

Parental Meta-emotion, Attachment to Parents and Personal Agency in Adolescents

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Abstract

Guided by attachment theory, we explored in the current study the links between parental emotion-coaching, attachment to parents and adolescent's sense of agency. Further, we examined a possible mediating role of adolescent's attachment to parents in the association between parental emotion-coaching and sense of agency. All models control for cumulative psychosocial risk, and adolescents' sex and age, and take into account the reports of both mothers and fathers. The sample included 501 Portuguese families comprising adolescents, their mothers, and their fathers. Adolescents (ages ranged from 15 to 18) reported on their attachment to parents, personal agency, and cumulative psychosocial risk, whereas mothers and fathers independently completed a questionnaire assessing their meta-emotion skills. The results indicate that both mothers' and fathers' emotional coaching are positively associated with the quality of adolescent's attachment to parents. Nonetheless, parental emotion-coaching are not directly associate with sense of agency. The quality of emotional bond with father is linked to a more positive sense of agency, while relationships characterized by mother's inhibition of adolescent's exploration are associated with less positive perceptions of agency. Parental emotion coaching seems to be associated with the sense of personal agency through the quality of attachment to parents. These results are discussed according to attachment theory taking into account the parents' importance to adolescents' development. Our findings provide a first attempt to unravel the possible links between parental emotion-coaching, attachment to parents and sense of agency; nevertheless, they need to expand.

Keywords: Parental meta-emotion; emotion-coaching; attachment to parents; personal agency; adolescence.

Parental meta-emotion, attachment to parents and personal agency in adolescents

The development of the perception of capacity to shape one's own life course is a great challenge but also a resource for young people during adolescence (Zimmerman & Cleary, 2006). In the current study, we analyze sense of personal agency as a multidimensional process comprising four main aspects: (1) the ability to set self-determined and volitional goals (Deci & Ryan, 2004); (2) the belief that positive results will be obtained in the future (Hitlin & Elder, 2007); (3) the capacity of engaging in decision-making processes relevant for achieving goals (Schoon & Heckhausen, 2019); (4) the belief of own capacity to achieve self-determined goals (Hitlin & Long, 2009). People with a strong sense of agency consider themselves authors of their own life course because they believe that their behaviors and decisions are shaped by their internal and volitional goals, and their beliefs of optimism and self-efficacy give them the strength to persevere in the face of obstacles (Schoon, 2018). They tend to show great capacity to adapt to developmental challenges and evidence greater psycho-emotional adjustment (Côté, 2000; Gallagher et al., 2019).

According to Schoon (2018) the experiences shared in the family context, namely the support received by parents, can shape sense of agency. In the current study, guided by assumptions of attachment theory, we focus on two pivotal dimensions of parenting and family relations, parental meta-emotion and attachment to parents. We seek to understand the contributions of these two dimensions to adolescents' sense of agency, controlling the role of cumulative psychosocial risk, age, and sex of adolescents.

Although “parental meta-emotion” and “parental sensitivity” are crucial elements to a secure attachment, they refer to different aspects of the relational dynamics between parents and children. Parental sensitivity refers to parents' ability to correctly perceive, interpret, and answer to children's attachment behaviors (Ainsworth et al., 1969). In turn, parental meta-emotion refers to parents' perceptions of their children's emotional experiences and the

definition of goals about what they want to teach their children about emotions (Gottman et al., 1996; Katz et al., 2012).

The Contribution of Parental Meta-emotion and Attachment to Parents on Sense of Agency

Parental meta-emotion, a construct developed by parental meta-emotion theory, refers to the way parents aid their children in learning to regulate and express their emotions (Gottman et al., 1996). Initially two aspects of parental meta-emotion were identified: emotion-coaching and emotion-dismissing. Emotion-coaching refers to a situation where parents accept, value and validate the children's emotions. These parents understand the children's emotional expression as an opportunity for intimacy, education and learning. They encourage children to verbalize and label the emotion and they participate in problem-solving. In turn, emotion-dismissing refers to a situation where parents ignore or reject their children's emotions (Gottman et al., 1996).

According to several studies, parents' emotion-coaching contributes to greater socio-emotional competence, self-regulation, and capacity to deal with stressful situations (Castro et al., 2015; Shewark & Blandon, 2015). Most studies on parental meta-emotion have been dedicated to childhood, however, some researchers suggest its importance during adolescence (Schwartz et al., 2016). Although we have not found any study that addressed the associations between parental meta-emotion and sense of agency, there is some evidence seems to highlight the importance of parental meta-emotion to children's self-regulation (Shewark & Blandon, 2015), a central aspect of the agency process. According to self-determination theory (Deci & Ryan, 2004), if people are not able to self-regulate, they will hardly perceive as authors of their own life course.

Furthermore, Baker and Fenning (2011) draw attention to potential differences in the contributions of parents' and mothers' meta-emotion to children's development. Gottman et al.

(1996) found that fathers reported less emotional-coaching attitudes than mothers. In a Portuguese community sample, Barreiros and Cruz (2012) found similar results; female adults revealed (mothers and grandmothers) more emotional coaching than male adults (fathers and grandfathers). Despite these findings, little is known about the differential contribution of emotion-coaching of mothers and fathers to their children's development (Baker & Fenning, 2011) and especially, the relationships with sense of agency. The current study seeks to directly address this gap.

During adolescence, youth go through emotional, behavioral, and cognitive changes that allow them to organize abstract thinking and challenge parental ideologies (Moretti & Peled, 2004). This capacity to differentiate themselves from the others allows the development of an increasingly consistent view of the self, more internally organized and less centered on a particular relationship. The ease of acting in accordance with one's volitional choices and values becomes a prelude to the desire for separation and autonomy (Fleming, 2004). Nonetheless, parents remain as resources available to adolescents that encourage their autonomy and differentiation, functioning as “attachment figures in reserve” (Moretti & Peled, 2004). The presence of secure relationships with parents in adolescence is a crucial element for adolescents to engage in exploratory tasks. Contrary, when parents do not respect adolescents' need for autonomy, inhibiting their attempts of exploration and individuality, adolescents tend to understand the parents as unsupportive and insensitive to their needs (Ainsworth, 1969; Bowlby, 1988).

These perspectives are corroborated by the self-determination theory (Deci & Ryan, 2014). According to Ryan et al. (2016) when young people experience the satisfaction of basic psychological needs (autonomy, competence and relatedness) they tend to understand themselves with enough competence to shape their life course. Conversely, when youth

experience the frustration of these basic needs due to insecure attachment with parents, they tend to repress themselves.

Previous studies verified that youth with secure attachments to their mothers showed greater self-efficacy (Bilgin & Akkapulu, 2007) and greater willingness to believe that positive results will be achieved in the future (Thomson et al., 2015). Further, adolescents with secure attachments to their father and mother showed greater self-efficacy in the decision-making process (Nawaz & Gilani, 2011). These results suggest that attachment to parents is associated with crucial indicators of sense of agency. Although these studies provide relevant preliminary evidence to support the current research, none of them jointly analyzed whether the quality of adolescents' relationships with parents contributed to a more comprehensive and differentiated concept of sense of personal agency in adolescence.

Furthermore, analyzing the differential role of mother and father allows us to advance on the understanding of family gender roles dynamics. To the best of our knowledge, the current study is one of the first that seeks to disentangle the specific role that attachment to each parental figure can play in adolescents' agency beliefs. As is known, the affective bonds established with each parental figure can satisfy different youth' needs (Allen et al., 2003). Indeed, some empirical evidence has supported this issue, pointing out to a differential contribution of father and mother as attachment figures to adolescents' distinct outcomes (Doyle et al., 2009). Conversely, other studies have found no differences in the unique contribution of attachment to each parental figure (Nunes & Mota, 2017). In the context of the Portuguese society, the roles assumed by men and women have undergone major transformations framed by macro-social changes at the economic and political level, in particular by public policies related to employment and the family. It evolved into an organization that seeks to promote gender equality in access to labor market, as well as the sharing of power and responsibilities in the family (Monteiro et al., 2019; Wall et al., 2016).

Notwithstanding, traditional family models characterized by fathers' disciplinary role and mother's caregiving function might still be observed in some groups of Portuguese society. These models can foster the perception of paternal inhibition from the child and the emergency of more secure mother-child relationships. Considering the nuanced realities of Portuguese families and the literature's mixed results, it seems relevant to gather preliminary evidence about the specific contribution of attachment to father and mother in the sense of adolescents' personal agency.

Parental Meta-Emotion and Personal Agency: The Mediating Role of Attachment to Parents

According to attachment theory (Bowlby, 1988) the nature and dynamics of emotional bonds established with caregivers depend on the secure base provided to children. More specifically, individuals develop internal working models of their relationships with caregivers from the experiences of care, warmth, and parental acceptance (Bretherton & Munholland, 2008). If parents attend to their children's needs, these will develop more positive representations of parents' availability and responsiveness in times of need. According to Gus et al. (2015), parental meta-emotion consists of a crucial element to the establishment of secure relationships among parents and children. By recognizing, accepting, and validating their children's emotions, parents can enhance adolescents' security towards parents' availability to fulfil their needs, contributing to the establishment of secure relationships.

Based on this perspective, we anticipate that parental emotion-coaching can be indirectly associated with adolescents' sense of agency through the quality of attachment to parents. Our mediational hypothesis is supported by both theory and empirical evidence. For instance, Chen et al. (2012), in a study involving 546 pre-adolescents and their mothers found a positive association between the mothers' emotion-coaching and the quality of the mother-

child relationship as perceived by the pre-adolescent. Unravelling the links between the variables under study can establish a first step towards understanding the role of parental and family relationships in adolescents' sense of agency and guide the development of future researches and interventions.

Covariates: Cumulative Psychosocial Risk, and Adolescents' Sex and Age

The rapid changes in the socio-economic context of Portuguese society and remaining contemporary Western societies emphasize the growing relevance of sense of personal agency in individuals' life. According to Dannefer and Huang (2017), cumulative risk experiences, in particular among those from relatively disadvantaged family backgrounds, impose important restrictions on youth' sense of agency. For instance, unskilled parental occupations; unemployment; and retirement due to disability and older age (accompanied by significant financial difficulties) are factors that can impact youth's choices (Guedes, 2015; Suh et al., 2021). Aware of their parents' difficulties, adolescents tend to feel more inhibited to take risks and explore new paths. The accumulation of risk can undermine also the parents' emotion-coaching capacity and the quality of adolescents' attachment to parents (De Falco et al., 2014; Katz et al., 2012).

Empirical evidence has highlighted, also, sex and age of adolescents as factors that are an important role in sense of agency (Hitlin & Long, 2009; Hurault et al., 2020), as well as in parents' emotion-coaching (Hughes & Dunn, 2002), and in attachment to parents (Mota & Rocha, 2012). Boys are more likely to understand themselves as more agentic than girls (Hurault et al., 2020) and as youth mature and acquire more autonomy with age, they tend to reveal a greater sense of personal agency (Hitlin & Long, 2009). Thus, a fully specified understanding of the contribution of parental meta-emotion and attachment to parents in sense of personal agency of adolescents cannot be achieved without taking into account the role of these variables.

Current Study

The current study has two objectives: 1) to analyze the unique contribution of parental emotion-coaching and the attachment to parents in shaping the sense of personal agency; 2) to assess the potential mediating role of attachment to parents regarding the association between parental emotion-coaching and adolescent sense of agency. Both models are controlling for cumulative psychosocial risk, adolescents' sex and age. Informed by the assumptions of attachment and self-determination theories we hypothesize that parents' emotion coaching and attachment to parents are positively associated with adolescents' personal agency. Further, informed by attachment theory, we expected a positive association between parents' emotion-coaching and the adolescents' quality of attachment to parents. We also expected that the link between emotion-coaching and personal agency would be mediated by adolescents' attachment to parents.

Method

Participants

The sample includes 501 Portuguese families comprised of adolescents and their mothers and fathers. The adolescents (66.1% girls) with ages ranging from 14 to 19 ($M = 15.87$, $SD = 0.90$) attended high school. Approximately, 37.7% of adolescents attend 10th year, 41.7% attend 11th year, and 20.6 % attend 12th year. Near all of the adolescents (93.8%) lived with both parents. Only a small proportion was living with their mother (4.8%) or father (1.4%). Fathers' age ranged from 33 to 86 years ($M = 47.09$, $SD = 5.40$), while mothers' age ranged from 27 to 60 years ($M = 44.88$, $SD = 5.24$). Most fathers (93.6%) were employed and few of them were unemployed (4.2%) or retired (1.6%). There were 0.6% missing values. Most of the mothers also were employed (82.0%). Approximately, 16.6% were unemployed and 1.0% were retired. There were 0.4% missing values. This sample includes a slightly higher proportion of professionally active parents than the national average (Pordata, 2021).

Measures

Fathers and mothers reported independently on the emotion-coaching dimension (5 items) of the *Emotion Related Parenting Styles – Short Form* (ERPS; Paterson et al., 2012; Portuguese version by Tavares et al., 2018). This dimension is defined as parents' awareness of emotions within themselves and their children, and the ability to use this awareness to benefit their children's socialization (“*It's important to help my child find out what caused your anger*”). The responses are given in a five-point scale ranging from (1) “always false” to (5) “always true”. Internal consistency was .88 / .87, for the father and mother, respectively. Confirmatory factor analyses (CFA) indicated that this scale scores demonstrated good fit to fathers' ($\chi^2_{(5)} = 16.24, p = .006, CFI = .99, TLI = .98, RMSEA = .07, SRMR = .01$) and mothers' ($\chi^2_{(5)} = 9.81, p = .081, CFI = .99, TLI = .99, RMSEA = .04, SRMR = .02$) data. We found metric invariance among parental roles ($\chi^2_{(2)} = 3.77, \Delta p = .152, \Delta CFI = -.001, \Delta RMSEA = -.003$). A t-test revealed statistically significant differences among fathers and mothers $t_{(499)} = 8.49, p = .001$, with mothers reporting higher levels of emotional coaching than fathers.

Adolescents reported on their attachment representations regarding their father and mother separately by completing two subscales of the *Father and Mother Attachment Questionnaire – short form* (FMAQ; Nunes et al., 2019a): Quality of Emotional Bond (QEB, 5 items) and Inhibition of Exploration and Individuality (IEI, 5 items). QEB refers to the importance given by the individual to the parental figures as attachment figures (“*I know I can count on my parents whenever I need them*”). IEI is characterized by the individuals' perception of constraints to the expression of their individuality and discouragement of the exploratory movement (“*My parents discourage me when I want to try something new*”). The responses are given in a six-point scale ranging from (1) “totally disagree” to (6) “totally agree”. The internal consistency analysis showed following values: QEB = .83 / .81, and IEI

= .61 / .62, for the father and mother, respectively. Nonetheless the less satisfactory internal consistency values of the IEI father and mother dimensions, CFA indicated that this scale scores demonstrated good fit to fathers' ($\chi^2_{(34)} = 107.72, p = .001, CFI = .95, TLI = .93, RMSEA = .07, SRMR = .04$) and mothers' ($\chi^2_{(34)} = 66.89, p = .001, CFI = .97, TLI = .96, RMSEA = .04, SRMR = .04$) data. Further, we calculated the composite reliability for IEI dimension that revealed values of .62 and .64 for the father and mother versions, respectively. According to Hair et al. (2014), although CR values $\geq .70$ are recommended, CR values $\geq .60$ are acceptable. We found metric invariance among parental roles for QEB dimension ($\chi^2_{(4)} = 2.71, \Delta p = .607, \Delta CFI = .000, \Delta RMSEA = -.002$), and residual invariance for IEI dimension ($\chi^2_{(3)} = 2.34, \Delta p = .504, \Delta CFI = .000, \Delta RMSEA = -.002$). A t-test revealed statistically significant differences in quality of emotion regard father and mother reported by adolescents $t_{(500)} = 9.06, p = .001$, with adolescents reporting higher levels of quality of emotional bond to mother than to father. Further, we found non-significant differences in inhibition of exploration and individuality regard father and mother reported by adolescents $t_{(500)} = 1.26, p = .207$.

Adolescents also reported on their sense of personal agency based on the assessment model proposed by Nunes et al. (2019b) which combines four dimensions: goal-setting, optimism, decision-making and self-efficacy.

We analyzed the goals-setting and decision-making subscales through *Short Self-Regulation Questionnaire* (SSRQ; Carey et al., 2004; Portuguese version by García Del Castillo & Dias, 2009), using the subscales of goal-setting (GS, 7 items) and decision-making (DM, 5 items). The GS subscale assesses participants' ability to plan and set clear goals ("When I have a goal, I usually plan how to achieve it"). The DM subscale assesses the ability of an individual to engage in decision-making processes ("I put off making decisions"). The items of the SSRQ are completed using a five-point scale, ranging from (1)

“strongly disagree” to (5) “strongly agree”. These scales present adequate consistency ($\alpha = .77$ for goals-setting; $\alpha = .71$ for making-decision). CFA indicated that these two subscales demonstrated good fit to the data ($\chi^2_{(32)} = 101.33, p = .001, CFI = .95, TLI = .93, RMSEA = .07, SRMR = .06$).

We used the optimism subscale of the *Vision About Future* (VAF; Ginevra et al., 2016, Portuguese version by Nunes et al., 2018). The optimism subscale (“*Usually, I am full of enthusiasm and optimism about my future*”; 7 items) assesses the orientation toward expecting general positive results in future. Items are rated on a five-point scale ranging from (1) “it does not describe me at all” to (5) “it describes me very well”. This scale presents good consistency ($\alpha = .87$). CFA indicated that this scale score demonstrated good fit to the data ($\chi^2_{(7)} = 23.57, p = .001, CFI = .99, TLI = .98, RMSEA = .07, SRMR = .02$).

We used the *General Self-Efficacy Scale* (GSE; Schwarzer & Jerusalém, 1995, Portuguese version by Nunes et al., 1999). The GSE is a unidimensional 10-item scale (“*I can solve most problems if I invest the necessary effort*”) that assesses self-beliefs with regard to coping with a variety of difficult demands in life. The items of GSE are rated on a four-point scale ranging from (1) “not at all true” to (4) “exactly true”. This scale presents adequate consistency ($\alpha = .76$). CFA indicated that this scale score demonstrated good fit to the data ($\chi^2_{(4)} = 11.25, p = .024, CFI = .99, TLI = .97, RMSEA = .06, SRMR = .02$).

We converted into Z scores the scores of the four subscales of sense of agency in order to express all variables on the same scale. Cronbach alphas also showed adequate reliability for the total score ($\alpha = .87$). The assessment model of personal agency combining goal-setting, optimism, decision making and self-efficacy dimensions demonstrated acceptable fit to the data ($\chi^2_{(180)} = 535.03, p = .001, CFI = .91, TLI = .89, RMSEA = .06, SRMR = .06$).

We developed a Multi-Risk Index Questionnaire to collect information from our participants regarding their parental figures, as well as their own life experiences identified in the literature as relevant to developmental risk situations (Dannefer & Huang, 2017; Gutman et al., 2002; Johnson & Hitlin, 2017; Spisma et al., 2015). We analyze the seven risk factors follow:

Single-parent families: adolescents are not living with both parents. Scores: 0 – No Risk, 1 – Risk.

Low parental education: education equal to or lower than the 6th grade. Scores: 0 – No Risk; 1 – Risk associated with one parent; 2 – Risk associated with both parents.

Unskilled parental occupations: unemployment, retirement and unskilled works. No Risk; 1 – Risk associated with one parent; 2 – Risk associated with both parents.

Low family income: families with incomes below the minimum wage. Scores: 0 – No Risk, 1 – Risk.

Physical mobility (experienced by adolescent): change of residence and/or school within the last five years. Scores: 0 – No Risk; 1 – Risk.

Accident or serious illness (experience by adolescent): the experience of an accident or serious illness in the last five years. Scores: 0 – No Risk, 1 – Risk.

Experience of two or more negative events (experienced by adolescent): the experience of two or more negative events (e.g., death of a close relative; divorce or separation from parents) in the last five years. Scores: 0 – No Risk, 1 – Risk.

The last three factors were only considered a risk when the situation had a negative impact on youth quality of life. We used a Likert scale ranging from 0 to 4 (0 - "did not affect me negatively"; 4 - "It affected me a lot") to assess the impact.

The cumulative risk model served as a guideline for the analysis of risk factors. According to the cumulative risk model, risk rarely occurs in isolation and tends to

accumulate in the same individual; therefore, the effective risk arises not from a particular factor but from the experience of multiple and cumulative risk situations (Gutman et al., 2002). We calculated the Composite Risk Index (CRI) through a sum of the seven risks factors analyzed. CRI varies on a scale from 0 to 9, in which a higher score is indicative of a greater number of experiences of risk. Some of the factors identified in the literature as risk situations were not considered in the current study due to homogeneity in the sample (e.g., large families). Approximately, 40.2% of adolescents experienced four or more multiple risks in an index that vary from zero to eight. The risk factor with a higher incidence in our sample was the recent experience of two or more negative events (66.3%) (Table1).

INSERT TABLE 1

Procedures

We analyzed data from adolescents, their mothers, and fathers, collected within a broader research project developed in the North of Portugal which aims to understand the contributions of individual, family, and school context on development of personal agency. We obtained permission from the Ethics Committee and data protection officer of the Faculty of Psychology and Education Sciences at the University of Porto, and the Ministry of Education to administer the questionnaires in the school context. We first contacted all schools (N = 71) in the district of Porto and we held meetings with the directors' boards that responded to our initial requests. We obtained approvals to apply the project in 18 schools. We made a brief presentation of the research project to the students and asked for their collaboration in transmitting this information to their parents. Each student (under age) was given an informed consent to be filled by their parents to authorize their participation. Adolescents were also given a questionnaire for their father and mother to answer at the home. Following informed consent, parents completed an individual questionnaire focusing on their parental meta-emotion. Parents completed separate measures and placed the surveys

in individual envelopes which were returned to the main researcher in closed envelopes through their children or by post. Next (in another time scheduled with the class director and adolescents), we collected the informed consents and questionnaires of the parental figures. After verifying that adolescents had the authorization to participate in the current study, we gave them a protocol with a focus on their sense of personal agency, attachment to the parents and psychosocial risk. All adolescents signed the informed assented. Adolescents completed the protocol with the supervision of the main research and teacher. The adolescents and their parents did not receive any reward for participation. In the current study, we only considered the data from adolescents whose father and mother participated simultaneously. Only one adolescent per family participated in this investigation.

Data analysis

We follow Kline's (2015) recommendations regarding sample size to perform structural equation models (SEM): five to 10 observations per parameter to find a reasonable effect. In the current study, a minimum of 280 participants would be needed to achieve reasonable effect sizes. The univariate outliers were identified through Z score < -3 or > 3 , while the multivariate outliers were identified by calculating the Mahalanobis distance scores. Participants identified as outliers ($N = 26$) were not considered in the statistical analysis. We inspected and verified that adolescents' and parents' data did not show serious deviations from normality (Kline, 2015). Missing values (11% of all sample) were completely at random ($\chi^2_{(637)} = 632.03, p = .548$). We used the method of full information maximum likelihood (FIML) to deal with missing data. We also used structural equation modeling (SEM) procedures in RStudio through “lavaan” package (Rosseel, 2012). We first performed confirmatory factor analyses (CFA) in order to test the adjustment of measures to our data. CFA was tested using several fit indices: Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of

Approximation (RMSEA). We used the following criteria: CFI and TLI $\geq .90$, RMSEA and SRMR $< .10$ to indicate an acceptable fit (Kline, 2015). Further, we test the invariance of ERPS and FMAQ among parental roles. Due to the non-independence of observations we used the modified version of the correlated uniqueness model (Tagliabue & Lanz, 2014). Since different members of the same family participated simultaneously in this study (father, mother and adolescents) and that the adolescents responded to the same set of items regarding different relationships (to father and mother), the data were not independent. In this case, the models should be tested by taking into account the non-independence of data. To address this issue, we specified in the models the error correlations between similar items of emotion-coaching questionnaire reported by mother and father; and attachment questionnaire reported by adolescent regard to father and mother. In the comparisons across models, we used the criteria proposed by Cheung and Lau (2012): $\Delta p > .050$, $\Delta CFI \leq .010$ and $\Delta RMSEA < .015$ between a more restricted model and the preceding one in the invariance sequence indicate that the invariance hypothesis should not be rejected. We next address the research questions using latent variables, which allows us to account for measurement error in the questionnaires and to produce more accurate estimates. We used parcels as indicators of emotion-coaching of both parents and the quality of attachment to parents. The parceling of emotion-coaching dimension were following: parcel 1 (items 1, 2); parcel 2 (items 3, 4); and parcel 3 (item 5). The QEB items were parceled as follow: parcel 1 (items 2, 4); parcel 2 (items 9, 13); and parcel 3 (item 15). Lastly, the items considered by the IEI dimension were defined as: parcel 1 (items 1, 7); parcel 2 (items 8 and 10); and parcel 3 (item 11). One of the advantages of using this method is that parcels are more stable indicators of a latent construct (Taylor et al., 2017). We introduced the dependent variable (sense of agency) as latent, informed by four manifest indicators (setting goals, optimism, decision-making, and self-efficacy). We also included the variables of cumulative psychosocial risk, age and sex of adolescents as

covariates (manifest variables), in order to control their role in all variables included in the study. We examined the direct links between variables and analyzed the indirect effects of parental emotion-coaching on sense of personal agency, via attachment to parents. The significance of each indirect effect was tested using the bootstrapping procedure with 5000 resamples (Bollen & Stine, 1990). We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study. The raw data and materials used in the current study are not openly available due to privacy and ethical restrictions, but can be obtained from the corresponding author. No aspects of the study were pre-registered.

Results

The emotional coaching of both parents was positively correlated with adolescents' perception of secure relationships with father and mother (r from .15 to .24), and negatively with the inhibition of exploration and individuality of both parents (r from -.10 to -.21). secure relationships with father and mother, as well as the male sex, were associated with higher scores in indicators of sense of agency (r from .10 to .31), whereas less secure relationships with both parents, as well as a higher cumulative risk, were associated with a lower scores in indicators of sense of agency (r from -.09 to -.23) (Table 2).

INSERT TABLE 2

Mediating Role of Attachment to Parents in the Association between Parents' Emotion-coaching and Sense of Agency

First all, we tested a model considering all direct links among variables. The model showed an acceptable fit ($\chi^2_{(236)} = 381.93, p = .001, CFI = .97, TLI = .96, SRMR = .04, RMSEA = .04$), explaining 16% of variability of personal agency. Nonetheless this acceptable fit, we decided to trim the non-significant paths, with very low magnitude (close to zero). The trimmed model did not showed a significantly worse adjustment to the data than the original model ($\Delta\chi^2_{(19)} = 17.27, p = .572$). As such, we decided to retain this more

parsimonious model which also revealed an acceptable fit ($\chi^2_{(255)} = 399.68, p = .001, CFI = .97, TLI = .97, SRMR = .05, RMSEA = .04$), explaining 15% of variance of personal agency (Figure 1).

Results showed a significant positive path between father's emotion-coaching and quality of the emotional bond with the father ($\beta = .18, p = .001$), as well as a significant negative path between father's emotion-coaching and inhibition of adolescent's behaviors by father ($\beta = -.15, p = .004$). We found the same pattern of associations between mother's emotion-coaching and quality of the emotional bond with the mother ($\beta = .16, p = .001$) and inhibition behavior by mother ($\beta = -.25, p = .001$). We also verified that the quality of the emotional bond with the father was positively associated with personal agency ($\beta = .23, p = .001$), while mothers' inhibition of adolescents behavior was negatively associated with personal agency ($\beta = -.17, p = .014$). Results from bootstrapping analysis provided support for the mediating role of attachment to parents on the links among parental emotion-coaching and adolescent's personal agency. The indirect link from emotion-coaching of father to personal agency through quality of emotional bound with father was significant ($\beta = .04, SE = .01, 95\% CI [.01, .06], p = .004$). Moreover, the indirect link from emotion-coaching of mother to personal agency through in mothers' inhibition of adolescents behavior was also significant ($\beta = .04, SE = .02, 95\% CI [.01, .09], p = .016$).

In what concern covariates, we found that the boys were more likely to exhibit a greater personal agency than girls ($\beta = .13, p = .007$). In turn, girls were more likely to report a higher quality relationship with the mother ($\beta = -.08, p = .012$). Younger adolescents were more likely to report a higher quality of emotional bond with father ($\beta = -.07, p = .027$) and fathers of younger adolescents were more likely to exhibit higher levels of emotion-coaching ($\beta = -.11, p = .010$). Further, we also verified that cumulative psychosocial risk was negatively associated with personal agency ($\beta = -.09, p = .035$) and with quality of emotional

bound with father ($\beta = -.15, p = .002$) and mother ($\beta = -.10, p = .033$); and positively linked with inhibition of adolescents behavior by father ($\beta = .12, p = .029$) and mother ($\beta = .15, p = .020$).

INSERT FIGURE 1

Discussion

In the current study, we sought to analyze the unique contribution of parental emotion-coaching and attachment to parents on adolescents' sense of agency. Moreover, we sought to investigate a possible indirect link between parental emotion-coaching and perceptions of personal agency through attachment to parents, controlling cumulative psychosocial risk and adolescents' sex and age. As far as we know, our study is the first attempt to analyze the intertwining between these variables, considering both adolescents' and parents' perspectives.

Our results indicated that parental emotion-coaching did not directly link to adolescents' sense of agency. These results are not in line with our initial hypothesis. Informed by parental meta-emotion theory, we expected that adolescents who benefited from their parents' emotion-coaching support would reveal a more positive sense of agency, derived from their greater self-regulation capacity (Gottman et al., 1996; Shewark & Bandon, 2015). Nevertheless, this was not verified in our sample.

Despite this, our findings indicated that adolescents who experience higher levels of parental emotion-coaching are more likely to report relationships with parents characterized by positive emotional bonds and low inhibition. Parental support for children's emotional management and regulation seems to contribute to adolescents' understanding of their parents as a secure base. Parents who accept, validate, and respect their children's emotions can foster adolescents' positive representations of caregivers, contributing to the establishment of secure attachment. Conversely, parents who are not sensitive to their children's emotional

states and do not help them to integrate and regulate their emotions tend to be perceived as unavailable and unresponsive by adolescents (Bowlby, 1988; Gus et al., 2015). Moreover, these findings are in line with the perspective of Bretherton and Munholland (2008), to the extent that, they argue the representations that individuals develop of their caregivers are associated on the quality of care, attention and availability of these. Our results also are in line with previous empirical evidence (Chen et al., 2012).

Moreover, our findings indicated that adolescents who reported a positive emotional bond with their father are more likely to show higher levels of sense of personal agency. In turn, adolescents who perceive that their mothers inhibit their behaviours' and individuality reported a less positive sense of agency. These results are in accordance with assumptions of attachment theory (Ainsworth, 1969; Bowlby, 1988) arguing the establishment of secure relationships with parents creates the emotional basis for individuals to initiate exploratory movements and develop an effective and active self. If adolescents consider that their parents are available to support them in overcoming or transforming the constraints towards their self-determined goals, young people will tend to reveal more positive agency perceptions. Conversely, if young people understand their parents to not support their exploration behaviours, they tend to repress themselves and they are less likely to seek support from parents in times of difficulty (Ainsworth, 1969; Bowlby, 1988). This may occur because relationships with parents characterized by the inhibition of exploration and individuality are associated with the frustration of basic psychological needs of youth (autonomy, competence and relatedness), which can enhance less positive beliefs about the ability to shape the own life course (Deci & Ryan, 2004; Ryan et al., 2016).

These results reveal a differential pattern regarding the contribution of relationships with father and mother to adolescents' sense of agency. Unravelling the distinct contributions of fathers and mothers to young peoples' development have long been the focus of attention

of researchers. For instance, Lamb (2013) have been arguing that fathers have the same importance as mothers in providing a secure base. In the current study, both parental figures (albeit in a different way) prove to be important for adolescents' sense of agency. Curiously, although adolescents perceived higher quality of attachment to mother than to father, it is the quality of attachment to father that is positively associated with adolescents' sense of agency. Further, although adolescents report no differences in the inhibition of the exploration of their individuality by the father and the mother, it is the inhibition by mother that undermines adolescents' sense of agency. Taken together, these findings seem to suggest that fathers who differ from Portuguese traditional family dynamic, i.e., warmth and caring fathers and restrictive mothers, are particularly important to adolescents' sense of personal agency. Despite our initial efforts to discuss these results, we consider that more studies are needed to understand this differentiating role of quality of the parent-child and mother-child relationship in the adolescents' personal agency.

Our findings also seem to gather preliminary evidence to support the hypothesis that attachment to parents mediates the link between parental emotion-coaching and adolescents' sense of agency. Our results seem to indicate that the secure relationships with fathers and inhibitive relationships with mothers have an indirect role in the association between parental emotion-coaching and adolescents' perceptions of agency. These preliminary findings highlight the importance of parental emotional-coaching practices in adolescence and that adolescents' personal agency is not independent of these parental practices. In other words, if parents recognize, accept and validate their children's emotions, adolescents will tend to perceive them as available and responsive figures to satisfy their needs, contributing to the development of secure relationships (Bretherton & Munholland, 2008; Gus et al. 2015). Such secure relationships with parents can, in turn, promote in young people the perception that they have a greater number of resources to face obstacles to reach their self-determined goals

(Deci & Ryan, 2014). However, we recognize that the cross-sectional nature of our study limit our conclusion the directionality of the links between variables and that our results must be interpreted with caution. Indeed, more studies that make it possible to analyse causal relations are needed to verify whether our initial interpretations are correct. Notwithstanding, the findings obtained in the current study establish an important first step towards better understanding the role of parental meta-emotion and attachment to parents in the adolescents' sense of personal agency.

Our results also suggest that adolescents who experienced a greater number of risk factors are more likely to reveal a lower sense of personal agency. This result is corroborated by previous studies suggesting that unequal access to life opportunities enhances the individual's perception that the life course is determined by social restrictions and not by volitional goals (Dannefer & Huang, 2017). This association might however vary across different countries, given differences in the institutional support provided to young people coming of age (Schoon & Bynner, 2019).

Compared to girls, boys tend to perceive themselves as more authors of their own life course. Sex stereotypes might offer a possible explanation to this finding. According to these stereotypes, boys must be active agents of their own life course, while girls must be socially sensitive and compassionate (Sczesny et al., 2019). Although there has been a promotion of sex equality at the legislative level in Portugal, such as in other Western countries, this equality is not yet visible in many spheres of individuals' lives (Torres, 2018). The awareness of these inequalities may be associated with the girls' perception that they are not an active agent in directing their own life course.

In interpreting the findings of this study some limitations must be acknowledged. The variables included in the model under study explained a modest part of the inter-individual variation of sense of agency and the effects' size is reduced. Future studies should develop

and test models capable of analysing other explanatory variables that can shape the adolescent's agency, such as attachment to peers, school goals structure, and basic psychological needs. Moreover, the cross-sectional design of this study and our exclusive reliance on self-report measures preclude any firm conclusions about cause-effect relationships or the temporal development of personal agency. As such, future studies should use other methodological designs and data analysis strategies, namely longitudinal assessment and cross-lagged control, so that can be possible to determine the directionality of the effects among variables. It would be also valuable the implementation of a multilevel project. This implementation would allow a more sensitive analysis of the participation and development of individuals in multiple embedded relational contexts. Further, the low percentage of some risk indicators (e.g., not living with both parents) may have been due to the fact that the current study only included families in which both parents participated simultaneously. Future studies should seek to collect a more heterogeneous families' sample that makes it possible to effectively analyze the contribution of all psychosocial risk indicators.

Conclusion

Despite the limitations, the current study clarify the role of parental and family relations in shaping adolescents' sense of agency. Although adolescence is characterized by the process of reorganizing the attachment network and the beginning of the separation-individuation process regard to parents, our results highlight the importance that the emotional bond with parents and the parental meta-emotion has regarding developing a sense of agency. Nonetheless, our conclusions need to be expanded.

The current study establishes important evidence about the contribution of parental emotion-coaching and attachment to parents for adolescents' sense of agency, highlighting an important differential pattern of role of attachment to mother and father. The robustness of

our findings is underlined by the inclusion of reports from fathers, mothers and adolescents, and by controlling for psychosocial risk factors, sex and age of adolescents. Our results indicated that the accumulation of risk is related to a lower quality of attachment to parents, but not with parental emotion-coaching. Girls report less sense of agency, even though they reveal a higher quality of emotional bond with mother, than boys. Adolescents' age, in turn, seems to be an important correlate for variables linked to father, but not for variables linked to mother. Future interventions aimed to promote more agentic trajectories should take into account not only the two pivotal dimensions of parental and family relationships in the study but also the role of cumulative risk, sex and age of adolescents.

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Table 1*Incidence of Risk Factors in Our Sample*

Risk factors	
Recent negatively felt experience of two or more negative events	66.3%
Both parents in unskilled occupations	42.8%
One parent in an unskilled occupation	35.4%
Negatively experienced change of residence and/or school	29.6%
Low education of one parent	24.4%
Low education of both parents	20.6%
Low family income	12.8%
Recent negatively felt experience of an accident or serious illness	11.3%
Live with only one parent	6.2%
CRI	Incidence
0	5.8%
1	14.2%
2	20.2%
3	19.8%
4	20.4%
5	13.8%
6	4.6%
7	1.2%

Note. Note: CRI - Composite Risk Index; 0 - no risk experiences; 1 - one risk experience; 2- two risk experiences; 3- three risk experiences; 4- four risk experiences; 5- five risk experiences; 6- six risk experiences; 7- seven risk experiences; 8 - eight risk experiences.

Table 2*Correlations, means and standard deviations (N = 501)*

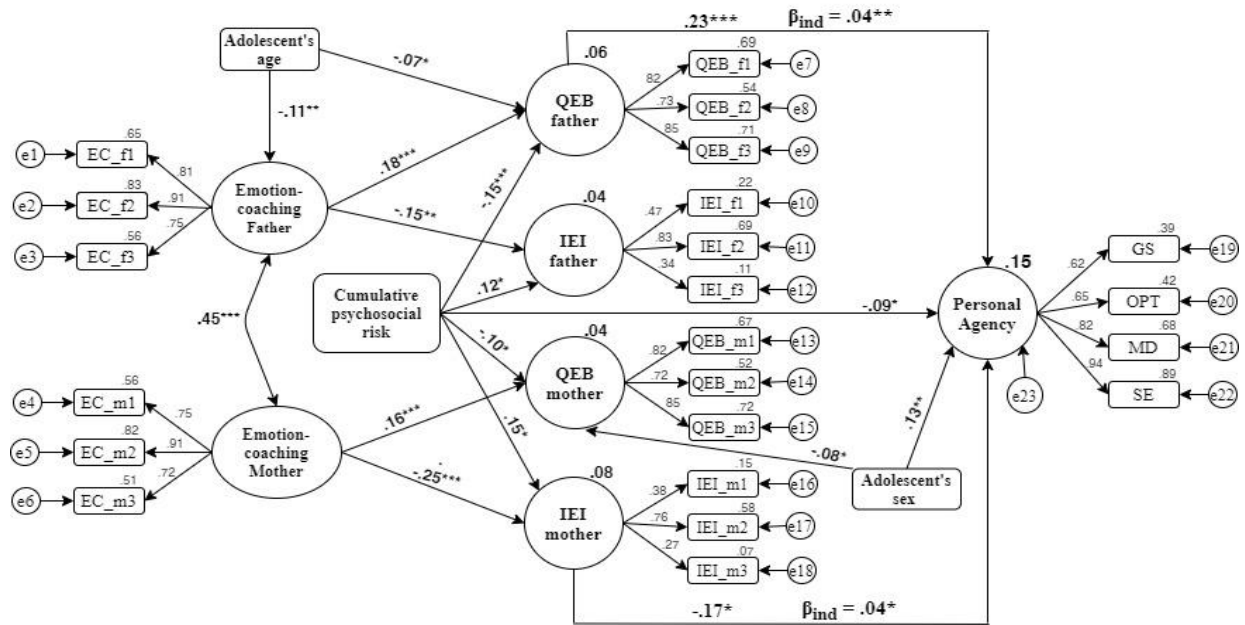
	1	2	3	4	5	6	7	8	9	10	11	12	13
1. GS	-												
2. DM	.37***	-											
3. OPT	.29***	.32***	-										
4. SE	.35***	.46***	.48***	-									
5. EC_F	.22***	.003	.08	.03	-								
6. EC_M	.12**	.007	.02	.02	.44***	-							
7. QEB_F	.31***	.21***	.30***	.17***	.23***	.15***	-						
8. IEI_F	-.19***	-.23***	-.13**	-.15***	-.11*	-.04	-.48***	-					
9. QEB_M	.27***	.17***	.24***	.10*	.15***	.18***	.74***	.40***	-				
10. IEI_M	-.14***	-.21***	-.09*	-.13**	-.04	-.06	-.35***	.84***	-.48***	-			
11. Ad_age	-.10*	-.11*	-.10*	-.01	-.10*	-.03	-.13***	.11*	-.05	.10*	-		
12. Ad_sex	-.17***	.05	.08	.15***	-.06	-.05	-.05	.05	-.12**	.08	.11**	-	
13. C_P_Risk	-.04	-.09*	-.09*	-.13***	-.06	.01	-.14***	.13**	-.08	.12**	-.04	-.05	-
<i>M</i>	4.02	3.18	3.45	2.92	4.33	4.58	5.29	1.92	5.48	1.90	15.87	1.34	3.03
<i>SD</i>	.52	.71	.82	.48	.69	.56	.71	.80	.60	.79	.90	.47	1.64

Note. ** $p < .05$, two-tailed. * $p < .01$, two-tailed. **SE** – Setting-goals; **DM** – Decision making; **OPT** – Optimism; **SE** - Self-efficacy; **EC_F** – Emotion-coaching father; **EC_M** – Emotion-coaching mother; **QEB_F** – Quality of Emotional Bond of father; **IEI_F** – Inhibition of Exploration and Individuality of father; **QEB_M** - Quality of Emotional Bond of mother; **IEI_M** – Inhibition of Exploration and Individuality of mother; **Ad_age** - Adolescent's age; **Ad_sex** - Adolescent's sex; **C_P_Risk** – Cumulative Psychosocial Risk; **M** – Mean; **SD** – Standard deviation.

Figure 1

Mediation Model of Attachment to Parents in the Association Between Parents

Emotion-coaching and Sense of Agency



Note. $*p < .05$; $**p < .01$; $***p < .001$. Due to non-independence of data we correlate the errors of corresponding parcels among father and mothers answers (emotion-coaching dimensions), as well as between adolescents answers about father and mother (attachment to parents dimensions). Factor loadings for the latent variables were all significant, as well as the correlations among dimensions of attachment to parents. QEB_father – Quality of Emotional Bond of father; IEI_father – Inhibition of Exploration and Individuality of father; QEB_mother – Quality of Emotional Bond of mother; IEI_mother – Inhibition of Exploration and Individuality of mother; SG –Setting goals; OPT – Optimism; MD– Making decision; SE – Self-efficacy. Non-significant paths close to zero: sex and psychosocial risk for father's emotional-coaching; age, sex and psychosocial risk for mother's emotional-coaching; mother's emotional-coaching and sex for QEB_father; mother's emotional-coaching, age and sex for IEI_father; father's emotional-coaching and age for QEB_mother; both parent's emotional-coaching and sex for IEI_mother; both parent's emotional-coaching, IEI_father, QEB_mother and age for sense of personal agency.

Table S2

*Model fit of the invariance steps of ERPS and FMAQ among parental gender**Note.* Δ = change from previous model. The misfit values are bold.

Measure	Models	CFI	RMSEA	Δ CFI	Δ RMSEA	Δp
ERPS	Structural invariance	.995	.056	-	-	-
	Metric invariance	.994	.052	.002	-.004	.168
	Scalar invariance	.949	.124	-.044	.072	.001
FMAQ	QEB & IEI structural invariance	.992	.035	-	-	-
	QEB & IEI metric invariance	.992	.033	.000	-.002	.578
	QEB & IEI scalar invariance	.566	.223	-.426	.191	.001
	QEB scalar invariance	.958	.074	-.034	.041	.001
	IEI scalar invariance	.993	.030	.001	-.003	.984
	IEI residual invariance	.993	.029	.000	-.001	.506