

**Individual and gender differences in mindful parenting: The role of attachment
and caregiving representations**

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Cite as:

Moreira, H. & Canavarro, M. C. (2015). Individual and gender differences in mindful parenting: The role of attachment and caregiving representations. *Personality and Individual Differences*, 87, 13-19. doi:10.1016/j.paid.2015.07.021

URL: <http://www.sciencedirect.com/science/article/pii/S0191886915004651>

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27

28 **1. Introduction**

29 Mindful parenting is one of the most recent applications of mindfulness. It can be
30 broadly defined as a way of parenting that entails bringing mindful attention to parent-child
31 interactions [1]. Despite the recent increase in interest in mindful parenting, little is known
32 about the factors that may be associated with this parenting attitude. In the present study, we
33 focus on the association between parental attachment representations and mindful parenting
34 and explore the mediating role of caregiving representations. Although there is compelling
35 evidence that a secure attachment is a fundamental requirement for sensitive and responsive
36 parental care [2,3,4,5], its association with mindful parenting has not yet been investigated.

37 **1.1. Mindful Parenting**

38 Based on the theory and practice of mindfulness, mindful parenting was first proposed
39 by Kabat-Zinn and Kabat-Zinn [6] as a way of parenting characterized by three main
40 foundations: (1) sovereignty (acknowledging, encouraging, and accepting the child's inner
41 self); (2) empathy (attempting to see things from the child's perspective and to understand
42 what the child might be thinking and feeling in a given situation); and (3) acceptance (a
43 complete acceptance of the child's inner self, feelings, thoughts, and points of view). More
44 recently, Duncan et al. [1] defined mindful parenting as a set of parental practices or skills
45 that seek to enhance moment-to-moment awareness in the parent-child relationship.

46 According to these authors, mindful parenting encompasses five interrelated dimensions: 1)
47 listening with full attention to the child; (2) adopting a non-judgmental attitude of acceptance
48 toward the self and the child; (3) developing emotional awareness of the self and the child; (4)
49 exerting self-regulation in the parenting relationship; and (5) directing compassion toward the

50 self as a parent and toward the child. Therefore, being a mindful parent involves adopting an
51 attitude of acceptance and compassion in parenting and being sensitive and responsive to the
52 child's needs [1,7]. It implies being fully present and aware of one's own internal states and
53 of the internal states of the child during parent-child interactions as well as exerting self-
54 regulation in these interactions to choose parenting practices that are in accordance with the
55 parent's values and goals [1]. The application of non-judgmental and intentional present-
56 moment awareness to parenting and the adoption of a compassionate attitude can be
57 considered the key features of mindful parenting that distinguish it from other positive
58 parenting practices.

59 Although Kabat-Zinn and Kabat-Zinn [6] laid the groundwork for empirical research
60 on mindful parenting, it was only recently that the scientific community became interested in
61 studying this parenting approach. However, research has mainly focused on the development
62 and efficacy of mindfulness-based parenting interventions (e.g., [7,8]), and much less is
63 known about the factors that may be associated with this parenting approach. One key factor
64 may be parents' attachment representations. It is widely recognized that parents' attachment
65 representations play a key role in parenting behaviors [2,4,5,9], although the associations
66 between parental attachment and mindful parenting and the mechanisms that may mediate this
67 relationship have not yet been investigated.

68 **1.2. Attachment Representations, Caregiving Representations, and Parenting Outcomes**

69 Attachment theory [10] provides an ideal framework for understanding parental
70 caregiving behaviors. Parents' sensitivity and responsiveness to their child's needs, and therefore
71 the quality of parental care, are largely dependent on the parents' attachment and caregiving
72 representations or internal working models [5]. Parents' attachment representations develop
73 early in life through repeated interactions with their own attachment figures, particularly the
74 mother [10]. When attachment figures are not supportive, negative working models of the self

75 (representations of one's own worthiness of care and love) and of others (representations
76 about the availability and responsiveness of an attachment figure in times of need) are
77 developed, and an insecure attachment orientation (avoidant or anxious) emerges [1,11].
78 These representations can be understood in terms of two orthogonal dimensions: (1)
79 attachment-related anxiety, which is characterized by a tendency to hyperactivate the
80 attachment system and reflects the degree to which individuals are concerned about others'
81 availability or support in times of need and are sensitive to rejection and abandonment; and
82 (2) attachment-related avoidance, which is characterized by a tendency to deactivate the
83 attachment system and reflects the degree to which individuals strive to maintain emotional
84 distance and independence from others and feel uncomfortable with intimacy and closeness in
85 relationships. Low scores on both dimensions characterize attachment security, whereas high
86 scores on either of the two dimensions characterize attachment insecurity [12]. Over time,
87 individuals also develop caregiving representations [2,13,14]. Specifically, they develop
88 working models of the self as a caregiver (which reflect the degree to which they perceive
89 themselves as capable of recognizing others' need for care and providing appropriate care)
90 and working models of the other as a care recipient (which reflect the extent to which they
91 perceive others as deserving of care) [13]. These representations guide individuals'
92 cognitions, behaviors, and emotions in caregiving interactions and therefore play a key role in
93 parental caregiving behaviors [2,13].

94 Although the need for security and the capacity for providing care to others are
95 universal [10], there are individual differences in attachment and caregiving representations.
96 Individual differences in caregiving representations are believed to be intrinsically associated
97 with individual differences in attachment representations [2,10,13]. For instance, George and
98 Solomon [14] found a concordance rate of 69% between mothers' attachment and caregiving
99 representations, which underlines the continuity between attachment and caregiving systems

100 at the level of representation. In fact, according to attachment theory, a secure attachment
101 promotes an individual's willingness and ability to provide care to others, whereas an
102 insecure attachment inhibits adequate caregiving [2,3,4,5,10]. These individual differences
103 influence the individuals' parenting behaviors and their expectations and attitudes toward
104 parenting [2,4]. Specifically, securely attached individuals are best able to effectively care for
105 others, including their children, because they have positive representations of the self and of
106 others, feel comfortable with intimacy and closeness, and use adequate emotion regulation
107 strategies that allow them to maintain their emotional balance while providing support to
108 others [3,4,13]. Secure parents are therefore well equipped and motivated to provide sensitive
109 and responsive care to their children [4,5,9,10]. In contrast, avoidant individuals tend to react
110 in a cold and unresponsive manner when others need their assistance [3,4,17]. Their
111 discomfort with intimacy and the use of deactivating emotion regulation strategies may lead
112 them to perceive caregiving interactions in negative terms [4,13]. In addition, they seem to
113 perceive themselves as less able to provide care and others as less deserving of care. In fact,
114 higher levels of avoidance have been found to be associated with more negative working
115 models of the self as a caregiver (i.e., lower levels of perceived ability to provide help and to
116 recognize others' needs) and with a more negative evaluation of others as worthy of help [13].
117 Because avoidant individuals have difficulty assuming caregiving roles and are not motivated
118 to do so, they tend to be less sensitive and responsive and to behave in a less warm, close, and
119 supportive manner toward their children [4,5,9,15,16]. In comparison, anxiously attached
120 individuals tend to be self-centered, to worry about their own attachment needs [4] and to feel
121 extremely distressed when other people need their assistance [17]. Their strong desire to be
122 loved and accepted frequently leads them to be egoistically motivated to provide care and
123 support to others only to attain their relationship goals [4,13]. In fact, Reizer and Mikulincer
124 [13] found that higher levels of anxiety were associated with higher levels of egoistic

125 motivations to provide help and with lower levels of perceived ability to recognize the needs
126 of others. In the parenting context, although anxious individuals may be motivated to provide
127 care to their children, their strong desire for closeness and their self-centered tendency may
128 lead them to be intrusive and insensitive to their child's signals and needs as well as less able
129 than other parents to provide a secure base for their children's exploration behaviors [5,4,18].

130 It is important to note that although the association between attachment and caregiving
131 representations has a strong theoretical basis, to the best of our knowledge, only George and
132 Solomon [14] and Reizer and Mikulincer [13] have investigated this link. Likewise, although
133 several studies have provided evidence of a significant link between parents' attachment
134 representations and parenting behaviors [5], the association between caregiving
135 representations and parenting outcomes has rarely been investigated. One exception is the
136 study by Reizer and Mikulincer [13], who found that among young couples without children,
137 more positive working models of the self as caregiver and more altruistic and less egoistic
138 motivations to provide help were associated with a stronger desire to have children, more
139 positive feelings toward parenthood, more positive expectations of parental self-efficacy and
140 lower levels of perceived barriers against parenthood.

141 Another critical gap in the literature is the limited research on the effect of the parent's
142 gender on attachment and caregiving representations and their association with parenting
143 outcomes. Some previous studies have shown that women tend to be less avoidant than men
144 [19] and tend to present more positive working models of caregiving and less egoistic
145 motivations to provide help [13]. However, the large majority of studies have excluded
146 fathers, and the few that have explored gender differences have suggested that mothers and
147 fathers may differ in the way their attachment representations influence their parenting
148 behaviors, emotions or expectations [5]. Therefore, it is essential to develop studies that

149 include both mothers and fathers and to explore gender differences in the way attachment and
150 caregiving representations are linked to different parenting outcomes.

151 **1.4. The Present Study**

152 Although many studies have shown a consistent relationship between parental
153 attachment and various parenting outcomes [5], to the best of our knowledge, no study has
154 explored the link between attachment and mindful parenting. However, recent studies have
155 revealed that attachment insecurity is associated with lower levels of dispositional
156 mindfulness [20,21,22] and that difficulties in the emotional regulation (e.g., rumination and
157 thought suppression) of insecure individuals may explain this association [21]. These findings
158 suggest that negative cognitive and emotional processes that develop in the context of
159 insecure attachments may hinder the development of mindful awareness [21,22]. Therefore, it
160 is reasonable to suppose that attachment (in)security is associated with parents' ability to
161 bring mindful awareness into interactions with their children. In the current study, we
162 explored this possibility. Mindful parenting was investigated as a unidimensional construct
163 because our focus was on investigating specific caregiving pathways through which
164 attachment dimensions could be linked to a general mindful parenting attitude and not to
165 specific dimensions of this parental approach. This approach is consistent with previous
166 studies that have investigated mindful parenting as a unidimensional construct [23].

167 The current study had three goals. First, we intended to examine differences between
168 mothers and fathers in attachment and caregiving representations and mindful parenting.
169 Based on previous studies, we expected mothers to be less avoidant and to present more
170 positive representations of caregiving and less egoistic reasons for providing care compared
171 with fathers. Regarding mindful parenting, we did not advance a hypothesis because, to the
172 best of our knowledge, no previous study has explored gender differences in this construct.

173 Second, we aimed to explore the indirect effect of parental attachment representations
174 on mindful parenting through caregiving representations. Specifically, we explored the
175 mediating role of working models of the self as caregiver (representations of the self as an
176 efficient provider of help and as able to perceive the other's distress signals and need for
177 support) and of others as care recipients (representations of others as deserving of help) and
178 egoistic motivations to provide help (providing help because of self-focused motives). Based
179 on previous research [13], we hypothesized that higher levels of anxiety would be associated
180 with lower levels of mindful parenting through more self-focused motivations to provide help
181 and a lower ability to recognize other's needs and that avoidance would be linked to lower
182 levels of mindful parenting through a more negative perception of others as worthy of help
183 and a decreased ability to recognize others' needs and to provide effective help. Third, we
184 aimed to examine whether the proposed model remained invariant for mothers and fathers.
185 Because no previous studies have examined this path model, we did not present a hypothesis
186 related to this goal.

187 **2. Materials and Methods**

188 **2.1. Participants**

189 The sample included 439 biological parents (67% mothers) of school-aged
190 children/adolescents, with a mean age of 42.36 years ($SD=6.19$; range: 23-63) and with a
191 mean of 1.90 children ($SD=0.80$; range: 1-7). The majority were married or living with a
192 partner (89.3%). With regard to education levels, 309 parents (70.4%) had completed basic or
193 secondary studies, and 130 (29.6%) had completed graduate or post-graduate studies.
194 Although the majority (82%) had paid employment, 79 parents (18%) were unemployed or
195 were full-time stay-at-home parents.

196 **2.2. Procedure**

197 The sample was collected in public schools (82.7%) and in the general community
198 (17.3%) in the north and central regions of Portugal. Authorization for sample collection was
199 obtained from the Portuguese Data Protection Authority and from the Board of Directors of
200 two school units. After authorization was received, 24 classes from six schools of the two
201 school units were randomly selected. Teachers were contacted by the researchers, informed
202 about the study, and asked to collaborate as intermediaries between the researcher and the
203 parents. Participants from the general community were recruited through the researcher's
204 acquaintances. In both cases, parents were given a letter explaining the study, the informed
205 consent form, and the questionnaires to be completed at home and returned a week later.
206 Written informed consent was obtained from all parents.

207 **2. 3. Measures**

208 **2.3.1. Attachment Representations**

209 The Portuguese version of the Experiences in Close Relationships–Relationship
210 Structures questionnaire (ECR-RS; [24,25]) was used to assess attachment-related anxiety
211 (e.g., “I'm afraid that this person may abandon me”) and avoidance (e.g., “I prefer not to show
212 this person how I feel deep down”) toward the parent's own mother or mother-like figure. The
213 ECR-RS is composed of nine items rated on a seven-point Likert scale ranging from 1
214 (*strongly disagree*) to 7 (*strongly agree*). The subscale score consists of the mean of the
215 items, with higher scores indicating higher attachment avoidance and anxiety. The original
216 ECR-RS [25] has shown good psychometric properties, including adequate reliability
217 ($\alpha > .80$) and construct validity. The Portuguese version [24] confirmed the original two-
218 factor structure and also exhibited adequate reliability ($\alpha > .72$) and construct validity.

219 **2.3.2. Caregiving Representations**

220 The Portuguese version of the Mental Representation of Caregiving Scale (MRCS;
221 [13,26]) was used. This self-report instrument includes four subscales: (1) perceived ability

222 and availability to provide effective help (“I can alleviate others’ distress in an effective
223 way”), (2) perceived ability to recognize other’s needs (“Sometimes, I don’t notice when I’ve
224 been asked for help”), (3) appraisal of others as worthy of help (“In my opinion, a person
225 should solve his problems on his own”), and (4) egoistic motives to provide help (“I help
226 others while expecting to get some personal reward”). Subscales 1 and 2 assess working
227 models of the self as caregiver, and subscale 3 assesses working models of others as care
228 recipients. The MRCS has 27 items, with responses on a 7-point Likert scale ranging from 1
229 (*strongly disagree*) to 7 (*strongly agree*). The subscale scores consist of the mean of the
230 items, with higher scores indicating more positive working models of caregiving and more
231 self-focused motives for providing care. The original MRCS [13] has a five-factor structure
232 and exhibited adequate reliability ($\alpha > .75$) as well as convergent, discriminant and construct
233 validity. Similarly, the Portuguese version [26] presented adequate reliability ($\alpha > .70$) and
234 validity. The factor structure confirmed the original one, with the exception of the “altruistic
235 motives for helping” dimension, which in the Portuguese version integrates the “perceived
236 ability to provide help” dimension.

237 **2.3.3. Mindful Parenting**

238 The Portuguese version of the Interpersonal Mindfulness in Parenting Scale (IM-P;
239 [27,28]) was used to assess mindful parenting. This self-report questionnaire includes 31
240 items (“I rush through activities with my child without being really attentive to him/her”)
241 rated on a 5-point Likert scale that ranges from 1 (*never true*) to 5 (*always true*). The total
242 score is the mean of all items and is used as a global indicator of mindful parenting. The IM-P
243 has shown adequate reliability and construct validity in American and Dutch samples [27,29].
244 The Portuguese version has also evidenced good psychometric properties, including adequate
245 reliability and construct validity [28].

246 **4. Results**

247 **4.1. Preliminary Analyses**

248 Differences in sociodemographic and study variables between parents recruited in
249 schools and parents recruited in the general community were analyzed. No significant
250 differences were found in parents' age, $F(1,437)=2.94, p=.087$, gender, $\chi^2(1)=0.001, p=.978$,
251 $\Phi=.001$, marital status, $\chi^2(1)=1.64, p=.201, \Phi=.061$, education levels, $\chi^2(1)=3.65, p=.067$,
252 $\Phi=.09$, number of children, $F(1,437)=1.30, p=.254$, and employment, $\chi^2(1)=1.45, p=.227$,
253 $\Phi=.058$. With regard to the study variables, no significant differences were found in mindful
254 parenting ($F_{1,437}=2.94, p=.087, \eta^2=.01$), attachment representations (Wilk's Lambda=0.997,
255 $F_{2,436}=0.71, p=.492, \eta^2=.00$) and caregiving representations (Wilk's Lambda=0.997,
256 $F_{4,434}=0.32, p=.866, \eta^2=.00$). Given the absence of significant differences in the
257 sociodemographic and study variables, the two subgroups were analyzed together in the
258 subsequent analyses.

259 The differences between the mothers and fathers regarding sociodemographic
260 variables were also analyzed before the main analyses were conducted to identify any
261 covariates that should be included in the subsequent comparison analysis. The mothers were
262 significantly younger than the fathers (mothers: $M=41.44, SD=5.60$; fathers: $M=44.25$,
263 $SD=6.90; t_{437}=4.58, p<.001, d=0.45$). Although the proportion of participants who were
264 married or living with a partner was higher than the proportion without a partner for both the
265 mothers and the fathers, among the participants who did not have a partner (10.7% of the total
266 sample), there were significantly more mothers than fathers (mothers: 85.1%, $n=40$; fathers:
267 14.9%, $n=7; \chi^2(1)=7.83, p=.005, \Phi=.13$). No significant differences were found between the
268 mothers and the fathers in their levels of education, employment, and number of children.

269 **4.2. Differences between Mothers and Fathers**

270 The means, standard deviations, and Pearson's correlations for the study variables are
271 presented in Table 1.

272 Controlling for age and marital status, a significant multivariate effect of gender was
273 found for attachment representations (Wilk's lambda=.984, $F_{2,434}=3.48$, $p=.032$, $\eta^2=.02$) and
274 caregiving representations (Wilk's lambda=.877, $F_{4,432}=15.20$, $p<.001$, $\eta^2=.12$). Regarding
275 attachment, subsequent univariate analyses revealed that fathers presented higher levels of
276 avoidance than mothers ($F_{1,435}=6.95$, $p=.009$, $\eta^2=.02$), but no differences were found for
277 anxiety ($F_{1,435}=0.33$, $p=.567$, $\eta^2=.00$). Concerning caregiving representations, mothers
278 reported a higher perceived ability to provide effective help ($F_{1,435}=34.67$, $p<.001$, $\eta^2=.07$)
279 and to recognize others' needs ($F_{1,435}=35.94$, $p<.001$, $\eta^2=.08$) and less egoistic motivations to
280 provide help ($F_{1,435}=25.66$, $p<.001$, $\eta^2=.06$) compared with fathers. No significant differences
281 were found in the appraisal of others as worthy of help ($F_{1,435}=1.38$, $p=.240$, $\eta^2=.00$). Finally,
282 mothers reported significantly higher levels of mindful parenting than fathers did
283 ($F_{1,434}=10.85$, $p=.001$, $\eta^2=.02$).

284 *Insert Table 1*

285 **4.3. Mediation Model**

286 Structural equation modeling using maximum likelihood estimation was conducted to
287 test the proposed parallel multiple mediation model (Figure 1). The statistical significance of
288 the indirect effects was estimated using bootstrap resampling procedures with 2000 samples
289 and a 95% bias-corrected confidence interval (BC95%CI). The criteria for a good model fit
290 were $CFI \geq .95$, $RMSEA \leq .06$, and $SRMR \leq .08$ [30]. The specific indirect effects and the
291 corresponding confidence intervals were estimated using AMOS user-defined estimands
292 (Amos Development Corporation, 2010). Initially, we tested a model that included all of the
293 paths between variables. Because this model exhibited an inadequate fit ($CFI=.754$;
294 $SRMR=.111$; $RMSEA=.299$, $p<.001$; $90\%CI=.255/.346$), we trimmed it by eliminating the
295 non-significant paths (between attachment anxiety and the perceived ability to provide
296 effective help and between attachment anxiety and mindful parenting), following the

297 recommendations of Kline [31]. The final model had a good fit to the data (CFI=.999;
298 SRMR=.015; RMSEA=.026, $p=.588$; 90%CI=.000/.102) and explained 26% of the mindful
299 parenting variance. As presented in Table 2, attachment anxiety had a significant indirect
300 effect on mindful parenting via the perceived ability to recognize others' needs and the
301 egoistic motives for providing help. Conversely, attachment avoidance had a significant direct
302 effect on mindful parenting and a significant indirect effect through the perceived ability to
303 provide effective help and the appraisal of others as worthy of help.

304 *Insert Table 2 and Figure 1*

305 **4.4. Multi-Group Analyses**

306 The structural invariance of the path model across genders was tested in two steps,
307 beginning with the examination of the baseline model for each group separately and followed
308 by multi-group analyses comparing the unconstrained model with a model in which structural
309 weights were fixed to be equal across groups [32]. The model's invariance was established
310 when the chi-square difference ($\Delta\chi^2$) was non-significant. The baseline model for each parent
311 group demonstrated a good fit to the data [mothers: $\chi^2(2)=2.35$, $p=.301$; CFI=.999,
312 SRMR=.018; RMSEA=.024, $p=.537$; 90%CI=.000/.121; fathers: $\chi^2(2)=0.35$, $p=.838$;
313 CFI=1.00, SRMR=.010; RMSEA=.00, $p=.838$; 90%CI=.000/.094]. The difference between
314 the unconstrained model and the constrained model was not significant, $\Delta\chi^2(1)=0.11$, $p=.740$,
315 suggesting the model's invariance.

316 **5. Discussion**

317 The main finding of this study was that attachment-related anxiety and avoidance were
318 indirectly associated with mindful parenting through different aspects of caregiving
319 representations. Additionally, a direct association between attachment avoidance and mindful
320 parenting was found, corroborating previous studies that show a stronger and more consistent

321 link between parenting outcomes and avoidance than between parenting outcomes and
322 anxiety [5].

323 As expected, our results suggest that avoidant parents may be less able to be mindful
324 in their relationships with their children because of a lower perceived ability to provide
325 effective help to others, which is in accordance with the theoretical predictions of attachment
326 theory. On one hand, avoidant individuals usually experience increased difficulties assuming
327 caregiving roles [3,4,15,16,17] because in their attempt to keep their attachment system
328 deactivated, they keep a safe emotional distance from others and feel uncomfortable when
329 others are distressed and need support [3,4]. Consequently, in their relationship with their
330 children, they may face what Rholes et al. [33] refer to as an “approach-avoidance conflict”
331 (p. 282): although caring for a child, particularly in a mindful way, implies the activation of
332 the caregiving behavioral system and the provision of sensitive and responsive care to
333 children, avoidant parents want to keep their attachment system deactivated and consequently
334 distance themselves from their children. On the other hand, because individuals learn how to
335 provide care to others through repeated care experiences with their own attachment figures
336 [2,4,13,14], it is likely that avoidant individuals, who typically had rejecting, cold, and
337 unavailable mothers, have internalized parenting and caregiving models characterized by
338 distance and reduced availability. In addition, attachment avoidance was linked to mindful
339 parenting through negative working models of others as care recipients. This result suggests
340 that avoidant parents consider others less worthy of care, which may also predispose them to
341 be less mindful and compassionate in their relationship with their children.

342 Whereas avoidant parents might perceive themselves as less able to provide care,
343 anxious parents seem to perceive themselves as less able to recognize others’ needs for help.
344 Because the attachment system is hyperactivated in anxious individuals, they are usually
345 overly focused on their own distress and attachment needs, which may impair their ability to

346 perceive or recognize their child's or other people's needs [3,4]. In fact, previous studies have
347 demonstrated that anxious individuals tend to feel distressed when other people need their
348 assistance and are less likely to exhibit altruistic and compassionate behaviors [3,17]. In the
349 parenting context, it has also been demonstrated that anxious parents tend to be more
350 insensitive to their child's signals of need [18]. We may suppose that when their children
351 need support or show signs of distress, anxious parents may fail to recognize the need to help
352 their child or may feel emotionally overwhelmed, and their hyperactivating strategies may
353 lead them to focus on both the child's distress and their own emotional distress instead of
354 adopting a mindful approach. Not surprisingly, we found that anxiety, but not avoidance, was
355 indirectly linked to mindful parenting through egoistic motivations to provide help. This
356 result corroborates our hypothesis and the results of previous studies [13] and suggests that
357 providing help to others only to fulfill one's own needs for intimacy and closeness may hinder
358 an individual's ability and willingness to adopt the compassionate and responsive attitude that
359 mindful parenting entails.

360 One important finding was that mothers and fathers differed in their levels of mindful
361 parenting and in attachment and caregiving dimensions, although the proposed path model
362 was invariant across genders. In keeping with our initial hypothesis and the results of previous
363 studies [13,19], we found that fathers presented higher levels of attachment avoidance, more
364 egoistic motivations to provide help, and a lower ability to recognize others' needs and to
365 provide help compared with mothers. In addition, fathers presented lower levels of mindful
366 parenting than mothers did. Although further research is needed to more thoroughly
367 understand this gender effect, the observed differences may be the result of socialization
368 and/or biological processes. On one hand, women are still expected to more often assume
369 caregiving roles, particularly those related to the education of children [34]. On the other
370 hand, there are biological and evolutionary differences between men and women (e.g., women

371 have the ability to breast-feed their children) that explain why women are better prepared to
372 assume caregiving roles [35]. Nevertheless, our findings demonstrated that associations
373 between attachment and caregiving representations and mindful parenting are not dependent
374 on the parents' gender, supporting the theoretical proposition that all human beings are born
375 with attachment and caregiving systems that interact with each other and influence parenting
376 outcomes [2,4,5,14].

377 **5.1. Limitations and Conclusions**

378 This study has some limitations. First, its cross-sectional design does not allow the
379 establishment of a causal relationship among variables. Although the direction of the
380 relationships presented in the model is strongly supported in the attachment literature, future
381 longitudinal studies should confirm our findings. Second, because we only assessed
382 attachment to the maternal figure, some caution is needed in interpreting the results and
383 generalizing them to other attachment figures. Third, we did not inquire about previous
384 mindfulness training or participation in parenting intervention programs, which could
385 influence individuals' mindful parenting practices. Fourth, the representativeness of the
386 sample cannot be guaranteed because parents were recruited at only two school units in the
387 north and central regions of Portugal and in the general community through the researcher's
388 acquaintances. Additionally, the majority of participants were mothers (67%). Ideally, the
389 sample should have been composed of an equivalent number of mothers and fathers from
390 different regions of Portugal. Fifth, the exclusive use of self-report measures may limit the
391 validity of our findings because the participants' responses may have been influenced by
392 social desirability and defensive strategies. Additionally, the common method variance that
393 may result from using only one assessment method should be avoided in future studies by
394 employing a multi-method measurement strategy. For instance, it would be interesting to use
395 an interview measure, such as the Adult Attachment Interview, to assess adult attachment

396 representations and to explore the degree of convergence between self-report and interview
397 methods.

398 Despite these limitations, this study offers innovative and important contributions to
399 the literature. It is the first study to examine the differences in mindful parenting between
400 mothers and fathers and to explore a mediation model linking parents' attachment and
401 caregiving representations to this parenting outcome. This study is highly innovative because
402 it distinguishes different caregiving pathways through which attachment anxiety and
403 avoidance are linked with mindful parenting. Overall, this study suggests that insecure parents
404 are poorly equipped to adopt a mindful approach in their relationships with their children and
405 that their difficulties in providing care may originate in their relationship with their mother or
406 maternal figure. Mindful parenting entails being fully present with an attitude of acceptance
407 and compassion and being sensitive and responsive to the child's needs [7], which is unlikely
408 to occur if parents are struggling to maintain some degree of emotional distance from their
409 children or are primarily focused on their own needs.

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Table 1. *Descriptive statistics and correlations among study variables*

	Cronbach's alpha	Total sample	Mothers	Fathers						
		<i>n</i> =439	<i>n</i> =294	<i>n</i> =145	1	2	3	4	5	6
		<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)						
1. Anxiety	.80	2.56(1.65)	2.55(1.67)	2.58(1.60)	-					
2. Avoidance	.85	2.82(1.31)	2.70(1.33)	3.06(1.24)	.28**	-				
3. MRCS-Provide	.74	5.38(0.69)	5.51(0.71)	5.12(0.57)	-.10*	-.19**	-			
4. MRCS-Recognize	.76	5.08(0.94)	5.25(0.90)	4.73(0.93)	-.23**	-.15**	.37**	-		
5. MRCS-Egoistic	.77	2.40(0.87)	2.26(0.86)	2.69(0.81)	.29**	.17**	-.36**	-.44**	-	
6. MRCS-Others	.75	4.63(1.33)	4.68(1.34)	4.53(1.30)	-.15**	-.15**	.20**	.34**	-.36**	-
7. Mindful parenting	.81	3.63(0.36)	3.67(0.34)	3.55(0.38)	-.21**	-.25**	.33**	.43**	-.33**	.11*

* $p < .05$; ** $p < .01$

Table 2. Total, direct, and indirect effects

	Unstandardized coefficients	Standardized coefficients	<i>p</i> value	BC95%CI
				Lower/Upper
<i>Direct effects</i>				
ANX→Recognize	-.106	-.187	.001	-.284/-.100
ANX→Egoistic	.131	.249	.001	.152/.348
ANX→Others	-.088	-.110	.046	-.214/-.003
AV→Provide	-.103	-.194	.001	-.281/-.099
AV→Recognize	-.072	-.100	.051	-.199/.001
AV→Egoistic	.069	.105	.025	.010/.203
AV→Others	-.124	-.123	.022	-.218/-.017
AV→MP	-.046	-.167	.002	-.256/-.078
Provide→MP	.075	.145	.001	.055/.233
Recognize→MP	.124	.326	.001	.241/.419
Egoistic→MP	-.059	-.143	.002	-.234/-.047
Others→MP	.029	.109	.009	.024/.198
<i>Total effects</i>				
ANX→MP	-.018	-.084	.001	-.133/-.044
AV→MP	-.063	-.229	.001	-.319/-.132
<i>Indirect effect (ANX)</i>	-.018	-.084	.001	-.133/-.044
<i>Indirect effect (AV)</i>	-.017	-.062	.012	-.111/-.014
<i>Specific indirect effects</i>				
ANX→Recognize→MP	-.013		<.001	-.023/-.007
AV→Recognize→MP	-.009		.043	-.019/.000
AV→Provide→MP	-.008		.001	-.016/-.003
ANX→Egoistic→MP	-.008		.001	-.014/-.003
AV→Egoistic→MP	-.004		.016	-.011/.000
ANX→Others→MP	-.003		.026	-.007/-.000
AV→Others→MP	-.004		.014	-.009/-.001
<i>Note.</i> AV: avoidance; ANX: anxiety; MP: mindful parenting; Provide: perceived ability to provide effective help; Recognize: perceived ability to recognize other's needs; Egoistic: egoistic motives for providing help; Others: appraisal of others as worthy of help.				

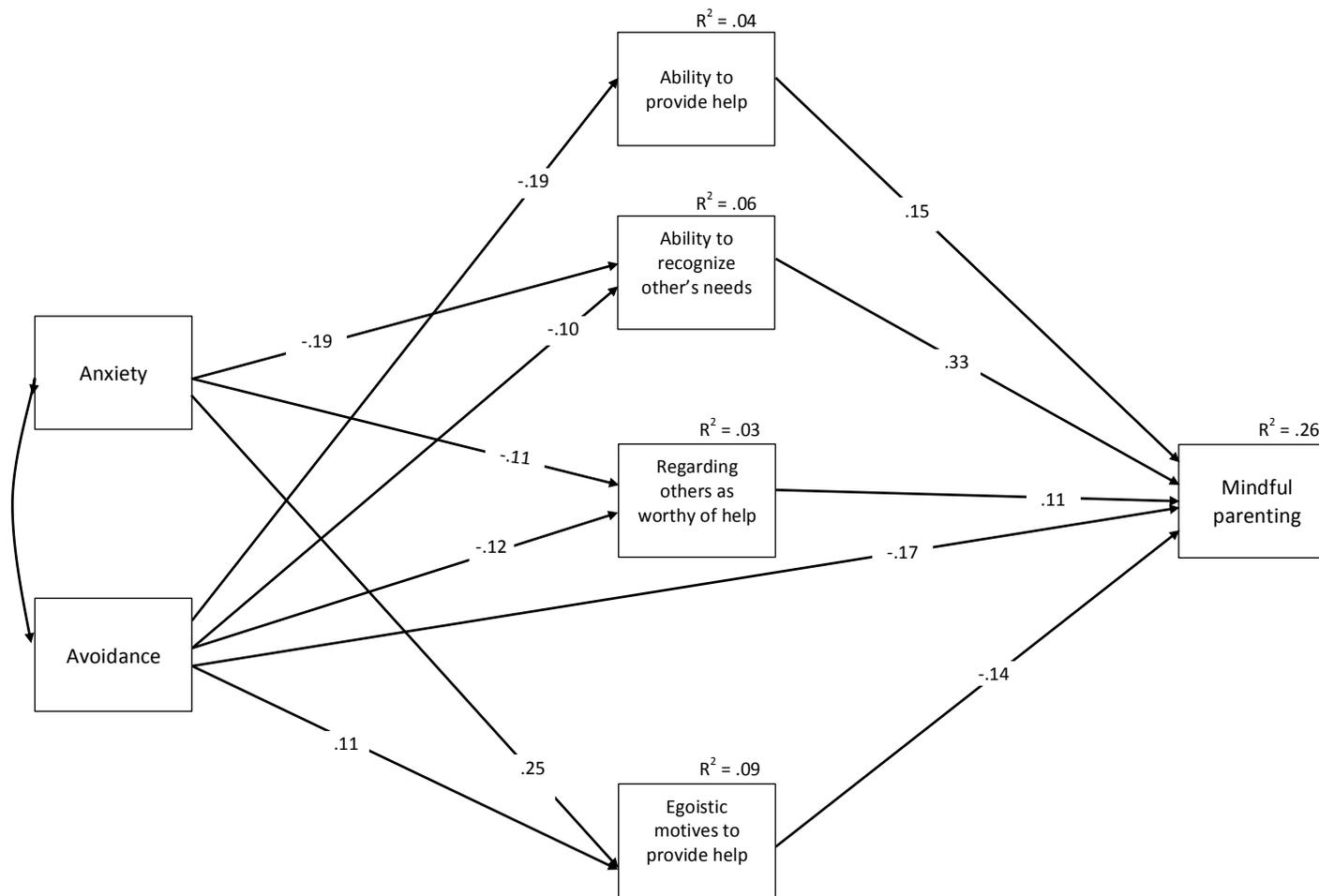


Figure 1. Path model with standardized regression coefficients

Note. For simplicity, measurement error terms and non-significant paths are not shown (trimmed model). All paths were significant.