromyalgia, and AD (Boss & Couden, 2002). In instances of physical illness, the pain and exhaustion of dealing with the illness may be so high that it causes the care recipient to withdraw emotionally from the relationship and become psychologically absent (Boss & Couden, 2002), which in turn can increase difficulties in the marital relationship. When this occurs, the previous rules, roles, and boundaries once governing the relationship can be impacted and essentially become less stable (Boss & Couden, 2002). One important suggestion has been that therapists need to be prepared to have discussions with spouses, and even the family, about the perception of the relationship in the presence of illness. Specifically for couples, some of the questions that may surface may include "am I married or not if my wife can no longer have sex?" and "who am I now that my partner, due to illness, is so different?" (Boss & Couden, 2002, p.1358).

Although different in their approaches, the therapeutic suggestions discussed above have something in common. They each encourage the therapist to engage with clients from a less rigid, black or white approach and embrace the complexities that these clients are experiencing as they try to reassess the roles and boundaries of their relationships.

Therapists who gain an understanding of the psychological distress that may lead a caregiver to consider an extramarital relationship or the psychological experience that may occur from engaging in such a relationship may be better prepared to help this

population. Furthermore, although many of the current clinical practices such as cognitive behavioral therapy and psychoeducation are extremely helpful for working with caregiver symptoms; the findings from this study suggests that the interdependence concepts of transformation of motivation or willingness to sacrifice means that caregivers might be more willing to sacrifice their own needs and well-being to care for their spouse. Therefore, these approaches may not be as effective, and different therapeutic approaches may be needed when working with these populations.

Conclusions

The goal of this dissertation was not to determine whether all married caregivers should, or would seek an extramarital relationship, instead it attempted to highlight the experience of some caregivers. This work attempted to indicate reasons why we should be concerned with spousal caregivers and infidelity. Spousal caregivers finding themselves in the midst of an extramarital relationship may experience conflicting feelings of shame and guilt for going outside of their marriage, and judgement from their family and society, but they may also experience relief through the companionship of a new relationship. This study also attempted to identify methods that could be helpful to mental health professionals working with this population. The completion of this study showed that in order to develop this area of research to make it more helpful for clinicians, first, additional qualitative and quantitative research is needed to elucidate this phenomenon. Second, using this research, it is incumbent upon clinicians to then develop, evaluate, and refine interventions that are relationship focused to improve the context in which older couples deal with chronic illness. The limited research available on spousal

caregivers and extramarital relationships, in combination with the increased public discourse on the topic suggest that this topic is deserving of greater attention.

Overall, this dissertation provided an important starting point to understanding how some investment model concepts of cost, rewards, satisfaction, attitudes towards alternatives and investment may impact attitudes towards infidelity in spousal caregivers. The findings encourage future research to continue exploring the use of the investment model to understand infidelity in a spousal caregiving sample. Infidelity is a complex topic, made more complex by the physical or psychological loss of one's partner. Qualitative and longitudinal research could greatly enhance our understanding of this population and inform clinical techniques for working with caregivers experiencing relational loss and its relationship to infidelity.

Bibliography

Acock, A. C. (2005). Working with missing values. *Journal of Marriage and Family*, 67(4), 1012–1028. http://doi.org/10.1111/j.1741-3737.2005.00191.x

Adams, K.B., Mcclendon, M. J., & Smyth, K.A. (2008). Personal losses and relationship quality in dementia caregiving. *Dementia*, 7(3), 301–319. http://doi.org/10.1177/1471301208093286

Ahrold, T. K., & Meston, C. M. (2010). Ethnic differences in sexual attitudes of U.S. college students: Gender, acculturation, and religiosity factors. *Archives of Sexual Behavior*, *39*(1), 190–202. http://doi.org/10.1007/s10508-008-9406-1

Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. *The Handbook of Attitudes*, 173, 221.

Amato, P. R. (2004). Tension between institutional and individual views of marriage. *Journal of Marriage and Family*, 66(4), 959–965.

Atkins, D. C., Baucom, D. H., & Jacobson, N. S. (2001). Understanding infidelity: Correlates in a national random sample. *Journal of Family Psychology*, 15(4), 735–49. http://doi.org/10.1037//0893-3200.15.4.735

Atkins, D. C., & Kessel, D. E. (2008). Religiousness and infidelity: Attendance, but not faith and prayer, predict marital fidelity. *Journal of Marriage and Family*, 70(2), 407–418.

Baikie, E. (2010). The impact of dementia on marital relationships. *Sexual and Relationship Therapy*, 17(3), 289–299. http://doi.org/10.1080/14681990220149095

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in

social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. http://doi.org/10.1037/0022-3514.51.6.1173

Barta, W. D., & Kiene, S. M. (2005). Motivations for infidelity in heterosexual dating couples: The roles of gender, personality differences, and sociosexual orientation. *Journal of Social and Personal Relationships*, *22*(3), 339–360. http://doi.org/10.1177/0265407505052440

Beach, S. R., Schulz, R., Yee, J. L., & Jackson, S. (2000). Negative and positive health effects of caring for a disabled spouse: Longitudinal findings from the Caregiver Health Effects Study. *Psychology and Aging*, 15(2), 259–271. http://doi.org/10.1037/0882-7974.15.2.259

Betz, G., & Thorngren, J. M. (2006). Ambiguous loss and the family grieving process. *The Family Journal*, 14(4), 359–365. http://doi.org/10.1177/1066480706290052

Blieszner, R., Roberto, K. A., Wilcox, K. L., Barham, E. J., & Winston, B. L. (2007). Dimensions of ambiguous loss in couples coping with mild cognitive impairment. *Family Relations*, 56(2), 196–209. http://doi.org/10.1111/j.1741-3729.2007.00452.x

Blow, A. J., & Hartnett, K. (2005). Infidelity in committed relationships II: A substantive review. *Journal of Marital and Family Therapy*, 31(2), 217–233.

Boss, P. (1999). Ambiguous loss: Living with frozen grief. *The Harvard Mental Health Letter*, 16(5), 4–7.

Boss, P. (2006). Loss, trauma, and resilience: Therapeutic work with ambiguous loss. W.

W. Norton & Company.

Boss, P., & Couden, B. A. (2002). Ambiguous loss from chronic physical illness: Clinical interventions with individuals, couples, and families. *Journal of Clinical Psychology*, 58(11), 1351–1360. http://doi.org/10.1002/jclp.10083

Boylstein, C, & Hayes, J. (2012). Reconstructing marital closeness while caring for a spouse with Alzheimer's. *Journal of Family Issues*, 33(5), 584–612. http://doi.org/10.1177/0192513X11416449

Buhse, M. (2008). Assessment of caregiver burden in families of persons with multiple sclerosis. *Journal of Neuroscience Nursing*, 40(1), 25–31.

Bui, K.-V. T., Peplau, L. A., & Hill, C. T. (1996). Testing the Rusbult model of relationship commitment and stability in a 15-Year study of heterosexual couples. *Personality and Social Psychology Bulletin*, 22(12), 1244–1257. http://doi.org/10.1177/01461672962212005

Burdette, A. M., Ellison, C. G., Sherkat, D. E., & Gore, K. A. (2007). Are there religious variations in marital infidelity? *Journal of Family Issues*. http://doi.org/10.1177/0192513X07304269

Caregiver Association of British Columbia (CABC) (2005) www.cabc.can

Call, V. R. A., & Heaton, T. B. (1997). Religious influence on marital stability. *Journal for the Scientific Study of Religion*, 36(3), 382–392. http://doi.org/10.2307/1387856

Cantor, M. H. (1979). Neighbors and friends: an overlooked resource in the informal support system. *Research on Aging*, 1(4), 434–463. http://doi.org/10.1177/016402757914002

Capistrant, B. D., Moon, J. R., & Glymour, M. M. (2012). Spousal caregiving and incident hypertension. *American Journal of Hypertension*, 25(4), 437–443. http://doi.org/10.1038/ajh.2011.232

Carbonneau, H., Caron, C., & Desrosiers, J. (2010). Development of a conceptual framework of positive aspects of caregiving in dementia. *Dementia*, *9*(3), 327–353. http://doi.org/10.1177/1471301210375316

Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155–159. http://doi.org/10.1037/0033-2909.112.1.155

Coon, D. W., Keaveny, M., Valverde, I. R., Dadvar, S., & Gallagher-Thompson, D. (2012). Evidence-based psychological treatments for distress in family caregivers of older adults. In F. Scogin & A. Shah (Eds.), *Making evidence-based psychological treatments work with older adults* (pp. 225–284). Washington, DC, US: American Psychological Association.

Coughlin, J. (2010). Estimating the impact of caregiving and employment on well-being. Center for Health Research, Healthways, Incorporated

Daines, B. (1988). Assumptions and values in sexual and marital therapy. *Sexual and Marital Therapy*, 3(2), 149–164. http://doi.org/10.1080/02674658808407707

Davis, L.L., Gilliss, C.L., Deshefy-Longhi, T, Chestnutt, D.H., & Molloy, M. (2011). The nature and scope of stressful spousal caregiving relationships. *Journal of Family Nursing*, 17(2), 1–12. http://doi.org/10.1177/1074840711405666

DeVivo, M. J., & Fine, P. (1985). Spinal cord injury: its short-term impact on marital status. *Archives of Physical Medicine and Rehabilitation*, 66(8), 501–504.

Dickson, A., O'Brien, G., Ward, R., Allan, D., & O'Carroll, R. (2010). The impact of

assuming the primary caregiver role following traumatic spinal cord injury: An interpretative phenomenological analysis of the spouse's experience. *Psychology & Health*, 25(9), 1101–1120. http://doi.org/10.1080/08870440903038949

Doherty, W. J., Boss, P. G., LaRossa, R., Schumm, W. R., & Steinmetz, S. K. (1993). Family theories and methods. In *Sourcebook of family theories and methods* (pp. 3-30). Springer US.

Dong, Y., & Peng, C.-Y. J. (2013). Principled missing data methods for researchers. *SpringerPlus*, 2(1), 1–17. http://doi.org/10.1186/2193-1801-2-222

Drigotas, S. M., Safstrom, C. A., & Gentilia, T. (1999). An investment model prediction of dating infidelity. *Journal of Personality and Social Psychology*, 77(3), 509–524.

Dupree, W. J., White, M. B., Olsen, C. S., & Lafleur, C. T. (2007). Infidelity treatment patterns: A practice-based evidence approach. *The American Journal of Family Therapy*, 35(4), 327–341. http://doi.org/10.1080/01926180600969900

Dupuis, S.L. (2002). Understanding ambiguous loss in the context of dementia care. *Journal of Gerontological Social Work*, 37(2), 93–115. http://doi.org/10.1300/J083v37n02_08

Eloniemi-Sulkava, U., Notkola, I. L., Hämäläinen, K., Rahkonen, T., Viramo, P., Hentinen, M., … Sulkava, R. (2002). Spouse caregivers' perceptions of influence of dementia on marriage. *International Psychogeriatrics*, 14(1), 47–58.

Enders, C. K. (2010). Applied Missing Data Analysis. Guilford Publications.

Evans, D., & Lee, E. (2014). Impact of dementia on marriage: A qualitative

systematic review.*Dementia*, *13*(3), 330–349. http://doi.org/10.1177/1471301212473882

Fricker, J. (2006). Predicting infidelity: The role of attachment styles, lovestyles, and the investment model. Swinburne University of Technology, Melbourne, Australia.

Gallagher-Thompson, D., & Coon, D. W. (2007). Evidence-based psychological treatments for distress in family caregivers of older adults. *Psychology and Aging*, *22*(1), 37–51. http://doi.org/10.1037/0882-7974.22.1.37

Gaugler, J. E., Wackerbarth, S. B., Mendiondo, M., Schmitt, F. A., & Smith, C. D. (2003). The characteristics of dementia caregiving onset. *American Journal of Alzheimer's Disease and Other Dementias*, 18(2), 97–104. http://doi.org/10.1177/153331750301800208

Glasman, L. R., & Albarracín, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological Bulletin*, 132(5), 778–822. http://doi.org/10.1037/0033-2909.132.5.778

Graham, J. W. (2009). Missing data analysis: Making it work in the real world. *Annual Review of Psychology*, 60(1), 549–576. http://doi.org/10.1146/annurev.psych.58.110405.085530

Haley, W. E., LaMonde, L. A., Han, B., Burton, A. M., & Schonwetter, R. (2003). Predictors of depression and life satisfaction among spousal caregivers in hospice: Application of a stress process model. *Journal of Palliative Medicine*, *6*(2), 215–224. http://doi.org/10.1089/109662103764978461

Hall, J. H., & Fincham, F. D. (2008). Psychological distress: Precursor or consequence of

dating infidelity? *Personality and Social Psychology Bulletin*. http://doi.org/10.1177/0146167208327189

Hanks, N. (1992). The effects of Alzheimer's disease on the sexual attitudes and behaviors of married caregivers and their spouses. *Sexuality and Disability*, 10(3), 137–151.

Harris, S. M., Adams, M. S., Zubatsky, M., & White, M. (2011). A caregiver perspective of how Alzheimer's disease and related disorders affect couple intimacy. *Aging & Mental Health*, 15(8), 950–960. http://doi.org/10.1080/13607863.2011.583629

Hayes, J., Boylstein, C, & Zimmerman, M.K. (2009). Living and loving with dementia: Negotiating spousal and caregiver identity through narrative. *Journal of Aging Studies*, 23, 48–59.

Hendrick, S. S., & Hendrick, C. (2002). Linking romantic love with sex: Development of the perceptions of love and sex scale. *Journal of Social and Personal Relationships*, 19(3), 361–378. http://doi.org/10.1177/0265407502193004

Higgins, J. (2005). The correlation coefficient. *The Radical Statistician*, 1-26.

Impett, E. A., Beals, K. P., & Peplau, L. A. (2001). Testing the investment model of relationship commitment and stability in a longitudinal study of married couples. *Current Psychology*, 20(4), 312–326. http://doi.org/10.1007/s12144-001-1014-3

Ingersoll-Dayton, B, Spencer, B, Kwak, M, Scherrer, K, Allen, R. S., & Campbell, R. (2013). The couples life story approach: A dyadic intervention for dementia. *Journal of Gerontological Social Work*,56(3), 237–254. http://doi.org/10.1080/01634372.2012.758214

Jenkins, K. R., Kabeto, M. U., & Langa, K. M. (2009). Does caring for your spouse harm one's health? Evidence from a United States nationally-representative sample of older adults. *Ageing and Society*,29(2), 277–293. http://doi.org/10.1017/S0144686X08007824

Johnson, M. P., Caughlin, J. P., & Huston, T. L. (1999). The tripartite nature of marital ommitment: Personal, moral, and structural reasons to stay married. *Journal of Marriage and Family*, *61*(1), 160–177. http://doi.org/10.2307/353891

Johnson, D. R., & Young, R. (2011). Toward best practices in analyzing datasets with missing data: Comparisons and recommendations. *Journal of Marriage and Family*, 73(5), 926–945. http://doi.org/10.1111/j.1741-3737.2011.00861.x

Johnson, S. M. (2005). Broken bonds. *Journal of Couple & Relationship Therapy*, 4(2-3), 17–29. http://doi.org/10.1300/J398v04n02_03

Kasuya, R. T., Polgar-Bailey, M. P., & Takeuchi, M. S. W. (2000). Caregiver burden and burnout a guide for primary care physicians. *Postgraduate Medicine*, 108(7), 119.

Keene, B.R. (1995). A study of extramarital-intimate relationships of older adult caregivers of chronically ill spouses. Mississippi State University.

Kelley, H. H., & Thibaut, J. W. (1978). Interpersonal relations: A theory of interdependence. New York, NY: Wiley.

Kleinbaum, D. G., Kupper, L., Muller, K. E., & Nizam, A. (1998). Regression diagnostics. In *Applied regression analysis and other multivariable methods* (3rd ed., pp. 237–249). Belmont, CA: Duxbury.

Langer, N. (2009). Late life love and intimacy, 35(8), 752–764. http://doi.org/10.1080/03601270802708459

Langkamp, D. L., Lehman, A., & Lemeshow, S. (2010). Techniques for handling missing data in secondary analyses of large surveys. *Academic Pediatrics*, 10(3), 205–210. http://doi.org/10.1016/j.acap.2010.01.005

Le, B., & Agnew, C. R. (2003). Commitment and its theorized determinants: A meta–analysis of the investment model. *Personal Relationships*, 10(1), 37–57. http://doi.org/10.1111/1475-6811.00035

Le, B., Korn, M. S., Crockett, E. E., & Loving, T. J. (2010). Missing you maintains us: Missing a romantic partner, commitment, relationship maintenance, and physical infidelity. *Journal of Social and Personal Relationships*, 0265407510384898. http://doi.org/10.1177/0265407510384898

Leech, N. L., Gliner, J. A., Morgan, G. A., Harmon, R. J., & Harmon, R. J. (2003). Use and interpretation of multiple regression. *Journal of the American Academy of Child & Adolescent Psychiatry*, *42*(6), 738-740.

Lindau, S. T., Schumm, L. P., Laumann, E. O., Levinson, W., O'Muircheartaigh, C. A., & Waite, L. J. (2007). A study of sexuality and health among older adults in the United States. *New England Journal of Medicine*, 357(8), 762–774.

Linquist, L., & Negy, C. (2005). Maximizing the experiences of an extrarelational affair: An unconventional approach to a common social convention. *Journal of Clinical Psychology*, 61(11), 1421–1428. http://doi.org/10.1002/jclp.20191

Liu, C. (2000). A theory of marital sexual life. *Journal of Marriage and Family*, 62(2), 363–374.

London, A.S. & Wilmoth, J.M.. (2014). Extramarital relationships in the context of

spousal Alzheimer's Disease: A mixed-methods exploration of public attitudes. In *Family Relationships and Familial Responses to Health Issues* (Vol. 8A, pp. 103–134). Emerald Group Publishing Limited. Retrieved from http://www.emeraldinsight.com/doi/abs/10.1108/S1530-35352014000008A003

London, A. S., & Wilmoth, J. M. (In Review). Older Americans' attitudes toward extramarital sex in the context of spousal Alzheimer's disease.

Mattingly, B. A., Clark, E. M., Weidler, D. J., Bullock, M., Hackathorn, J., & Blankmeyer, K. (2011). Sociosexual orientation, commitment, and infidelity: A mediation analysis. *The Journal of Social Psychology*, *151*(3), 222–226. http://doi.org/10.1080/00224540903536162

Matzek, A. E. (2011). The impact of family and non-family roles on caregiver health over time. Retrieved from http://conservancy.umn.edu/handle/11299/109832

Montgomery, R., & Kosloski, K. (2009). Caregiving as a process of changing identity: Implications for caregiver support. *Generations*, *33*(1), 47–52.

Morris, L. W., Morris, R. G., & Britton, P. G. (1988). The relationship between marital intimacy, perceived strain and depression in spouse caregivers of dementia sufferers. *British Journal of Medical Psychology*, 61(3), 231–236. http://doi.org/10.1111/j.2044-8341.1988.tb02784.x

National Alliance for Caregiving. (2009). *Caregiving in the U.S. 2009*.

National Alliance for Caregiving and AARP. (2004). *Caregiving in the US*.

National Health Council (2014). *About Chronic Diseases*.

Orengo-Aguayo, R. E. (2015). Mexican American and other Hispanic couples'

relationship dynamics: A review to inform interventions aimed at promoting healthy relationships. *Marriage & Family Review*, (just-accepted).

Osborne, J. W., & Waters, E. (2002). Multiple regression assumptions. ERIC Digest. Retrieved from http://eric.ed.gov/?id=ED470205

Pearlin, L. I., & Aneshensel, C. S. (1994). Caregiving: The unexpected career. S*ocial Justice Research*, 7(4), 373–390.

Petersen, B., & Couric, K. (2010). *Jan's story: Love lost to the long goodbye of Alzheimer's*. Lake Forest, Calif: Behler Publications.

Petersen, J. L., & Hyde, J. S. (2010). A meta-analytic review of research on gender differences in sexuality, 1993–2007. *Psychological bulletin*, *136*(1), 21.

Petrocelli, J. V. (2003). Hierarchical multiple regression in counseling research: Common problems and possible remedies. *Measurement and evaluation in counseling and development*, *36*(1), 9-22.

Pinquart, M., & Sorenson, S. (2003). Differences between caregivers and noncaregivers in psychological health and physical health: A meta-analysis. *Psychology and Aging*, 18(2), 250–267. http://doi.org/10.1037/0882-7974.18.2.250

Poulin, M. J., Brown, S. L., Ubel, P. A., Smith, D. M., Jankovic, A., & Langa, K. M. (2010). Does a helping hand mean a heavy heart? Helping behavior and well-being among spouse caregivers. *Psychology and Aging*, *25*(1), 108–117. http://doi.org/10.1037/a0018064

Ramnarace, C. (2010). Till dementia do us part: Alzheimer's caregivers, spouses seek

new love. Retrieved March 18, 2015, from http://www.aarp.org/relationships/love-sex/info-09-2010/till_dementia_do_us_part.1.html

Rusbult, C. E. (1980). Commitment and satisfaction in romantic associations: A test of the investment model. *Journal of Experimental Social Psychology*, 16, 172–186.

Rusbult, C. E. (1983). A longitudinal test of the investment model: The development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology*, 45(1), 101–117.

Rusbult, C. E. (2003). Interdependence in close relationships. In G. J. O. Fletcher & M. S. Clark (Eds.), *Blackwell Handbook of Social Psychology: Interpersonal Processes* (pp. 357–387). Blackwell Publishers Ltd. Retrieved from http://onlinelibrary.wiley.com.ezp3.lib.umn.edu/doi/10.1002/9780470998557.ch14/summary

Rusbult, C. E., & Buunk, B. P. (1993). Commitment processes in close relationships: An interdependence analysis. *Journal of Social and Personal Relationships*, 10(2), 175–204. http://doi.org/10.1177/026540759301000202

Rusbult, C. E., Johnson, D. J., & Morrow, G. D. (1986). Predicting satisfaction and commitment in adult romantic involvements: An assessment of the generalizability of the investment model. *Social Psychology Quarterly*, 49(1), 81–89. http://doi.org/10.2307/2786859

Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale:

Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5(4), 357–387. http://doi.org/10.1111/j.1475-6811.1998.tb00177.x

Rusbult, C. E., & Van Lange, P. A. M. (2003). Interdependence, interaction, and relationships. *Annual Review of Psychology*, 54(1), 351–375. http://doi.org/10.1146/annurev.psych.54.101601.145059

Rusbult, C. E., Zembrodt, I. M., & Gunn, L. K. (1982). Exit, voice, loyalty, and neglect: Responses to dissatisfaction in romantic involvements. *Journal of Personality and Social Psychology*, 43, 1230–1242.

Sabatelli, R. M., & Shehan, C. L. (2009). Exchange and Resource Theories. In P. Boss, W. J. Doherty, R. LaRossa, W. R. Schumm, & S. K. Steinmetz (Eds.), *Sourcebook of Family Theories and Methods* (pp. 385–417). Springer US. Retrieved from http://link.springer.com/chapter/10.1007/978-0-387-85764-0_16

Sampson, J. M., Yeats, J. R., & Harris, S. M. (2012). An evaluation of an ambiguous loss based psychoeducational support group for family members of persons who hoard: A pilot study. *Contemporary Family Therapy*, 34(4), 566–581. http://doi.org/10.1007/s10591-012-9214-6

Savundranayagam, M. Y., & Montgomery, R. J. V. (2009). Impact of role discrepancies on caregiver burden among spouses. *Research on Aging*. http://doi.org/10.1177/0164027509351473

Schafer, J. L. (1999). Multiple imputation: a primer. *Statistical Methods in Medical Research*, 8(1), 3–15. http://doi.org/10.1177/096228029900800102

Schulz, R., & Martire, L. M. (2004). Family caregiving of persons with dementia:

prevalence, health effects, and support strategies. *The American journal of geriatric psychiatry*, *12*(3), 240-249.

Selected Caregiver Statistics | Family Caregiver Alliance. (2005). Retrieved February 5, 2015, from https://caregiver.org/selected-caregiver-statistics

Shim, B., Barroso, J., & Davis, L. L. (2012). A comparative qualitative analysis of stories of spousal caregivers of people with dementia: Negative, ambivalent, and positive experiences. *International Journal of Nursing Studies*, *49*(2), 220–229. http://doi.org/10.1016/j.ijnurstu.2011.09.003

Simonelli, C, Tripodi, F, Rossi, R, Fabrizi, A, Lembo, D, Cosmi, V, & Pierleoni, L. (2008). The influence of caregiver burden on sexual intimacy and marital satisfaction in couples with an Alzheimer spouse. *International Journal of Clinical Practice*, 62(1), 47–52. http://doi.org/10.1111/j.1742-1241.2007.01506.x

Svetlik, D, Dooley, W. K., Weiner, M.F., Williamson, G.M., & Walters, A.S. (2005). Declines in satisfaction with physical intimacy predict caregiver perceptions of overall relationship loss: A study of elderly caregiving spousal dyads. *Sexuality and Disability*, 23(2), 65–79. http://doi.org/10.1007/s11195-005-4670-7

Thorson, A. R. (2009). Adult children's experiences with their parent's infidelity: Communicative protection and access rules in the absence of divorce. *Communication Studies*, *60*(1), 32–48. http://doi.org/10.1080/10510970802623591

van Dam, K. (2005). Employee attitudes toward job changes: An application and

extension of Rusbult and Farrell's investment model. *Journal of Occupational and Organizational Psychology*, 78(2), 253–272. http://doi.org/10.1348/096317904X23745

Van Lange, P. A. M., Rusbult, C. E., Drigotas, S. M., Arriaga, X. B., Witcher, B. S., & Cox, C. L. (1997). Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology*, 72(6), 1373–1395. http://doi.org/10.1037/0022-3514.72.6.1373

Waite, L. J., Laumann, E. O., Levinson, W., Lindau, S. T., McClintock, M. K., O'Muircheartaigh, C. A., & Schumm, L. P. (2007). National Social Life, Health, and Aging Project (NSHAP). *National Archive of Computerized Data on Aging*.

Waite, L. J., Laumann, E. O., Das, A., & Schumm, L. P. (2009). Sexuality: Measures of partnerships, practices, attitudes, and problems in the national social life, health, and aging Study. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*. http://doi.org/10.1093/geronb/gbp038

Waite, L. J., Laumann, E. O., Levinson, W., Lindau, S. T., & O'Muircheartaigh, C. A. (2014). National Social Life, Health, and Aging Project (NSHAP): Wave 1. ICPSR20541-v6. *Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor]*. *doi*, *10*, 3886.

Weiderman, M.W. (1997). Extramarital sex: Prevalence and correlates in a national survey. *The Journal of Sex Research*, *34*(2), 167–174. http://doi.org/10.1080/00224499709551881

Wiederman, M. W., & Hurd, C. (1999). Extradyadic involvement during dating. *Journal of Social and Personal Relationships*, *16*(2), 265-274.

Weitzenkamp, D. A., Gerhart, K. A., Charlifue, S. W., Whiteneck, G. G., & Savic, G. (1997). Spouses of spinal cord injury survivors: The added impact of caregiving. *Archives of Physical Medicine and Rehabilitation*, 78(8), 822–827. http://doi.org/10.1016/S0003-9993(97)90194-5

Whisman, M. A., Gordon, K. C., & Chatav, Y. (2007). Predicting sexual infidelity in a population-based sample of married individuals. *Journal of Family Psychology*, 21(2), 320–4. http://doi.org/10.1037/0893-3200.21.2.320

Wiederman, M. W., & Hurd, C. (1999). Extradyadic involvement during dating. *Journal of Social and Personal Relationships*, 16(2), 265–274. http://doi.org/10.1177/0265407599162008

Yorgason, J. B., Booth, A., & Johnson, D. (2008). Health, disability, and marital quality: Is the association different for younger versus older cohorts? *Research on Aging*. http://doi.org/10.1177/0164027508322570

Table 1
Percent of variables with missing values

Variable	% Missing
Age	0
Gender	0
Ethnicity	0
Education	0
Religious attendance	0
Income	12
Care reason	0
Rewards	
Open to spouse	0
Rely on spouse	1
Costs	
Companionship	13
Isolated	11
Satisfaction	
Relationship happy	0
Emotionally satisfied	2
Physically satisfied	4
Attitudes towards alternatives	
Love for sex	5
Religion shapes sex	8
Religious beliefs shape decisions	15
Investment	
Care hours	0
Length of marriage	0
Infidelity	
General	6
Dementia	9
Physical	7

Table 2
Descriptives of indicator variables N=100

Variable	Range	Mean/ Percentage	SD
Age (in years)	57-85	72.63	7.53
Gender	0-1		
Male		43%	
Female		57%	
Ethnicity	1- 4		
White		81%	
Black		11%	
Hispanic, non-black		8%	
Education	1- 4		
Less than high school		17%	
High school diploma		33%	
Some college/vocational		32%	
College or higher		18%	
Religious attendance	0- 6		
Never		19%	
Less than once a year		4%	
About once or twice a year		16%	
Several times a year		8%	
About once a month		5%	
Every week		36%	
Several times a week		12%	
Household income			
Less than 25,000		38%	
25,000 - 50,000		33%	
More than 50,000		29%	
Reason for care	1 - 2		
Alzheimer's disease		23%	
Other		77%	
Rewards	1 - 6	4.84	1.42
Costs	1 - 6	2.59	1.12
Satisfaction	-7.69-3.51	0	2.53
Attitudes about alternatives	1 - 4	3.21	0.74
Investment			
Length of marriage (years)	2 - 68	43.7	17.24
Care hours	0 - 5	3.23	1.52
Infidelity	1 - 3	1.5	0.667

Note: The satisfaction scale has a negative minimum value because it is based on standardized scores.

Table 3
Intercorrelations for Study Variables (N=100)

Variable		1	2	3	4	5	6	7	8	9
Age	1	1								
Gender	2	.039	1							
Ethnicity	3	-.241*	-.284**	1						
Education	4	.017	-.001	-.322**	1					
Religion	5	.073	.083	.066	-.147	1				
Income	6	-.110	-.224*	-.324**	.435**	-.080	1			
Care reason	7	-.338**	-.089	.205	-.095	-.049	-.010	1		
Rewards	8	-.198*	-.195	.121	-.048	.073	-.098	.345**	1	
Costs	9	-.129	.139	-.087	.255*	-.096	.132	.002	-.300*	1
Satisfaction	10	-.118	-.320**	.063	.022	.166	.176	.204*	.500**	-.387**
Alternative	11	.164	.337**	-.118	-.260**	.520**	-.168	-.046	.040	-.019
Investment										
Lengthmar	12	.589**	-.092	-.174	.005	.029	.024	-.317**	-.122	.097
Care hours	13	.019	.127	-.001	-.150	-.115	-.234*	-.057	-.196	-.005
Infidelity	14	-.006	-.233*	.291*	.112	-.238*	.014	.018	.151	-.035

Table 3 Continued

		10	11	12	13	14
Age	1					
Gender	2					
Ethnicity	3					
Education	4					
Religion	5					
Income	6					
Care reason	7					
Rewards	8					
Costs	9					
Satisfaction	10	1				
Alternative	11	.020	1			
Investment						
Lengthmar	12	-.141	.040	1		
Care hours	13	-.197	.100	-.057	1	
Infidelity	14	-.025	-.519**	.022	-.162	1

Note: *p <.05, **p <.001

Table 4
Multiple Regression Analysis for Satisfaction Predicting Attitudes Towards Infidelity

Variable	Step 1			Step 2		
	B	SEB	β	B	SEB	β
Age	0.013	0.009	0.145	0.01	0.01	0.14
Gender	-0.056	0.14	-0.04	-0.08	0.15	-0.06
Ethnicity						
African-American	-0.04	0.2	-0.02	-0.04	0.2	-0.01
Hispanic	1.2	0.27	.49**	1.2	0.28	.49**
Education	0.11	0.07	0.16	0.11	0.07	0.16
Religion	-0.09	0.03	-.29*	-0.09	0.03	-.27*
Income	0.05	0.09	0.05	0.05	0.09	0.06
Care reason	0.07	0.14	0.05	0.09	0.15	0.06
Satisfaction				-0.02	0.03	-0.11
Total R^2		.22**			.22**	
ΔR^2					0	

Note:*p <.05, **p<.001

Table 5
Multiple Regression Analysis for Satisfaction Mediation

Regression equation	B	SEB	β
Regress satisfaction on			
Rewards	0.83	0.17	.47**
Costs	-0.43	0.27	-.12
Regress infidelity on			
Rewards	0.07	0.05	0.16
Costs	0.003	0.09	-0.08
Regress infidelity on			
Satisfaction	-0.02	0.09	-0.05

Note: *p <.05, **p <.001

Table 6
Multiple Regression Analysis for Attitudes Towards Alternatives Predicting Attitudes Towards Infidelity

	Step 1			Step 2		
Variable	B	SEB	β	B	SEB	β
Age	0.01	0.01	0.14	0.02	0.01	0.07
Gender	-0.05	0.14	-0.04	0.12	0.13	0.09
Ethnicity						
African-American	-0.04	0.2	-0.02	0.07	0.18	0.03
Hispanic	1.2	0.27	.49**	1.03	0.25	.42**
Education	0.11	0.07	0.16	0.04	0.07	0.05
Religion	-0.09	0.03	-.29*	-0.02	0.03	-0.06
Income	0.05	0.09	0.06	0.03	0.08	0.03
Care reason	0.07	0.14	0.05	0.05	0.13	0.03
Attitudes towards alternatives				-0.37	0.1	-.41**
Total R^2		.24**			.37**	
ΔR^2					0.13	

Note: *p <.05, **p <.001

Table 7
Multiple Regression Analysis for Investment Predicting Attitudes Towards Infidelity

	Step 1			Step 2		
Variable	B	SEB	β	B	SEB	β
Age	0.01	0.01	0.14	0.01	0.01	0.13
Gender	-0.05	0.14	-0.04	-0.04	0.14	-0.03
Ethnicity						
African-American	-0.04	0.2	-0.02	-0.02	0.2	-0.01
Hispanic	1.2	0.27	0.49**	1.14	0.27	.46**
Education	0.11	0.07	0.16	0.1	0.07	0.15
Religion	-0.07	0.03	-.23*	-0.08	0.03	-.25*
Income	0.046	0.09	0.05	0.01	0.09	0.01
Care reason	0.07	0.14	0.05	0.05	0.14	0.04
Investment						
Length of marriage				0	0.01	0.01
Care hours				-0.06	0.04	-0.15
Total R^2		.22**			0.23**	
ΔR^2						0.5

Note:*p <.05, **p<.001

Figure 1: Conceptual model of Investment model for spousal caregivers