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# Predictors of the quality of the relationship with caregivers in residential care

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ABSTRACT

The quality of the relationship between adolescents and significant figures constitutes a relevant factor to emotional and adaptive functioning. Caregivers at the institution have a significant responsibility in caring for adolescents and represent a key determinant in adolescents' adaptation. However, less attention has been devoted to how adolescents perceive these relationships and to predictors of their quality. This study aims to analyze different level predictors (sociodemographic and institutional hystory-related, emotional/relational and contextual level) of the quality of the relationship between adolescents and their caregivers, in a sample of 326 adolescent participants (228 female and 98 male) from 20 residential care institutions. Participants responded to self-report questionnaires concerning the quality of relationship with caregivers, attachment, emotion regulation and institutional climate. Data regarding structural and functional information about the residential care context were collected with the directors. The results suggested that the adolescents' perception of quality of relationship was associated with individual (gender) and emotional/relational factors (emotion regulation and attachment), but not with contextual factors (cohesion, ratio and number total children/youth) and other individual variables (time living in institution, age at entering the institution, live another institution and age at entering in the first institution). The results are discussed in light of attachment theory, pointing out the role of the relevance of quality of relationship with caregivers.

## 1. Introduction

Moving adolescents to residential care represents an important and challenging life transition marked by the need to adapt to a new context and to integrate emotionally adverse past experiences. Usually, legal agents perceived it as a "last resort" solution and young people perceived it as an undesirable event, coupled with a sense of abandonment and rejection that may activate situations of risk and vulnerability (Anaut, 2005; Mota & Matos, 2015). According to the literature, adolescents under residential care tend to have an increased risk in the development of psychological, social and behavioral problems compared with those residing with their biological families (e.g., Attar-Schwartz, 2008, 2009; Strijbosch et al., 2015; Vinnerljung, Öman, & Gunnarson, 2005). In fact, research has focused heavily on the psychological problems of institutionalized children and youth (Van IJzendoorn et al., 2011). Considering that this transition constitutes an opportunity to establish new relationships, which are expected to impact on adolescents' adaptive development (Anglin, 2002), it is crucial to better understand the conditions that influence the development and maintenance of such relationships, particularly with caregivers. According to the attachment theory, the capacity to establish intimate emotional bonds with others is a basic component of human nature and a principal feature of development, contributing to the well-being and maintenance of a healthy and effective self (Bowlby, 1980).

Empirical studies conducted with adolescents living in residential care emphasize the relevance of relationships developed between caregivers and adolescents on adolescents' development, positive adaptation to the institution, well-being and resilience (Carvalho & Manita, 2010; Fergus & Zimmerman, 2005; Mota & Matos, 2015; Yunes, Miranda, & Cuello, 2004). The possibility for youth to build stable and satisfying relationships with caregivers within the institution is fundamental, they often function as a security source and support the

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anguishes, fears, expectations and joys of children and adolescents (Zegers, 2007). Furthermore, these satisfying relationships with significant figures can promote a positive adaptation (e.g., Fergus & Zimmerman, 2005; Mota & Matos, 2015), because caregivers represent the main support network during the transition and have a close access to the adolescents' emotional experiences (Mota, Costa, & Matos, 2016). In fact, the quality of the relationship with the new figures of affection constitutes an opportunity for internal organization, which contributes to the revision of the models of self and others and more capacity to deal with adverse situations (Mota & Matos, 2010). Moreover, the quality of the relationship is considered the most important predictor of adaptive outcomes and treatment success in residential care (Scholte & Van der Ploeg, 2000; Zegers, Schuengel, Van Ijzendoorn, & Janssens, 2006). However, despite the fact that the establishment of significant affective bonds constitutes a vital process in the development (Bowlby, 1980), we know surprisingly little about the predictors of the quality of relationships between adolescents and caregivers in residential care. Because adolescents spend a very significant part of their time interacting with caregivers in the residential care setting, it is important to understand this kind of relational and emotional dynamics and the factors that may affect the quality of their relationship. Also, there are just a few studies that address the point of view of adolescents regarding the nature and quality of these relationships. Finally, this knowledge may add to the development of programs to enhance caregivers' skills in creating secure bases for adolescents to strive. Due to limited literature, there is no clear guidance on what factors to address when working on the quality of relationship between adolescents and caregivers in residential care. Thus, using a comprehensive approach to understand the development of relationships in this particular setting, the present study aims to analyze whether factors associated with sociodemographic/institutional history-related, emotional/relational and contextual levels are related to the quality of relationship between adolescents and caregivers.

### 1.1. Sociodemographic and institutional history-related predictors

Previous research suggested that it is important to control certain factors that may influence the relationship processes, namely gender, age, length of stay, age at entering the institution and placement disruptions (Greger, Myhre, Lydersen, & Jozefiak, 2016; Knorth, Harder, Zandberg, & Kendrick, 2008; Lino, Lima, & Mónico, 2016; Ringle, Ingram, & Thompson, 2010). Gender differences were found regarding the patterns of help seeking and receiving (i.e., adolescent girls seem to be more available for emotional support from caregivers than their male counterparts, thus establishing warmer, closer and more intimate relationships with caregivers; Lanctôt, 2006).

Studies with adolescents from the general population point out that the quality of relationship also varies with age. Empirical findings showed that early adolescents tend to establish more affiliative, companionate relationships while older adolescents tend to maintain more committed, loving, and supportive relationships (Shulman & Kipnis, 2001). Younger adolescents tend to seek support from their parents/significant adult caregivers or peers, while older adolescents tend to seek their romantic partners as a more important support source (Seiffge-Krenke, 2003). Furthermore, empirical research showed that relationship commitment, intensity and social competence tend to increase with age (Carver, Joyner, & Udry, 2003).

Some studies have examined how the length of stay in the residential care and the age at entering the institution affect the adjustment indicators and development. Results showed that being institutionalized for a longer time seems to be associated with improvements in their academic performance, behavior and psychosocial functioning (Knorth et al., 2008; Ringle et al., 2010).

Regarding the age at entering the institution findings are inconsistent, probably due to differences in the care and research process. Shechory and Sommerfeld (2007) showed that children removed from their homes at later age were more likely to have higher levels of anxiety, depression and social problems compared to children at the age of 7 or less. In addition, some studies also showed that being institutionalized before the age of 6 months was associated with cognitive, language and motor problems in development (MacLean, 2003; Pereira et al., 2010; Soares, Silva, Marques, Baptista, & Oliveira, 2010).

### 1.2. Emotional/Relational-level predictors

According to the literature, adolescents in residential care spend long time with their caregivers and part of these relationships is based on seeking and offering security and care. Some authors defend that a major determinant of the quality of the relationships is the representation of attachment (e.g. Goodwin, 2003; Schuengel & Van Ijzendoorn, 2001). Zegers et al. (2006) demonstrated that attachment representations influence the perceptions of social relations of adolescents in residential care and their professional caregivers. This finding is in line with the attachment theory that asserts that the quality of social relations is related to previous relational experiences and attachment representations. Several systematic reviews and *meta*-analyses have demonstrated that children and youth reared in institutions are more likely to reveal insecure attachment patterns (Carr, Duff, & Craddock, 2018; Lionetti, Pastore, & Baron, 2015) and specially disorganized patterns of attachment (The St. Petersburg-USA Orphanage Research Team, 2008; Vorria et al., 2003; Zegers, Schuengel, Van Ijzendoorn, & Janssens, 2008). Insecure attachment pattern is often characterized by high levels of anxiety and/or avoidance. Both are described by high levels of discomfort and mistrust toward an attachment figure (Brennan, Clark, & Shaver, 1998). Individuals with anxious attachment style tend to hyperactive the attachment system and overvalue the importance of relationships. Usually these individuals tend to engage in maladaptive behaviors to ensure that those relationships are maintained. By contrast, individuals with avoidant attachment style tend to devalue and distance themselves from relationships to minimize their interpersonal discomfort (Meyer & Pilkonis, 2001). In the context of an adverse family history, adolescents in residential care institutions may present a delay in developing a selective organized attachment with caregivers and have more difficulties in developing trust in their relationships (Bakermans-Kranenburg et al., 2011). However, Vorria et al.'s study (2003) about children reared in residential care from birth and without adverse family experiences prior to institutionalization, showed that the majority of the group in care were securely attached to their caregivers (Vorria et al., 2003). Although adolescents may feel attached to their caregivers, to the best of our knowledge there is no study examining the emotional/relational predictors of quality of relationship with caregivers with this particular population and in adolescence as a unique developmental period.

Emotion regulation is also closely related to the capacity to navigate the social environment. Empirical evidence demonstrated that emotional balance and regulation is associated with the quality and stability of social relationships (e.g., Caspi, 2000). On the other hand, negative emotions and difficulties in emotion regulation are related to less competently interactions (e.g., Eisenberg & Fabes, 1999) and lower quality in social interactions (Frick & Morris, 2004).

### 1.3. Contextual-level predictors

Characteristics of the residential care context are associated with differences in whether children form specific attachments to their caregivers, and the quality of attachments they form with them. The few studies that examined these aspects concluded that the structural and functional characteristics of the institutions, like number of children and ratio children-caregiver may be significant factors for explaining the behavior, development and the quality of relational contexts of children and young people (Aguilar-Vafaie, Roshani, Hassanabadi, Masoudian, & Afruz, 2011; Pinchover & Attar-Schwartz,

2014).

Although there is scarce empirical investigation on the links between youth/children-to-caregiver ratio in institutional settings, this issue has long been explored and debated within the field of educational research, practice and policies.

Empirical research demonstrated that smaller classes were linked to an increase in learning (Krueger, 2002) and cognitive and achievement outcomes seemed to be in fact associated with more positive outcomes for very low children-teacher ratios (i.e., 7.5:1 and lower) or very small class sizes (i.e., 15 or less). Caregivers who are in-charge of smaller groups may have more opportunities to give individual attention to youth, as is demonstrated by empirical research in school settings (e.g., Blatchford, Baines, Kutnick, & Martin, 2001), as well as require less time for discipline (Molnar et al., 1999).

The few studies that examine the contextual factors demonstrated that the social climate is one of the most relevant factors associated with adolescents' adjustment, well-being and life satisfaction during their placement. The social climate of the setting includes young people's daily interactions with their care workers, namely staff support and strictness (Glisson & Hemmelgarn, 1998). There is evidence that residential care with more supportive staff, healthy relationships between adolescents and staff and rules are associated with a positive social climate and lower levels of psychological, behavioral and peer problems (Gibbs & Sinclair, 1999; Pinchover & Attar-Schwartz, 2012).

To address this critical need, the present study aims to analyze the predictors of quality of the relationships between adolescents and caregivers (See Fig. 1), as a crucial aspect in their development and adaptation to the residential care.

### 1.4. The present study

While the relevance of relationships between caregivers and adolescents in residential care is theoretically and empirically supported (Lecannelier, Silva, Hoffmann, Melo, & Morales, 2014; McCall et al., 2010; Mota & Matos, 2010, 2015, 2016; Pereira et al., 2010), there is scarce empirical attention to factors that contribute to the quality of these relationships. Thus, this study aims to analyze predictors of the quality of this relationship at different levels (sociodemographic/institutional history-related, emotional/relational and contextual level) within residential care institutions. It is important to note that as research regarding quality of relationships is still scarce in the residential care field, some of our hypotheses are mainly exploratory or derived from empirical evidence with other populations.

Three key hypotheses were addressed in this study.

1. We hypothesize that gender is a significant predictor of quality of relationship, and expect girls to report more intimate relationships with their caregivers (Lanctôt, 2006; Taylor & Hood, 2010).
2. We expect emotional/relational factors to account for variation in the quality of the relationship. More specifically, we expect lack of emotional awareness and limited access to strategies of emotion regulation to be negatively related to the quality of relationships (Aldao, Nolen-Hoeksema, & Schweizer, 2010). We also expect attachment avoidance to be positively related to more negative interactions (e.g., Shomaker & Furman, 2009).
3. Finally, we expect that contextual factors account for variation in the quality of the relationships. Despite the lack of literature in this field, some studies indicate that the low number of children per institution, the low ratio children-caregiver and a positive social climate explain the quality of the adolescents' relational world (Aguilar-Vafaie et al., 2011; Pinchover & Attar-Schwartz, 2014).

## 2. Method

### 2.1. Participants

The sample comprised 326 adolescents (30.1% males and 69.9% females) aged 12–18 years (M = 15.37, SD = 1.76), living in 20 Infant and Juvenile Residential care institutions[1] (55.5% "only female" typology, 24.5% "only male" and 19.9% gender mixed institutions) under protection measures. These adolescents live in residential care due to abandonment or parental neglect. The institutions and residential care included in this study do not refer to children and adolescents who were institutionalized because of mental disabilities/disorders, or additional motives of deviant behaviors (conduct disorders or substance abuse). Thus, we did not include residential care related to corrective situations, rehabilitation and therapeutic care, kinship care, emergency shelter, residential schools, psychiatric hospitals or other mental-health facilities, to avoid residential care settings and adolescents with specific conditions. The educational levels ranged from 4th to high level grade. 218 (66.9%) adolescents were from 4th to 9th grade, while 81 (24.8%) were in secondary school (10th to 12th grade), 1 (0.3%) was in university and 16 (4.9%) were in vocational courses. The length of placement in the current institution ranges from less than one month to 192 months (M = 32.74 months, SD = 38.86), with no information about ten adolescents. The age at entering the institution ranged from 1 to 17 years (M = 12.66, SD = 3.21), with no information about six adolescents. 219 (67.2%) adolescents did not lived in another institution and 106 (32.5%) lived in more than one institution, with no information about one adolescent. The age adolescents enter at the first institution ranged from 0 to 17 years old (M = 11.84, SD = 3.89), with no information about seventy-one adolescents. The ratio ranged from 2 to 12 adolescents per caregiver (M = 4.17, SD = 2.00).

### 2.2. Measures

In order to assess structural and functional characteristics of the institution we applied a questionnaire with the director. The data included information regarding the number of children/adolescents, the ratio children/caregiver, the number of children per room, the members of the team (technical, educational and auxiliary team), specialized for the staff and the typology of the institution (female, male, gender-mixed).

A socio-demographic questionnaire was used to collect personal information regarding age, gender, time living in residential care, age at entering the institution, if adolescents have already lived in another institution, age admitted in the first institution, as well as current school grade.

The *Network Relationships Inventory* (NRI; Furman & Buhrmester, 1985) is a self-report measure designed to assess the individual's perceptions about the quality of the relationship with different figures across thirteen different dimensions. In the present study we adapted it to the adolescent-caregiver relationship, and used the following dimensions: support (3 items; e.g., "How much do you turn to this person for support regarding personal problems"), intimacy (3 items; e.g., "How much do you talk about everything with this person"), nurturance (3 items; e.g., "How much this person help you with things you cannot do by yourself"), admiration (3 items; e.g., " How much does this person treat you with admiration and respect"), criticism (3 items; e.g., "How much does this person point out your faults or put you down") and conflict (3 items; e.g., "How much do you and this person get upset or mad at each other"). The scale contains 18 items, answered on a 5-point Likert scale, ranging from 1 (*little or none*) to 5 (*always*).

[1] Social response, developed in equipment, for the care of children and young people in danger, longer than 6 months, based on the application of a promotion and protection measure

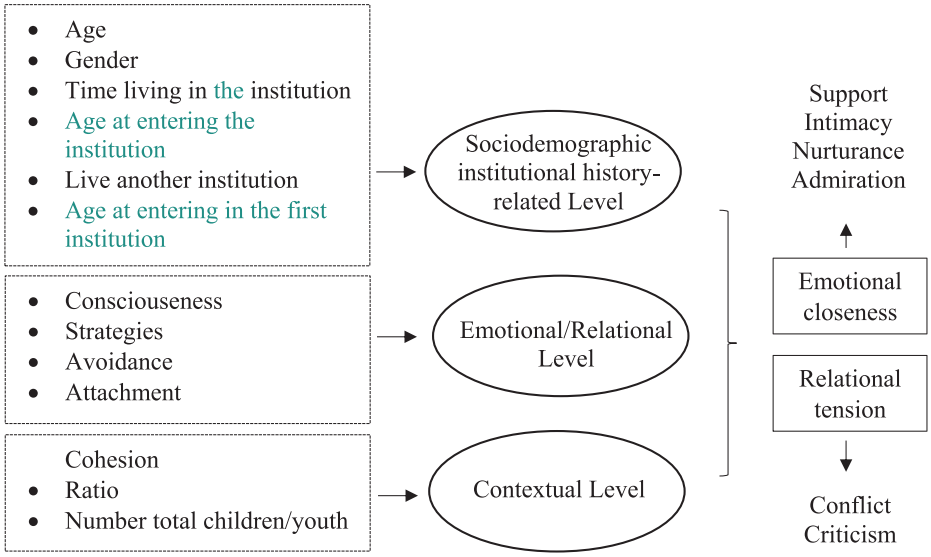


**Fig. 1.** Model of sociodemographic and institutional hystory-related, emotional/relational and contextual predictos of the quality of the relationship.

Using Confirmatory Factor Analysis we reached a structure composed by two factors: Emotional closeness (resulted from merging support, intimacy, nurturance and admiration; α = 0.93), and Relational tension (resulted from criticism and conflict; α = 0.87). $\chi^2(1\ 3\ 1) = 425.966$; $p = .000$; $\chi^2/df = 3.252$, CFI = 90, RMSEA = 0.08.

The *Difficulties in Emotion Regulation Scale* (DERS; Gratz & Roemer, 2004; Portuguese version from Coutinho, Ribeiro, Ferreirinha, & Dias, 2010) is a self-report measure which assesses emotion regulation problems and involves various dimensions on which difficulties can occur. We used only two dimensions: Strategies (limited access to strategies for emotion regulation; 8 items; e.g., "When I'm upset, I know that I can find a way to eventually feel better") and Consciousness (lack of emotional awareness; 6 items; e.g., "I pay attention to how I feel"). The scale contains 14 items, answered on a 5-point Likert scale, ranging from 1 (*never*) to 5 (*always*). Cronbach's alpha: Strategies 0.86, consciousness 0.82. $\chi^2(65) = 286.495$; $p = .000$; $\chi^2/df = 4.408$, CFI = 0.86, RMSEA = 0.10.

The *Experiences in Close Relationships* – Relationship Structures Questionnaire (ECR-RS; Fraley, Heffernan, Vicary, & Brumbaugh, 2011; Portuguese version from Moreira, Martins, Gouveia, & Canavarro, 2015) is a nine item, self-report instrument designed to measure attachment related anxiety (3 items; e.g., "I'm afraid that this person may abandon me") and avoidance (6 items; e.g., "It helps to turn to this person in times of need") in close relationships. Adolescents were instructed to respond to the questions by considering their relationship with their best friend. Items were answered using a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's alpha: Anxiety 0.84, Avoidance 0.77. $\chi^2(13) = 30.522$; $p = .004$; $\chi^2/df = 2.348$, CFI = 0.98, RMSEA = 0.06.

The *Family Environment Scale* (Moos & Moos, 1986; Portuguese version by Matos & Fontaine, 1992) is a self-report questionnaire developed to evaluate the subjects' perception about 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" instead of "Family". The original instrument has three second-order dimensions: Relationship, Personal Growth and System Maintenance and Change. In this study, we only used Family Relationship. It consists of 27 items containing three factors: cohesion, conflict and expressiveness. The dimension of conflict and expressiveness were excluded from further analysis due to inadequate Cronbach's alpha. The cohesion dimension contains 9 items (e.g., "Residential care members really help and support one another"). Cohesion α = 0.79. $\chi^2(30) = 98.623$; $p = .000$; $\chi^2/df = 3.287$, CFI = 0.91, RMSEA = 0.08.

### 2.3. Procedure

The study was approved by the Ethical Committee of the Faculty of Psychology and Education Sciences at the University of Porto, the Social Services and the institution's care directors. Using an official list, institutions were randomly contacted to participate in this study. After being informed about the objectives of the study, 20 institutions agreed to participate and provided explicit written informed consent. A personal meeting was then arranged between the researcher and the institution's director in order to assess structural and functional characteristics of each institution. The general objectives of the study were presented, and standard instructions were given by the researcher regarding the completion of self-report questionnaires. All ethical procedures were guaranteed, including the confidentiality and anonymity of information as well as the voluntary nature of the participation in the study. Adolescents signed the written protocol assent. All participants completed a set of instruments with no financial compensation involved. The order of the questionnaires was inverted randomly by groups in order to avoid bias in the results. Adolescents' questionnaires were administrated in group in the institutional settings. The time spent completing the entire questionnaire was approximately 30 min. Adolescents institutionalized for with severe cognitive deficits were excluded from answering the questionnaires.

### 2.4. Data analysis

The analyses were run with IBM SPSS Statistics 24. Outliers and missing values were inspected. We removed 1 participant from the study, due to present standardized residuals out of − 3 and 3. The factorial structure of all measures was tested through confirmatory factor analysis (CFA), the results were presented previously. Data was examined with hierarchical regression analysis.

Given that adolescents are clustered in institutions, we tested if the quality of the relationship with caregivers was nested in a higher level (residential care). Thus, intraclass correlation was performed (Emotional closeness: ICC = 0.05; DEFF = 1.14; Relational tension: ICC = 0.03; DEFF = 1.02). The result showed that adolescents' quality of relationship is similar across institutions. That means that adolescents' perceptions of the quality of the relationship is independent of the residential care setting in which they live. Thus, hierarchical

**Table 1**
Means, standard deviations and correlations between the quality of the relationship, emotion regulation, attachment and cohesion.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1- Emotional closeness | – | | | | | | |
| 2 – Relational tension | −0.15** | – | | | | | |
| 3 – Lack of emotional awareness | −0.29** | −0.02 | – | | | | |
| 4 – Limit access to strategies | 0.14* | 0.13* | −0.25** | – | | | |
| 5 – Avoidance | −0.16** | 0.24** | 0.26** | −0.12* | – | | |
| 6 – Anxiety | 0.02 | 0.12* | −0.09 | 0.22** | −0.09 | – | |
| 7 – Cohesion | 0.15** | 0.08 | −0.26** | 0.03 | 0.02 | 0.07 | – |
| Mean | 3.87 | 1.70 | 2.30 | 3.13 | 2.50 | 4.41 | 3.45 |
| SD | 0.94 | 0.88 | 0.86 | 0.89 | 1.24 | 2.05 | 0.99 |

Note: *$p < .05$, **$p < .01$, ***$p < .001$.

regression analyses were preferred to multilevel ones.

## 3. Results

### 3.1. Descriptive analyses

Means, standard deviations, and correlations of study variables are presented in Table 1. Pearson's coefficient was used to analyze the existence of correlations between the quality of the relationship, emotion regulation, attachment and cohesion.

Results showed that the variables were correlated in an expected theoretically meaningful way and, in very few cases correlations were not theoretically expected. This was the case of emotional closeness that correlated positively with limited access to strategies of emotion regulation (r = 0.14; $p < .05$), and for limited access to strategies of emotion regulation that negatively correlated with avoidance (r = -0.12; $p < .05$). All correlations were significant, which justify the regression, but not so high among predictors to have multicollinearity problems.

### 3.2. Predicting quality of relationship

In order to identify how the predictor variables were associated with the

quality of the relationship (emotional closeness and relational tension), hierarchical regression analyses were conducted, in which predictors were added sequentially starting with background sociodemographic and institutional history-related variables, then adding emotional/relational variables, and the last block included contextual level variables (see Tables 2 and 3). In the present study we regressed emotional closeness and relational tension separately. We codify the variable gender as dummy variable. The masculine gender was coded as "0″ and the feminine gender as "1″.

As depicted in Table 2, considering emotional closeness as the criterion variable, the sociodemographic measures, entered at Step 1 of the regression analysis, contributed significantly to the regression model and accounted for 5% of the variation in emotional closeness. Table 3 shows that emotional closeness was only predicted by gender (β = 0.19; p < .01). Introducing the institutional history-related variables, at Step 2, explained an additional 7% of variation in emotional closeness and change in $R^2$ was not significant. Thus, institutional history-related variables did not significantly contribute to the explanation of variance in emotional closeness. Emotional/Relational variables, entered at Step 3 were a significant predictor and accounted for a significant additional of 20%. Table 3 shows that emotional closeness was predicted by emotion regulation, namely consciousness (lack of emotional awareness; β = -0.30; p < .001) and strategies (limited access to strategies for emotion regulation; β = 0.14; p < .05). Finally, the addition of contextual variables to the regression model explained an additional 21% of the variation in emotional closeness and this change in $R^2$ square was not significant. Thus, contextual variables did not significantly contribute to the explanation of variance in emotional closeness.

As depicted in Table 2, considering relational tension as the criterion variable, the sociodemographic measures, entered at Step 1 of the regression analysis, contributed significantly to the regression model and accounted for 4% of the variation in relational tension. Table 3 shows that relational tension was only predicted by gender (β = -0.15; p < .01). Introducing the institutional history-related variables, at Step 2, explained an additional 5% of variation in relational tension and this change in $R^2$ was not significant. Hence, institutional history-related variables did not significantly contribute to the explanation of variance in relational tension. Emotional/relational variables, entered at Step 3 were a significant predictor and accounted for a significant additional 13%. Table 3 shows that relational tension was only predicted by attachment avoidance (β = 0.27; p < .001). Finally, the addition of contextual variables to the regression model explained an additional 15% of the variation in relational tension and this change in $R^2$ square was not significant. Thus, contextual variables did not significantly contribute to the explanation of variance in relational tension.

## 4. Discussion

Given the importance of the relationships with caregivers to the psychosocial development of adolescents in residential care institutions, the present study sought to analyze different level predictors (Sociodemographic and institutional history-related, emotional/

**Table 2**
Model summary.

| | Emotional closeness | | | Relational tension | | | |
|---|---|---|---|---|---|---|---|
| | $R^2$ | $\Delta R^2$ | $F$ | $R^2$ | $\Delta R^2$ | $F$ | $Df$ |
| **Model 1** (gender, age) | 0.05*** | | 5.98*** | 0.04*** | | 4.66*** | 2 |
| **Model 2** (Time living in institution, age at entering the institution, live another institution, age at entering in the first institution) | 0.07 | 0.05 | 3.05*** | 0.05 | 0.03 | 2.39 | 4 |
| **Model 3** (Lack of lack of emotional awareness, limit access to strategies, avoidance, anxiety) | 0.20*** | 0.17 | 6.13*** | 0.13*** | 0.10 | 3.72*** | 4 |
| **Model 4** (Cohesion, ratio, number total children/adolescents) | 0.21 | 0.17 | 0.4.90*** | 0.15 | 0.10 | 3.18*** | 3 |

*Note.* *$p < .05$, **$p < .01$, ***$p < .001$.

**Table 3**
Summary of Hierarchical Regression Analysis for Variables predicting Quality of relationship – Model 3.

| | | Emotional closeness | | Relational tension | |
|---|---|---|---|---|---|
| | Variables | *β* | *Beta* | *β* | *Beta* |
| | Age | 0.05 | 0.10 | 0.10 | 0.20 |
| | Gender | 0.39 | 0.19*** | −0.27 | −0.15** |
| | Time living in institution | −0.00 | −0.19 | −0.01 | −0.27 |
| | Age at entering the institution | −0.10 | −0.33 | −0.11 | −0.43 |
| | Live another institution | 0.05 | 0.02 | 0.27 | 0.14 |
| | Age at entering in the first institution | −0.00 | −0.01 | 0.03 | 0.16 |
| Emotion regulation | Consciousness (lack of emotional awareness) | −0.36 | −0.30*** | −0.07 | −0.06 |
| | Strategies (limited access to strategies) | 0.22 | 0.14** | 0.13 | 0.09 |
| Attachment | Avoidance | −0.04 | −0.04 | 0.23 | 0.27*** |
| | Anxiety | −0.00 | −0.01 | 0.04 | 0.08 |

*Note.* $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

relational and contextual level) of the quality of the relationship with caregivers, as perceived by adolescents. Two independent dimensions – emotional closeness and relational tension – were derived from the adaptation of NRI scales to assess the quality of the relationship with the caregivers. Results showed that the adolescents scored high on emotional closeness with an average of 3.87 in a Likert scale from 1 to 5. Regarding relational tension they scored with an average of 1.70 in the same Likert scale. Thus, they perceived their relationship with caregivers mainly marked by emotional closeness. Caregivers are relevant figures for the adaptive development of adolescents (Bravo & Valle, 2009; Calheiros & Patrício, 2014).

Results also showed that gender is a significant predictor of the quality of the relationship: girls perceive higher emotional closeness (support, intimacy, nurturance and admiration) in the relationships with their caregivers and boys develop relationships marked by relational tension (conflict and criticism). These results are in line with previous findings, which show differences in boys and girls' patterns of seeking and receiving help (Taylor & Hood, 2010). Adolescent girls tend to establish warm, close, intimacy relationships with caregivers, because they tend to be more available for emotional support from their caregivers than adolescent boys (Lanctôt, 2006). Boys tend to feel that the caregivers will be available when they need them. Despite the gender differences, for both girls and boys, significant figures inside the institution can constitute an important source of security and can be promoters of well-being and resilience (e.g., Fergus & Zimmerman, 2005; Mota & Matos, 2015). It should be noted that in the present study the sample consisted mainly of girls. Despite the argument that age influences the perceptions of relationship quality, no significant effect of age was found in this study.

While analyzing other institutional history-related variables (time living in institution, age at entering the institution, having already lived in another institution and age at entering the first institution) we did not find any significant effect on the quality of relationship. Empirical literature points out mixed findings regarding the importance of the timing and duration of placements and the movement between the types of placement for child outcomes. James, Landsverk, and Slymen (2004) found that higher levels of externalizing behaviors were associated with later entrance into residential care, multiple stays in residential care institutions and late disruptions. In this sense, behavior problems can represent a predictor and an outcome of multiple changes (Newton, Litrownik, & Landsverk, 2000). Furthermore, other authors (Greger et al., 2016) defend that the opportunity to establish and maintain security relationships in residential care can be compromised by placement disruptions. On the contrary, some researchers (Berger, Bruch, Johnson, James, & Rubin, 2009; Eulliet, Spencer, Troupel-Cremel, Fresno, & Zaouche-Gaudron, 2008) have not found significant associations between the length, stability of placements, age of placement and child well-being, attachment and social effectiveness. These inconsistency of findings might be possible due to, for instance, the differences in the quality of care (small children's home, low staff turnover and child-caregiver ratio; Quiroga & Hamilton-Giachritsis, 2016).

Regarding emotional/relational variables, results revealed that adolescents' emotion regulation is a significant predictor of emotional closeness in the relationship with caregivers. Adolescents who reported more difficulties of emotional awareness present lower levels of emotional closeness in the relationships with their caregivers. This result is in line with previous findings with the general population, which found that higher levels of emotional awareness are associated with less negative affectivity (Aldao et al., 2010), higher peer ratings of interpersonal sensitivity and prosocial tendencies (Lopes, Salovey, Côté, & Beers, 2005). The positive effect of adolescents' limited access to strategies for emotion regulation on emotion closeness in the relationships with caregivers is somewhat surprising. However, we may interpret this finding as a sign of the specificities of the relational dynamics in the residential care context. Caregivers may be especially sensitive to those adolescents who lack strategies of emotion regulation and create the conditions for adolescents to feel secure and ask for help. This implies trust and the perception of availability, created in the dynamics of the relationship with caregivers at residential care.

Regarding attachment, results also revealed that avoidance is associated with relational tension in the relationship with caregivers. The literature with the general population supports this idea, showing that higher attachment avoidance is related to more negative interactions (e.g., conflict; Shomaker & Furman, 2009). In this sense, it is consistent with literature that attachment avoidance is related to lower levels of satisfaction, intimacy and positive emotions in social interactions, as well as higher levels of negative emotions (Pietromonaco & Barrett, 1997). This is a consequence of a strong preference for self-reliance, as well as discomfort with closeness and intimacy with others (Bifulco & Thomas, 2013; Brennan et al., 1998). Given that the adolescents in residential care tend to present insecure attachment patterns, it is important to prepare and train professional caregivers to deal with the special needs of this population.

Finally, we did not find significant effects of contextual variables. Neither perceived cohesion, nor number of children/adolescents per institution and ratio children/caregivers predicted the quality of relationships with caregivers. Note that intraclass correlation already announced that quality of relationship was similar across institutions. Thus, in our sample, the quality of relationship perceived by adolescents seems to be more affected by individual and psychological characteristics than by contextual factors. One possible interpretation for this finding might be the fact that, in Portugal, during the last two decades, important structural and functional changes have been implemented in the residential care institutions. The institutional model was replaced by a familiar model with small groups of coexistence and residence in standardized houses most similar to a family home (Rodrigues, Barbosa-Ducharne, & Dell Valle, 2013). Future studies should utilize more sensitive and in-depth measures of the structural

characteristics of residential care or even consider other informants to prevent or reduce social desirability bias.

### 4.1. Implications for policy and practice

Concerning practical implications, this study provides scientific support for guiding services, technical decisions and specific interventions with this population. The transition into adolescence and growing up in residential care can be particularly challenging and difficult with significant implications for development and psychological adjustment (Crockett & Silbereisen, 2000). This process can increase situations of personal risk and vulnerability and activate feelings of abandonment and rejection (Mota & Matos, 2015, 2016). Thus, caregivers play an essential role in providing the kind of emotional environment that is conducive to positive adaptation and development. This study contributed to the reflection on the importance of the quality of the relationship between adolescents in residential care and caregivers. It also allowed to increase the awareness of political decision makers to the importance of creating the best opportunities for children and adolescents living in residential care, particularly with regard to its relational characteristics. In this sense, specialized training and scientific knowledge about differences in attachment and emotion regulation strategies should be provided to caregivers, so they learn to work as emotional foundations for the adolescents according to their specificities (gender, emotion regulation and attachment) and prevent the use of these insecure strategies. Thus, caregivers should be trained to accommodate these factors/specificities to the quality of their relationships with young people. The present study highlighted the relevance of training caregivers with an adequate profile to establish supportive and emotional relationships with adolescents, and indirectly called the attention to the need to avoid turnover and discontinued relations with caregivers.

### 4.2. Limitations and future research

Although the findings of this study further add on the comprehension of predictors of the quality of the relationship, several limitations must be considered when interpreting these results. The cross-sectional design of the study limits causal inference of the results. Moreover, the exclusive use of self-report measures poses some limitations, which are susceptible to response and social desirability biases. The majority of the participants were female, which may limit the generalizability of the results. Furthermore, the lack of significant results regarding contextual predictors could be due to sample bias. The institutions that accepted to participate in the study may be more similar among themselves, thus generalization to other institutions should be cautioned. Other empirical studies with more institutions may yield different results from those obtained with residential care with different structural and functional characteristics. Another possible reason for these results relies on the fact that the measures used for this study were adapted from measures used with general population samples.

Future research should consider longitudinal designs and test models that include other important figures in the relational world of institutionalized adolescents, namely caregivers. It would also be relevant to add other informants and methods to access contextual information to prevent or reduce social desirability bias. Finally, future studies should also include qualitative analyses with adolescents and caregivers in order to access information related to needs, difficulties and satisfactions to fully understand the relational dynamics of this particular relationship and increase the quality of care.

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## Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.childyouth.2019.104579.

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