



Attachment, Emotional Regulation and Perception of the Institutional Environment in Adolescents in Residential Care Context

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Abstract

There is a scarcity of studies that relate attachment, emotional regulation difficulties and perception of the institutional environment among adolescents in a residential care context (RCC). Research has suggested the negative effects of RCC on the physical, cognitive and emotional development of children. Nonetheless, there appears to be significant variability in the quality of protection and care offered in RCC, with important implications for the development of children and adolescents. Establishing affective relationships can make a difference in the adaptation and perception of the institutional environment, as well as in the capacity for emotional regulation, among this population. The aim of the present study is to analyze the predictive role of adolescents' attachment to significant figures of affection in the perception of the institutional environment, by testing the moderating effect of emotional regulation difficulties on the previous association. The sample consisted of 296 adolescents, between the ages of 12 and 18 years ($M = 15.30$; $SD = 1.76$). The instruments used for data collection were the Experiences in Close Relationships (ECR), the Family Environment Scale (FES), the Difficulties in Emotion Regulation Scale (DERS) and a sociodemographic questionnaire. The results suggest that attachment dimensions are not associated with the perception of the institutional environment. However, there is a moderating effect of emotional regulation difficulties on the previous association. The results will be discussed according to attachment theory, given its importance for the perception of the institutional environment and for emotional regulation difficulties, among adolescents in residential care contexts.

Keywords Attachment · Emotional regulation · Institutional environment · Residential care

Attachment is the predisposition of human beings to create affective bonds, which tend to extend over time (Bowlby, 1969). It is continuously built throughout life, and the quality of care from parents or other significant figures, as well as the perception of a secure base and safe haven, in early stages of development, are essential for the internal organization of children and adolescents (Ainsworth, 1989). During development, the child starts to build a set of expectations regarding the image of his or her *self*, of others and of the world, which Bowlby (1988) called “internal working models”. Therefore, children can develop secure

or insecure attachment patterns, depending on the quality of the relationship and the perception of trust and responsiveness from caregivers. This issue becomes particularly important in RCC, since the personal, emotional and social experiences, to which the adolescents were exposed, can enhance vulnerabilities, in the development of attachment relationships (Mota & Matos, 2010, 2015). Residential care is the term of out of home care used in European countries (Dozier et al., 2014), and involves young people under state protection measures in custodial care settings. The adolescent's transition to residential care may be due to various situations, namely abandonment, parental neglect, abuse or lack of socioeconomic conditions (Fernandes & Monteiro, 2016). Portugal is one of the countries in Europe with one of the highest prevalence rates of residential care children and young people (Delgado & Gersão, 2018) (6129 in 2019; 86.8% in relation to the total number of children and young people under protection and prevention measures). Although it is intended to be a temporary measure and there is a progressively later reception regarding the child's age,

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in 2019 children and young people stayed on average about 3.4 years in institutions (ISS, 2020). Research has indicated the negative effects of RCC on the physical, cognitive and emotional development of children (e.g., Calcing & Benetti, 2014; González-García et al., 2017; Hermenau et al., 2014; Monshouwer et al., 2015; van IJzendoorn et al., 2011). Nonetheless, there seems to be significant variability in the quality of protection and care provided in RCC, with important implications for the development of children and adolescents (e.g., Costa et al., 2019). Therefore, residential care can be a measure of promotion and protection, by promoting not only well-being, but also more adaptive relational and behavioral patterns in adolescents (Teixeira et al., 2018). Moreover, residential care can provide a space of protection, enabling the development of safe relationships (Mota & Matos, 2015; Siqueira & Dell'Aglío, 2006, 2010). Nonetheless, adolescents face distinctive challenges associated when entering to RCC, particularly dealing with separation from family/relatives and development of new relationships with adults and peer groups (Costa et al., 2019; Piotrkowski & Baker, 2004; Teixeira et al., 2018). The process of entering to an institution is accompanied by the experience of feelings such as fear, insecurity, missing one's family and friends, and the anguish of waiting for a solution, which may condition one's emotional development (Feijó & Oliveira, 2016; Mota & Matos, 2014). Closeness to caregivers and peer groups can facilitate the expression of ideas and feelings, by developing empathy, creating affective relationships and improving social and behavioral skills (Mota & Matos, 2013; Mota et al., 2016, 2018). In addition to caregivers, other significant figures, such as teachers, school staff or siblings, also play an important role in young people's adaptation to residential care (Albuquerque et al., 2015; Mota & Matos, 2015; Mota et al., 2017). The relationship with siblings, in residential care contexts, is a scarcely studied issue in the literature (Herrick & Piccus, 2005; Wojciak et al., 2013). The presence of siblings in the institution promotes adaptation, especially in the case of residential care due to parental abandonment or neglect (Atkin & Tozer, 2014; Herrick & Piccus, 2005; Mota & Matos, 2015). In residential care contexts, it is important to preserve the emotional contact between siblings, in order to maintain a sense of belonging and facilitate the adaptation of adolescents to the new context (Gustavsson & Maceachron, 2010; Miron et al., 2013; Whiting & Lee, 2003). Adaptation to the institutional environment, in addition to the development of attachment relationships, is also dependent on the personal characteristics of each adolescent, such as sex and age (Baker et al., 2005; Brady & Caraway, 2002; Magalhães & Calheiros, 2014; Patrício et al., 2016). Adaptation to the institutional environment varies according to educational levels, as well as to the personal and individual characteristics of each adolescent. However, in addition to the individual characteristics

of adolescents, adaptation to the institutional environment is also related to previous childhood experiences (Armsden et al., 2002; D'Aroz & Stoltz, 2012; Patrício et al., 2016). The presence of separation experiences and traumatic events may interfere with the adolescent's integration within the institutional environment (Armsden et al., 2002; D'Aroz & Stoltz, 2012; Patrício et al., 2016).

At the same time, the adaptation of adolescents to the institution is rarely addressed in the literature, when it comes to emotional regulation abilities. According to Gross (1998), emotional regulation refers to the processes through which individuals influence the expression of emotions, in order to obtain emotional stability when faced with an adverse situation. Emotional regulation is closely associated with child development and has repercussions on socio-emotional maturation, as well as on emotional and social skills (Grolnick & Farkas, 2002; Robinson et al., 2009). During adolescence, relationships with significant figures of affection constitute a particularly important family and social environment for the development of self-regulation (Oriol et al., 2014; Stegge & Terwogt, 2009). The ability to regulate emotions in daily life allows adolescents to function more adaptively (Batki, 2017; Neves et al., 2016). The development of efficient emotional regulation depends on the existence of an adequate and emotionally stable social environment; this means that emotional regulation skills can be inhibited or facilitated by both the family context and the social environment (Schore, 1994). The quality of social climate experienced on a daily basis has a relevant impact on psychological and emotional development (Leipoldt et al., 2019; Moos, 2012). Adolescents in residential care usually exhibit considerable gaps in their emotional regulation abilities, since relationships with their primary caregivers may be characterized by absence or discontinuity of affection and by traumatic episodes (Pace et al., 2017; Silberg, 2013). Adolescents in care system, who had negative experiences during their childhood, may have difficulties in regulating their emotions (McLaughlin et al., 2011; Pace et al., 2017). Thus, the presence of secure relationships, based on responsiveness and trust, with caregivers and peers, may facilitate the adaptive development and emotional regulation processes (Costa et al., 2019; Lino & Nobre-Lima, 2017). Although Portugal, is a paradigmatic example of historic reliance on the use of RC (Delgado & Gersão, 2018), and important contributions have been made in research considering alternative care in Portugal (e.g., Costa et al., 2019; Magalhães & Calheiros, 2014; Rodrigues & Barbosa Ducharne, 2017) there is still scarce knowledge produced both on the quality of care that contributes to explain better conditions for psychosocial adjustment and on relational characteristics that could be more closely associated with the expression of caregivers

responsiveness. In this sense, the present study gains relevance in an internal cultural framework, but also in the experience of similar external realities.

Objective

The main objective of the present study is to analyze the effect of attachment on the perception of the institutional environment, among adolescents in RCC. The study also aims to test the moderating effect of emotional regulation difficulties, in the previous association.

Method

Participants

The participants of the study were 296 Portuguese adolescents of both sexes, with 212 (71.6%) being female and 84 (28.4%) male, between the ages of 12 and 18 ($M = 15.30$; $SD = 1.761$). The majority of participants reported having siblings ($n = 279$, 94.3%), being most of them in contact ($n = 233$, 78.7%). Lastly, as for their time in residential care, 19 adolescents had been in residential care for less than 1 month (6.4%), 230 between 1 month and 5 years (77.7%), 36 between 5 and 10 years (12.2%) and 11 adolescents had been in residential care for more than 10 years (3.7%).

Instruments

A sociodemographic questionnaire was used, in the present study, in order to gather data, such as age, sex, existence of siblings, time in residential care, and age of entry into the first institution.

The *Experiences in Close Relationships Scale* (ECR), originally developed by Fraley et al. (2011), and adapted to the Portuguese population by Moreira et al. (2006), is an instrument comprising 9 items, which aims to assess the dimensions of attachment (anxiety and avoidance) to different significant figures. These items are distributed along a Likert scale that varies between “*Strongly Disagree*” (1) to “*Strongly Agree*” (7). The version is divided into two dimensions, Anxiety (items 7, 8 and 9) and Avoidance (items 1, 2, 3, 4, 5 and 6). A high score on the dimensions can imply a great incidence on anxiety and avoidance attachment style. For the present sample, Cronbach’s alpha values, which correspond to internal consistency values, were: Anxiety = 0.83; Avoidance = 0.77. Confirmatory factor analyses presented adequate fit indices, $\chi^2(24) = 79.352$; $p = 0.000$, $\chi^2/df = 3.30$ with GFI = 0.95; AGFI = 0.90; NFI = 0.94; CFI = 0.96; RMSEA = 0.09 and SRMR = 0.01.

The *Family Environment Scale* (FES) is an instrument originally developed by Moos and Moos (1986, cit. in Matos & Fontaine, 1992), whose complete version includes a total of 90 items, assessed on a six-point Likert scale between “*Completely Disagree*” (1) and “*Completely Agree*” (6). This instrument assesses the subjects’ perception on the family environment, that is, the family’s social and interpersonal climate. In this study, this scale was adapted to the residential care context and used the word “Institution” or “Residential Care” instead of “Family” (e.g., “Residential care members really help and support one another”). The original instrument has three second-order dimensions: Relationship, Personal Growth and System Maintenance and Change. In this study, we have only used Relationship. It consists of twenty-seven items, distributed along the Relationship subscale: Cohesion, relating to members committed to the institution and the degree to which members are helpful and supportive of each other (items 1, 4, 7, 10, 13, 16, 19, 22 and 25), Expressiveness, relating to which members are allowed and encouraged to act openly and to express their feelings directly (items 2, 5, 8, 11, 14, 17, 20, 23 and 26), and the Conflict dimensions, relating to open expression of anger and aggression and generally conflictual interactions characteristic of the institution members (items 3, 6, 9, 12, 15, 18, 21, 24 and 27). Higher scores on cohesion and expressiveness dimensions implies a positive experience of the environment. Higher scores on conflict dimension captures environment negative aware. For the present sample, Cronbach’s alpha values, which represent the internal consistency values, were: Cohesion = 0.83; Expressiveness = 0.72; Conflict = 0.70. Confirmatory factor analyses present adequate fit indices, $\chi^2(223) = 610.691$; $p = 0.000$, $\chi^2/df = 2.74$ with GFI = 0.82; AGFI = 0.78; NFI = 0.77; CFI = 0.84; RMSEA = 0.08 and SRMR = 0.09.

The *Difficulties in Emotion Regulation Scale* (DERS), originally developed by Gratz and Roemer (2004), and adapted to the Portuguese population by Coutinho et al. (2010), assesses clinically significant emotional regulation difficulties. All items are distributed along a 5-point Likert scale that varies between (1) “*Never*” and (5) “*Always*”. In the present study, 14 items will be used, with the dimensions under study being: Strategies, relating to limited access to strategies for emotion regulation (items 2, 4, 6, 7, 9, 10, 12 and 14) and Awareness, relating to lack of emotional awareness (items 1, 3, 5, 8, 11 and 13). Thus, a high score on both dimensions implies difficulties in emotional regulation. For the present sample, Cronbach’s alpha values, which represent internal consistency values, were: Strategies = 0.86; Awareness = 0.82. Confirmatory factor analyses present adequate fit indices, $\chi^2(62) = 190.262$; $p = 0.000$, $\chi^2/df = 3.06$ with GFI = 0.91; AGFI = 0.87; NFI = 0.88; CFI = 0.91; RMSEA = 0.08 and SRMR = 0.09.

Procedure and Data Analysis Strategies

The study protocol was submitted to the Ethics Committees of two Higher Education institutions in the North of Portugal. The study results from the collaboration of both universities and the National Social Security, and it entails direct contact with residential institutions. After the participation in the study was formalized, adolescents between the ages of 12 and 18 were given the Informed Consent, in order to comply with the ethical, legal and deontological requirements for participation. The present study methodology is quantitative and cross-sectional. For conducting data analysis, statistical program *SPSS – Statistical Package for Social Sciences – 25.0 Windows* was used. Pre-analysis included exclusion of incomplete or improperly filled questionnaires, missing's and outlier's identification (a minimum of 10% of missing values per instrument was ensured and substituted; outliers were removed). Subsequently, comparative analyses of means (t-tests) and multivariate differential analysis (MANOVA) were performed, using the chi-square test, in order to assess the significant differences between the sociodemographic variables and the instruments. Moderations effects were calculated using the *Macro Process* program, according to the methodology of Andrew Hayes (Hayes, 2013). All results were analyzed and interpreted based on a significance value of $p < 0.05$.

Results

Variance of Attachment, Emotional Regulation Difficulties, and Perception of the Institutional Environment According to Sex, Age, Siblings and Time in Residential Care

As for the variance of attachment according to sex, the results indicate the presence of statistically significant differences, regarding avoidance according to sex, $t(294) = 3.038$; $p = 0.003$, with CI 95% [0.167, 0.800]. Considering the results, boys report higher levels of avoidance ($M = 2.82$) compared to girls ($M = 2.34$). The anxiety dimension does not present statistically significant differences in terms of sex $t(294) = -1.703$; $p = 0.090$, with IC 95% [-0.972, 0.070]. For emotional regulation difficulties, the dimensions strategies and awareness do not present statistically significant differences in terms of sex $t(294) = 0.268$; $p = 0.789$, with CI 95% [-0.217, 0.285] and $t(294) = -1.019$; $p = 1.309$, with CI 95% [-0.327, 0.104]. Regarding perception of the institutional environment, the results indicate the presence of statistically significant differences in the cohesion dimension for sex, $t(294) = 2.332$; $p = 0.020$, with CI 95% [0.055, 0.654]. Thus, boys present higher levels of cohesion ($M = 3.77$) compared to girls ($M = 3.41$). No statistically

significant differences were found in the dimensions expressiveness and conflict according to sex $t(294) = 1.753$; $p = 0.081$, with CI 95% [-0.023, 0.414] and $t(294) = -0.784$; $p = 0.434$, with CI 95% [-0.316, 0.136] Table 1.

With regard to the age variable, two groups were created (between the ages of 12 and 15, and between 16 and 18, combining the developmental stages and school attendance, respectively in preparatory school from 7th to 9th grade, and in secondary school from 10th to 12th grade, considering different barriers and challenges on future expectations). Multivariate analyses suggest there are no statistically significant differences in the attachment dimensions of anxiety and avoidance according to age, $t(294) = -0.665$; $p = 0.506$, with CI 95% [-0.633, 0.313] and $t(294) = 1.424$; $p = 0.156$, with CI 95% [-0.078, 0.486], respectively. As for the variance of emotional regulation difficulties according to age, no statistically significant differences were found for the dimensions strategies and awareness, $t(294) = -0.941$; $p = 0.347$, with CI 95% [-0.335, 0.118] and $t(294) = -0.136$; $p = 0.892$, with CI 95% [-0.208, 0.181], respectively. Concerning the perception of the institutional environment, there were statistically significant differences in the dimensions of cohesion $t(294) = 2.620$; $p = 0.009$, with CI 95% [0.089, 0.630] and conflict $t(294) = -2.477$; $p = 0.014$, with CI 95% [-0.457, -0.052]. Thus, younger adolescents (between the ages of 12 and 15) presented higher levels of cohesion ($M = 3.71$) compared to older adolescents (between 16 and 18 years; $M = 3.35$). As for the conflict dimension, older adolescents (16 to 18 years) present higher levels of conflict ($M = 3.93$) compared to younger adolescents (12 to 15 years; $M = 3.68$). No statistically significant differences were found for the expressiveness dimension $t(294) = 1.219$; $p = 0.224$, with CI 95% [-0.075, 0.322] Table 2.

With regard to the variable siblings, the results of the multivariate analyses suggest there are no statistically significant differences in attachment with relation to having siblings, for the dimensions anxiety $t(17.802) = 0.532$; $p = 0.601$, with CI 95% [-0.683–1.14] and avoidance $t(293) = 1.360$; $p = 0.175$,

Table 1 Differential analysis of attachment and perception of the institutional environment according to sex

	Sex	M ±SD	IC 95%	Differences direction
Attachment:				
Avoidance	1- Male	2.82±.1.30	[.167, .784]	1>2
	2- Female	2.34±.1.17		
Perception of the institutional environment:				
Cohesion	1- Male	3.77±1.12	[.055, .654]	1>2
	2- Female	3.41±1.20		

with CI 95% [−0.192–1.05]. Regarding emotional regulation difficulties according to the variable siblings, statistically significant differences were found in the dimension of lack of emotional awareness $t(293)=2.467$; $p=0.014$, with CI 95% [0.108–0.961]. The results indicate that adolescents who do not have siblings tend to present greater lack of emotional awareness ($M=2.79$). No statistically significant differences were found in the limited access to emotional regulation strategies $t(293)=-1.801$; $p=0.073$, with CI 95% [−0.956–0.042]. The results also indicated no statistically significant differences in the perception of the institutional environment according to the variables siblings, cohesion $t(293)=0.525$; $p=0.600$, with CI 95% [−0.442–0.764], expressiveness $t(293)=-0.104$; $p=0.917$, with CI 95% [−0.463–0.417] and conflict $t(293)=-0.320$; $p=0.749$, with CI 95% [−0.525–0.378] Table 3.

Regarding attachment according to the sociodemographic variable time in residential care, there were statistically significant differences in the anxiety dimension $F(3, 292)=2.984$, $p=0.032$, $\eta^2=0.702$. The results suggest that adolescents who have been in residential care for a longer period of time (>10 years) present higher levels of anxiety ($M=5.12$). No statistically significant differences were found for avoidance $F(3, 292)=0.741$, $p=0.528$, $\eta^2=0.208$.

There are no statistically significant differences in emotional regulation difficulties in relation to the sociodemographic variable time in residential care, for the dimensions of strategies $F(3, 292)=1.820$, $p=0.134$, $\eta^2=0.484$ and awareness $F(3, 292)=1.304$, $p=0.273$, $\eta^2=0.347$. The results also indicate no statistically significant differences in the perception of the institutional environment according to the adolescent's time in residential care, for the dimensions of cohesion $F(3, 292)=0.516$, $p=0.672$, $\eta^2=0.155$, expressiveness $F(3, 292)=0.309$, $p=0.819$, $\eta^2=0.110$ and conflict $F(2, 292)=0.793$, $p=0.499$, $\eta^2=0.220$ Table 4.

Attachment and Perception of the Institutional Environment: Moderating Effect of Emotional Regulation Difficulties

Following the analyses conducted, we proceeded to test the moderating role of emotional regulation difficulties in the association between attachment and perception of the institutional environment. Previously, we conducted a simple linear regression of the effect of attachment on the perception of the institutional environment. Results indicate that attachment dimension were not associated with the perception of the institutional environment, cohesion $F(2, 293)=4.113$,

Table 2 Differential analysis of the perception of the institutional environment according to age

	Age	M ± SD	IC 95%	Differences direction
Perception of the institutional environment				
Cohesion	1- 12 to 1	3.71 ± 1.20	[.089, .630]	1 > 2
	2- 16 to 18	3.35 ± 1.15		
Conflict	1- 12 to 15	3.68 ± .892	[−.457, −.052]	1 < 2
	2- 16 to 18	3.93 ± .874		

Table 3 Differential analysis of the difficulty of emotional regulation due to having siblings

	Have siblings?	M ± SD	IC 95%	Differences direction
Emotional regulation				
Consciousness	1-yes		2.27 ± .866 [.108, .961]	1 > 2
	2-No	2.79 ± .842		

Table 4 Differential analysis of the attachment according to the length of placement

	Length of placement	M ± SD	IC 95%	Differences direction
Attachment				
Anxiety	1- less than 1 month	3.66 ± 1.99	[2.745, 4.588]	4 > 1; 4 > 2; 4 > 3
	2- between 1 month to 5 years	4.46 ± .204	[4.203, 4.733]	
	3- between 5 to 10 years	3.62 ± 1.93	[2.960, 4.299]	
	4- over 10 years	5.12 ± 2.33	[3.910, 6.332]	

$p=0.235$, expressiveness $F(2, 293)=1.635$, $p=0.339$ and conflict $F(2, 293)=3.218$, $p=0.131$. The testing of the variable of limited access to emotional regulation strategies did not reveal significant interactions in the association between attachment and perception of the institutional environment, $\Delta R^2=0.003$, $p=0.795$; $\Delta F(1, 292)=0.205$, $p=0.651$. Regarding the dimension of lack of emotional awareness, there were significant interactions between attachment and perception of the institutional environment, $\Delta R^2=0.016$, $p=0.001$, $\Delta F(1, 292)=4.857$, $p=0.028$. Thus, there is a moderating effect of lack of emotional awareness between the dimension of anxiety and the dimension of cohesion ($b=-0.079$, $t(296)=-2.20$, $p=0.028$). The results suggest that adolescents with high levels of anxiety toward the attachment figure, but who exhibit reduced lack of emotional awareness, manifest higher levels of cohesion toward the institutional environment (Fig. 1).

Discussion

The present study aimed to test the role of attachment and perception of the institutional environment, among adolescents in residential care, as well as to analyze the extent to which emotional regulation difficulties have a moderating effect on the previous association.

Sociodemographic dimensions of sex and age were found in the present sample considering attachment and perception of the institutional environment.

Boys seem to score higher in attachment dimensions of avoidance and on levels of cohesion in RCC, being male respondents more prone to score higher on avoidance dimension and cohesion in institutional environment. Also, later adolescents with ages ranging from 16 to 18, seem to report higher levels of conflict, compared to younger adolescents. These results stress that adaptation to the institutional environment is largely related to the personal characteristics

of each child and/or adolescent (Baker et al., 2005; Brady & Caraway, 2002; Magalhães & Calheiros, 2014; Patrício et al., 2016), being particularly important to consider these dimensions for understanding adaption processes and challenges. Previous studies have found sex differences considering attachment and adaptation to institutional environments (Baker et al., 2005; D'Aroz & Stoltz, 2012; Mikulincer & Shaver, 2007; Teixeira et al., 2018), nevertheless, considering the scarcity of results, additional knowledge should be produced on the processes underlying psychosocial adaptation and sex in youth in RCC. In what concerns age, although Baker et al. (2005) found that children/younger adolescents (<12 years) could exhibit higher conflict behaviors during the transition to a residential setting, considering age range and the transition challenges, these results could address distinctive processes. Later adolescents conflicting behavior could be associated with the proximity to transition and autonomy, considering the proximity to age of majority (18 years old). Additionally, environment and psychosocial stressors could enhance vulnerability and induce conflictual behaviors.

Regarding the sociodemographic variable *siblings*, the results point to the existence of significant differences in terms of emotional regulation difficulties, where adolescents who do not have siblings exhibit higher levels of *lack of emotional awareness*, compared to those who have siblings. For adolescents who are removed from their homes to a residential context, the connection to siblings is a source of emotional stability and security for facing difficulties (Atkin & Tozer, 2014; Gustavsson & Maceachron, 2010; Wojciak et al., 2013). Presence of siblings allows adolescents to show less emotional and behavioral difficulties throughout their life course (Oriol et al., 2014), namely in RCC, being associated with improvement of academic performance, as well as a reduction in emotional regulation difficulties and behavioral problems (Albuquerque et al., 2015; Mota & Matos, 2015; Pace et al., 2017; Silberg, 2013). The study conducted by Miron et al. (2013) suggested that the presence of a sibling at the moment of separation from the family context may be significant in order to give continuity to a feeling of safety and emotional stability, in a completely new context.

With regard to the differences in the dimensions of attachment, according to the time in residential care, the present study points toward the existence of significant differences in the dimension of anxiety. Therefore, the results indicate that adolescents who have been in residential care for more than 10 years seem to exhibit higher levels of anxiety toward attachment figures, in comparison with adolescents who have lived in the institution for less amount of time. Considering cross sectional nature of the study and conflictual results on prior investigations considering attachment and time of institutionalization (Mota et al., 2018; Ringle et al., 2010; Baker et al., 2005; Siqueira & Dell'Aglio, 2006,

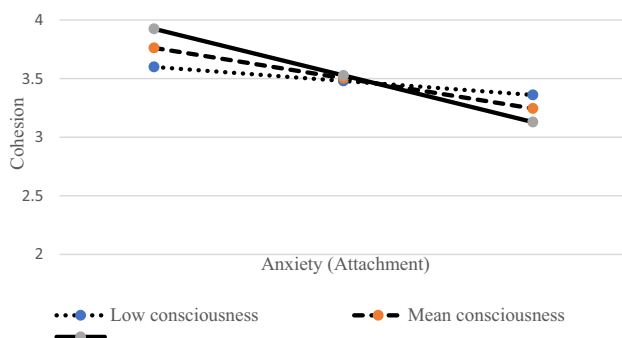


Fig. 1 The moderating effect of emotional regulation difficulties (consciousness) on the association between attachment (anxiety) and the perception of the institutional environment

2010) this result should foster additional reflection on the existing conditions in residential care for the development of meaningful, relationships of continuity, which contribute to a review of the representational models of the self and of others. These implies both a comprehensive work with families/relatives, being an important context for working on healing and bonds improvement, but also on developing quality relationships with caregivers in RCC. Although there is a consensus on the need to provide specialized and professional care, from a practical point of view, specialized training and performance based on scientific support is still very scarce. Consequently, this lack of specialized training and supervision is associated with a high rotation rate among caregivers in this context (Colton & Roberts, 2007), which imposes additional challenges for developing secure base relationships.

The results also indicated that attachment is not associated with the perception of the institutional environment, cohesion, expressiveness and conflict. In the present sample, and taking into account the results, it appears that the perception of the institutional environment and adaptation to the institution seem to be more associated with the emotional characteristics of adolescents, such as emotion regulation, than with their attachment. This result is essential to reflect on other variables that exist in residential care, which may be relevant to the perception of a favorable institutional environment and consequent adaptation. Thus, the literature has been pointing to the importance of quality relationships established with significant figures of affection, namely caregivers, as enhancers of adaptive and developmental processes (Cole & Eamond, 2007).

Finally, concerning the final objective of the present study, it was found that the dimension of emotional regulation difficulties, awareness, has a moderating effect between the dimension of attachment, anxiety, and the perception of the institutional environment, namely the perception of cohesion. This result suggests that adolescents with high levels of anxiety toward the significant figure of affection, but who have reduced lack of emotional awareness, exhibit higher levels of cohesion toward the institutional environment. Among adolescents in residential care, the presence of moderate levels of anxiety toward the significant figure of affection may be a good indicator for the active search for help. According to attachment theory, anxiety allows us to establish the importance of the degree of attachment to the attachment figures, whenever it does not exceed the thresholds that are considered normative in the adolescent's development (Bowlby, 1969, 1988). Adolescents in residential care, who choose strategies to seek active help, seem to confront their emotional regulation difficulties and, consequently, move toward a more adaptive experience within the institution (Yazawa et al., 2019). Thus, experiencing anxiety in attachment relationships, in a moderate and appropriate

way, can be a positive factor in adolescents' psycho-affective development (Nunes & Mota, 2017). Thus, the presence of significant figures of affection can contribute to a more balanced development, which, in turn, increases emotional self-control and a more adaptive process to institutional environment (Li et al., 2019; Venâncio & Clemente, 2016).

Practical Implications, Limitations and Future Avenues

To conclude the present study, it is worth emphasizing that its aim was to contribute to the expansion of new practical approaches and theoretical knowledge. Firstly, we highlight the innovative nature of the present study, given the scarcity of national and international research addressing the association between the studied variables, among adolescents in the context of residential care. As such, we hope that the results obtained, and the conclusions drawn from this study may contribute to a greater recognition of the fundamental role that close, secure-base relationships have in making caregivers become aware of how important it is that their care foster the quality of relationships. This research emphasizes the importance of professionalizing the support in the institution, as well as the development of multidisciplinary intervention programs, in order to introduce service quality standards and greater emotional support to all caregivers. For frontline caregivers that work in residential care system specialized training and technical and psychological support should be guaranteed. For instance, the present study emphasize the importance of development of caregiver's specific competences and strategies for dealing with emotional regulation and attachment contingencies of young people in residential care: (1) caregiver communication sensitivity, namely the ability to respond to and interpret the young people's behavior, including implicit and explicit communication, in terms of attachment needs; (2) advance of dyadic emotional regulation would also be highlighted, in which caregivers should be able to maintain, tolerate and explore difficult emotional states in themselves and young people; and finally (3) develop reflexive function and empathy, namely with the interest in and ability to reflect on and understand their own psychological experiences and those of young people (adapted from Moretti & Obsuth, 2009).

Lastly, the present study exhibits some weaknesses, namely, the fact that this research is cross-sectional in nature makes it impossible to compare results over time. In addition, there is a limitation that may be related to sample characteristics, specifically, the reduced number of participants and the existence of a considerable disparity between the number of female and male adolescents. Potential ethical difficulties can be associated to the use of self-report measurement in this context, since youth's personal vulnerability may be highlight and associated with unmeasured levels of

social desirability. In terms of future research, it would be of greater interest to conduct longitudinal studies, in order to procedurally understand what can influence the perception of the institutional environment and adolescents' adaptation processes when entering a host institution. In conclusion, it would be relevant to develop more studies, in Portugal, capable of examining the institutional experience, including the main actors involved in a residential reception process, such as the caregivers of the institutions.

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