

Intergenerational Caregiving: The Role of Attachment and Mental Representation of Caregiving in Filial Anxiety of Middle-Aged Children

Diana Maria Da Costa Bizarro Morais, Carla Maria Gomes Marques Faria & Lia Paula Nogueira Sousa Fernandes

To cite this article: Diana Maria Da Costa Bizarro Morais, Carla Maria Gomes Marques Faria & Lia Paula Nogueira Sousa Fernandes (2019) Intergenerational Caregiving: The Role of Attachment and Mental Representation of Caregiving in Filial Anxiety of Middle-Aged Children, Journal of Intergenerational Relationships, 17:4, 468-487, DOI: [10.1080/15350770.2019.1596187](https://doi.org/10.1080/15350770.2019.1596187)

To link to this article: <https://doi.org/10.1080/15350770.2019.1596187>



Published online: 29 Jul 2019.



Submit your article to this journal [↗](#)



Article views: 404



View related articles [↗](#)



View Crossmark data [↗](#)



Citing articles: 3 View citing articles [↗](#)

SCHOLARLY
RESEARCH



Intergenerational Caregiving: The Role of Attachment and Mental Representation of Caregiving in Filial Anxiety of Middle-Aged Children

Diana Maria Da Costa Bizarro Morais ^{a,b}, Carla Maria Gomes Marques Faria^{a,b}, and Lia Paula Nogueira Sousa Fernandes^{b,c,d}

^aInstituto Politécnico de Viana do Castelo, Viana do Castelo, Portugal; ^bCINTESIS - Center for Health Technology and Services Research, Porto, Portugal; ^cUniversity of Porto, Porto, Portugal; ^dClinic of Psychiatry and Mental Health of São João Hospital Center of Porto, Porto, Portugal

ABSTRACT



Adult children may experience filial anxiety when anticipating the need to care for their aging parents. To investigate the extent to which attachment and mental representation of caregiving predict filial anxiety, a cross-sectional study was conducted among 304 middle-age adults with at least one living parent aged 65 or more. Results suggest that the variance in filial anxiety is mainly accounted for by the mental representation of caregiving and then by attachment. These findings suggest that mental representation of caregiving and attachment are important dimensions to consider when adult children feel unprepared and worried with the need to care for their aging parents.

KEYWORDS

Intergenerational caregiving; filial anxiety; attachment; mental representation of caregiving; adult children

Background

Research into mid-life filial relationships has grown significantly as aging populations extended the amount of time shared between parents and children (Perrig-Chiello & Hopflinger, 2005; Shulman, 2005). These relationships entail filial caregiving (care provided by adult children to their aging parents), since the aging process often requires additional caregiving needs, due to increasing frailty, illness, and dependency. Although there is no set age for children to begin taking care of vulnerable parents, this task is usually assigned to middle-aged offspring (Gans & Silverstein, 2006; Henz, 2006; Perrig-Chiello & Hopflinger, 2005). Filial caregiving can assume a variety of forms, such as provision of concrete assistance or emotional and financial support. However, we approach filial caregiving from a wider, developmental perspective based on attachment theory. Filial caregiving is hence defined as the complex process of being sensitive to parents' needs (either instrumental and/or emotional/relational), identifying, and interpreting them properly,

CONTACT Diana Maria Da Costa Bizarro Morais  dianamorais@ese.ipv.pt  Escola Superior de Educação, Av. Capitão Gaspar de Castro, Instituto Politécnico de Viana do Castelo, Apartado 513, Viana do Castelo 4901–908, Portugal

while also providing them with a proper response (Bowlby, 1969/82; Collins, Guichard, Ford, & Feeney, 2006; Feeney, 2004).

Transitioning to parents' aging is complex for adult children, as it requires them to view themselves and the relationship with their parents differently. Distress tends to occur when they acknowledge their parents' caregiving needs. Attachment and how they picture caregiving may either help or hinder coping with anticipatory anxiety, which Cicirelli (1988) termed filial anxiety.

Filial anxiety

Caring for an aging parent can frequently induce stress and negative emotions. Nevertheless, this is also felt by children who, even though not currently providing care to their parents, equate it and expect it to happen somewhere in the future (Cicirelli, 1988). Those children feel worried about not being able to handle the caregiving task – filial anxiety – defined as “a state of worry or concern about the anticipated decline and death of an aging parent as well as worry or concern about the ability to meet anticipated caregiving needs, either prior to any caregiving or during the provision of care and in anticipation of further parental decline and additional needs for care” (Cicirelli, 1988, p. 481). Filial anxiety in adult children involves worrying about parental decline and their inability to address the parent's needs. In spite of filial anxiety having been formulated from studies on adult children in non-caregiving roles, it can also apply to children actually involved in filial care, meaning they worry about their parents' further health decline and the more demanding assistance that comes with it (Cicirelli, 1988). Research has shown that filial anxiety is higher in women and younger, lower-income adult children who perceive their health as poorer, in adult children providing or having provided care and in adult children whose mother's health is seen as worse (Bradley, Miller, Murtha, Parkinson, & Horst, 2008; Laditka & Pappas-Rogich, 2001).

Filial anxiety has its roots in the attachment theory. According to this theory, as the signs of vulnerability become visible in parents, a desire to protect them emerges in adult children. At the same time, children become acutely aware that their aging parents' death is inevitable, and that no caregiving effort can be enough to prevent it. This in turn triggers a state of anxiety in children towards their parents' well-being and the possibility that they will not be able to provide care. Attachment and the quality of the relationship with parents have been linked to filial anxiety (Cicirelli, 1988).

In this context, it was found that how adult children see maternal care received in infancy is positively and indirectly, via adult attachment, related to their filial worries regarding their mothers' well-being (Datta, Marcoen, & Poortinga, 2005). Secure children felt more able to provide future care (Sorensen, Webster, & Roggman, 2002). Memories of parental rejection and

family relationships perceived as poor and negative decrease adult children's worry about parental well-being and foster filial anxiety (Murray, Lowe, & Home, 1995; Myers & Cavanaugh, 1995; Whitbeck, Hoyt, & Huck, 1994). In addition, studies have suggested that filial anxiety can impair adult children's ability to care, which impacts the quantity and quality of support they provide to their parents (Cicirelli, 1989).

Attachment and caregiving

By stating that the need for safety is both essential to human beings (Colin, 1996) and relevant to their caregiving behavior and representations, attachment theory provides a compelling framework for studying care-related processes. According to Bowlby (1969/82), humans possess an innate attachment behavioral system, a species-universal and biologically evolved neural program that organizes attachment behaviors in ways that ensure their evolutionary protection and safety – ultimately, their survival. This way, the adaptive behavioral sequences are activated by the perception of threat and danger that make a particular set-goal salient and are deactivated by the care, emotional support or protection provided by an attachment figure, that signal the attainment of the desired goal. This way, an attachment figure is someone wiser and stronger, who provides support, protection, and care. The quality of interactions with the attachment figure in times of need makes for different attachment patterns, impacting how subjects view themselves as worthy of care and how they view others as available, trusting and dependable caretakers. These representations, known as Internal Working Models (IWM), underpin how attachment in early age affects both caregiving and care-seeking by informing the subject's actions and the response from others in multiple social contexts (Bretherton, 1992). Secure attachment individuals experience *felt security* – a sense that the world is safe, that the attachment figures are helpful, and that is possible to engage rewardingly with other people. Insecure individuals fail to experience comfort, relief or felt security: avoidant individuals feel uncomfortable with closeness and dependence on others and maintain emotional distance and self-reliance, anxious individuals have a strong desire for closeness and protection and intense worries about partner availability and one's own value to the partner (Shaver & Mikulincer, 2010).

By dividing behavioral systems into functional types, Bowlby (1968/82) conceived caregiving behaviors as being organized by the caregiving system, which is reciprocal to the attachment system, yet designed to ensure survival and adaptation of the other and not the self (George & Solomon, 1999; Solomon & George, 1996). Those behaviors aim at providing a safe haven and a secure base in order to ensure the other's security and protection, curb suffering and enable their growth, development and autonomous exploration (Collins & Feeney, 2013; Collins et al., 2006; Feeney, 2004). Caregiving cognition, emotion, and behavior are shaped by caregiving IWMs, which branch out from the self's and the others'

IWMs, developed within attachment relationships (Bowlby, 1973; Mikulincer & Shaver, 2007). These IWMs include representations of the self as a caregiver (the extent to which he/she is able to provide efficient care) and the needy others (the extent others deserve help, comfort, and protection) (Reizer & Mikulincer, 2007). The sense of security is a necessary condition for one to view others as deserving comfort and support (Mikulincer, Gillath, & Shaver, 2002), switching focus from themselves to the needs of others (Mikulincer & Shaver, 2007).

Behaviors to protect the attachment figure bloom in adulthood, when parents exhibit growing frailty and vulnerability and the threat of loss becomes more real (Bowlby, 1979; Cicirelli, 1991). Research has shown that early attachment experiences shape attachment representations, which in turn guide caregiving representations and behaviors in aging parent-children relationships. Hence, attachment security allows the caregiver to focus on the needs of others without feeling threatened by the others' suffering or by the interdependency arising from care (Collins et al., 2006). Secure individuals enact more instrumental and emotional care (Cicirelli, 1983, 1993; Klaus, 2009) with more attention and sensibility (Morse, Shaffer, Williamson, Dooley, & Schulz, 2012). When anticipating caregiving, they feel more prepared, more committed and engage in more preparation activities, such as thinking about what they would do if parents needed help with household tasks, gathering information about caregiving services and helping parents to prepare a living will (Cicirelli, 1983; Sorensen et al., 2002). Depression and burden are also less frequent among secure individuals caring for older people (Carpenter, 2001; Cicirelli, 1993; Townsend & Franks, 1995).

Conversely, negative models of the self and others are detrimental to caregiving (Collins et al., 2006). Anxious individuals' self-focused attention leads them to view caregiving as a way to meet their attachment needs, which often results in intrusive, non-sensitive caregiving (i.e., caregiving that fails to meet the other's needs and focuses on the self's security needs instead). They fail to acknowledge the needs of the others. For avoidant individuals, the threat of involvement and neglecting others' frailty will have them provide unfeeling, less involved care or avoid caregiving at all (Cicirelli, 1993; Collins et al., 2006; Reizer & Mikulincer, 2007). They are less willing to care and are more likely to experience burden (Karantzas, Evans, & Foddy, 2010).

Aim

In view of the above, attachment is a developmental resource or constraint which is active throughout life and acts together with resources and constraints of another nature, in order to shape the individual's adaptation to demands and transitions he is confronted with (Sroufe, 2016). Thus, since parents' aging and the consequent need for care are events that impose a transition in the filial relationship, it is expected that attachment and mental representation of

caregiving play a role in the adaptation to that relationship, either directly or indirectly through their influence in other dimensions involved in it, specifically in filial anxiety. In addition, research has also shown that attachment and mental representation of caregiving are relevant for understanding issues of human experience in adulthood, namely caregiving (e.g., Collins et al., 2006; Mikulincer et al., 2002). On the other hand, filial anxiety has been found to be important to understand filial caregiving (e.g., Cicirelli, 1989). However, the way these variables are intertwined has received less or even no attention. Thus, we intend to analyze the extent to which attachment and mental representation of caregiving predict filial anxiety in adult children of aging parents beyond the already shown sociodemographic associations, namely gender, age, and education. We aim to answer the following research questions: After controlling for the effect of the sociodemographic background, (1) Is filial anxiety associated with attachment? If so, does secure participants have less filial anxiety?; (2) Is filial anxiety associated with a mental representation of caregiving? If so, are more positive representations accompanied by less filial anxiety?; and (3) If attachment and/or mental representation of caregiving have an effect on filial anxiety, does this effect hold according to parents' cohabitation and/or dependency?

Method

Design

This is a cross-sectional study with a non-experimental correlational design. The study was conducted after approval from the Ethics Committee of the Abel Salazar Biomedical Sciences Institute of University of Porto and from Directors and Medical Research and Ethics Committee of the health and social services where data collection took place.

Participants

We used a convenience sampling procedure. The inclusion criteria were: (a) the participant was between the ages of 35 and 64, (b) had at least one living parent aged 65 or older and (c) the parent was not institutionalized.

Participants were recruited from health and social care services (attended by their parents) and by referral from other participants. All of them are Portuguese citizens, living in the cities of Braga, Porto and Viana do Castelo, located in Northern Portugal. The three are seaside or coastal cities of comparable size and feature similar demographic markers. Out of 350 individuals contacted, 304 consented to participate in the study.

Directors of the social care services approved the study and gave access permission to personal information of the adult children whose parents attended the services. Health services required the study to undergo prior

review by an accredited Medical Research and Ethics Committee. Once authorization was obtained, participants were first contacted telephonically (using personal data previously provided by the services' Directors) or when accompanying their parents to health or social care services. The first contact with participants recruited by referral was always via telephone, whereupon they were informed about the study and asked to participate. After the participant's acceptance, data collection protocols were applied as interviews by researchers, in quiet rooms provided by health and social care services or in participants' homes. The data collection interview took on average 45 min. Data collection procedures were done in accordance with the Declaration of Helsinki (World Medical Association, 2013), namely in what concerns the submission to the Ethics Committee, the participants' privacy and confidentiality, and the informed consent.

Variables and measures

Sociodemographic profile

A number of questions were set to evaluate the presence of inclusion criteria and sociodemographic variables such as gender, age, education, marital status, number of children, number of siblings, distance away from parents.

Attachment

Portuguese version of the *Adult Attachment Scale* (AAS, Canavarro, Dias, & Lima, 2006; Collins & Read, 1990). Evaluates 3 attachment styles (secure, anxious, avoidant) across 18 items rated in a 5-point *likert* scale. Secure attachment style includes individuals who feel comfortable with intimacy, are able to trust others and are not afraid to be abandoned; avoidant style encompasses those who do not feel comfortable with proximity towards others, do not trust them but are not afraid of being abandoned; anxious style refers to those who feel uncomfortable with proximity towards others, do not trust them and are particularly afraid of being abandoned. *Cronbach alpha* was 0.81, the *Spearman-Brown* coefficient was 0.84 and the *split-half* correlation coefficient was 0.83. Regarding validity, the study of average differences between a normative and a clinical sample showed significant differences between the two samples (Canavarro et al., 2006).

Mental representation of caregiving (MRC)

Portuguese version of the *Mental Representation of Caregiving Scale* (MRCS, Fonseca, Nazaré, & Canavarro, 2013; Reizer & Mikulincer, 2007). Items are organized into 4 factors: (1) perceived ability to provide effective help (MRC-1); (2) perceived ability to recognize others' needs (MRC-2); (3) egoistic motives for helping (MRC-3); (4) appraisal of others as worthy of help (MRC-4). Subscale scores, calculated by averaging their corresponding items, were used. Higher

subscale scores represent higher perceived ability to provide effective help and to recognize others' needs, more egoistic motives for helping and more appraisal of others as worthy of help. In the Portuguese version of MRCS, *Cronbach alpha* ranged between 0.70 and 0.80 and all items significantly correlated with the total score of the factor they belong to. Convergent and discriminant validities were evaluated through Pearson's correlations between MRCS's dimensions and other variables related to the perception of parental trust and with attachment, which point to the validity of the Scale (Fonseca et al., 2013).

Filial anxiety

Portuguese version of the *Filial Anxiety Scale* (FAS, Cicirelli, 1988; Faria, Toipa, Lamela, Bastos, & Cicirelli, 2013). It assesses the anxiety of adult children regarding the anticipation of caregiving to aging parents in two subscales: (1) Filial Anxiety A (FAA) – concern about the capacity to take care of parents; (2) Filial Anxiety B (FAB) – concern about the well-being of parents. The total score is designated Filial Anxiety Total (FAT). Subscale and total scores, calculated by averaging their corresponding items, were used. Higher scores represent more Filial Anxiety A, B, and Total. Discriminant validity was confirmed through Pearson correlations between the FAS subscales and the Social Desirability Scale. Regarding reliability indicators, *Cronbach alfa* was 0.87 for FAT, 0.86 for FAA and 0.84 for FAB. The correlation of items with the total Scale ranged from 0.39 to 0.66 and the correlation of the items with the subscales ranged from 0.67 to 0.82 for AFA and from 0.65 to 0.83 for AFB (Faria et al., 2013).

Parent's functional status

Assessed in two domains: basic activities of daily living (BADL) and instrumental activities of daily living (IADL). Adult children answered on behalf of their parents and when both parents were alive and over 65, the participant chose the parent who would be the focus of the data collection. Functionality in BADL was assessed by the Portuguese version of Barthel Index (Mahoney & Barthel, 1965; Sequeira, 2007), which encompasses 10 BADLs – feeding, bathing, grooming, dressing, bowel control, bladder control, toilet use, transfers (bed to chair and back), mobility (on level surfaces) and stairs. Scores range from 0 to 100, with higher scores indicating greater independence. The Portuguese version of Barthel Index showed high reliability with a Cronbach's alpha of 0.89 and an item-total correlation ranging from 0.53 to 0.85. Functionality in IADL was assessed with the Portuguese version of Lawton Index (Lawton & Brody, 1969; Sequeira, 2007), which includes eight IADLs – preparing food, housekeeping, doing laundry, shopping, using the telephone, using transportation, handling finances, and handling medications. The Portuguese version of Lawton Index shows a Cronbach's alpha of 0.92 and an item-total correlation ranging from 0.75 to 0.86.

Data analysis procedures

Data was analyzed using the SPSS V24 statistical software. The assumptions underlying the use of parametric tests were met. The T-Test for independent samples and the chi-square Test were used.

Hierarchical multiple regression models were used for each of the three subscales of filial anxiety to answer research questions. Predictors were inserted in seven blocks through *Enter* and *Forward* methods. First, sociodemographic variables (gender, age, years of education, marital status, professional status, number of children, number of siblings) we wanted to control for were inserted (*Enter*). Then, we inserted variables related to adult children – (i) attachment – secure vs. insecure (*Enter*), (ii) the four factors of MRCS (*Enter*), and (iii) interaction between attachment and the four factors of MRCS (*Forward*). Lastly, we inserted variables related to parents: (i) cohabitation (*Forward*), (ii) functionality in basic activities of daily living – independent vs. dependent (*Forward*), and (iii) functionality in instrumental activities of daily living – independent vs. dependent (*Forward*). Cases whose standardized residuals had values greater than 3 were excluded.

Regarding the missing values, protocols with more than 10% of the unanswered questions by instrument were eliminated. In other cases, the missing values were attributed based on the median of the belonging group defined by gender, age (35–44, 45–54 or 55–64 years), and education (basic education, high school or higher education).

Results

Sample characteristics

A total of 304 adults with a mean age of 49.17 years ($SD = 7.821$) participated in the study. Participants were mostly women (68.10%) with a mean age of 48.56 years ($SD = 7.79$) and with a higher level of education than men. Men (31.90% of the sample) had a mean age of 50.48 years ($SD = 7.75$) (see [Table 1](#)). Most of the participants were professionally active (77.00%), married or living together (71.70%), averaging one child ($SD = 0.98$). On average, the participants lived 18.54 km away from their parents.

The majority of participants had a secure attachment style (56.6%) and 43.4% had an insecure attachment (see [Table 2](#)). Within insecure attachment, 35.2% of the participants presented anxious attachment and 8.2% had an avoidant attachment style.

With regard to mental representation of caregiving, women scored significantly higher than men on *perceived ability to provide effective help* (MRC-1) ($t(302) = -3.80, p < 0.001$) and *perceived ability to recognize others' needs* (MRC-2) ($t(302) = -5.24; p < 0.001$) while men scored higher on *egoistic motives for helping* (MRC-3) ($t(302) = 2.98, p < 0.01$) (see [Table 3](#)).

Table 1. Sociodemographic characteristics.

	Male (<i>n</i> = 97)		Female (<i>n</i> = 207)		Total (<i>n</i> = 304)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Age (35–64)						
<i>M</i> (<i>SD</i>)	50.48 (7.75)		48.56 (7.79)		49.17 (7.82)	
Education						
<i>M</i> (<i>SD</i>)	11.51 (4.70)		13.22 (4.73)		12.67 (4.78)	
Marital status						
Single	14	14.40	33	15.90	47	15.50
Married/Living together	72	74.20	146	70.50	218	71.70
Divorced/Separated	10	10.30	23	11.10	33	10.90
Widowed	1	1.00	5	2.40	6	2.20
Professional status						
Employed	77	79.40	157	75.80	234	77.00
Full-time	62	63.90	137	66.20	199	65.60
Part-time	15	15.50	20	9.70	35	11.50
Unemployed	7	7.20	31	15.00	38	12.50
Retired	13	13.40	19	9.20	32	10.50
Children (0–4)						
<i>M</i> (<i>SD</i>)	1.40 (0.92)		1.36 (0.92)		1.37 (0.92)	
Brothers						
<i>M</i> (<i>SD</i>)	2.32 (2.22)		2.10 (2.02)		2.17 (2.08)	
Distance from parent						
<i>M</i> (<i>SD</i>)	19.87 (49.35)		17.90 (48.08)		18.54 (48.42)	

Results for filial anxiety indicated that, overall, women showed more filial anxiety than men, but these differences were only significant for Filial Anxiety B ($t(302) = -2.44, p < 0.05$) (see Table 3).

Filial anxiety multivariate analysis

Tables 4 and 5 present results from the hierarchical regressions for Filial Anxiety A, Filial Anxiety B, and Filial Anxiety Total. In regard to Filial Anxiety A, all five steps of the regression were significant and explained 17.3% (R^2) of variance in Filial Anxiety A (see Table 4). Most of the variance was contributed to by the addition of mental representation of caregiving factors ($R^2 = 0.149, \Delta R^2 = 0.069$), specifically *perceived ability to recognize others' needs* (MRC-2) and *egoistic*

Table 2. Attachment of participants.

	Male (<i>n</i> = 97)		Female (<i>n</i> = 207)		Total (<i>n</i> = 304)		χ^2
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Attachment style							0.05
Secure	54	55.7	118	57.0	172	56.6	
Anxious	35	36.1	72	34.8	107	35.2	
Avoidant	8	8.2	17	8.2	25	8.2	
Attachment type							0.05
Secure	54	55.7	118	57.0	172	56.6	
Insecure	43	44.3	89	43.0	132	43.4	

Table 3. Mental representation of caregiving and filial anxiety.

	Male	Female	t (302)
	(n = 97)	(n = 207)	
	M (SD)	M (SD)	
Mental representation of caregiving			
MRC-1	5.39 (0.60)	5.67 (0.57)	-3.80***
MRC -2	4.83 (0.88)	5.48 (0.84)	-5.24***
MRC -3	2.08 (0.69)	1.84 (0.56)	2.98**
MRC -4	4.97 (1.28)	5.17 (1.30)	-1.28
Filial anxiety			
Filial Anxiety A	2.60 (0.88)	2.62 (0.89)	-0.13
Filial Anxiety B	3.80 (1.06)	4.09 (0.80)	-2.44*
Filial Anxiety Total	3.15 (0.81)	3.30 (0.69)	-1.51

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

motives for helping (MRC-3), and then by attachment ($R^2 = 0.081$, $\Delta R^2 = 0.025$). In the final model, *perceived ability to recognize others' needs* (MRC-2), professional status, age, *egoistic motives for helping* (MRC-3) and parent's functionality in BADL were the most significant predictors of Filial Anxiety A (see Table 5). This model indicated that relative to all other variables entered into the regression, attachment was not a significant predictor of Filial Anxiety A. In fact, once the mental representation of caregiving factors was entered into the regression at step 3, attachment did not remain significant.

Findings for Filial Anxiety B showed that, apart from the first step, which included sociodemographic data as control variables, all other steps of the regression were significant. The model accounted for 16.6% (R^2) of variance in Filial Anxiety B. Again, MRC was the highest predictors ($R^2 = 0.151$, $\Delta R^2 = 0.099$) of Filial Anxiety B, with attachment next ($R^2 = 0.052$, $\Delta R^2 = 0.019$) and then parent's functionality in IADL ($R^2 = 0.166$, $\Delta R^2 = 0.015$). Based on the coefficients in the final models (see Table 5), the most significant predictors were *perceived ability to provide effective help* (MRC-1), *appraisal of others as worthy of help* (MRC-4), *perceived ability to recognize others' needs* (MRC-2), attachment and parent's functionality in IADL.

In the hierarchical regression predicting Filial Anxiety Total, again all steps except the first one were significant and accounted for 16.8% (R^2) of the variance in Filial Anxiety Total (see Table 4). Once again, mental representation of caregiving was the highest predictor of Filial Anxiety Total ($R^2 = 0.146$, $\Delta R^2 = 0.064$), with attachment next ($R^2 = 0.082$, $\Delta R^2 = 0.035$) and then parent's functionality in BADL ($R^2 = 0.168$, $\Delta R^2 = 0.022$). Although the first step (which included sociodemographic variables) was not significant, age and professional status are significant predictors in the final model (see Table 5). This model indicated that *perceived ability to recognize others' needs* (MRC-2), age, parent's functionality in BADL, attachment, professional status, *perceived ability to provide effective help* (MRC-1) and *egoistic motives for helping* (MRC-3) were significant predictors of Filial Anxiety Total.

Table 4. Models with significant improvement in predicting filial anxiety A, filial anxiety B, and filial anxiety total.

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Change statistics				
				<i>R</i> ² change	<i>F</i> change	df1	df2	Sig. <i>F</i> change
Filial Anxiety A								
1 ^a	0.237	0.056	0.034	0.056	2.513	7	296	0.016
2 ^b	0.284	0.081	0.056	0.025	7.869	1	295	0.005
3 ^c	0.386	0.149	0.114	0.069	5.871	4	291	0.000
4 ^d	0.401	0.161	0.123	0.012	3.996	1	290	0.047
5 ^e	0.416	0.173	0.133	0.012	4.236	1	289	0.040
Filial Anxiety B[†]								
1 ^a	0.180	0.033	0.009	0.033	1.395	7	290	0.207
2 ^b	0.228	0.052	0.026	0.019	5.925	1	289	0.016
3 ^c	0.388	0.151	0.115	0.099	8.297	4	285	0.000
4 ^f	0.408	0.166	0.128	0.015	5.223	1	284	0.023
Filial Anxiety Total^{††}								
1 ^a	0.215	0.046	0.024	0.046	2.029	7	292	0.051
2 ^b	0.286	0.082	0.057	0.035	11.232	1	291	0.001
3 ^c	0.382	0.146	0.110	0.064	5.397	4	287	0.000
4 ^g	0.410	0.168	0.130	0.022	7.492	1	286	0.007

^a Predictors: (constant), sociodemographic variables

^b Predictors: (constant), sociodemographic variables, attachment

^c Predictors: (constant), sociodemographic variables, attachment, Mental Representation of Caregiving

^d Predictors: (constant), sociodemographic variables, attachment, Mental Representation of Caregiving, cohabitation with the parent

^e Predictors: (constant), sociodemographic variables, attachment, Mental Representation of Caregiving, cohabitation with the parent, parent's functionality in basic activities of daily living

^f Predictors: (constant), sociodemographic variables, attachment, Mental Representation of Caregiving, parent's functionality in instrumental activities of daily living

^g Predictors: (constant), sociodemographic variables, attachment, Mental Representation of Caregiving, parent's functionality in basic activities of daily living

[†] 6 cases whose standardized residuals were below -3.00 were excluded

^{††} 4 cases whose standardized residuals were below -3.00 were excluded

Discussion

With regard to the mental representation of caregiving, women perceived themselves as more able to adequately and effectively care for a person needing help and more available to be involved in such care. They are also more able to recognize and identify other people's feelings and needs for help and they endorse less egoistic motives for helping, not expecting personal benefits or avoiding negative consequences, which is consistent with other studies using the same instrument (Fonseca et al., 2013; Reizer & Mikulincer, 2007). These results can be related to the fact that women have more experience in caregiving. They are often the main caregiver to their children in the first months of life and to other relatives when they become ill (Moura-Ramos & Canavarró, 2007; Sousa, Figueiredo, & Cerqueira, 2006). In addition, the caregiver role has culturally been assigned to women, leading them to take a larger part in assuming it. The experience in caregiving could lead to more positive mental representations of the self as a caregiver, including more ability to identify others' needs and to provide help.

Table 5. Final hierarchical multiple regression model for variables predicting filial anxiety A, filial anxiety B, and filial anxiety total.

Final Model	Unstandardized coefficients		Standardized coefficients		
	<i>B</i>	Standard error	β	<i>t</i>	Sig.
Filial Anxiety A					
Gender (male vs female)	0.131	0.110	0.069	1.194	0.234
Age (years)	-0.021	0.007	-0.183	-2.934	0.004
Education (years)	0.012	0.111	0.006	0.107	0.914
Marital status (married vs others)	-0.083	0.130	-0.042	-0.638	0.524
Professional status (employed vs others)	-0.388	0.128	-0.185	-3.025	0.003
Number of children	0.103	0.151	0.047	0.680	0.497
Number of siblings	0.119	0.146	0.047	0.820	0.413
Attachment	-0.177	0.100	-0.099	-1.765	0.079
MRC-1 ^a	-0.099	0.086	-0.066	-1.151	0.251
MRC-2 ^b	-0.203	0.060	-0.204	-3.363	0.001
MRC-3 ^c	0.211	0.087	0.146	2.422	0.016
MRC-4 ^d	0.011	0.039	0.015	0.271	0.786
Cohabitation with the parent (yes vs no)	0.213	0.121	0.113	1.768	0.078
BADL ^e (independent vs dependent)	-0.228	0.111	-0.123	-2.058	0.040
Filial Anxiety B					
Gender (male vs female)	0.167	0.103	0.095	1.624	0.105
Age (years)	-0.012	0.006	-0.113	-1.864	0.063
Education (years)	0.012	0.101	0.007	0.114	0.909
Marital status (married vs others)	0.013	0.121	0.007	0.108	0.914
Professional status (employed vs others)	-0.051	0.118	-0.026	-0.429	0.668
Number of childrens	-0.129	0.133	-0.064	-0.964	0.336
Number of siblings	-0.230	0.131	-0.096	-1.751	0.081
Attachment	-0.233	0.093	-0.142	-2.502	0.013
MRC-1 ^a	0.383	0.080	0.280	4.783	0.000
MRC-2 ^b	-0.137	0.056	-0.149	-2.460	0.015
MRC-3 ^c	-0.004	0.081	-0.003	-0.052	0.959
MRC-4 ^d	0.106	0.036	0.170	2.972	0.003
IADL ^f (Independent vs dependent)	-0.326	0.142	-0.132	-2.285	0.023
Filial Anxiety Total					
Gender (male vs female)	0.124	0.087	0.083	1.423	0.156
Age (years)	-0.016	0.006	-0.180	-2.874	0.004
Education (years)	0.029	0.086	0.020	0.342	0.733
Marital status (married vs others)	-0.045	0.103	-0.029	-0.441	0.659
Professional status (employed vs others)	-0.247	0.101	-0.150	-2.456	0.015
Number of children	-0.023	0.113	-0.014	-0.205	0.838
Number of siblings	-0.061	0.111	-0.030	-0.552	0.581
Attachment	-0.215	0.079	-0.153	-2.715	0.007
MRC-1 ^a	0.171	0.068	0.147	2.512	0.013
MRC-2 ^b	-0.178	0.048	-0.226	-3.720	0.000
MRC-3 ^c	0.148	0.069	0.130	2.149	0.032
MRC-4 ^d	0.058	0.031	0.108	1.896	0.059
BADL ^e (Independent vs dependent)	-0.240	0.088	-0.164	-2.737	0.007

^a Perceived ability to provide effective help; ^b Perceived ability to recognize other's needs; ^c Egoistic motives for helping; ^d Appraisal of others as worthy of help; ^e Basic activities of daily living; ^f Instrumental activities of daily living

Concerning filial anxiety, daughters worry more than sons about the decline in parents' health and well-being. Other studies have also shown that women exhibit more filial anxiety than men (Faria et al., 2013; Laditka & Pappas-Rogich, 2001). It is possible that daughters are emotionally closer to parents than sons

(Aldous, Klaus, & Klein, 1985; Cicirelli, 1981; Ross & Rossi, 1990), which means they may feel more uncomfortable with the possibility of losing that emotional connection. In addition, due to historical and cultural constraints, daughters are the main caregivers of their parents (Arnsberger, Lynch, & Li, 2012; Crespo & Fernández-Lansac, 2014; Silverstein, Gans, & Yang, 2006). Because of this, daughters are expected to show more concern about the aging process of their parents and to anticipate more caring demands. Throughout life and specifically in middle age, women accumulate several social roles. Thus, they can be both mother, wife, caregiver and worker (Stephens, Townsend, Martire, & Druley, 2001). Consequently, they might become concerned when anticipating family caregiving, given possible conflicting roles (Aneshensel, Pearlin, Mullan, Zarit, & Whitlach, 1995; Barling, MacEwen, Kelloway, & Higginbottom, 1994; Brody, 1990). This does not apply to men because their socio-professional status shows more continuity, since the pressure to assume the role of primary family caregiver is much lower.

Regression analysis showed that there was no single key determinant of filial anxiety. As hypothesized, mental representation of caregiving and attachment significantly predicted filial anxiety beyond that of parents' dependence level and the demographic variables. However, attachment did not play as significant a role in predicting Filial Anxiety A as a mental representation of caregiving. This became particularly evident in step 2 of the regression, where attachment was significant. But when the mental representation of caregiving factors was added in step 3, attachment did not remain significant. Furthermore, the entry of mental representation of caregiving factors after attachment was undertaken to determine if they could help predict filial anxiety once the variance in attachment had been accounted for. These results suggest that the subjective experience of being concerned with parents' care arises more from the representational dimension of caregiving than the instrumental dimension. Although these caregiving representations have their roots in the Internal Working Models of attachment, they are sufficiently different and specific to predict filial anxiety regardless of attachment (Bowlby, 1973; Mikulincer & Shaver, 2007; Reizer & Mikulincer, 2007). This supposition is corroborated by the lack of interaction between attachment and mental representation of caregiving, which suggests that the effect of mental representation of caregiving on filial anxiety does not vary with attachment.

The perceived ability to recognize others' needs is the only significant factor of mental representation of caregiving in all dimensions of filial anxiety, suggesting that less ability to recognize the needs of others is related to more concern with the responsibility to assume caregiving and with the parents' well-being. Moreover, it also increases overall filial anxiety. This suggests the relevance of being sensitive to the others' expressions and manifestation of needs in the experience of caring (Batson, 1991; Bowlby, 1969/82). According to attachment theory, it is the perception of distress in

others that triggers the caregiving behavioral system. Accurately perceiving these signs will determine the effectiveness of the caregiving process (Mikulincer & Shaver, 2007). In addition, empathy and caring studies note that individuals who are better able to perceive the experiences of others see caregiving in a less threatening way and provide better care (Cassidy, Stern, Mikulincer, Martin, & Shaver, 2018; Lee, Brennan, Daly, 2001). It is logical then that individuals who perceive themselves as more able to recognize the others' needs feel less threatened and less concerned with anticipating their parents' decline and the need to care for them.

Appraisal of others as worthy of help is only significant for Filial Anxiety B, in that the appraisal of others as worthy of help increases concern about parents' well-being. This result is congruent with studies showing that the positive representation of others is associated with more empathy, concern for others and ability to assume the others' point of view (Reizer & Mikulincer, 2007).

Perceiving more ability and availability to care predicts more concern about the parents' well-being and more overall filial anxiety. This result suggests that the perception about the self as a caregiver and the concern about the parents, although related, are distinct dimensions because the fact that the individual considers himself able to care does not decrease his concern for others. Further, while the representation of the self as a caregiver is a general representation, not restricted to a particular care-receiver, Filial Anxiety B refers specifically to the parents.

Self-focused motives to care predict more concern about the ability to take care of parents (FAA) and more Filial Anxiety Total. Adopting the caregiver role involves many resources and hindrances – the caregiver must be motivated to take on this responsibility (Collins et al., 2006). In addition, individuals who are not altruistically motivated may find it more difficult to achieve selflessness and focus on others' concerns and discomfort (Collin et al., 2006; Feeney & Collins, 2001), which may lead them to anticipate the task of caring with more anxiety.

Attachment results highlight its significance in understanding caregiving, which is consistent with the research in the field (Cassidy et al., 2018). Attachment is a significant predictor of Filial Anxiety B and Filial Anxiety Total, but it is not a significant predictor of Filial Anxiety A after mental representation of caregiving factors are included in the regression. This may be related to the filial anxiety nature. The concern with the ability to care for the parents refers to a more practical and instrumental concern. Yet, because the mental representation of caregiving focuses more specifically on the caregiving situation, it can acquire greater relevance. On the other hand, Filial Anxiety B points to a core issue of attachment – the concern for the well-being and the possible loss of the attachment figure (Bowlby, 1969/82; Cicirelli, 1991). This way it is possible that attachment issues emerge when individuals consider this dimension of filial anxiety. These results indicate that insecure attachment increases Filial Anxiety A and Filial Anxiety T, which is congruent with studies showing that insecure attachment is associated with higher levels of anxiety in

stressful situations and towards the possibility of interpersonal losses (Magai & Cohen, 1998; Mikulincer & Florian, 1998, 1999, 2001).

Although less significant than the mental representation of caregiving and attachment, dependence of parents is also a significant predictor of filial anxiety. More dependence on BADL increases Filial Anxiety A and Filial Anxiety Total and more dependence on IADL increases Filial Anxiety B. This result was expected, since signs of parental dependence can deploy the need for caregiving. Dependence on BADL is associated with more caregiving demands (Lyons, Cauley, & Fredman, 2015), which may explain why, even before these signs of dependence, adult children anticipate caregiving with greater concern, specifically focusing on the possibility of not being able to deliver care. On the other hand, since the first signs of dependence occur in IADL, children tend to shift concern towards their parents' well-being and health at that stage.

Sociodemographic variables are the lowest predictors of filial anxiety. Of these, only age and work status were significant. Hence, unemployment and less age increase Filial Anxiety A and Filial Anxiety Total. Usually, the young and unemployed have fewer resources to handle demanding tasks such as caregiving, which is consistent with research showing that adult children with worse jobs and lower wages have more anticipatory anxiety (Cicirelli, 1988; Laditka & Pappas-Rogich, 2001).

Overall, our study shed new light on how adult children anticipate the need to care for aging parents. Research so far has looked mainly into the consequences of caregiving, especially the burden and its objective determinants, and not the prior subjective experiences of caregiving and its internal variables. No study yet has focused specifically on filial anxiety predictors. We found that the way children foresee their parental caregiving needs – which Cicirelli termed filial anxiety – can be partly due to internal dimensions as attachment and representations of the caregiving self, of needy others and the surrounding caregiving context.

These results have implications on providing better support to caretaking adult children, which should be delivered before they engage in parental caregiving and should not only assume a solely instrumental view, but also delve further on an individual, psychological and relational dimension. In this sense, caregiving policies should acknowledge the importance of these dimensions and endorse specific measures entailing them, such as the provision of psychological support to caregivers, mutual support groups and establishing the caregivers' right to choose how to approach their task, especially regarding their relationship with the care receiver.

Still, some potential limitations of this study should be addressed. The sample is not representative, which might compromise the generalization of the findings, due to social and cultural factors which may shape the way people endorse parental caregiving. There is evidence that cultural contexts differ widely in their models of autonomy and relatedness, socialization goals and caregiving

strategies (Simoni & Trifiletti, 2004). In this sense, Portuguese culture is deeply rooted in family values (whereupon the family assumes the responsibility to drive society well-being) and there is a strong incentive for families to care for their elderly relatives (Figueiredo, 2007; Paúl, 1997; Portugal, 2011; Simoni & Trifiletti, 2004). This context may shape children's caregiving representations and the way they anticipate parental caregiving in a specific way, different from other countries, namely Northern European, where a more individualistic approach is followed and additional alternatives for elderly caregiving are available. Also, attachment and mental representation of caregiving were evaluated at a general level whereas filial anxiety refers specifically to the relationship with aging parents. The study shows that attachment and MRC moderately predict filial anxiety, implying that other potential variables can be involved and added to the accounted variance. In the future, other factors should be analyzed, such as filial maturity, the current engagement in regular parental caregiving activities, coping styles and personality characteristics. Lastly, all the variables were assessed through self-reporting. Future research should address these issues by constructing specific measures to assess attachment and caregiving representations to aging parents.

In conclusion, our findings suggest that the mental representation of caregiving and attachment are important dimensions to be considered when adult children face their parents' aging process and the consequent need to assume the caregiving role.

ORCID

Diana Maria Da Costa Bizarro Morais  <http://orcid.org/0000-0003-2756-7288>

References

- Aldous, J., Klaus, E., & Klein, D. M. (1985). The understanding heart: Aging parents and their favorite child. *Child Development*, 56, 303–316.
- American Medical Association. (2013). World medical association declaration of helsinki ethical principles for medical research involving human subjects. *Jama*, 310, 2191–2194. doi:10.1001/jama.2013.281053
- Aneshensel, C. S., Pearlin, L., Mullan, J. T., Zarit, S. H., & Whitlach, C. J. (1995). *Profiles in caregiving: The unexpected career*. San Diego, CA: Academic Press.
- Arnsberger, P., Lynch, U., & Li, F. (2012). The effects of caregiving on women's self-assessed health status: An international comparison. *Health Care Women International*, 33, 878–895. doi:10.1080/07399332.2011.645966
- Barling, J., MacEwen, K. E., Kelloway, E. K., & Higginbottom, S. F. (1994). Predictors and outcomes of elder-care-based interrole conflict. *Psychology and Aging*, 9, 391–397.
- Batson, C. D. (1991). *The altruism question: Toward a social-psychological answer*. Hillsdale, NJ: Erlbaum.
- Bowlby, J. (1969/82). *Attachment and loss: Vol.I: Attachment*. New York, NY: Basic Books.

- Bowlby, J. (1973). *Attachment and loss, volume II. Separation: Anxiety and anger*. New York, NY: Basic Books.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London, England: Tavistok.
- Bradley, S., Miller, J., Murtha, B., Parkinson, J., & Horst, S. (2008). Filial anxiety among adult children: An exploratory study of planning behaviors. *Praxis*, 8, 37–45.
- Bretherton, I. (1992). The origins of attachment theory: John Bowlby and Mary Ainsworth. *Developmental Psychology*, 28, 759–775. doi:10.1037/0012-1649.28.5.759
- Brody, E. M. (1990). *Women in the middle: Their parent-care years*. New York, NY: Springer.
- Canavarro, M. C., Dias, P., & Lima, V. (2006). Adult attachment evaluation: A critical review on the application of adult attachment scale-r (aas-r) in Portuguese population. *Psicologia*, 20, 154–186.
- Carpenter, B. D. (2001). Attachment bonds between adult daughters and their older mothers: Associations with contemporary caregiving. *Journal of Gerontology: Psychological Sciences*, 56B, 257–266. doi:10.1093/geronb/56.5.P257
- Cassidy, J., Stern, J. A., Mikulincer, M., Martin, D. R., & Shaver, P. R. (2018). Influences on care for others: Attachment security, personal suffering, and similarity between helper and care recipient. *Personality and Social Psychology Bulletin*, 44, 574–588. doi:10.1177/0146167217746150
- Cicirelli, V. G. (1981). *Helping elderly parents: Role of adult children*. Boston, MA: Auburn House.
- Cicirelli, V. G. (1983). Adult children's attachment and helping behavior to elderly parents: A path model. *Journal of Marriage and the Family*, 45, 815–822. doi:10.2307/351794
- Cicirelli, V. G. (1988). A measure of filial anxiety regarding anticipated care of elderly parents. *The Gerontologist*, 23, 478–482. doi:10.1093/geront/28.4.478
- Cicirelli, V. G. (1989). Helping relationships in later life: A reexamination. In J. Mancini (Ed.), *Aging parents and adult children* (pp. 167–180). Lexington, MA: Lexington Books.
- Cicirelli, V. G. (1991). Attachment theory in old age: Protection of the attached figure. In K. Pillemer & K. McCarthy (Eds.), *Parent–Child relations through- out life* (pp. 25–42). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- 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.
- Colin, V. L. (1996). *McGraw-Hill series in developmental psychology. Human attachment*. . New York, NY: Mcgraw-Hill Book Company.
- Collins, N. L., Guichard, A. C., Ford, M. B., & Feeney, B. C. (2006). Responding to need in intimate relationships: Normative processes and individual differences. In M. Mikulincer & G. Goodman (Eds.), *Dynamics of romantic love: Attachment, caregiving and sex* (pp. 149–189). New York, NY: Guilford.
- Collins, N. L., & Feeney, B. C. (2013). Attachment and caregiving in adult close relationships: Normative processes and individual differences. *Attachment & Human Development*, 15, 241–245. doi:10.1080/14616734.2013.782652
- Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58, 644–663. doi:10.1037/0022-3514.58.4.644
- Crespo, M., & Fernández-Lansac, V. (2014). Factors associated with anger and anger expression in caregivers of elderly relatives. *Aging & mental health*, 18, 454–462. doi:10.1080/13607863.2013.856857
- Datta, P., Marcoen, A., & Poortinga, Y. H. (2005). Recalled early maternal bonding and other- and self-related attitudes in young adult daughters: A cross- cultural study in India and Belgium. *International Journal of Psychology*, 40, 324–338. doi:10.1080/00207590444000366
- Faria, C., Toipa, D., Lamela, D., Bastos, A., & Cicirelli, V. (2013). Portuguese version of the filial anxiety scale. *Revista Kairós Gerontologia*, 16, 25–41.

- Feeney, B. C. (2004). A secure base: Responsive support of goal strivings and exploration in adult intimate relationships. *Journal of Personality and Social Psychology*, 87, 631–648. doi:10.1037/0022-3514.87.5.631
- Feeney, B. C., & Collins, N. L. (2001). Predictors of caregiving in adult intimate relationships: An attachment theoretical perspective. *Journal of Personality and Social Psychology*, 80, 972–994.
- Figueiredo, D. (2007). Cuidados familiares ao idoso dependente. Lisboa, Portugal: Climepsi.
- Fonseca, A., Nazaré, B., & Canavarró, M. C. (2013). Validation of the mental representation of caregiving scale to Portuguese population: A study in a sample of parents and infants one month old. *Revista Iberoamericana de Diagnóstico e Avaliação Psicológica*, 35, 161–182.
- Gans, D., & Silverstein, M. (2006). Norms of filial responsibility for aging parents across time and generations. *Journal of Marriage and Family*, 68, 961–976. doi:10.1111/jomf.2006.68.issue-4
- George, C., & Solomon, J. (1999). Attachment and caregiving. The caregiving behavioral system. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 649–670). New York, NY: The Guilford Press.
- Henz, U. (2006). Informal caregiving at working age: Effects of job characteristics and family configuration. *Journal of Marriage and Family*, 68, 411–429. doi:10.1111/jomf.2006.68.issue-2
- Karantzas, G. C., Evans, L., & Foddy, M. (2010). The role of attachment in current and future parent caregiving. *Journal of Gerontology: Psychological Sciences*, 65B, 573–580. doi:10.1093/geronb/gbq047
- Klaus, D. (2009). Why do adult children support their parents? *Journal of Comparative Family Studies*, 40, 227–241.
- Laditka, S., & Pappas-Rogich, M. (2001). Anticipatory caregiving anxiety among older women and men. *Journal of Women & Aging*, 13, 3–18. doi:10.1300/J074v13n01_02
- Lawton, M. P., & Brody, E. (1969). Assessment of older people: Self-maintaining and instrumental activities of daily living. *The Gerontologist*, 9, 179–186.
- Lee, H. S., Brennan, P. F., & Daly, B. J. (2001). Relationship of empathy to appraisal, depression, life satisfaction, and physical health in informal caregivers of older adults. *Research in Nursing & Health*, 24, 44–56. doi:10.1002/1098-240X(200102)24:1<44::AID-NUR1006>3.0.CO;2-S
- Lyons, J. G., Cauley, J. A., & Fredman, L. (2015). The effect of transitions in caregiving status and intensity on perceived stress among 992 female caregivers and noncaregivers. *Journals of Gerontology: Medical Sciences*, 70, 1018–1023. doi:10.1093/gerona/glv001
- Magai, C., & Cohen, C. I. (1998). Attachment style and emotion regulation in dementia patients and their relation to caregiver burden. *Journal of Gerontology: Psychological Sciences*, 53B, 147–154. doi:10.1093/geronb/53B.3.P147
- Mahoney, F. I., & Barthel, D. W. (1965). Functional evaluation: The Barthel Index. *Maryland State Medical Journal*, 14, 61–65.
- Mikulincer, M., & Florian, V. (1998). The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 143–165). New York, NY: Guilford Press.
- Mikulincer, M., & Florian, V. (2001). Attachment style and affect regulation: Implications for coping with stress and mental health. In G. Fletcher & M. Clark (Eds.), *Blackwell handbook of social psychology: Interpersonal processes* (pp. 537–557). Oxford, England: Blackwell.
- Mikulincer, M., & Florian, V. (1999). Maternal-fetal bonding, coping strategies and mental health during pregnancy: The contribution of attachment style. *Journal of Social and Clinical Psychology*, 18, 255–276. doi:10.1521/jscp.1999.18.3.255
- Mikulincer, M., Gillath, O., & Shaver, P. R. (2002). Activation of the attachment system in adulthood: Threat-related primes increase the accessibility of mental representations of attachment figures. *Journal of Personality and Social Psychology*, 83, 881–895. doi:10.1037/0022-3514.83.4.881

- Mikulincer, M., & Shaver, P. R. (2007). Boosting attachment security to promote mental health, prosocial values, and inter-group tolerance. *Psychological Inquiry*, 18, 139–156. doi:10.1080/10478400701512646
- Morse, J. Q., Shaffer, D. R., Williamson, G. M., Dooley, W. K., & Schulz, R. (2012). Models of self and others and their relation to positive and negative caregiving responses. *Psychology and Aging*, 27, 211–218. doi:10.1037/a0023960
- Moura-Ramos, M., & Canavarro, M. C. (2007). Parental adaptation to child's birth: Comparison between emotional reactivity and psychosomatology in fathers and mothers in the first days after birth and eighth months after birth. *Análise Psicológica*, 25, 399–413. doi:10.14417/ap.453
- Murray, P. D., Lowe, J. D., & Home, H. L. (1995). Assessing filial maturity through the use of the filial anxiety scale. *Journal of Psychology*, 129, 519–529. doi:10.1080/00223980.1995.9914924
- Myers, E. G., & Cavanaugh, J. C. (1995). Brief report: Filial anxiety in mothers and daughters: Cross-validation of Cicirelli's (1988) filial anxiety scale. *Journal of Adult Development*, 2, 137–145. doi:10.1007/BF02251261
- Paúl, C. (1997). *Lá para o fim da vida: Idosos, família e meio ambiente*. Coimbra, Portugal: Almerindos.
- Perrig-Chiello, P., & Hopflinger, F. (2005). Aging parents and their middle-aged children: Demographic and psychosocial challenges. *European Journal of Ageing*, 2, 183–191. doi:10.1007/s10433-005-0003-z
- Portugal, S. (2011). Dádiva, família e redes sociais. In S. Portugal & P. H. Martins (Eds.), *Cidadania, políticas públicas e redes sociais* (pp. 39–53). Coimbra, Portugal: Imprensa da Universidade de Coimbra.
- Reizer, A., & Mikulincer, M. (2007). Assessing individual differences in working models of caregiving. The construction and validation of the mental representation of caregiving scale. *Journal of Individual Differences*, 28, 227–239. doi:10.1027/1614-0001.28.4.227
- Ross, A. S., & Rossi, P. H. (1990). *Of human bonding: Parent-child relations across the life course*. Hawthorne, NY: Aldine de Gruyter.
- Sequeira, C. (2007). *Caring for elderly with physical and mental dependency*. Lisboa, Portugal: LIDEL.
- Shaver, P. R., & Mikulincer, M. (2010). New directions in attachment theory and research. *Journal Of Social and Personal Relationships*, 26, 163–172.
- Shulman, S. C. (2005). The changing nature of family relationships in middle and later life. *Smith College Studies in Social Work*, 75, 103–120. doi:10.1300/J497v75n02_07
- Silverstein, M., Gans, D., & Yang, F. M. (2006). Intergenerational support to aging parents. *Journal of Family Issues*, 27, 1068–1084. doi:10.1177/0192513X06288120
- Simoni, S., & Trifiletti, R. (2004). Caregiving in transition in Southern Europe: Neither complete altruism nor free-riders. *Social Policy & Administration*, 38, 678–705. doi:10.1111/j.1467-9515.2004.00413.x
- Solomon, J., & George, C. (1996). Defining the caregiving system: Toward a theory of caregiving. *Infant Mental Health Journal*, 17, 183–197. doi:10.1002/(ISSN)1097-0355
- Sorensen, S., Webster, J. D., & Roggman, L. A. (2002). Adult attachment and preparing to provide care for older relatives. *Attachment & Human Development*, 4, 84–106. doi:10.1080/14616730210123102
- Sousa, L., Figueiredo, D., & Cerqueira, M. (2006). *Aging in family: Family caregiving in old age*. Porto, Portugal: Ambar.
- Sroufe, L. S. (2016). The place of attachment in development. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of Attachment. Theory, research, and clinical applications* (pp. 997–1011). New York, NY: Guilford.

- Stephens, M. A. P., Townsend, A. L., Martire, L. M., & Druley, J. A. (2001). Balancing parent care with other roles: Interrole conflict of adult daughter caregivers. *Journal of Gerontology: Psychological Sciences, 56B*, 24–34. doi:[10.1093/geronb/56.1.P24](https://doi.org/10.1093/geronb/56.1.P24)
- Townsend, A., & Franks, M. (1995). Binding ties: Closeness and conflict in adult children's caregiving relationships. *Psychology and Aging, 10*, 343–351. doi:[10.1037/0882-7974.10.3.343](https://doi.org/10.1037/0882-7974.10.3.343)
- Whitbeck, L., Hoyt, D. R., & Huck, S. (1994). Early family relationships, intergenerational solidarity, and support provided to parents by their adult children. *Journal of Gerontology: Social Sciences, 49*, S85–S94. doi:[10.1093/geronj/49.2.S85](https://doi.org/10.1093/geronj/49.2.S85)