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# Out of Sight Is Not Out of Mind: Associations Between Perceived Maternal Attachment and Self-Representations of Youth in Residential Care Moderated by Sex and Age

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The present study aimed to explore the associations between perceived maternal attachment and self-representations of youth in residential care (RC), considering the potential moderator role of youth's sex and age and the potential concurrent effect of frequency and type of family visits and length of time in RC. To this end, a sample of 659 youth aged 11–18 ( $M = 15.65$ ,  $SD = 1.72$ ) from RC settings filled out self-report questionnaires to evaluate their perceptions of maternal attachment and self-representations. Results indicated that lower perceived maternal attachment was associated with higher levels of global negative self-representations. Moreover, compared to young men, young women with lower levels of perceived maternal attachment perceived themselves as having more negative self-representations. No moderating effects of age were found. This study contributes to the literature in the field of RC with evidence regarding the association of perceived maternal attachment with self-representations and the moderating role of youth's sex, which informs the development of interventions with this vulnerable population.

## Public Policy Relevance Statement

This study highlights the importance of perceived maternal attachment for developing self-representations with youth living in residential care settings and the role of youth's sex in these associations. The findings provide implications for the development of evidence-based interventions with this vulnerable population, specifically young women.

**Y**outh who endure early maladaptive experiences and are separated from their families are at higher risk for the development of mental health problems (Campos et al., 2019; González-García et al., 2017; Magalhães & Calheiros, 2017). Indeed, youth placed in out-of-home care (such as residential care [RC] homes) are often exposed to highly adverse experiences frequently characterized by inconsistent or inadequate parental care (e.g., physical and emotional abuse and neglect of physical and emotional needs). Research reveals that young people living in

RC exhibit an insecure attachment compared to children living in family settings (Lionetti et al., 2015; van den Dries et al., 2009) and adopted adolescents (Barroso et al., 2018; Cassibba et al., 2023; Muzi & Pace, 2021). This may be a consequence of several precare risk factors and subsequent separation from their current familial context (Magalhães & Lopes, 2011).

Early caregiving experiences and the quality of attachment play a pivotal role in the development of the self (Harter, 2006, 2015; Kim & Cicchetti, 2004; Waniel et al., 2008). Children from

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adverse family contexts (e.g., with maltreatment experiences or high levels of family conflict) are at greater risk for developing negative internal representations of the mother–child relationship and of themselves (Calheiros, Silva, & Magalhães, 2021; Silva & Calheiros, 2018, 2020; Silva, Calheiros, & Carvalho, 2016; Stronach et al., 2011). However, a secure attachment with their biological parents and substitute caregivers may serve as a protective factor (Chesmore et al., 2017). Indeed, a meta-analysis highlighted the role of parental support and warm caregiving practices in promoting positive development in children exposed to violence, such as maltreatment or intimate partner violence (Yule et al., 2019).

Youth living in RC settings may be at an even greater risk for the development of negative self-representations (Neagu & Sebba, 2019; Turner et al., 2017). In addition to the increased risk of developing insecure attachment patterns (e.g., Barroso et al., 2018; Cassibba et al., 2023; Lionetti et al., 2015), the negative social images attributed to youth in RC, the stigma associated with this type of placement, and youth's perception of these negative stereotypes may harm youth's identity construction and self-concept (Calheiros, Silva, et al., 2021; Garrido et al., 2016; Schofield et al., 2017; Silva & Calheiros, 2022). Indeed, these youth tend to have a worse image of themselves (Magalhães & Lopes, 2011), which negatively impacts mental health outcomes (Calheiros, Silva, et al., 2021). However, to our knowledge, research focused on the association between maternal attachment and self-representations of youth in RC has been scarce. To increase understanding of the interplay between youth's perceptions of maternal attachment and self-representations, an examination of more complex associations among these variables is needed. Specifically, these associations might be influenced by individual variables such as age and sex. Thus, in this study, we aimed to explore the associations between perceived maternal attachment and self-representations of youth in RC and the potential moderator role of youth's sex and age.

## Attachment and Development of Self-Representation

It has been acknowledged that the self is both a cognitive and social construction (Harter, 2006) influenced by the social and relational context and by the individual's ability to cognitively process information about the self. From a sociocognitive perspective, self-concept is conceptualized as a multidimensional and dynamic system that integrates and differentiates information about the self into domain-specific and context-related self-representations (Diehl et al., 2011; Silva et al., 2021). According to Markus (1977), self-representations consist of “cognitive generalizations about the self, derived from past experience that organize and guide the processing of the self-related information contained in an individual's social experience” (Markus, 1977, p. 1). They are created as individuals process information about their experience (Epstein, 1990; Oosterwegel et al., 2001) and become increasingly differentiated as individuals develop (e.g., Oosterwegel & Oppenheimer, 2002). They are, thus, the specific cognitive contents of one's self-concept (Garrido et al., 2016; Markus & Wurf, 1987; Patrício et al., 2016). As social constructions, self-representations are also shaped by individuals' social contexts and interactions throughout their life course (Calheiros et al., 2020). The development of self-concept occurs mainly during childhood and adolescence and is strongly influenced by significant others,

such as parents and peers (Carmichael et al., 2007; Paulus et al., 2018). Interactions with significant others are crucial for the construction of one's self-representations (Nurra & Pansu, 2009; Silva & Calheiros, 2021), given that close others have more information and are a more available source of feedback regarding self-knowledge (Bollich et al., 2011).

Attachment theory also emphasizes the importance of significant others in the construction of the self, specifically referring to the unique role of primary caregivers (Paulus et al., 2018). According to this theory, children form an attachment (i.e., a close affectional bond developed early in life between a child and the caregiver) with the available adult caregiver (Bowlby, 1980). Children search for proximity to the attachment figure, and the knowledge of their availability preserves and maintains this affective bond (Bretherton, 1985). When the attachment figure is available, provides support, and is responsive to children's needs, they develop a secure attachment (Bretherton & Munholland, 2008) that provides them with a secure base to explore the world and a safe haven to return to during times of greater distress (Sroufe, 2005).

Throughout the daily and repeated patterns of interactions with the attachment figures (i.e., parents), children form cognitive representations of the environment, others, and the self, based on their early attachment experiences, which Bowlby (1980) referred to as “internal working models” (Ainsworth, 1989; Bretherton & Munholland, 2008). These internal representations not only generalize into future interpersonal behaviors (Carmichael et al., 2007), but they also serve as a model through which we understand and evaluate ourselves and others (Cicchetti, 2016; Paulus et al., 2018). Accordingly, if children experience parents as available, responsive, and supportive (i.e., secure attachment), they are more likely to build a representation of themselves as worthy and competent. In contrast, unresponsive or unpredictable caregiving typically leads to the development of an insecure attachment and internal representation of the self as unworthy and incompetent (Bretherton & Munholland, 2008; Paulus et al., 2018). In general, attachment security eases the construction of positive self-representations, while attachment insecurity is a risk factor for constructing negative self-representations (Diehl et al., 2011; Waniel et al., 2008).

Previous research has explored the association between attachment and self-related variables (e.g., self-concept, self-esteem). Despite these efforts, the body of literature on this subject remains limited. Research with community samples has revealed that a secure attachment is positively associated with several self-concept domains in children and adolescents (Festorazzi et al., 2011; Paulus et al., 2018). On the contrary, attachment problems are a risk factor for the development of a poor self-concept among institutionalized young children (Vacaru et al., 2018). Studies have also shown an association between attachment and youth's self-esteem (e.g., Arbona & Power, 2003)—the evaluative or affective component of the self-concept (Patrício et al., 2016), defined as individuals' perception of their global value (Carmichael et al., 2007). In general, attachment security has been associated with high levels of self-esteem in adolescents (e.g., Gomez & McLaren, 2007; Keizer et al., 2019). Conversely, maltreated school-age children who report an insecure maternal attachment exhibit lower levels of self-esteem (Kim & Cicchetti, 2004). Consistent with this evidence, a study developed with youth living in Japanese foster care has shown that maltreatment predicts depressive symptoms through attachment styles and low self-esteem (Suzuki & Tomoda, 2015).

Research has also revealed that children's representations of the mother as low in care and support are associated with more negative self-representations (Waniel et al., 2008), while children who report higher levels of secure attachment to parents perceive themselves as more academically and socially competent (Isabella & Diener, 2010). Taken together, these findings suggest that consistent and stable relationships with caregivers are crucial for the development and nurturing of a secure attachment (Howes & Spieker, 2016), which in turn might be associated with better psychological outcomes.

In the context of RC, contact with the family allows for the maintenance and improvement of the relationship between children and their families (Haight et al., 2003). Youth living in RC settings maintain their family ties, and greater family connectedness is associated with more positive outcomes (McWey, 2004; McWey & Cui, 2017; Pinheiro et al., 2022). Specifically, young people perceive more support from their mothers than from other family members (Arteaga & Del Valle, 2003; Pinchover & Attar-Schwartz, 2018). However, the establishment of affective bonds and the development of self-representations can vary according to individual variables such as sex and age (Arteaga & Del Valle, 2001; Silva, Martins, & Calheiros, 2016), and for that reason, we will further explore the moderating role of these individual-level variables in the present study.

## The Role of Individual Variables

Individual variables, such as youths' sex and age, may influence the relationship between previous attachment experiences and current self-representations of youth in RC. Regarding youth's sex, research within the field of attachment suggests that young women are more likely to be affected by parental separation (e.g., Ainsworth, 1989). Studies have shown that females tend to report higher levels of parental attachment overall (Buist et al., 2002), and specifically, they tend to be more attached to their mothers than to their fathers (Fagan, 2020). A study conducted with Chinese adolescents has found similar results, where the maternal attachment was found to be more strongly associated with self-evaluation than paternal attachment (Song et al., 2009). Moreover, previous studies have revealed sex differences depending on specific self-concept domains. Specifically, research has shown that young men perceive themselves with better physical abilities and appearance than young women (Doyle et al., 2000; Silva, Martins, & Calheiros, 2016). In contrast, young women tend to have better self-representations in the instrumental (e.g., responsible, organized) and social dimensions (Silva, Martins, & Calheiros, 2016). Indeed, young women attribute greater importance to social relationships in the way they describe themselves (Cross et al., 2000; Harter, 2006) and to emotional experiences (Abad et al., 2002). Social role theory (Eagly & Wood, 1999) proposes that traditional gender roles, that is, the expected beliefs and behaviors of females and males, link gender identities to stereotypical profiles derived from cultural and environmental conditions. These roles influence peoples' self-concepts and become gender identities (i.e., sense of self as female or male; Eagly & Wood, 2012). From this view, females' behaviors and traits are associated with communal characteristics such as an orientation toward relationships and social functioning, given their tendency toward socioemotional roles. In contrast, males are perceived as more agentic due to their tendency toward task-oriented and instrumental roles and behaviors (Abele & Wojciszke, 2014; Diekmann et al., 2017; Eagly & Wood, 2012). In the context of

RC, studies have shown that, compared to male adolescents, female adolescents describe themselves as less competent, with more emotional and behavioral problems, and with more negative self-representations overall (e.g., Calheiros et al., 2020).

Regarding age differences, adolescence involves several physical, cognitive, social, emotional, and social changes (Harter, 2006). During adolescence, dependence on attachment figures decreases, and the need to explore the environment and autonomy increases (Keizer et al., 2019). However, attachment to parents remains important and influences individuals' development throughout the life cycle (Bowlby, 1980; Cicchetti, 2016), predominantly during stressful situations (Bretherton, 1985). In addition, as significant others, parents play a vital role in the development of self-representations (Nurra & Pansu, 2009). Adolescence is a crucial period for the development of self-representations (Diehl et al., 2011) since cognitive development at this stage enables the construction of domain-specific self-evaluations (Harter, 2006, 2015) and the ability to develop abstract attributes (or traits) into high-order self-concepts (e.g., intelligent; Silva, Calheiros, & Carvalho, 2016). In addition, there is a proliferation of social roles in different contexts (Harter, 2006, 2015), which leads to the construction of more context-related self-representations. Moreover, research in this field reveals that there is a decrease in positive self-representations in early adolescence that tends to recover during middle adolescence (Sánchez-Sandoval, 2015). Indeed, a study with youth in RC settings has found that older adolescents describe themselves as more competent and more positive overall self-representations than younger adolescents (Calheiros et al., 2020).

## The Present Study

The theoretical and empirical literature described above points to an association between attachment and self-representations. However, to the best of our knowledge, this association has not yet been explored with youth in RC. Therefore, as a first goal, the present study aimed to address this gap in the literature by exploring the associations between perceived maternal attachment and current self-representations of youth living in RC settings, regardless of the youth's individual variables. As a second goal, we also aimed to analyze the potential moderating role of youth's sex and age in those associations.

We hypothesized that higher levels of perceived maternal attachment security are associated with higher levels of positive self-representations and lower levels of negative self-representations (Hypothesis 1). Moreover, given that prior studies have shown differences in youth's self-representations according to sex and age (e.g., Calheiros et al., 2020; Patrício et al., 2016), we also expect these associations to be moderated by these variables. Specifically, we expect these associations to be stronger for young women than for young men (Hypothesis 2) and stronger as age increases (Hypothesis 3).

## Method

### Research Context

The present study is part of a broader project conducted in Portuguese RC youth settings. RC consists of the short or long-term placement of children or youth in child protection facilities that

safeguard those who are at risk or danger to ensure their safety, well-being, and positive development (*Decree-law & No. 147/99 of the Assembly of the Republic, 1999*).

The Portuguese out-of-home care system includes foster care, generalist RC settings, specialized RC settings (i.e., emergency shelters, RC that address therapeutic or educational needs for children and youth with severe mental health problems), and autonomy apartments. In Portugal, despite ongoing efforts to promote foster care as a preferable measure to protect children and youth who need to be removed from their home environment, RC is still the primary form of out-of-home placement for these young people. The most recent official data show that, of the 6,347 children and youth placed in out-of-home care in Portugal in 2022, only 3.6% were placed in foster care, while the vast majority (84.2%) were living in generalist RC settings (Instituto da Segurança Social, 2023). These data reveal that there is still insufficient investment in a protection system focused on the potential of families. The present study was conducted in generalist settings, where most young people (68.9%) are 12 years or older (Instituto da Segurança Social, 2023). Youth placed in these facilities are accompanied by multidisciplinary teams composed of case managers and residential caregivers responsible for ensuring that their needs are addressed (*Decree-law & No. 164/2019 of the Presidency of the Council of Ministers, 2019*).

## Participants

The sample was composed of 659 youth ( $n = 338$ ; 53.1% young men) from 74 RC settings in Portugal, with ages between 11.90 and 18.87 years old ( $M = 15.65$ ,  $SD = 1.72$ ). The majority ( $n = 399$ ; 63.3%) had not been placed in another RC setting previously, and among those who had, most (75.8%) had only one placement. These youth were placed in RC due to neglect (51.9%), exposure to harmful behaviors (50.3%), deviant behaviors (e.g., substance use and truancy) without appropriate responses from their parents, legal representative, or guardian to remove the situation (29.7%), psychological (15.4%) and physical (14.3%) abuse, abandonment (9.6%), sexual abuse (4.7%), and/or for being exposed to excessive activities that were detrimental to their development (4.3%). Moreover, most youths had visits with the family (visits included visits of the family to the RC setting and home visits), while in RC, only 19 participants never had any visits nor had an additional measure of contact inhibition with their family (i.e., a court order that inhibited families from contacting young people). Regarding the length of placement in RC, participating youth had been in RC for 0.08–18.89 years ( $M = 4.76$ ,  $SD = 3.45$ ,  $Mdn = 3.45$ ). Finally, these youth identified their mother as the maternal attachment figure ( $n = 519$ ; 84.9%), followed by a female family member ( $n = 56$ ; 9.2%; i.e., aunt, grandmother, etc.), other mother substitutes ( $n = 23$ ; 3.8%), stepmother ( $n = 5$ ; 0.8%) adoptive mother ( $n = 5$ ; 0.8%), godmother ( $n = 2$ ; 0.3%), and female friend ( $n = 1$ ; 0.2%).

At the moment of the data collection, the RC settings hosted between four and 53 youth ( $M = 25.02$ ,  $SD = 12.82$ ) and had between one and four case managers ( $M = 2.42$ ,  $SD = 0.93$ ). The mean ratio was of 4.83 youth per caregiver (min = 1, max = 41).

## Procedure

Following approval by the Ethics Committee of the Faculty of Psychology, University of Lisbon, formal contacts with the

RC settings were conducted in order to obtain the necessary authorizations to collect the data. All youth placed in these units for at least a month and aged 12 or more years old were invited to participate, except if they presented major cognitive impairments (i.e., youth with intellectual disability and related special education needs). This information and consent for youth's participation was given by the respective RC unit director, given that in Portugal, they are considered legal representatives of these youth regarding formal decisions involving them while in care. All youth who met the inclusion criteria and who were authorized to participate were included in the study, except those who declined to participate.

In the data collection session (in 2019), the study goals and instructions for filling out the instruments were explained by the researchers. Information regarding anonymity and confidentiality was also given, and all participants signed an informed consent form prior to their participation. Youth with any reading and/or comprehension difficulties ( $n = 157$ ; 2.7%) were previously identified by their case managers and were individually interviewed by one of the researchers, following the assessment protocol. The questionnaires filled out by the case managers were also collected on the same day in each RC unit. To ensure the data anonymity, a code system was created allowing to match up the questionnaires of both informants.

## Instruments

**Sociodemographic Questionnaire.** Youth's background information and data regarding moderator variables (i.e., youth's sex and age) and control variables (i.e., frequency and type of family visits; length of time in RC) were collected through a questionnaire filled out by the case manager ( $N = 203$ ; 81.7% woman) of each youth. Regarding family visits, the frequency of each type of contact (i.e., family visits to the RC setting and home visits) was measured, such as *never* (1), *occasionally* (2), *once every 2 months* (3), *one time per month* (4), *one time every 15 days* (5), *one time a week* (6); *to more than one time a week* (7).

**Self-Representations.** The Self-Representation Questionnaire for Youth in Residential Care (Patrício et al., 2016) is composed of 23 items in the form of attributes (e.g., friendly, competent, sad), in which participating youth were asked to rate each attribute on a 5-point scale, indicating how each was descriptive of themselves, from 1 (i.e., *I am definitely not like that*) to 5 (i.e., *I am totally like that*). The questionnaire is organized in six first-order dimensions: social (four attributes, i.e., nice, friendly, helpful, funny); competence (four attributes, i.e., intelligent, hard-working, committed, competent); relational (three attributes, i.e., cherished, protected, loved); behavioral (six attributes; i.e., aggressive, recalcitrant, misbehaving, conflicting, problematic, stubborn); emotional (four attributes; i.e., depressed, traumatized, sad, lonely); and misfit (two attributes; i.e., misfit, neglected). These dimensions are further organized in two second-order factors: global positive self-representations (composed of the social, competence, and relational dimensions) and global negative self-representations (composed of the behavioral, emotional, and misfit dimensions). The validation study of this measure (Patrício et al., 2016) revealed correlations between these dimensions and youth's

mental health outcomes. Specifically, that study found that the positive self-representation dimensions were negatively correlated to mental health problems, namely, internalizing, social, thought, and attention problems. In turn, the negative dimensions were positively correlated with mental health problems, specifically internalizing, externalizing, social, attention, and thought problems. Cronbach's  $\alpha$  revealed an adequate internal consistency (Kline, 2015), except on the misfit dimension (social  $\alpha = .81$ , competence  $\alpha = .74$ , relational  $\alpha = .72$ , global positive self-representation  $\alpha = .83$ , behavioral  $\alpha = .76$ , emotional  $\alpha = .73$ , misfit  $\alpha = .55$ , global negative self-representation  $\alpha = .80$ ). For parsimony reasons, data analysis in this study focused only on the second-order factors.

**Perceived Maternal Attachment.** The Portuguese version (Guedes et al., 2018) of the Kerns Security Scale (KSS; Kerns et al., 1996, 2001) comprises 15 items assessing the perception of maternal attachment, specifically: (a) the degree to which youth believe a particular attachment figure is responsive and available; (b) the youth tendency to rely on the attachment figure in times of stress; and (c) youth reported ease and interest in communicating with the attachment figure. For each item, the participating youth were asked, following adapted Harter's (1982) format "Some youth ... but. ... Other youth," to indicate which of the two proposed statements they think represents them better (e.g., "Some youth find it easy to trust their mom BUT Other youth are not sure if they can trust their mom"). Then, they had to specify whether they thought the selected statement was *really true* or *sort of true* for them. Results were obtained by averaging responses across the items, which were rated from 1 to 4, with higher scores representing higher levels of perceived maternal attachment. Prior research has shown evidence of both concurrent and convergent validity of the KSS. Regarding concurrent validity, children's reports of attachment security with their mothers have been shown to be related to a better self-concept, higher levels of liking from peers, better observer ratings of interactions with friends, and higher levels of acceptance by their mothers (Kerns et al., 1996). As for convergent validity, KSS scores have been shown to be related to the scores obtained in projective measures of attachment (Contreras et al., 2000; Kerns et al., 2000), namely the Separation Anxiety Test (Resnick, 1993) and an attachment-doll interview measure (Granot & Maysless, 2001).

To examine the psychometric properties of the 15 items KSS regarding perceived maternal attachment within the current sample, a confirmatory factor analysis, using AMOS Version 27.0 was conducted using the maximum likelihood estimation. Following previous studies (e.g., Guedes et al., 2018; Kerns et al., 2015; Van Ryzin & Leve, 2012), a one-factor model was tested. The final structure revealed a 13-item scale and was within the range of an acceptable model fit:  $\chi^2(62) = 257.67$ ,  $p < .001$ ,  $\chi^2/df = 4.16$ , comparative fit index = .93, root-mean-square error of approximation = .07, and standardized root-mean-square residual = .05 (Hu & Bentler, 1999; Kline, 2015). In this analysis, Items 2 ("Some youth feel that their mothers intrude too much when they are trying to do something BUT Other youth feel that their mothers let them do things for themselves") and 7 ("Some youth want to be closer to their mothers BUT Other youth are happy with the closeness they have with their mothers") were removed in order to improve the model fit because they presented nonsignificant factor loadings in the latent structure. The Cronbach's  $\alpha$  coefficient indicated good internal consistency ( $\alpha = .86$ ). In this study, we used the 13-item version.

## Data Analysis

Statistical data analysis was performed using IBM SPSS Statistics software, Version 27.0 (IBM, SPSS Inc., Armonk, New York). First, descriptive statistics (mean and standard deviation) and bivariate correlations (using Pearson correlation coefficient and, for ordinal variables, Spearman correlation coefficient) among all the study variables were analyzed. Then, to test our first hypothesis, a multiple regression analysis was also performed to estimate the association between perceived maternal attachment and current youth's self-representation. Finally, to test our moderation hypotheses (i.e., Hypotheses 2 and 3), a moderation analysis using the PROCESS macro for SPSS, Version 4.0 (Hayes, 2022) was conducted to examine the interaction effects of perceived maternal attachment with youth's sex and age on each dimension of youth's self-representations. Thus, to analyze the proposed moderation model, for each criterion variable, two multiple regression analyses were conducted (i.e., one for each hypothesized moderator). Considering the significant correlation found for the frequency of youth's visits to their family home (described in the Results section), it was included both in the multiple regression and moderation analyses as a covariate. PROCESS Model 1 was specified, in which the product between the predictor variable and the moderator variable is automatically calculated, generating an interaction term. Variables were mean-centered prior to analysis. We used bootstrap 95% confidence intervals based on 5,000 bootstrap resamples to test the significance of all the effects and the Johnson–Neyman technique for probing interactions only for continuous variables (Hayes, 2022).

## Results

### Descriptive Statistics and Bivariate Correlations

Table 1 presents the descriptive statistics and correlational analysis. Normality assumptions were poor; nevertheless, all variables revealed absolute values of skewness lower than three and of kurtosis lower than 10, which can be considered as nonseverely deviated from the normal distribution (Kline, 2015).

The correlation analysis revealed several weak but significant correlations (Cohen, 1988) between the study variables. Perceived maternal attachment was positively correlated with global positive self-representations and negatively with global negative self-representations. As for the moderator variables, age was negatively correlated with global negative self-representations and perceived maternal attachment. Sex had a positive correlation with perceived maternal attachment and a negative correlation with global negative self-representations. Specifically, compared to young women, young men presented higher perceived maternal attachment and lower levels of global negative self-representations. The length of time in RC was only significantly correlated with the youth's age. The frequency of family visits to the current RC setting and home visits were positively correlated with perceived maternal attachment. Moreover, the frequency of home visits was negatively correlated with global negative self-representations. The youth's age was negatively associated with the frequency of family visits to the RC setting. Finally, youth's sex had a positive and significant correlation with the frequency of home visits; thus, compared to young women, young men tend to visit their homes more frequently.

**Table 1**  
*Descriptive Statistics and Bivariate Correlations of the Study Variable*

Study variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Global positive SR	3.91	0.56	—							
2. Global negative SR	2.33	0.62	-.22**	—						
3. Perceived maternal attachment	2.98	0.69	.09*	-.15*	—					
4. Age	15.65	1.72	.05	-.09	-.21**	—				
5. Sex <sup>a</sup>			.03	-.20**	.13**	-.05	—			
6. Family visits to the RCS	2.45	1.83	-.01	-.01	.13**	-.17	-.01	—		
7. Home visits	3.69	2.09	.06	.09*	.10*	.06	.10*	-.03	—	
8. Length of time in RC	4.76	3.45	.05	-.08	-.04	.24**	.08	-.12	-.02	—

*Note.* SR = self-representations; RCS = residential care setting; RC = residential care.

<sup>a</sup>0 = young woman and 1 = young man.

\*  $p < .05$ . \*\*  $p < .01$ .

Given the significant, although weak, correlations found for the frequency of youth's visits to their family home, this variable (i.e., frequency of home visits) was included in the model as a covariate. Regarding the frequency of family visits to the current RC setting with self-representation dimensions, considering its lack of correlations with youth's self-representation dimensions, this variable was not included as a covariate in the model.

### Multiple Regression Analysis

Results of the multiple regression analysis for the perceived maternal attachment predicting self-representation dimensions, controlling for the potential concurrent effect of frequency of home visits, are shown in Table 2. The regression models were only significant for the global negative self-representation dimension,  $F(2, 604) = 8.904, p < .001$ . Thus, results reveal that lower levels of perceived attachment were associated with higher global negative self-representations (see Table 2).

### Moderation Analysis

The results of the moderation analysis are presented in Table 3. Significant interaction effects were found between perceived maternal attachment and youth's sex on global negative self-representations ( $B = .15, SE = .07, p = .035, R^2 = .06$ ). For descriptive purposes, we plotted these effects for young women and young men separately. Simple slope tests indicated that these effects were only significant for young women. As shown in Figure 1, young women with lower perceived maternal attachment security tended to describe themselves with higher global negative self-representations compared to young women with higher levels of maternal attachment. Moreover,

young men tended to describe themselves with less global negative self-representations.

### Discussion

The present study aimed to expand the existing literature on the associations between perceived maternal attachment and self-representations of youth living in RC settings. Moreover, we intended to analyze the moderating role of youth's sex and age controlling for the effect of frequency of home family visits.

Results of this study showed that youth with lower levels of perceived attachment security described themselves with more negative self-representations overall. These findings support our first hypothesis regarding negative self-representations and are consistent with previous research. Attachment theory highlights these associations within early interactions with primary attachment figures, mainly with the maternal figure (Bretherton & Munholland, 2008; Carmichael et al., 2007; Diehl et al., 2011). In particular, unresponsive caregiving environments lacking in emotional support (i.e., insecure attachment) reinforce the construction of negative self-representations (e.g., Paulus et al., 2018). Thus, it seems that the perception of a higher attachment protects these youth from developing negative self-representations. Contrary to expectations, the perceived maternal attachment was not associated with more positive self-representations. Although the correlation between youth's perception of maternal attachment and their positive self-representations was positive, when accounting for the concurrent role of youth's age, the interaction term, and the frequency of home visits, perceived attachment did not emerge as a significant predictor of positive self-representations. Thus, positive self-representations seem to be less dependent on perceived maternal attachment than negative self-representations. This might be explained by the fact that,

**Table 2**  
*Regression Analysis Summary for Self-Representation Dimensions Predicted by Perceived Maternal Attachment*

Predictor variable	Criterion variable											
	Global positive SR						Global negative SR					
	<i>B (SE)</i>	$\beta$	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i> <sup>2</sup>	<i>B (SE)</i>	$\beta$	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i> <sup>2</sup>
Perceived maternal attachment	.06 (.04)	.08	2.08	.038	2.505	.00	-.13 (.04)	-.15	-3.60	<.001	8.904	.03
Frequency of home visits	.01 (.01)	.02	.060	.556			-.02 (.01)	-.07	-1.78	<.076		

*Note.* SR = self-representations; *B* = unstandardized estimates; *SE* = standard error;  $\beta$  = standardized estimates.

**Table 3**  
*Results of the Moderation Models*

Predictor variable	Criterion variable												
	Global positive SR						Global negative SR						
	<i>B</i> ( <i>SE</i> )	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> change	<i>B</i> ( <i>SE</i> )	<i>t</i>	<i>p</i>	<i>F</i>	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> change	
Moderator: Sex				1.43	.01	.00					10.21	.06***	.01*
Perceived maternal attachment	.04 (.05)	0.95	.339				-.18 (.05)	-3.73	<.001				
Sex	.01 (.05)	0.13	.894				-.21 (.05)	-4.23	<.001				
Interaction term	.05 (.07)	0.80	.427				.15 (.07)	2.12	.035				
Frequency of home visits	.01 (.01)	0.01	.529				-.02 (.01)	-1.38	.167				
Moderator: Age				2.09	.01	.00					4.48	.03**	.00
Perceived maternal attachment	.07 (.03)	2.07	.039				-.11 (.04)	-2.84	.005				
Age	.02 (.01)	1.47	.142				.03 (.01)	1.74	.082				
Interaction term	.02 (.02)	1.03	.306				.00 (.02)	0.20	.243				
Frequency of home visits	.01 (.01)	0.57	.569				-.02 (.01)	-1.67	.096				

Note. SR = self-representations; *B* = unstandardized estimates; *SE* = standard error.  
\* *p* < .05. \*\* *p* < .01. \*\*\* *p* < .001.

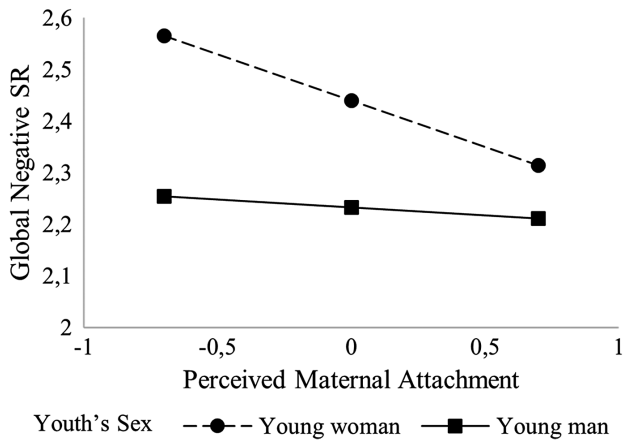
while youth are in the context of RC, other sources of self-knowledge might play a stronger role in informing youth’s positive representations of themselves, such as feedback from the RC settings staff about youth’s behavior and skills, especially from residential caregivers (e.g., Magalhães et al., 2024; Silva & Calheiros, 2022). As the closest adult figures to these youth and responsible for supporting them in their daily routines (Moore et al., 2018; Sulimani-Aidan, 2016), residential caregivers have a pivotal role in promoting youth’s development of a positive sense of self by also helping them make sense of, and integrate, their personal history and developmental trajectory (Sindi & Strompl, 2019). In addition, the support and care received from residential caregivers provide these youth with an experience of being valued and recognition of their individual worth (Smith et al., 2017).

Moreover, some of those associations were moderated by the youth’s sex. Specifically, compared to young men, young women with lower levels of perceived maternal attachment reported higher

levels of global negative self-representations, which include the emotional, behavioral, and misfit dimensions, supporting our second hypothesis. These findings are consistent with previous research indicating that males tend to view themselves in a more positive way than females (Harter, 2015). In the context of RC, previous research reveals that females describe themselves with more negative self-representations compared to males (Calheiros et al., 2020). Specifically, adolescent females tend to describe themselves as having more emotional and behavioral problems (Calheiros et al., 2020; Patrício et al., 2016), possibly due to the greater focus females give to their emotional experience (Abad et al., 2002). Social role theory asserts that gender differences and similarities in behavior and cognitions reflect gender role beliefs derived from sociocultural stereotypes (Eagly & Wood, 1999, 2012). Accordingly, studies have shown that females have a higher tendency toward socioemotional activities and assign greater importance to interpersonal relationships (Abele & Wojciszke, 2014; Diekman et al., 2017; Eagly & Wood, 2012). Based on this evidence, the perception of a weaker attachment with their mother may take a stronger emotional toll on girls, which can manifest in both emotional problems and disruptive behaviors, which can subsequently lead to more negative self-representations. This is in line with previous research indicating that girls in RC, compared to boys, exhibit higher levels of internalizing and externalizing problems (Doerfler et al., 2009; Hussey & Guo, 2002). Thus, perceptions of lower levels of maternal attachment can be especially harmful to girls’ self-construction. Our results thus suggest that, in the face of lower perceived attachment, young women living in RC settings are even more vulnerable to constructing more negative self-representations globally.

Despite the negative correlations found between age, perceived maternal attachment, and negative self-representations, no moderating effects of age were found. Higher perceived maternal attachment was associated with less negative self-representations regardless of adolescents’ age. Although the correlation analysis indicates that older adolescents perceive lower levels of perceived maternal attachment, the lack of results for the model analyzing the moderating role of age may indicate that the role of maternal attachment on youth’s self-representations remains significant throughout adolescence. These findings are consistent with prior

**Figure 1**  
*The Moderating Role of Sex in the Association Between Perceived Maternal Attachment and Global Negative SR*



Note. SR = self-representations.

research indicating that, even though dependence on the attachment figures decreases with age (Keizer et al., 2019), attachment to parents remains important to individuals' development throughout life (Bowlby, 1980; Cicchetti, 2016).

### Limitations and Suggestions for Future Research

The present study contributes to existing literature on the relationship between perceived maternal attachment and self-representations of youth in RC. This study further adds to previous work by analyzing youth's self-representations, considered in a sociocognitive approach, that is, as cognitive structures, focusing on their specific cognitive content and domain specificity (Garrido et al., 2016; Markus & Wurf, 1987; Oosterwegel & Oppenheimer, 2002). In addition, to our knowledge, youth's self-representations have not yet been investigated as being associated with perceived maternal attachment with youth in RC settings. Despite these contributions to the literature, some limitations should be considered when interpreting the study's findings. Primarily, the correlational design precludes causal inferences regarding the proposed model. Although the hypothesized direction of associations was based on a sound theoretical and empirical background, future research should use longitudinal designs to provide more robust evidence of these associations examined in this study. Also, in this study, information regarding perceived maternal attachment and self-representations relied exclusively on youth self-reports that are subject to social desirability responses. A systematic review reveals that measures of attachment in middle childhood and adolescence have limited evidence for the adequacy of their psychometric properties (Jewell et al., 2019). However, psychometric analysis of the KSS reveals that it is a reliable and valid measure of youth's perceived maternal attachment (e.g., Kerns et al., 1996). Moreover, the measure used for the frequency of contacts was simplistic. However, in the Portuguese RC system, there is no record of staff using standardized measures that allow access to the quality of interaction or relationships between the family and youths during visits. Considering the importance of the actual contact that these young people have with their families in terms of their perception of attachment and the construction of the self, we used the only measure that we had access to through the case managers—the recording of visits. In addition, the percentage of variance explained in the tested models is very small, which might be related to the fact that, while these youth are in RC, other relevant sources of self-knowledge come into play, such as feedback from the RC staff (Marshall et al., 2020; Silva & Calheiros, 2022). Their experiences in this new relational context and the development of new skills also provide them with opportunities to learn new positive information about themselves (Magalhães et al., 2024). These factors may contribute to diminishing the explanatory power of perceived maternal attachment, notwithstanding its relevance to youth in RC. Finally, despite the results found for youth's perception of maternal attachment and the recognized relevance of maternal attachment to children and adolescents' self-development (e.g., Paulus et al., 2018; Waniel et al., 2008), the inclusion of other significant others, namely the father or grandparents, in future studies could help untangle which self-representation domains are more sensitive to which attachment relationship. Moreover, future research could examine the same and different sex relations in parent–youth attachment

relationships. For example, research has indicated the unique and differentiated role of mother and father attachment on son's and daughter's self-esteem (Keizer et al., 2019).

### Implications for Practice and Policy

Taken together, the findings of this study indicate that, in the context of RC, perceived maternal attachment matters for youth's self-representations, thus bearing important practical and policy implications. Overall, the results of this study point to the need for specific interventions with youth who have or at least perceive lower levels of attachment with their mother as a primary target in preventing negative self-representations. Evidence suggests that internal working models are malleable during adolescence (Ahmed et al., 2015), making it a potentially productive period to intervene with both youth and parents. The rapidly developing cognitive capacities of youth at this age make it possible to directly intervene regarding perceptions of self and others associated with negative internal working models. Specifically, interventions could include both young people, by targeting attachment expectations and biases, and the primary caregiver, promoting skills to provide sensitive and responsive care. These attachment-focused interventions could be combined with cognitive behavioral therapy, broadening the scope of interventions and, possibly, the treatment outcomes (Bosmans, 2016). Furthermore, given the amount of time young people spend in RC and the significant role of professionals (Ferreira et al., 2020; Magalhães & Calheiros, 2017), it is crucial that the RC context provides them with support and learning opportunities. Specifically, training and resources regarding young people's emotional and attachment-specific needs should be provided to RC professionals (Vacaru et al., 2018).

Moreover, interventions in RC should also focus on enhancing positive relationships between youth and their family. Specifically, dyadic interventions aimed at developing healthy parent–child interactions could be useful in the context of RC, specifically if they target the relationship with the primary caregiver (Knoverek et al., 2013). Besides improving youths' relationships with the family, these interventions may also contribute to improving the quality of attachment with the maternal figure.

Another practical implication of this study's findings is the need for interventions aimed at promoting positive and adaptive self-representations of youth in RC. Such interventions should include teachers and other people in the community who are in closer contact with youth, but especially residential caregivers, as pivotal agents. These interventions should focus on stimulating youth's realistic evaluation of their strengths and weaknesses (Harter, 2015) and on the use of praise and feedback strategies individually relevant to targeting specific self-representation domains (O'Mara et al., 2006). Evidence shows that social–emotional learning-based interventions promote young people's development, specifically by working on developing positive attitudes toward the self (Taylor et al., 2017). Thus, efforts should also be made so that these strategies can also be used in social–emotional learning-based interventions in the school context to promote youth's positive self-representations along with relevant socioemotional skills. Moreover, interventions should aim to foster the development of not only positive but also adaptive self-representations, taking into consideration individual characteristics. Our results suggest a greater vulnerability of young women to the effects of perceived maternal

attachment insecurity on their global negative self-representations. This highlights the need for sex-specific interventions in the context of RC. Specifically, young women should receive more opportunities for success and positive feedback to overcome their tendency to view themselves in a more negative way (Isabella & Diener, 2010). Furthermore, in the context of RC, efforts should be made to provide the opportunity to establish stable and continuous relationships (Calheiros et al., 2020; Neagu & Sebba, 2019) and to create a sense of belonging and security (Schofield et al., 2017; Silva & Calheiros, 2022) which are essential elements for the development of positive self-representations.

In sum, this study contributes to the literature in the field of RC with evidence regarding the association of perceived maternal attachment with self-representations and the moderating role of youth's sex. Thereby, this study informs the development of specific interventions with this vulnerable population and suggests that these interventions should target not only the youth but also their family, specifically the maternal attachment figure, and RC professionals.

**Keywords:** maternal attachment, self-representations, youth, sex, residential care

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