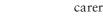# 12

Attachment and Aged Care

Gery C. Karantzas
Jeffry A. Simpson

Approximately 524 million people are over the age of 65, and by the year 2050, this figure will rise to 1.5 billion (National Institute on Aging [NIA], 2011; World Health Organization [WHO], 2012). Further-more, about 80% of people within this age group report having at least one chronic health condition (National Center for Chronic Disease Pre-vention and Health Promotion, 2011). Because of these trends, the aging of the population has introduced new challenges for couples and families regarding the care of ailing older adults. No longer is aged care the pri-mary responsibility of the state or government. Instead, family members (whether these are aging adults' spouses/partners, or grown children and their partners) are increasingly becoming the primary carers of aging adults, as federal and state governments in most parts of the globe struggle to meet the health care demands of their aging societies (Karantzas, Evans, & Foddy, 2010; NIA, 2011; WHO, 2012). In the coming decades, caring for an older adult is likely to become a normal life task for many—and perhaps most—adult children and their spouses. Caring for an older per-son, however, is a highly stressful and challenging responsibility, even for family members; it involves coming to terms with the eventual decline and ultimate loss of someone who often has been a primary source of love, comfort, and support across a carer's entire life. From this perspective, attachment theory (Bowlby, 1969/1982) provides a particularly useful and powerful framework for understanding the processes of caregiving and care receiving, as well as the mental health outcomes experienced by both carers and care recipients. Because it is a lifespan theory of development,

attachment theory also provides a unique framework to comprehend how both attachment and caring processes operate in later life.

We begin the chapter by outlining key concepts and ideas in attachment theory, especially those relevant to understanding attachment during later life within the context of aged care. We then provide an overview of existing research linking attachment theory to aged care, highlighting important and novel issues associated with attachment, aged care, and later-life attachment more generally. We conclude the chapter by posing and discussing questions that are likely to shape future directions for research on aged care and attachment processes.

Attachment Concepts and Their Relevance to Aging and Aged Care

Attachment Theory: A Diathesis–Stress Model

According to Bowlby (1969/1982), the regulation and management of our emotional bonds with those closest to us is governed by the attachment behavioral system. This integrated behavioral system motivates people to seek proximity to their attachment figures in order to gain comfort and a sense of safety when they feel threatened or distressed. Attachment theory, therefore, is not merely a theory of human bonding; it is a theory of emotional and distress regulation (Mikulincer & Shaver, 2007a; Simpson & Rholes, 1994). As such, the theory provides a comprehensive framework for understanding how close relationships shape the way in which families deal with stressors and strains, such as the emotional highs and lows of caring for an aging parent. Consistent with other research linking attachment theory to stressful family situations (e.g., the transition to parenthood; see, e.g., Rholes, Simpson, Campbell, & Grich, 2001; Simpson, Rholes, Campbell, Tran, & Wilson, 2003), attachment theory provides a diathesis–stress approach for understanding how and why certain family members who encounter the stress of caring for an older adult tend to experience greater difficulty in the caregiving role (see also Simpson & Rholes, 2012). This approach can also aid in identifying which older adults are particularly susceptible to experiencing difficulties in accepting care from certain family members and adjusting to their own ailing health and functional decline. Thus the application of attachment theory as a diathesis–stress model allows us to unpack the familial vulnerabilities as well as the contextual factors/stressors that shape the physical and emotional well-being of both carers and care recipients.

Felt Security, Proximity Seeking, and Protective Behavior

According to Bowlby (1969/1982), the primary goal of the attachment system is to maintain a state of *felt security*—a physical and/or psychological

state in which a person feels safe and protected. When this state is compromised (by experiencing a stressful event or being exposed to a threatening situation), most individuals try to seek out their attachment figures in order to reestablish felt security (these efforts are termed *proximity seeking*). In childhood, felt security is achieved by engaging in rather direct proximity-seeking behaviors, such as when an upset child maintains close physical distance to his or her parent/guardian (e.g., Ainsworth, Blehar, Waters, & Wall, 1978; Vaughn, Egeland, Sroufe, & Waters, 1979).

Compared to young children, adults do not require direct or frequent physical contact with their parents in order to feel secure and safe in threatening situations. Rather, adults can achieve a sense of comfort and security by simply thinking about (symbolically representing) their parents—specifically, through generating thoughts or memories of closeness, internalized shared values, goals, or common interests with their parents (Cicirelli, 1993). As Koski and Shaver (1997) point out, "availability becomes more abstract and no longer requires constant, immediate physical presence" (p. 29). This symbolic representation of contact can be periodically reinforced by direct communication with parents during visits, or via telephone calls or other forms of contact. These behaviors can be conceptualized as an extension of an infant's original working models of his or her parents. Attachment during adulthood, in other words, does not always require actual physical proximity, because felt security can be achieved by stimulated closeness via thoughts, fantasies, and imagery of parents (Cicirelli, 1991, 1993; Shaver & Mikulincer, 2004). This symbolic aspect of attachment has been supported by Troll and Smith (1976), who found that strong familial attachments between older parents and their adult children are often maintained, regardless of their contact frequency or proximity maintenance. Therefore, positive recollections of a parent as an attachment figure, coupled with phone calls, e-mails, and other nonphysical contact, can sustain the parent as a secure base and safe haven, even when a child becomes an adult.

Cicirelli (1998) suggests that in later life, a powerful attachment threat for an adult child is the current or imminent ill health of a parent. When parents become ill, most adult children will engage in proximity seeking manifested in caregiving actions, which Cicirelli has termed *protective behavior.* Protective behavior is designed to preserve or restore the existence of the threatened attachment figure (Bowlby, 1979, 1980; Cicirelli, 1983, 1985). As the vulnerability of a child's attachment bond with a parent becomes salient due to the onset of age-related illnesses, the adult child may become motivated to protect the parent, especially if he or she continues to be an important source of emotional security. Through caregiving and other forms of helping behavior, the adult child should attempt to delay the eventual loss of the parent for as long as possible. To put this another way, the parent's ill health and potential dependency pose a threat

to the longevity of the familial attachment bond, which in turn should activate a drive in an adult child to protect the parent through some form of helping or caregiving behavior (Cicirelli, 1998; Mikulincer & Shaver, 2007a). Cicirelli's concept of protective behavior is intriguing, and it may help to explain the normative functioning of the attachment system when an adult child (and perhaps his or her spouse) deals with the failing health of an older parent (or older partner). However, research has not yet tested Cicirelli's assumptions about caregiving as a manifestation of protective behavior.

Behavioral Systems

Implicit in much of the work linking attachment to aged care is the interplay between different behavioral systems—namely, the attachment behavioral system in relation to the caregiving system. According to Bowlby (1969/1982), the caregiving system is complementary to the attachment system, in that it motivates an individual to offer assistance, comfort, and support when another person is distressed and needs help. As such, the goal of the caregiving system is to respond to another individual's need for felt security by providing sensitive and responsive care (Canterberry & Gillath, 2012; Gillath, Shaver, & Mikulincer, 2005). The caregiving system is activated when an individual detects that another is distressed or needs help, and is deactivated when the care recipient's need is met or his or her sense of security is reestablished (Canterberry & Gillath, 2012; Gillath et al., 2005). To date, a considerable amount of early childhood and adult attachment research has examined the associations between these two behavioral systems. For example, research on adult attachment orientations and the experimental enhancement of people's sense of security by priming attachment security have provided important insights into the dynamic interplay of these two systems (for reviews, see Canterberry & Gillath, 2012; George & Solomon, 2008; Mikulincer & Shaver, 2007a, 2007b).

Recently, Canterberry and Gillath (2012) have proposed a model of caregiving system activation and dynamics that directly maps onto Mikulincer and Shaver's (2003, 2007a) model of attachment system dynamics. The Canterberry and Gillath model provides an organizational framework that articulates the role that certain individual differences play in the functioning of the caregiving system, and how they align with other individual differences associated with the functioning of the attachment system. Specifically, the model posits that people can engage in one of three broad caregiving strategies: (1) sensitive and responsive caregiving, (2) hyperactivating caregiving, or (3) deactivating caregiving. Sensitive and responsive caregiving strategies reflect caregiving that is delivered in an appropriate manner and that meets the care recipient's specific needs. Hyperactivating caregiving strategies entail caregiving behaviors that are intrusive, compulsive,

and persistent in nature and are delivered in a way that usually intensifies the care recipient's distress or fails to meet the person's needs. Deactivating strategies refer to caregiving that is distant, minimal, and lacking in emotional content. Sensitive and responsive caregiving tends to be enacted by securely attached individuals. Hyperactivating caregiving strategies are typically enacted by anxiously attached individuals, who rely on hyperactivating attachment strategies to regulate their emotions when they are distressed (i.e., strategies in which distress and proximity-seeking efforts are intensified). Deactivating caregiving strategies are displayed by avoidantly attached individuals, who use deactivating attachment strategies when they become upset (i.e., strategies in which distress is minimized and proximity seeking is inhibited).

Despite the utility of the Canterberry and Gillath (2012) model and research that has attempted to test connections between the attachment and caregiving systems, aged-care research has not systematically investigated the links between attachment and caregiving from a behavioral systems perspective. The aged-care field needs to incorporate behavioral systems approaches and concepts in studies linking attachment principles to the care of older adults. The framing of research and testing of assumptions proposed in the Canterberry and Gillath model and related models (e.g., Feeney & Collins, 2004) is particularly important, given Cicirelli's (1998) conceptualization of attachment theory and protective behavior. For instance, from a behavioral systems perspective, one can argue that protective behavior represents the functioning of the attachment system. That is, wanting to be near and wanting to assist an ailing attachment figure (parent) could be a form of proximity seeking that is motivated by the need to feel more secure when faced with the impending loss of an attachment figure (parent or partner). Alternatively, protective behavior may reflect the functioning of the caregiving system, in which a carer notices the older adult's distress, concern, or calls for help, which then motivates the carer to alleviate the older adult's distress or suffering. These competing but equally plausible explanations of protective behavior constitute merely one example of the utility of integrating behavioral systems approaches to elucidate the pathways linking attachment behavior with caregiving behavior in the context of aged care.

Research Trends in Attachment Research within Aging and Aged Care

One of John Bowlby's most widely quoted statements is his contention that attachment relationships shape individuals across the entire lifespan "from the cradle to the grave" (1979, p. 129). Despite this assertion, the lion's share of research has investigated attachment processes no further than early to middle adulthood. Thus there is a very large gap in our understanding of

the nature of attachment bonds in later life (especially between adult children and their older parents) and of how these bonds influence attitudes, behaviors, and outcomes in contexts such as aged care. Given this large gap in our understanding, scholars have called for the greater application of attachment theory to the study of aging families for many decades.

Some of the earliest work on attachment theory and its application to later-life familial relationships can be attributed to Troll and Smith (1976). They documented that the strength of what they termed "familial attachment bonds" between young adults and their kin (which included parents and grandparents) was not dependent on the frequency of contact or on whether family members lived close to one another. This research provided initial evidence that attachment bonds are indeed functional and relevant to the lives of individuals within families as they traverse the lifespan. As a consequence of this and subsequent early research on later-life attachment (e.g., Kalish & Knudtson, 1976; Thompson & Walker, 1984), developmentalists and gerontologists began to see greater value in applying attachment theory to how families navigate important later-life transitions, such as caring for ailing older adults (Cicirelli, 1983; Thompson & Walker, 1984).

Despite this early interest, attachment theory and its principles have received little attention in recent aged-care research (see Karantzas, Evans, et al., 2010; Mikulincer & Shaver, 2007a; Van Assche et al., 2013). In fact, until the last decade, only about 10% of all gerontology research has focused on family relationships (Allen, Blieszner, & Roberto, 2000), and even less research has explicitly focused on attachment theory and its potential applications to aged care. Instead, aged-care research has been surprisingly atheoretical, with approximately half of these studies using no theoretical model(s) to frame the research (see Dilworth-Anderson, Williams, & Gibson, 2002).

Of the studies that have attempted to explain familial responsibilities and outcomes of aged care in terms of existing theories or models, most have used principles of distributive and procedural justice, social exchange, transactional models of stress and coping, gender role socialization and culture, filial obligation, and intergenerational solidarity (e.g., Bengtson, 2001; Blieszner & Mancini, 1987; Guberman, Maheu, & Maille, 1992; Knight, Silverstein, McCallum, & Fox, 2000; Miller & Cafasso, 1992; Silverstein & Bengtson, 1997; Silverstein, Gans, & Yang, 2006). Although these perspectives have provided important insights into familial caregiving, they have fallen short of providing clear insights into *how* established familial relationship dynamics shape (1) the assistance given by family members to older adults, and (2) older adults' reactions to both seeking and receiving care.

Taking stock of the limited research on attachment and aged care, we (Karantzas, Karantzas, Simpson, & McCabe, 2013) recently conducted a systematic review of this literature. This research revealed that 149 studies

claimed to have investigated attachment variables or processes in the context of aged care. Of these studies, however, only 26% explicitly measured attachment styles or orientations. The remaining studies either drew on attachment theory to frame the research or claimed to measure attachment styles/orientations, but actually did not. Instead, a number of these studies measured concepts related to attachment, such as affection, parental bonding, or perceptions of emotional closeness.

An Overview of Attachment and Aged-Care Research

Attachment, Caregiving, and Carer Outcomes

Of the research on aged care that has explicitly used attachment measures, most investigations have focused on the carers' perspective, particularly adult children of aging parents (rather than the aging persons' spouses) (Karantzas et al., 2013; Van Assche et al., 2013). Furthermore, research linking attachment and aged care has primarily examined (1) how the *strength* of the attachment bond between a carer and a care recipient is related to caregiving/helping behavior, or (2) how *individual differences* in attachment mental representations and behavior are associated with caregiving behavior and carers' outcomes.

In regard to the strength of attachment, research has found that stronger self-reported attachment ties between carers and care recipients are associated with more helping behavior and better carer outcomes in general. For example, Thompson and Walker (1984) found that more mother–daughter caregiving reciprocity was associated with stronger attachment ties. Pohl, Boyd, Liang, and Given (1995) found that stronger daughter–mother attachment was associated with daughters' providing more care to their aging mothers. Similarly, Cicirelli (1983, 1993) found that stronger daughter–mother attachment was associated with daughters' providing more care to their aging mothers and experiencing less burden.

Individual differences in attachment mental representations and attachment behavior provide additional insights about the connections between and among attachment, caregiving, and care outcomes. In a recent study, Chen et al. (2013) found that adult children's securebase mental representations predicted fewer negatively expressed emotions directed at older parents—a finding that was moderated by adult children's perceptions of their care of elderly parents as difficult.

Our own work and that of others has found that attachment insecurity (i.e., attachment anxiety and attachment avoidance) is negatively associated with the *amount* of care adult children provide to older parents who need assistance, and that it is positively associated with carer burden, depression, anxiety, and stress (e.g., Carpenter, 2001; Crispi, Schiaffino, & Berman, 1997; Karantzas, 2012; Karantzas, Evans, et al., 2010; Magai

& Cohen, 1998; Nelis, Clare, & Whitaker, 2012). In contrast, attachment security is positively associated with the amount and quality of care provided by adult children to their aging parents, and negatively associated with the carers' burden and mental health outcomes (e.g., Carpenter, 2001; Cooper, Owens, Katona, & Livingston, 2008; Karantzas, Evans, et al., 2010; Magai & Cohen, 1998; Nelis et al., 2012).

In regard to the *type* of care rendered to older adults, research has found that attachment anxiety is negatively associated with adult children's provision of both emotional and instrumental support (Carpenter, 2001; Kim & Carver, 2007). Studies of attachment avoidance show less consistent findings, with some reporting negative associations and others reporting no link between adult children's attachment avoidance and the provision of either emotional or instrumental support to older parents (e.g., Carpenter, 2001; Kim & Carver, 2007; Pohl et al., 1995). However, attachment avoidance is positively associated with adult children's tendency to place their aging parents in residential care facilities (Markiewicz, Reis, & Gold, 1997). In contrast, attachment security is positively associated with adult children's provision of emotional and instrumental help to their aging parents, along with a tendency to keep their parents in their own homes rather than put them in residential care facilities (Markiewicz et al., 1997).

In the only study to date investigating attachment and the *style* (the manner) in which care is provided, Braun et al. (2012) found that in older couples dealing with cancer, carers' attachment avoidance was negatively associated with the provision of sensitive care, whereas carers' attachment anxiety was associated with the provision of compulsive caregiving. In addition, both attachment anxiety and attachment avoidance were associated with carers' engaging in more controlling care toward their older spouses.

During the last decade, a handful of studies have examined how attachment is related to the future care of older adults. Specifically, attachment security and attachment strength are positively correlated with adult children's preparedness and willingness to provide future care to older adults (Cicirelli, 1983; Sörensen, Webster, & Roggman, 2002). In contrast, attachment insecurity is negatively associated with carers' willingness to plan or their intentions to give care to older adults in the future (Karantzas, Evans, et al., 2010; Sörensen et al., 2002). Our work and that of others has also found that attachment avoidance is strongly associated with adult children's unwillingness to provide future care to older parents (Karantzas, Evans, et al., 2010; Sörensen et al., 2002).

Attachment, Care Receiving/Care Seeking, and Care Recipient Outcomes

Over the last four decades, very little research has investigated how attachment processes shape how older adults seek and receive care and their

physical and mental health outcomes. This is true despite the fact that many studies of attachment and aged care appear to have collected data on care recipients' physical and/or emotional well-being.

In our systematic review of the literature (Karantzas et al., 2013), we found only five studies that reported associations between and among attachment, care receipt/care seeking, and health outcomes from the perspective of the care recipients. In relation to attachment strength, Antonucci (1994) found that older women who reported stronger attachment to their daughters received more emotional support from them. In an innovative study, Steele, Phibbs, and Woods (2004) examined how the behavior of older adults with dementia, when reunited with their adult daughters after separation, predicted the daughters' attachment mental states as assessed by the Adult Attachment Interview (AAI; Main, Kaplan, & Cassidy, 1985). Steele et al. found that older mothers' behaviors during these reunions with their daughters were positively correlated with their daughters' coherence of mind as assessed by the AAI, even when the researchers controlled for the severity of the mothers' dementia symptoms. Specifically, mothers' display of secure reunion behavior (i.e., proximity seeking, maintenance of contact, and responsiveness) was associated with their daughters' being securely attached on the AAI. In another study focusing on people with dementia, Nelis et al. (2012) found that for such people, attachment security was related to having a more positive self-concept and fewer symptoms of dementia-related anxiety. In one of the few longitudinal studies on attachment and caregiving in aged care, Perren, Schmid, Herrmann, and Wettstein (2007) found that among older couples dealing with dementia care, the caregivers' attachment avoidance and the care recipients' insecure attachment (i.e., attachment anxiety or attachment avoidance) were associated with increased levels of dementia-related problem behavior in care recipients.

Our own work has also examined attachment and familial caregiving from the care recipients' perspective. In one study of older parents' perceptions of seeking care and its effect on carers, we found that attachment anxiety was positively associated with older parents' current receipt of care, their future willingness to receive care, and their perceptions of carer burden (Karantzas, Evans, et al., 2010). We also found that older parents' attachment anxiety was positively associated with their perceptions of the sense of obligation that adult children should have in providing care to older parents (i.e., filial obligation). In a path-analytic model, we confirmed that the covariation between older parents' views about filial obligation and their attachment orientation predicted older parents' actual seeking of care from their adult children. This suggests that filial obligation may be interconnected with attachment anxiety. If so, older parents who are highly anxious may impose filial responsibilities on their adult children as a means of safeguarding and controlling their relationship with them.

A Word of Caution

Although this brief review of the current literature on attachment and aged care offers some valuable insights, caution must be exercised regarding how much to read into these findings. A recurrent theme in this review and recent others is the significant variability in how attachment is conceptualized and measured in most aged-care research (see Bradley & Cafferty, 2001; Karantzas, Evans, et al., 2010; Van Assche et al., 2013). We address the issue of the conceptualization and assessment of attachment in later life and aged care in the next section. In doing so, we discuss various conceptualization of attachment and describe particular measures associated with each one. We also discuss the strengths and weaknesses of the various conceptualizations and assessment as they relate to aged care.

Conceptualizing Attachment in Later Life and in Aged Care

One of the greatest concerns regarding the conceptual and measurement variability of attachment is the inability to compare findings across different studies. In most prior research on attachment and aged care, attachment has been conceptualized and assessed in one of three ways: (1) strength of attachment, (2) attachment states of mind, and (3) attachment orientations/styles. We discuss each of these distinct conceptualizations and assessment perspectives in turn.

Strength of Attachment

Several studies of attachment and aged care have conceptualized attachment in terms of the strength of the "bond" between older parents and their adult children (e.g., Cicirelli, 1995; Thompson & Walker, 1984; Troll & Smith, 1976), with few measures of this type assessing the romantic attachment orientations of older adults. This conceptualization of attachment places little, if any, emphasis on the distinction between attachment individual differences in the form of attachment orientations or styles; rather, strength is measured as a unidimensional construct, with higher scores reflecting a tighter/closer perceived bond between an older adult and an adult child. A common inference associated with these measures is that a higher score indicates a more secure attachment (Cicirelli, 1993; Thompson & Walker, 1984). However, this inference (as we discuss later in this section) is somewhat tenuous, as a "tighter" or "closer" bond does not necessarily reflect a "secure" attachment. Rather, a secure attachment bond is characterized by a relationship in which closeness is balanced with autonomy and independence (Karantzas, Evans, et al., 2010).

Nearly all of these unidimensional measures are self-report in nature,

and various questionnaire measures have been developed. Troll and Smith (1976), for example, developed a measure that mixes obligation and aspects of intergenerational solidarity into their assessment of later-life parent–child attachment. Thompson and Walker (1984) developed a 9-item measure of later-life parent–child attachment (with a specific focus on mother–daughter relationships) in which higher scores reflect "greater attachment." Example items include "We're emotionally dependent on one another," "When we anticipate being apart, our relationship intensifies," and "Our best times are with each other." In 1995, Cicirelli developed the 16-item Adult Attachment Scale (AAS) to measure the degree or strength of aging mother–daughter attachment. The measure assesses four norma-tive aspects of attachment discussed in prior attachment research (e.g., Ainsworth, 1985; Bowlby, 1980; Weiss, 1982): feelings of love, feelings of security and comfort, distress upon separation, and joy on reunion. Cicirelli's (1995) measure also contains items that capture the symbolic or "felt security" nature of attachment in adulthood (Ainsworth, 1989; Cicirelli, 1991; Levitt, 1991; Marvin & Stewart, 1990). Items include "The thought of losing my mother is deeply disturbing to me," and "I feel lonely when I don't see my mother often."

Concentric mapping approaches and interviews have also been used to assess the strength of attachment between older adults or between aging parents and their adult children. The most widely used concentric map-ping technique is that devised by Antonucci and colleagues as part of their social convoy theory of human relations (e.g., Antonucci, 1986; Antonucci & Akiyama, 1987; Antonucci, Kahn, & Akiyama, 1989). As part of this measure, individuals are asked to imagine themselves at the center of three concentric circles. They are then instructed to list members of their social network according to how close they perceive each network member is to the self by distributing their social ties across the concentric circles. Accord-ing to Antonucci and colleagues, network members who are placed within the concentric circle closest to the self are regarded as very close emotional ties and are presumed to be attachment figures. Social convoy studies of adult children and older adults have found that adult children tend to report strong attachments to their older parents (both mothers and fathers), and that older adults report their strongest attachments to be with their spouses and adult children (e.g., Antonucci, Akiyama, & Takahashi, 2004).

Barnas, Pollina, and Cummings (1991) developed an attachment inter-view designed to measure strength of attachment security. In a semistruc-tured protocol, responses to 12 questions are coded for attachment content on two dimensions: the presence of attachment security, and attachment avoidance/resistance. Scores along both dimensions are then summed to range on a continuum from insecurity to security.

Even though several measures have attempted to capture key attach-ment constructs, the unidimensional nature of many of these measures

(coupled with their scoring procedures) casts some doubt over their validity as good indicators of attachment patterns in later life. As cases in point, higher scores on both Thompson and Walker's (1984) measure and Cicirelli's (1995) AAS are presumed to reflect stronger (and more secure) attachment, whereas lower scores are believed to reflect weaker (and more insecure) attachment. However, this scoring procedure is likely to be inappropriate, because both of these measures were specifically designed to assess attachment bonding between older parents and their adult children (especially aging mothers and adult daughters) within the context of aged care. Several items in these measures—such as "We're emotionally dependent on one another," "The thought of losing my mother is deeply disturbing to me," or "I feel lonely when I don't see my mother often"—suggest that a high score may not reflect attachment security, but attachment insecurity. Within the context of family members involved in aged care, the loss of an older adult is inevitable. According to Bowlby (1980) and Fraley and Shaver (1999), individuals who are securely attached typically go through a cognitive reorganization of their working models after the death of an attachment figure, which allows them to come to terms with the loss and eventually reengage in exploratory behavior. In doing so, the reorganization of their working models is likely to commence prior to death, as in the case of familial caregiving during which an older spouse or adult child witnesses an attachment figure endure a protracted illness (see Fraley & Shaver, 1999).

Thus it seems erroneous to interpret high scores on these unidimensional measures as indexing secure attachment. In fact, it seems more appropriate to infer that *moderate* scores on these measures may be more indicative of secure familial attachment, because secure adult children, while distressed about the eventual loss of their parents, should have started reorganizing their attachment working models during the course of their parents' ill health. Therefore, high scores on these measures are probably indicative of an overly anxious form of attachment characterized by clinginess, a high degree of separation protest, and cognitive inflexibility in the reorganization of attachment working models. Moreover, the items on the AAS and Thompson and Walker's measure assess attachment anxiety, with little emphasis on attachment avoidance. In contrast, the Barnas et al. (1991) interview measure conflates scores on attachment security and attachment avoidance. As a result, it is difficult to determine whether scores on this measure reflect either the presence or absence of security or the presence or absence of avoidance. Moreover, with no explicit assessment of attachment anxiety, this measure excludes a fundamental type of attachment insecurity. Finally, while Antonucci and colleagues' social convoy measure is not solely a measure of attachment strength, the suggestion that inner-circle network members are bona fide "attachment figures" is an assertion rather than a fact. Thus, although it may be true that some "very close" network members are actual attachment figures, there is no

definitive way of determining whether this is true for the social convoy measure. In sum, even though these unidimensional assessments of attachment have been used to study aging families and aged care, whether and the extent to which these measures validly capture attachment orientations or styles remain uncertain.

Attachment States of Mind

Born from the developmental psychology tradition, other studies investigating later life attachment and/or aged care have used observational and/or interview assessments to tie early parent–child experiences to attachment states of mind later in life. Specifically, there are a handful of studies that have conceptualized attachment from this perspective and have used adult analogues of Ainsworth's Strange Situation (Ainsworth et al., 1978), the Secure Base Script Assessment (see Chen et al., 2013; Waters & Waters, 2006), or the AAI (see Main et al., 1985; Steele et al., 2004). For instance, in an earlier-described study examining familial attachment processes in later life, Steele et al. (2004) conducted AAI assessments of daughters who were caring for older mothers with dementia. They used a modified version of the Strange Situation to observe the reunion behavior between daughters and their mothers. The concordance between these distinct assessments (i.e., the AAI and reunion behavior in an analogue of the Strange Situation) was then examined as a way of explaining variability in the dementia-related behavior of older adults.

In a study using a modified version of the Secure Base Script Assessment, Chen et al. (2013) investigated how adult children's attachment representations were associated with their care of older parents with dementia. As part of the Secure Base Script Assessment, participants are presented with an attachment topic (e.g., a parent's having an accident) along with a series of word prompts. They are then instructed to verbalize a narrative about the topic, using the word prompts as a guide. Participants are free to develop their own distinctive stories around each topic. The narratives are then scored on a 7-point scale, with higher scores reflecting greater secure base content. In the Chen et al. study, adult children's scores on this assessment were then regressed onto their children's perceptions of difficulty when caring for parents with dementia, including the negative emotions expressed toward their own parents.

The assessment of attachment states of mind in the Steele et al. (2004) and Chen et al. (2013) studies are innovative ways of applying established attachment assessments to the contexts of aging and aged care. Importantly, these assessments place strong emphasis on aspects of the internal working models underlying attachment. Therefore, the application of these assessment procedures to the study of aged care is likely to benefit the field of aged care in two ways. First, the use of the AAI, especially when assessing

carers, can provide direct evidence of how early attachment representations are related to the care provided by adult children to ailing adults. Second, interview measures such as the AAI can yield attachment classifications that distinguish how different attachment orientations/styles (i.e., secure, anxious, avoidant, and disorganized) affect carers' caregiving behavior as well as their physical and mental health outcomes. Unfortunately, measures that assess the strength of attachment fall short of allowing such inferences to be made.

Assessments such as the Strange Situation yield behavioral observations of attachment behavior that can be used to validate interview and self-report assessments. Furthermore, behavioral assessments such as the Strange Situation allow for the measurement of actual attachment behavior in older adults who are experiencing varying degrees of cognitive impairment. By and large, older adults experiencing cognitive deficits have frequently been excluded from aged-care studies because of their inability to provide reliable data. Validated observational assessments open the opportunity for the care recipients' perspective to be more firmly embedded in aged-care research on attachment.
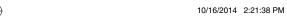
The Secure Base Script Assessment is designed to elicit a narrative that taps an individual's generalized expectations about the provision of secure base support (Waters & Waters, 2006). According to Waters and Rodrigues-Doolabh (2001), a prototypic secure base script depicts an event sequence in which

> the caregiver: (1) supports the [care recipient's] exploration, (2) remains available and responsive and serves as a resource as necessary; (3) the [care recipient] encounters an obstacle or threat and becomes distressed; (4) either the [care recipient] retreats to the caregiver or the caregiver goes to the [care recipient]; (5) the difficulty is resolved or removed; (6) proximity and/or contact with the caregiver effectively comforts the [care recipient]; (7) the [care recipient] (possibly with the caregiver's assistance) returns to constructive [activity] (or ends [the activity] comfortably and makes a transition to another activity). (p. 1)

As a result, this assessment measures the degree to which an individual's story regarding attachment topics yields a narrative with "extensive secure base content and a strong interpersonal framework" (Waters & Rodrigues-Doolabh, 2001, p. 2). Scores on this measure range from low to high, with higher scores indicative of narratives that encompass greater and more elaborate secure base content. The application of this measure to aged-care research can provide important insights into how carers' expectations about secure base support underpin their own mental representations (i.e., attitudes, expectations, and working models) and behaviors relevant to their role as caregivers.

Despite the benefits of using different types of assessments that target

attachment states of mind, it is difficult to make comparisons across these studies, due to the distinct nature of these attachment assessments. AAI classifications, for example, provide information about individual differences in attachment mental states, whereas the Secure Base Script Assessment yields a unidimensional score reflecting the extent of people's secure base script content. Hence these two measures do not necessarily assess the same construct. If aged-care research is going to make good use of these assessment tools, taxometric and scaling procedures will need to demonstrate convergence between assessments of attachment orientations/styles and attachment mental states indexed by measures such as the AAI and the Strange Situation (see Fraley & Spieker, 2003; Roisman, Fraley, & Belsky, 2007). Preliminary evidence regarding links between the Secure Base Script Assessment and individual-difference measures of attachment suggest that individuals who are insecurely attached (i.e., have insecure classifications on the AAI and high scores on self-report measures of attachment anxiety and/or avoidance) score lower on the Secure Base Script Assessment (Coppola, Vaughn, Cassiba, & Costantini, 2006; Dykas, Woodhouse, Cassidy, & Waters, 2006). However, further work needs to determine both the degree of association and the convergence of these measures in later-life familial bonds and the aged-care context.

Attachment Orientations/Styles

The most widely used of the validated attachment measures in aging and aged-care research are self-report assessments of attachment orientations/styles. Generally speaking, these self-report measures have been either categorical assessments or dimensional assessments of attachment. The most commonly used categorical measures are Hazan and Shaver's (1987) three category descriptors (i.e., secure, anxious, and avoidant) and Bartholomew and colleagues' prototype measures of attachment (i.e., secure, preoccupied, dismissing, and fearful, assessed by the Relationship Questionnaire [the RQ; Bartholomew & Horowitz, 1991] or the Relationship Styles Questionnaire [the RSQ; Griffin & Bartholomew, 1994]). The most popular dimensional measures have been the Experiences in Close Relationships (ECR) scale (Brennan, Clark, & Shaver, 1998) and revisions of it (e.g., the ECR-R; Fraley, Waller, & Brennan, 2000), and the Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994; Karantzas, Feeney, & Wilkinson, 2010). Both the ECR and the ASQ tap the two primary dimensions underlying attachment orientations/styles—attachment anxiety and attachment avoidance. The ASQ also taps specific facets of attachment insecurity (for reviews, see Feeney et al., 1994; Karantzas, Feeney, et al., 2010; Mikulincer & Shaver, 2007a). Scores derived from these categorical and dimensional assessments have been linked to caregiving behavior outcomes, carer outcomes, and anticipated caregiving behavior (e.g., Braun

et al., 2012; Carpenter, 2001; Karantzas, Evans, et al., 2010; Magai & Cohen, 1998; Nelis et al., 2012).

The adoption of these self-report measures in aged-care research has introduced more uniformity in how individual differences in attachment are conceptualized and measured (Bradley & Cafferty, 2001). They have also provided greater psychometric rigor, and these measures are yielding important insights into the links between attachment and aged care. As a result, differential predictions can be made regarding how attachment security and different forms of insecurity are likely to affect the provision of care and the seeking and/or receipt of care.

Given that these measures were designed to measure adult romantic or global attachment orientations/styles, various gerontological researchers have modified or adapted their instructions or reworded the items to focus on attachments between adult children and older adults. Although these adaptations are presumed to be more context-specific and ecologically valid assessments of attachment, research is mixed regarding the extent to which alterations of instructions and items yield assessments that are similar to general attachment representations (see Cameron, Finnegan, & Morry, 2012; Mikulincer & Shaver, 2007a). Given these mixed findings, the use of self-report measures originally designed to assess romantic or general attachment orientations during young and middle adulthood raises questions about the validity of these assessments when they are applied to aged-care contexts, especially when assessments target familial attachments between older parents and their adult children. For instance, items that typically capture attachment insecurity in romantic relationships—such as "I want to merge completely with another person" and "I want to be completely emotionally intimate with others" (i.e., attachment anxiety), and "I am nervous when partners get too close to me" and "I am too busy with other activities to put much time into relationships" (i.e., attachment avoidance)—may not apply very well to how older parents or their adult children perceive their relationships. The use of these self-report measures in aged-care research, in fact, has often yielded low reliability coefficients, indicating poor internal consistency and/or factor structures that do not neatly map onto the dimensions of the original measures (e.g., Carpenter, 2001; Magai et al., 2001). These findings suggest that these revised measures may not capture attachment insecurity in a way that is age-appropriate and/or relationship-appropriate when researchers are investigating bonds between older adults and their adult children.

Therefore, considerable caution needs to be taken when self-report measures are implemented in the aging and aged-care contexts, especially for the purpose of measuring attachment relationships between older parents and their adult children. One way forward may be to develop self-report measures that assess the critical features of attachment security, anxiety, and avoidance, but that contain items worded in a manner that

more aptly captures familial attachments in later life. The development of such measures may involve creating new items, rather than just modifying existing ones that are currently used in attachment research to target romantic relationships or earlier stages of the lifespan.

Where to Next?: Future Directions in Attachment and Aged-Care Research

When highlighting particular attachment concepts and ideas earlier in this chapter, we have identified specific aspects of attachment theory and research that require further extension and investigation in the context of aging and aged care. In our overview of attachment research on aging and particularly aged care, we have reviewed the research conducted to date, but have also highlighted which areas need further attention. When discussing how attachment orientations/styles are conceptualized and assessed later in life with respect to aged care, we have identified problems in the area, but have proposed courses of action that can be taken to advance our understanding of attachment processes through the application of existing attachment measures and the development of new measures. In this final section, we reiterate and expand upon some of our earlier themes, and suggest some new and promising directions for future research on aging and aged care.

The concepts of diathesis–stress, protective behavior, and behavioral systems are all highly relevant to aged care research. To date, however, there has been no systematic investigation of these concepts in aged samples. Applying these concepts in systematic, well-designed studies is likely to yield important and novel insights into the impact of certain attachment processes on aged care. For instance, do the vulnerabilities of insecurely attached carers and care recipients lead to different outcomes, depending on the severity or chronicity of distress associated with family caregiving arrangements? Studies identifying the specific types of family caregiving arrangements that put insecurely attached carers and care recipients at the most risk for physical or mental health problems could inform future models of health care and carer support. By identifying the types of familial caregiving situations that most adversely affect insecurely attached families, health care and carer support systems can determine what kinds of caregiving circumstances are likely to require specific forms of professional intervention. Therefore, attachment research into aged care that implements a diathesis–stress approach is not only likely to advance our theoretical understanding of attachment processes in aged care; it is also likely to have important applied value to the aged-care sector.

The concept of protective behavior, coupled with behavioral systems research on the interplay between the attachment and caregiving systems

in the context of aged care, also offers exciting opportunities to advance our theoretical understanding of these two behavioral systems. As noted earlier in the chapter, the help given by a carer to a care recipient is likely to reflect attachment system dynamics, according to Cicirelli (1998). In particular, the ill health of an aging parent may spark proximity-seeking behavior in the carer, in the form of rendering comfort and assistance to safeguard the attachment bond between the carer and his or her aging parent (i.e., protective behavior). However, it is equally plausible that the comfort and assistance given by a carer may reflect activation of the caregiving system, in which an aging parent's ill health alerts the carer to the parent's suffering. In this case, the carer may be motivated to provide assistance not to meet the aging parent's attachment needs, but to alleviate the parent's distress or suffering. Thus Cicirelli's (1983) ideas regarding protective behavior may reflect caregiving rather than attachment system functioning. Researchers need to test these plausible competing behavioral system explanations.

A more systematic investigation of the interplay between the attachment and caregiving behavioral systems in the context of aged care also provides an important opportunity to test some critical theoretical assumptions that could significantly advance our understating of attachment and caregiving dynamics. To date, research linking attachment to caregiving has been studied primarily in social support situations in which romantic couples have been exposed to temporary stressors (e.g., Simpson, Rholes, & Nelligan, 1992), or in studies examining prosocial behavior when helping strangers (e.g., Gillath et al., 2005; Mikulincer, Shaver, Gillath, & Nitzberg, 2005). The findings of these studies suggest that securely attached individuals, unlike insecurely attached ones, usually forgo their own attachment needs and instead attend to the needs of their romantic partners or complete strangers. According to Gillath et al. (2005) and Mikulincer and Shaver (2007a), securely attached people have the capacity to self-soothe, as well as the cognitive and affective regulatory ability to delay meeting their own needs until a later time. One assumption underlying this research is that the caregiving system overrides the attachment system in most securely attached people to ensure that assistance is given to another in need (Gillath et al., 2005; Mikulincer et al., 2005).

However, to what extent are these assumptions and explanations true in typical aged-care situations, when the stress of both the carer *and* the care recipient is severe and chronic, and in many instances will result in the permanent loss of the carer's attachment figure? Under these extreme conditions, can we really expect the caregiving system to override or inhibit the functioning of the attachment system? Couldn't it be just as plausible that under these conditions, the strong activation of the attachment system inhibits the functioning of the caregiving system? Alternatively, could the chronic and extreme stress often associated with aged care result in the

concurrent activation of the caregiving and attachment systems (i.e., both systems become activated), or the relative activation of the caregiving and attachment systems (i.e., both systems become activated, but one system is activated more than the other)? Finally, could the activation of these two behavioral systems be moderated by attachment strength or individual differences in attachment orientations/styles? The aged-care context offers unique opportunities for significantly advancing our understanding of how the attachment and caregiving behavioral systems jointly operate.

Our own thinking on the interplay between the attachment and caregiving systems in the aged-care context leads us to believe that individual differences may moderate the dynamics of these behavioral systems. We contend that secure people are likely to have attachment and caregiving systems that are fairly balanced in terms of their typical activation and operation. Carers who are secure in their attachment orientation/style should have systems that become activated in situations that warrant their activation, such as when an adult child feels some degree of attachment threat in response to a sudden change in an aging parent's health status. If, however, it becomes clear that the parent requires substantial assistance, the caregiving system of a secure adult child should override the activation of his or her attachment system to render support. Not only are secure people likely to be more attentive to signs of help, but their capacity to regulate their own distress and emotions should allow them to move more easily between meeting their own attachment needs (at least eventually) and meeting the needs of distressed others in ways that satisfy both systems.

Secure care recipients should also experience more balanced activation of the two systems. When they truly need care, secure care recipients ought to seek proximity or attention in order to receive support and ameliorate their distress. However, the type and amount of support that is sought should be commensurate with the chronicity and severity of the threat, and secure care recipients should experience deactivation of the attachment system after appropriate help is received. In relation to the caregiving system, secure care recipients should also be sensitive and responsive to signs of stress or strain in caregivers. When they notice carer distress, for example, secure recipients may provide support to alleviate the carers' strain, such as through words of encouragement, a hug, or a supportive embrace.

Avoidantly attached people should need more stress (either their own or their care recipients') to trigger either behavioral system. When either system becomes operative, the type and amount of care they provide should follow what is already known about their care provision tendencies. Specifically, avoidant individuals should strive to suppress activation of both behavioral systems. As a result, any care they provide is likely to be emotionally distant, underinvolved, and superficial. Thus the amount and type of caregiving (or lack thereof) typical of avoidant caregivers should short-circuit or suppress both behavioral systems simultaneously. Similarly,

avoidant care recipients ought to minimize their distress as a means of deactivating the attachment system.

Avoidantly attached care recipients should refrain from actively seeking help from carers, and they may even reject, dismiss, or devalue its importance when support is provided. Avoidant individuals should also be less in tune with the distress and strain of their carers. As a result, they may be less likely to notice signs of distress in their carers, which may ensure that their caregiving system is not triggered.

Anxiously attached people should have attachment and caregiving systems that are more easily and chronically activated. Due to their tendencies to intensify distress, anxious individuals ought to have lower stress thresholds than secure and avoidant individuals (Simpson & Rholes, 1994), so that lower levels of stress in themselves or others are likely to activate either system. When it comes to family caregiving, anxious individuals ought to experience chronic activation of both systems, in which they oscillate between providing compulsive or situationally inappropriate support and seeking attention and validation from their attachment figures, despite their frailty. Furthermore, it may be more difficult for anxious individuals to shut down both systems once they are activated.

When they are receiving care, anxious individuals should experience strong activation of the attachment system. This heightened activation, coupled with their hyperactivating emotional regulation strategies, should lead anxious care recipients to engage in persistent care-seeking behavior, which is rarely fully satisfied by their carers. In fact, the heightened and sustained activation of the attachment system in care recipients may inhibit activation of the caregiving system, even when their carers are experiencing significant distress and burnout.

Further research on individual differences in attachment that takes into account the unique perspectives of a carer and a care recipient is likely to increase our theoretical understanding of the pathways that connect carers' and care recipients' attachment orientations/styles to current family care arrangements. For instance, we still know relatively little about how the amount and type of help that is provided and sought as part of family care arrangements is related to attachment orientations/styles. Even less is known about how individual differences in attachment influence the physical and mental health outcomes of carers and care recipients. Emerging research suggests that attachment insecurity may be differentially associated with caregiving and care-receiving/seeking behavior (Karantzas & Cole, 2011; Karantzas, Evans, et al., 2010; Nelis et al., 2012). Specifically, while research with carers seems to indicate that both forms of attachment insecurity (anxiety and avoidance) are associated with providing less care to aging adults, attachment anxiety may be a particularly important dimension in explaining older adults' seeking and receipt of care (e.g., Karantzas, Evans, et al., 2010; Karantzas et al., 2013).

Future research that adopts a multilevel perspective by examining family caregiving at the dyadic level (i.e., a care recipient and a carer) or the family systems level (i.e., a care recipient nested within a network of family carers) could also provide important explanations for the differential functioning of attachment orientations/styles as they relate to carers and care recipients. This kind of research is likely to have significant clinical implications in aged care as well. For example, developing a better understanding of individual differences in attachment regarding carers and care recipients may help us identify carers and older adults who will not adjust well to certain family care arrangements. Most importantly, an attachment perspective may assist health care professionals (i.e., clinicians, counselors, and social workers) to tailor the counseling of families through understanding the role of attachment in family dynamics, mental health outcomes, and emotional reactions related to caregiving and the planning of future care arrangements. A consideration of attachment issues may therefore improve the efficacy of interventions aimed at reducing family and carer burden, which to date have resulted in only modest improvements for carers (Brodaty & Green, 2002; Cooke, McNally, Mulligan, Harrison, & Newman, 2001; Lopez-Hartmann, Wens, Verhoeven, & Remmen, 2012).

In conclusion, we have highlighted the theoretical and applied value that can be gained by applying attachment theory to the study of later-life family attachment bonds and aged care. To this point, research has been limited; however, the field has an important opportunity to develop significant and groundbreaking investigations that can appreciably enhance our understanding of attachment processes "from the cradle to the grave" (Bowlby, 1979, p. 129). To ensure that the family-based care of older adults is effective and sustainable in the coming decades, and to minimize pressures and stressors on carers and care recipients alike, a better understanding of late-life attachment relationships is vital. Such an understanding will not only provide new ways of supporting and strengthening these critical bonds; it will also facilitate the development of services and supports for family caregivers and care recipients, helping them to cope better with this already difficult stage of life and to enhance family functioning.

References

Ainsworth, M. D. (1985). Attachments across the life-span. *Bulletin of the New York Academy of Medicine, 61*, 792–812.

Ainsworth, M. D. (1989). Attachments beyond infancy. *American Psychologist, 44,* 709–716.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation.* Hillsdale, NJ: Erlbaum.

Allen, K. R., Blieszner, R., & Roberto, K. A. (2000). Families in the middle and

later years: A review and critique of research in the 1990s. *Journal of Marriage and Family, 62*, 911–926.

Antonucci, T. C. (1986). Social support networks: A hierarchical mapping technique. *Generations: Journal of the American Society on Aging, 10*, 10–12.

Antonucci, T. C. (1994). Attachment in adulthood and aging. In M. B. Sperling & W. H. Berman (Eds.), *Attachment in adults: Clinical and developmental perspectives* (pp. 256–272). New York: Guilford Press.

Antonucci, T. C., & Akiyama, H. (1987). Social networks in adult life and a preliminary examination of the convoy model. *Journal of Gerontology, 42*, 519–527.

Antonucci, T. C., Akiyama, H., & Takahashi, K. (2004). Attachment and close relationships across the life span. *Attachment and Human Development, 6*, 353–370.

Antonucci, T. C., Kahn, R., & Akiyama, H. (1989). Psychosocial factors and the response to cancer symptoms. In R. Yancik & J. W. Yates (Eds.), *Cancer in the elderly: Approaches to early detection and treatment* (pp. 40–52). New York: Springer.

Barnas, M. V., Pollina, L., & Cummings, E. (1991). Life-span attachment: Relations between attachment and socioemotional functioning in adult women. *Genetic, Social, and General Psychology Monographs, 117*, 175–202.

Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*, 226–244.

Bengtson, V. L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal of Marriage and Family, 63*, 1–16.

Blieszner, R., & Mancini, J. A. (1987). Enduring ties: Older adults' parental role and responsibilities. *Family Relations, 36*, 176–180.

Bowlby, J. (1969/1982). *Attachment and loss: Vol. 1. Attachment*. New York: Basic Books.

Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Sadness and depression*. New York: Basic Books.

Bradley, J. M., & Cafferty, T. P. (2001). Attachment among older adults: Current issues and directions for future research. *Attachment and Human Development, 3*, 200–221.

Braun, M., Hales, S., Gilad, L., Mikulincer, M., Rydall, A., & Rodin, G. (2012). Caregiving styles and attachment orientations in couples facing advanced cancer. *Psycho-Oncology, 21*, 935–943.

Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46–76). New York: Guilford Press.

Brodaty, H., & Green, A. (2002). Who cares for the carer?: The often forgotten patient. *Clinical Practice: Therapeutic Review, 31*, 1–4.

Cameron, J. J., Finnegan, H., & Morry, M. M. (2012). Orthogonal dreams in an oblique world: A meta-analysis of the association between attachment anxiety and avoidance. *Journal of Research in Personality, 46*, 472–476.

Canterberry, M., & Gillath, O. (2012). Attachment and caregiving. In P. Noller & G. C. Karantzas (Eds.), *The Wiley–Blackwell handbook of couple and family relationships* (pp. 207–219). Chichester, UK: Wiley.

Carpenter, B. D. (2001). Attachment bonds between adult daughters and their older mothers: Associations with contemporary caregiving. *Journals of Gerontology, Series B, 56B*, 257–266.

Chen, C. K., Waters, H. S., Hartman, M., Zimmerman, S., Miklowitz, D. J., & Waters, E. (2013). The secure base script and the task of caring for elderly parents: Implications for attachment theory and clinical practice. *Attachment and Human Development, 15*, 332–348.

Cicirelli, V. G. (1983). Adult children's attachment and helping behaviour to elderly parents: A path model. *Journal of Marriage and the Family, 45*, 815–822.

Cicirelli, V. G. (1985). The role of siblings as family caregivers. In W. J. Sauer & R. T. Cowards, (Eds.), *Social support networks and the care of the elderly* (pp. 93–107). New York: Springer.

Cicirelli, V. G. (1991). *Family caregiving: Autonomous and paternalistic decision making.* Newbury Park, CA: Sage.

Cicirelli, V. G. (1993). Attachment and obligation as daughters' motives for caregiving behavior and subsequent effect on subjective burden. *Psychology and Aging, 8*, 144–155.

Cicirelli, V. G. (1995). A measure of caregiving daughters' attachment to elderly mothers. *Journal of Family Psychology, 9*, 89–94.

Cicirelli, V. G. (1998). A frame of reference for guiding research regarding the relationship between adult attachment and mental health in aging families. In J. Lomranz (Ed.), *Handbook of aging and mental health: An integrative approach* (pp. 341–353). New York: Plenum Press.

Cooke, D. D., McNally, L., Mulligan, K. T., Harrison, M. J. G., & Newman, S. P. (2001). Psychosocial interventions for caregivers of people with dementia: A systematic review. *Aging and Mental Health, 5*, 120–135.

Cooper, C., Owens, C., Katona, C., & Livingston, G. (2008). Attachment style and anxiety in carers of people with Alzheimer's disease: Results from the LASER-AD study. *International Psychogeriatrics, 20*, 494–507.

Coppola, G., Vaughn, B. E., Cassibba, R., & Costantini, A. (2006). The attachment script representation procedure in an Italian sample: Associations with adult attachment interview scales and with maternal sensitivity. *Attachment and Human Development, 8*, 209–219.

Crispi, E. L., Schiaffino, K., & Berman, W. H. (1997). The contribution of attachment to burden in adult children of institutionalized parents with dementia. *The Gerontologist, 37*, 52–60.

Dilworth-Anderson, P., Williams, I. C., & Gibson, B. E. (2002). Issues of race, ethnicity, and culture in caregiving research: A 20-year review (1980–2000). *The Gerontologist, 42*, 237–272.

Dykas, M. J., Woodhouse, S. S., Cassidy, J., & Waters, H. S. (2006). Narrative assessment of attachment representations: Links between secure base scripts and adolescent attachment. *Attachment and Human Development, 8*, 221–240.

Feeney, B. C., & Collins, N. L. (2004). Interpersonal safe haven and secure base caregiving processes in adulthood. In W. S. Rholes & J. A. Simpson (Eds.),

Adult attachment: Theory, research, and clinical implications (pp. 300–338). New York: Guilford Press.

Feeney, J. A., Noller, P., & Hanrahan, M. (1994). Assessing adult attachment. In M. B. Sperling & W. H. Berman (Eds.), *Attachment in adults: Clinical and developmental perspectives* (pp. 128–152). New York: Guilford Press.

Fraley, R. C., & Shaver, P. R. (1999). Loss and bereavement: Attachment theory and recent controversies concerning grief work and the nature of detachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 735–759). New York: Guilford Press.

Fraley, R. C., & Spieker, S. J. (2003). Are infant attachment patterns continuously or categorically distributed?: A taxometric analysis of Strange Situation behavior. *Developmental Psychology, 39*, 387–404.

Fraley, R. C., Waller, N. G., & Brennan, K. A. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology, 78*, 350–365.

George, C., & Solomon, J. (2008). The caregiving system: A behavioral systems approach to parenting. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 833–856). New York: Guilford Press.

Gillath, O., Shaver, P. R., & Mikulincer, M. (2005). An attachment-theoretical approach to compassion and altruism. In P. Gilbert (Ed.), *Compassion: Conceptualizations, research, and use in psychotherapy* (pp. 121–147). London: Brunner-Routledge.

Griffin, D. W., & Bartholomew, K. (1994). The metaphysics of measurement: The case of adult attachment. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Vol. 5. Attachment processes in adulthood* (pp. 17–52). London: Jessica Kingsley.

Guberman, N., Maheu, P., & Maille, C. (1992). Women as family caregivers: Why do they care? *The Gerontologist, 32*, 607–617.

Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*, 511–524.

Kalish, R. A., & Knudtson, F. W. (1976). Attachment versus disengagement: A lifespan conceptualization. *Human Development, 19*, 171–181.

Karantzas, G. C. (2012). Family caregiving. In P. Noller & G. C. Karantzas (Eds.), *The Wiley–Blackwell handbook of couples and family relationships* (pp. 82–96). Chichester, UK: Wiley.

Karantzas, G. C., & Cole, S. F. (2011). Arthritis and support seeking tendencies: The role of attachment. *Journal of Social and Clinical Psychology, 30*, 404–440.

Karantzas, G. C., Evans, L., & Foddy, M. (2010). The role of attachment in current and future parent caregiving. *Journals of Gerontology, Series B, 65B*, 573–580.

Karantzas, G. C., Feeney, J. A., & Wilkinson, R. B. (2010). Does less mean more?: A confirmatory factor analytic study of the Attachment Style Questionnaire and the Attachment Style Questionnaire—Short Form. *Journal of Social and Personal Relationships, 27*, 749–780.

Karantzas, G. C., Karantzas, K. M., Simpson, J. A., & McCabe, M. (2013). *Examining the associations between attachment and aged care: A systematic review.* Unpublished manuscript.

Kim, Y., & Carver, C. S. (2007). Frequency and difficulty in caregiving among spouses of individuals with cancer: Effects of adult attachment and gender. *Psycho-Oncology, 16*, 714–723.

Knight, B., Silverstein, M., McCallum, T., & Fox, L. (2000). A sociocultural stress and coping model for mental health outcomes among African American caregivers in Southern California. *Journals of Gerontology, Series B, 55B*, 142–150.

Koski, L. R., & Shaver, P. R. (1997). Attachment and relationship satisfaction across the lifespan. In R. J. Sternberg & M. Hojjat (Eds.), *Satisfaction in close relationships* (pp. 26–55). New York: Guilford Press.

Levitt, M. J. (1991). Attachment and close relationships: A life-span perspective. In J. Gewirtz, & W.M. Kurtines (Eds.), *Intersections with attachment* (pp. 183–205). Hillsdale, NJ: Erlbaum.

Lopez-Hartmann, M., Wens, J., Verhoeven, V., & Remmen, R. (2012). The effect of caregiver support interventions for informal caregivers of community-dwelling frail elderly: A systematic review. *International Journal of Integrated Care*, *12*, 1–16.

Magai, C., & Cohen, C. I. (1998). Attachment style and emotion regulation in dementia patients and their relation to caregiver burden. *Journals of Gerontology, Series B, 53B*, 147–154.

Magai, C., Cohen, C. I., Milburn, N., Thorpe, B., McPherson, R., & Peralta, D. (2001). Attachment styles in older European American and African American adults. *Journals of Gerontology, Series B, 56B*, 28–35.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. *Monographs of the Society for Research in Child Development, 50*(1–2, Serial No. 209), 66–104.

Markiewicz, D., Reis, M., & Gold, D. P. (1997). An exploration of attachment styles and personality traits in caregiving for dementia patients. *International Journal of Aging and Human Development, 45*, 111–132.

Marvin, R. S., & Stewart, R. B. (1990). A family systems framework for the study of attachment. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 51–86). Chicago: University of Chicago Press.

Mikulincer, M., & Shaver, P. R. (2003). The attachment behavioral system in adulthood: Activation, psychodynamics, and interpersonal processes. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 35, pp. 53–152). San Diego, CA: Academic Press.

Mikulincer, M., & Shaver, P. R. (2007a). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.

Mikulincer, M., & Shaver, P. R. (2007b). Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance. *Psychological Inquiry, 18*, 139–156.

Mikulincer, M., Shaver, P. R., Gillath, O., & Nitzberg, R. A. (2005). Attachment, caregiving, and altruism: Boosting attachment security increases compassion and helping. *Journal of Personality and Social Psychology, 89,* 817–839.

Miller, B., & Cafasso, L. (1992). Gender differences in caregiving: Fact or artifact? *The Gerontologist, 32,* 498–507.

National Center for Chronic Disease Prevention and Health Promotion. (2011). *Healthy aging: Helping people to live long and productive lives and enjoy a good quality life*. Atlanta, GA: Centers for Disease Control and Prevention.

National Institute on Aging (NIA). (2011). *Global health and aging* (NIH Publication No. 11-7737). Bethesda, MD: National Institutes of Health.

Nelis, S. M., Clare, L., & Whitaker, C. J. (2012). Attachment representations in people with dementia and their carers: Implications for well-being within the dyad. *Aging and Mental Health, 16*, 845–854.

Perren, S., Schmid, R., Herrmann, S., & Wettstein, A. (2007). The impact of attachment on dementia-related problem behavior and spousal caregivers' well-being. *Attachment and Human Development, 9*, 163–178.

Pohl, J. M., Boyd, C., Liang, J., & Given, C. W. (1995). Analysis of the impact of mother–daughter relationships on the commitment to caregiving. *Nursing Research, 44*, 68–75.

Rholes, W. S., Simpson, J. A., Campbell, L., & Grich, J. (2001). Adult attachment and the transition to parenthood. *Journal of Personality and Social Psychology, 81*, 421–435.

Roisman, G. I., Fraley, R. C., & Belsky, J. (2007). A taxometric study of the Adult Attachment Interview. *Developmental Psychology, 43*, 675–686.

Shaver, P. R., & Mikulincer, M. (2004). What do self-report attachment measures assess? In W. S. Rholes & J. A. Simpson (Eds.), *Adult attachment: Theory, research, and clinical implications* (pp. 17–54). New York: Guilford Press.

Silverstein, M., & Bengtson, V. L. (1997). Intergenerational solidarity and the structure of adult child–parent relationships in American families. *American Journal of Sociology, 103*, 429–460.

Silverstein, M., Gans, D., & Yang, F. M. (2006). Intergenerational support to aging parents: The role of norms and needs. *Journal of Family Issues, 27*, 1068–1084.

Simpson, J. A., & Rholes, W. S. (1994). Stress and secure base relationships in adulthood. In K. Bartholomew & D. Perlman (Eds.), *Advances in personal relationships: Vol. 5. Attachment processes in adulthood* (pp. 181–204). London: Jessica Kingsley.

Simpson, J. A., & Rholes, W. S. (2012). Adult attachment orientations, stress, and romantic relationships. In T. Devine & A. Plante (Eds.), *Advances in experimental social psychology* (Vol. 45, pp. 279–328). New York: Elsevier.

Simpson, J. A., Rholes, W. S., Campbell, L., Tran, S., & Wilson, C. L. (2003). Adult attachment, the transition to parenthood, and depressive symptoms. *Journal of Personality and Social Psychology, 84*, 1172–1187.

Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support seeking and support giving within couples in an anxiety-provoking situation: The role of attachment styles. *Journal of Personality and Social Psychology, 62*, 434–446.

Sörensen, S., Webster, J. D., & Roggman, L. A. (2002). Adult attachment and preparing to provide care for older relatives. *Attachment and Human Development, 4*, 84–106.

Steele, H., Phibbs, E., & Woods, R. T. (2004). Coherence of mind in daughter caregivers of mothers with dementia: Links with their mothers' joy and relatedness on reunion in a strange situation. *Attachment and Human Development, 6*, 439–450.

Thompson, L., & Walker, A. J. (1984). Mothers and daughters: Aid patterns and attachment. *Journal of Marriage and the Family, 46*, 313–322.

Troll, E., & Smith, J. (1976). Attachment through the life-span: Some questions about dyadic bonds among adults. *Human Development, 19,* 156–170.

Van Assche, L., Luyten, P., Bruffaerts, R., Persoons, P., van de Ven, L., & Vanden-bulcke, M. (2013). Attachment in old age: Theoretical assumptions, empirical findings and implications for clinical practice. *Clinical Psychology Review, 33*, 67–81.

Vaughn, B. E., Egeland, B. R., Sroufe, L. A., & Waters, E. (1979). Individual differences in infant–mother attachment at 12 and 18 months: Stability and change in families under stress. *Child Development, 50,* 971–975.

Waters, H. S., & Rodrigues-Doolabh, L. M. (2001). *Narrative assessment of adult attachment representations: The scoring of Secure Base Script content.* Unpublished manuscript, State University of New York at Stony Brook.

Waters, H. S., & Waters, E. (2006). The attachment working models concept: Among other things, we build script-like representations of secure base experiences. *Attachment and Human Development, 8*, 185–197.

Weiss, R. S. (1982). Attachment in adult life. In C. M. Parkes & J. Stevenson-Hinde (Eds.), *The place of attachment in human behavior* (pp. 171–184). New York: Basic Books.

World Health Organization (WHO). (2012). *Knowledge translation on ageing and health: Policy framework*. Geneva: Author.