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## Inhibited attachment disordered behavior in institutionalized preschool children: links with early and current relational experiences

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### ABSTRACT

Inhibited attachment disordered behavior (IADB) is characterized by difficulty in establishing an attachment relationship with a primary caregiver; is associated with persistent social and emotional problems; and is observed most frequently in contexts of pathological care such as institutional rearing. Here, we seek to enhance understanding of the conditions that give rise to IADB among institutionalized children by examining prior family experiences of neglect and deprivation and concurrent relational experiences at the institution. The sample is comprised of 146 children, between 36 and 78 months. IADB was assessed using a semi-structured interview administered to the child's primary caregiver. Results revealed that both pre-institutionalization experiences (e.g. parental abandonment) and current relational ones (e.g. low quality of child-caregiver relationship) predicted IADB. Findings are discussed in light of the need to promote conditions which foster the establishment and maintenance of the child's selective attachment to a caregiving figure.

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Inhibited attachment disordered behavior; institutionalization; early risk; relational experiences; family of origin; caregiving quality

## Introduction

Portugal has a long history of institutional care as the primary form of child protection once children have been removed from or abandoned by their families. The number of these looked-after children has been diminishing in the last few years; nevertheless, in 2015, of a total of 8600 looked-after children and youth in Portugal, only 3.5% were placed in foster families. The great majority thus remained institutionalized, usually spending more than one year in such a placement (Instituto de Segurança Social, 2016).

Research on the effects of institutionalization has consistently chronicled detrimental consequences for children (Van Ijzendoorn et al., 2011; Zeanah et al., 2009), including attachment. Although multiple investigations indicate that institutional care is associated with high rates of insecure and disorganized attachment patterns (Dobrova-

Krol, Bakermans-Kranenburg, Van Ijzendoorn, & Juffer, 2010; St. Petersburg-USA Orphanage Research Team, 2008; Vorria et al., 2003; Zeanah & Gleason, 2015; Zeanah, Smyke, Koga, Carlson, & the BEIP Core Group, 2005), limited attention has been paid to formal attachment disorders. In the research reported herein, we thus investigate such disorders in children growing up in Portuguese institutions, seeking to illuminate why some children develop such disorders whereas other do not. We focus not only on quality of institutional care, but past and current familial experiences as well.

### **Attachment disorders**

Attachment disorders, first introduced in the Diagnostic and Statistical Manual of Mental Disorders III (DSM-III; American Psychiatric Association [APA], 1980) under the heading of Reactive Attachment Disorder (RAD), are associated, etiologically, with the kind of severe neglect characteristic of institutional care and, prospectively, with problematic functioning. Following several revisions, DSM-5 (APA, 2013) describes RAD as, exclusively, a pattern of *inhibited* attachment disordered behavior (IADB), one characterized by difficulty in establishing an attachment relationship with a primary caregiver, including rarely or minimally desiring contact with and seeking comfort from a specific – and preferred – attachment figure. IADB is often associated with disturbed and persistent socioemotional functioning, including limited capacity to participate in reciprocal exchanges and difficulty in regulating emotion. Constructing a comprehensive picture of IADB has been difficult because it is rare (Zeanah & Gleason, 2010) and has not been extensively researched (Gleason et al., 2011; O'Connor & Zeanah, 2003; Zeanah & Gleason, 2015).

### **Quality of care and IADB**

When it comes to considering etiological factors in the case of IADB, an ecological perspective represents a particularly useful framework, as it calls attention to child characteristics as well as distal and proximate contextual conditions that can influence children's development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998). Although child characteristics, such as temperament, might be implicated in the development of IADB (Zeanah & Fox, 2004), most investigations of attachment disorders have focused primarily on proximal processes related to parental deprivation and neglect (Boris et al., 2004; Rutter, Kreppner, & Sonuga-Barke, 2009; Smyke, Dumitrescu, & Zeanah, 2002; Zeanah & Gleason, 2010, 2015). Findings from such work are in line with the view that parental deprivation and child maltreatment adversely affect multiple aspects of development (Cicchetti & Toth, 2005; Cicchetti & Valentino, 2006), including increased risk of insecure and disorganized attachments (Barnett, Ganiban, & Cicchetti, 1999).

Despite the general deleterious effect of adverse early experiences on attachment, it remains the case that some children prove capable, even in the face of such a history, of establishing a focused and discriminating attachment relationship with a new caregiver (Dozier & Rutter, 2008; Van Den Dries, Juffer, Van Ijzendoorn, & Bakermans-Kranenburg, 2009; Van Ijzendoorn, Juffer, & Duyvesteyn, 1995). However, when the experience of inadequate substitute caregiving – as routinely found in institutional settings – follows an early family history of adversity, the risk of compromised development is amplified (Stovall-McClough & Dozier, 2004). Indeed, institutionalization constitutes a risk

condition for the development of attachment disorders, as its structural and functional characteristics constrain opportunities for the development of a selective attachment to a particular caregiver. Empirical evidence indicates that poor caregiver–child ratios, frequently changing caregivers, lack of individualized care, and insensitive caregiving are associated with increased risk of problematic development (Carlson, Hostinar, Mliner, & Gunnar, 2014; Dozier, Zeanah, Wallin, & Shaffer, 2012; Van Ijzendoorn et al., 2011; Zeanah et al., 2005), including the ability of the child to establish a focused attachment relationship with a particular caregiver (Smyke et al., 2002; Zeanah et al., 2005). Adding insult to injury is the fact that some children experience multiple institutional placements, thus being repeatedly subjected to disruptions in care. Research on foster care shows that multiple placements are associated with increased risk of negative developmental outcomes for the child, including attachment difficulties (Newton, Litrownik, & Landsverk, 2000; Pardeck, 1984; Penzerro & Lein, 1995).

Although scarce, a few studies, especially from the Bucharest Early Intervention Project, have sought to illuminate links between IABD and the relational quality of institutional care. Relevant findings indicate that IABD is associated, within the institutional setting, with poorer quality care (Gleason et al., 2011; Smyke et al., 2002; Zeanah, Keyes, & Settles, 2003; Zeanah et al., 2005), but is less likely when the child is a favorite of one of the caregivers (Smyke et al., 2002). Given these results, it is not surprising that a child's preference for a particular caregiver is a critical protective factor with respect to the risk of attachment disorders (Soares et al., 2014; Zeanah & Gleason, 2015; Zeanah et al., 2005).

Notably, evidence further indicates that once institutionalized children are placed in foster or adoptive families and receive adequate care, signs of IADB diminish substantially, in fact, disappearing entirely in most cases (O'Connor, Bredenkamp, & Rutter, 1999; Smyke et al., 2012). Perhaps more than anything, such results underscore the importance of relational experience in the etiology of IADB (Zeanah & Gleason, 2015).

### *Pre-institutional experiences*

The fact that better quality of care is not perfectly protective when it comes to IABD in the case of institutionalized children calls attention to the need to consider etiological factors beyond those related to quality of institutional care. Of central concern to the research reported herein, then, are potentially enduring effects of pre-institutional experiences in the child's family of origin. Important to appreciate in this regard is that many institutionalized children have ongoing contact with their parent(s) and other family members even while cared for outside the family. We are thus led to wonder whether such prior and ongoing experience with the family affects risk for IABD. When one considers research on foster care, another context of substitute care, the available research fails to provide clear insight on this issue. A few studies indicate that continued contact with at least one biological parent is positively associated with child well-being (Cantos, Gries, & Slis, 1997; McWey, Acock, & Porter, 2010), including quality of attachment (McWey & Mullis, 2004). Other work, however, documents negative effects of family contacts with the child, including visitation distress (Neil, Beek, & Schofield, 2003), loyalty conflicts (Leathers, 2003), as well as limited ability to contact foster parents when the child visits the parents' home (Strijker & Knorth, 2009).

In light of the issues raised, we investigate not only effects of quality of the institutional care on IADB, but those of children's previous and current relational experiences with the

family of origin in an effort to extend existing work on the etiology of IADB in the case of institutionalized children. Of particular interest is whether the latter factors add predictive power *over and above* well-studied variation in the quality of care in the institution. It is expected that IADB will be higher among children with increased exposure to pre-institutional risk conditions associated with poor parental care such as neglect, parental abandonment, and previous institutional placements. Moreover, we predict that children who display IADB will be the ones who receive low quality of relational care at the institution, who do not show a preference for a specific caregiver, and who do not have regular contacts with their family of origin.

## Method

### *Participants*

#### *Institutionally reared children*

One hundred and forty six children (88 boys, 60%) placed in 28 Portuguese institutional care centers participated in this study. Participants were 36–78 months of age ( $M = 55.10$ ,  $SD = 11.08$ ) at the time of assessment. Age at admission to the institution varied from 3 to 69 months ( $M = 36.91$ ,  $SD = 15.49$ ). The length of time in institutional care varied from 6 to 54 months ( $M = 17.66$ ,  $SD = 10.94$ ). One hundred and thirty seven (94.5%) children lived with at least one parent before institutionalization. The main reasons for the child's removal from the family and placement in the institution were varied, including neglect of child safety and basic needs (77.4%), lack of parental skills (46.6%), family violence (34.5%), severe economic disadvantage (31.5%), abandonment (23.4%), physical abuse (8.9%), or parental psychopathology (8.9%). Thirty-four (24.5%) children had experienced previous institutional placement. With regard to parental visits in the institution, 54 (38%) children do not have regular contact with their parents and 88 (62%) children received regular visits (at least once a week) from one or both parents. Twenty-nine children (22.9%) spent weekends and/or holidays with their family of origin; of those, the great majority also visited regularly with their parents in the institution.

#### *Institutional caregivers*

One hundred and one institutional caregivers participated in the study (99% women; aged 21–67 years,  $M = 38.68$ ,  $SD = 11.17$ ). Some caregivers' participation involved more than one child (ranging between 2 and 6 children, per caregiver). Approximately half of the caregivers received specific training for their role. In the majority of such cases, however, the training was short and unstructured. One caregiver had no schooling, five (5.5%) had 4 years of education, six (6.6%) had 6 years of education, 25 (27.5%) had 9 years of education, and 27 (29.7%) completed high school (12 years of education); another 27 (29.7%) had graduated from university. Caregivers worked, on average, 5 days ( $SD = .63$ ) and 39 h ( $SD = 7.97$ ) per week. According to the director at each institution, caregivers cared for six children on average ( $SD = 2.2$ ) for most of the day.

## Procedure

After approval by Portuguese Social Services and the National Commission for Data Protection, the study was presented to the staff at each institution. The Portuguese Social Services are responsible for managing the institutions and are the legal guardian of children while institutionalized. The National Commission for Data Protection is the agency responsible for ensuring that ethical requirements in relation to human research are carried out by Portuguese entities. Written informed consent was obtained from biological parents, institution directors, and participating caregivers.

Children were recruited based on their age. Exclusion criteria were the presence of severe physical or mental impairments (e.g. cerebral palsy) and/or genetic or neurological syndromes (e.g. Down syndrome), including fetal-alcohol syndrome. After determining which children were eligible for study participation, based on review of medical files, the research team consulted institutional staff to identify the caregiver assigned to each child. Staff suggestions were subsequently compared with the research team's judgments based on naturalistic observations of children's interactions with the staff, during the period of data collection. Information on children's family risks prior to their institutionalization, as well as children's contact with their families of origin while institutionalized were based on file review. Observational data were collected on the quality of caregiving behavior.

## Measures

### Child assessment

IADB was assessed using The Disturbances of Attachment Interview (DAI; Smyke & Zeanah, 1999), a semi-structured interview administered to the child's primary caregiver in order to obtain information about the symptoms of attachment-disordered behavior. The DAI is comprised of 12 items focused on signs of disordered attachment behaviors, each of which are coded 0 (rarely or minimally), 1 (sometimes or somewhat), or 2 (clearly), according to the severity and frequency of behavior described by the caregiver. For the purpose of the present study, we focused on the five items indicative of Withdrawn/Inhibited RAD, resulting in a score that could range between 0 and 10. This score indicates the extent to which the child distinguishes adults, manifests a clear preference for a particular caregiver, seeks and responds to comfort from a specific caregiver when distressed, and evinces problems with reciprocal social exchanges and emotion regulation. In our sample, the mean score was 2.1, similar to scores found in previous studies (Smyke et al., 2012; Zeanah et al., 2005). Inter-rater agreement for this subscale was very good (ICC ric = .92).

### Pre-institutional experiences

*Early relational experiences* of the child prior to enrollment in the current institution were assessed using information in the child's file at the institution. Information about whether the child lived with his/her family before institutionalization was obtained, indicating that 137 (94.5%) of them lived with at least one parent. Additionally, three risk conditions were assessed to capture sources of deprivation of parental care, as operationalized as follows. Each risk condition was scored as 0 (absent) or 1 (present).

- (1) *Parental neglect* captures experiences of physical and emotional neglect involving the persistent and extreme failure of parents to meet the physical needs of the child (e.g. inadequate food and medical care), as well as basic emotional needs (e.g. failure to provide for psychological safety and security) (Barnett, Manly, & Cicchetti, 1993). In this study, 77.4% ( $n = 113$ ) of the children experienced parental neglect.
- (2) *Parental abandonment* reflects (a) effective parental abandonment, (b) abandonment of child to the care/responsibility of other figures, or (c) leaving the child on his/her own for a period of time long enough to create substantial risk of harm. In the present sample, 33 (23.4%) children were abandoned by their family of origin.
- (3) *Previous institutional placement* concerns previous placement in other institutions. In this study, 34 children (24.5%) were classified as having been institutionalized previously.

### *Current relational experiences*

Three features of ongoing relational experiences while institutionalized were measured, the last of which pertained to family involvement.

***Quality of caregiver–child relationship.*** After identifying the key caregiver who would participate in the study with each child, each caregiver was classified in terms of whether he/she was the Assigned Caregiver, the Caregiver of Reference, or the Preferred Caregiver for a particular child (Oliveira et al., 2012). This classification was based on staff inquiry, with the help of a questionnaire that guided the respondent through a series of criteria that led to the classification. Afterwards, the classification by the staff was validated against naturalistic observations of the dyad undertaken during the data collection period at each institution. The caregiver was considered as (a) a Preferred Caregiver if the child preferentially sought proximity with him/her in most situations when distressed; if his/her absence caused the child to exhibit separation anxiety; if, relative to other caregivers, the child displayed more positive responses towards him/her and more acknowledgement of the reunions with him/her; and if the child preferentially approached him/her for comfort relative to other caregivers. Thirty-seven (25.3%) children had a preferred caregiver. The caregiver was considered (b) a Caregiver of Reference if the child evinced some preference for the caregiver relative to others, but not enough to meet the preferred-caregiver criteria, and/or the caregiver was the person who was more responsible for and/or more frequently looked after the child. The caregiver was considered (c) an Assigned Caregiver if he/she could not be distinguished from other caregivers; in other words, if the child did not exhibit any preference for any caregiver in the institution. Seventy-three (50%) children had a caregiver of reference and 36 (24.7%) an assigned caregiver. The researcher's judgment on classification agreed with staff classification for 81 dyads (55.5%).

***Caregiver sensitivity.*** The quality of the caregiver's behavior, in terms of sensitivity in caring for the child, was assessed during a 15-minute interactive task with the child; it included three 5-minute episodes: (i) play with a challenging toy; (ii) monitoring the child while completing a sham questionnaire, with the child only having an

uninteresting toy to play with but remaining near more interesting toys he/she was instructed not to play with; and (iii) free play followed by clean up. Video recordings of caregiver–child interaction were rated using Ainsworth's (1969) rating of sensitivity–insensitivity, adapted to the preschool age, which evaluates the ability of the caregiver to perceive and interpret the child's cues and communication, and to respond to them in a prompt and adequate manner. The scores can range from 1 (highly insensitive) to 9 (highly sensitive), depending on four main aspects of caregiver sensitivity: (a) awareness of the child signals; (b) accurate interpretation of those signals; (c) appropriate response to them; and (d) promptness of response. Inter-rater reliability was more than adequate (ICC ric = .94).

**Contact between the child and his/her family of origin.** Based on the information in the child's files about regular contact between the child and his/her family of origin while institutionalized, two types of contact were distinguished: (1) *parental visits to the institution*, operationalized as one or both parents visiting the child at least once a week; and (2) *weekend/holiday stays with the family*, operationalized as the child staying at the family home during weekends and holidays. For a child to be allowed to spend weekends and holidays with the family of origin, a court decision, based on professional reports with a favorable opinion about the family's capacity to care, is required. Regarding the present sample, 88 children (62%) received regular visits from parents at the institution; 32 children (22.9%) stayed at the family home during weekends and holidays.

### **Control variables**

In order to discount effects of potentially confounding factors, four covariates were measured.

**Caregiver repeated participation.** As some caregivers were the focus of attention for more than one child in our study, we distinguished caregivers for whom this was and was not the case.

**Age at institutional placement.** This was the child's age at placement in the current institution, determined by data in the child's file at the institution.

**Duration of institutionalization.** This measured how many months the child had spent in the current institution, based on the individual file.

**Developmental status.** The Griffith's Mental Development Scales 2–8 (Griffiths, 1984) were administered by a trained examiner to assess the child's developmental functioning. It includes six subscales (locomotor, personal and social, hearing and language/speech, eye and hand coordination, performance, and practical reasoning). The scoring is calculated by reference standards that indicate a functional age based on the accumulated score for a particular subscale, as well as a general quotient that is obtained by averaging scores in the six subscales.



## Results

Preliminary analyses tested associations (i.e. Pearson and point-biserial correlations) between IADB and (1) early, and (2) current relational experiences. Based on these correlations, a hierarchical linear regression analysis was conducted, in order to determine whether pre-institutional and institutional relational experiences with the family of origin were significant predictors of IADB *over and above* the quality of the institutional relational care.

### *Preliminary analyses: descriptive statistics and correlational analyses*

Descriptive statistics for study variables are presented in [Table 1](#).

[Table 2](#) presents the bivariate associations between IADB and all variables in the study. Preliminary analyses revealed no significant associations between IADB and children's sex, age at assessment, age at admission, length of institutionalization, and children's developmental status. Caregivers' repeated participation was not related to IADB.

Concerning early child relational experiences, children who had been abandoned by their parents scored higher on IADB than other children,  $rpb = .28, p = .001$ . The same was true for children with a previous institutional placement,  $rpb = .19, p = .028$ . A history of parental neglect proved unrelated to IADB.

In terms of institutional caregiving, children who experienced poorer quality of caregiver-child relationship were more likely to display IADB,  $r = -.18, p = .029$ . No significant bivariate associations emerged between IADB and caregivers' sensitivity.

With regard to contacts with the family of origin, weekend and holiday visits were related to lower levels of IADB,  $rpb = -.23, p = .007$ . Regular parental visits (e.g. weekly) to the child at the institution proved to be unrelated to IADB.

**Table 1.** Descriptive statistics for study variables.

	<i>M</i>	<i>SD</i>	Min–Max
Age at assessment (months)	55.10	11.08	36–78
Age at admission to the institution (months)	36.91	15.49	3–69
Length of institutionalization	17.66	10.94	6–54
Developmental status	97.49	10.92	70–129
Caregiver' sensitivity ( <i>n</i> = 144)	5.19	1.79	1–9
Inhibited attachment disordered behavior	2.10	1.79	0–8
	<i>n</i>	%	
Gender, boys	88	60.3	
<b>Early relational experiences</b>			
Parental neglect	113	77.4	
Parental abandonment ( <i>n</i> = 141)	33	23.4	
Previous institutional placement ( <i>n</i> = 139)	34	24.5	
<b>Current relational experiences</b>			
Quality of caregiver-child relationship			
Preferred caregiver	37	25.3	
Caregiver of reference	73	50	
Assigned caregiver	36	24.7	
Contact with the family of origin			
Lack of regular parental visits at the institution ( <i>n</i> = 142)	54	38	
Regular parental visits at the institution ( <i>n</i> = 142)	88	62	
Weekend and holiday stays with the family ( <i>n</i> = 140)	32	22.9	

**Table 2.** Bivariate associations between IADB and early and current relational experiences.

		IADB	
Early relational experiences	<b>Early relational risk</b>		
	Neglect <sup>a</sup>		.05
	Abandonment ( <i>n</i> = 141) <sup>a</sup>		.28**
	Previous institutionalization ( <i>n</i> = 139) <sup>a</sup>		.19*
Current relational experiences	<b>Institutional caregiving</b>		
	Quality of caregiver–child relationship <sup>b</sup>		-.18*
	Caregiver's sensitivity ( <i>n</i> = 144) <sup>b</sup>		-.05
	<b>Contact with the family of origin</b>		
	Regular parental visits at the institution ( <i>n</i> = 142) <sup>a</sup>		-.03
	Weekend and holiday stays with the family ( <i>n</i> = 140) <sup>a</sup>		-.23**

*N* = 146. When the whole sample was not available due to missing data on children's case files, the subsample available for analysis is indicated. Higher IADB scores are indicative of higher levels of inhibited attachment disordered behavior. <sup>a</sup>Point-biserial coefficient correlation; <sup>b</sup>Pearson coefficient correlation.

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

### Predicting IADB

As a follow-up to the preceding analyses, a hierarchical regression analysis was carried out using as predictors of IADB those variables that exhibited significant bivariate associations with it. Thus, the following predictors were included: (1) quality of caregiver–child relationship, (2) early relational experiences with the family, including parental abandonment and previous institutionalization, and (3) current relational experiences with the family operationalized as weekend and holiday stays with the family. Given prior evidence that quality of relationships and care in the institutional context is related to IADB and our aim to determine whether family factors measured prior to or during institutionalization predicted IADB over and above institutional factors, in the first step of the hierarchical regression model we included the quality of the caregiver–child relationship. In Step 2, relational experiences prior to institutionalization that constitute a threat to the formation or maintenance of an attachment relationship – prior institutionalization and experiences of parental abandonment – were added. Finally, in Step 3, relational experiences with the family of origin during institutionalization – weekend and holiday stays with the family – were included.

Inspection of Table 3 indicates that relational experiences with the family prior to institutionalization contributed significantly to the prediction of IADB – over and above caregiver–child relationships,  $R^2$  change = .098,  $F(3, 134) = 7.133$ ,  $p = .000$ , accounting for 11.8% of the individual differences of IADB. Further, prediction increased significantly when weekend and holiday stays with the family were taken into account,  $R^2$

**Table 3.** Predictors of child IADB – linear regression.

Step	Predictors	$R^2$ (Adj. $R^2$ )	$R^2$ change	<i>t</i>	$\beta$
1	Quality caregiver–child relationship	.04 (0.3)	.04	-2.37*	-.20
2	Quality caregiver–child relationship	.14(.12)	.10	-2.00*	-.16
	Parental abandonment			3.16**	.26
	Previous institutionalization			2.26*	.18
3	Quality caregiver–child relationship	.18 (.15)	.04	-2.23*	-.18
	Parental abandonment			2.70**	.22
	Previous institutionalization			2.24*	.18
	Weekend and holiday stays with the family			-2.50*	-.20

*N* = 137. \*\**p* < .01. \**p* < .05.

*change* = .0.39,  $F(4, 133) = 7.124$ ,  $p = .000$ , accounting for 15.2% of the variance in IADB. In terms of individual predictors, in the final model all independent variables proved to be related to child's IADB. In sum, having a less selective caregiver–child relationship ( $\beta = -.18$ ,  $p = .028$ ), being institutionalized previously ( $\beta = .18$ ,  $p = .027$ ), being exposed to early parental abandonment ( $\beta = .22$ ,  $p = .008$ ), and lacking regular contacts with the family of origin at the family home while institutionalized ( $\beta = -.20$ ,  $p = .014$ ) increased the risk of IADB.

## Discussion

The current study extends research on the effects of institutionalization on IADB by examining, in addition to the quality of caregiving received in the institution, children's previous and current relational experiences with the family of origin. Although no predictive association emerged between observed caregiver sensitivity and IADB, it was not the case that relational experiences while institutionalized did not contribute to the prediction of IADB. Recall that the presence of a more selective caregiver–child relationship reduced the risk of IADB. This result suggests that the existence of a selective relationship as measured here likely captures the presence of, at least, minimal conditions for the child to form an attachment relationship with his/her caregiver. The result under consideration is consistent with other evidence showing that children identified as caregiver favorites scored lower on IADB (Smyke et al., 2002), and IADB is associated with the display of fewer attachment behaviors (Zeanah et al., 2005).

Beyond replicating prior findings underscoring the importance of the child–caregiver relationship vis-à-vis IADB, results indicate that experiences with the family of origin prior to and following institutionalization matter also when it comes to risk of IADB. Evidence presented herein chronicling an association between family abandonment and IADB are in line with Follan and Minnis' (2010) data documenting a higher prevalence of experiences of separation from the primary caregiver among children diagnosed with RAD. These findings support Bowlby's (1973) claim that experiences of separation, loss or being threatened with separation or abandonment from an attachment figure constitutes a risk factor for problematic development, especially when an adequate substitute caregiver is not provided (Stovall-McClough & Dozier, 2004). However, no association emerged between early experiences of parental neglect and IADB. This could be due to the fact that even though the majority of children in our sample had experienced parental neglect, information included in children's files did not afford measurement of the duration and severity of parental physical and emotional neglect. Thus, in order to discern links between neglect and IADB, more specific information on the experience of neglect may be required than was available to us.

Recall that it was also the case that relational experiences with the family of origin during institutionalization appeared important when it came to predicting IADB. Even though regular parental visits with the child at the institution proved not to be associated with IADB, children who visited their families of origin at the family home on weekends and holidays evinced lower levels of IADB. Such results suggest that continued contact with the family – in the family home – appears to benefit institutionalized children.

However, it is hypothesized that is not only a question of a greater amount of time spent with parents but the cumulative benefit of having more time with a better functioning family, as well as the possibility offered by that amount of time for the child to be embedded and participate in the family daily routines, in their natural environments, including the important ingredient of being cared for individually by the caregiver. In our view, this experience may promote more meaningful parent–child interactions (contrasting with the artificial, family-unfriendly and frequently over-controlled institutional context for family visits), contributing to sustain a selective attachment. After all, home visits, no doubt, were more likely when families were better functioning, meaning that the important factor may be that rather than the home visit *per se*. Indeed, this could be why visits by parents to the institution proved unrelated to IADB – because such visits were not as dependent on the quality of family functioning as were home visits. The policy of most Portuguese institutions is to allow parents and family members to visit the child once a week at the institution. But these typically take place for short periods of time and little effort is made by staff to promote sensitive, responsive, and supportive parenting. That is, families are more or less left on their own to spend time together, without much guidance on how to foster well-functioning relationships. One might obviously wonder why, then, the simple process of visiting, even on a weekly basis, should reduce the risk of IADB. It could be the case that the risk of visits at the institution could have increased the chances of the child developing an attachment disorder in the absence of any effort to improve family relational processes. Fortunately, no such iatrogenic effect was discerned.

In sum, the research reported herein indicates that relational experiences involving both the family and institutional staff play a role in the development of IADB. Although this assumption was considered valid among clinicians, it had not received empirical support prior to this study.

Although there were strengths of this work, such as the focus on a formal psychiatric disorder of attachment while considering non-institutional factors, the study was also limited in a number of ways. Perhaps most notably, there remains much variance in IADB to be explained, leading to the suggestion that future work on its etiology should consider individual vulnerability factors, such as temperament and genotype, to determine if some children are more susceptible to family and institutional effects on IADB.

Beyond limited examination of predictors, this was a cross-sectional study in that information regarding children's IADB and caregiver's quality of care was available at only a single point in time. This means, of course, that reverse causality could be operative, with IADB influencing the child–caregiver relationship rather than, as presumed by the statistical analysis, the other way around. Future longitudinal work could address this issue of the temporal ordering of predictors and outcomes.

One can also raise questions about the data available for this study. Perhaps most importantly, data in the children's files on early risk factors were limited, even incomplete in some cases. Further, IADB assessments were based on caregivers' reports. Concerning this last point, there is a considerable debate as to the accuracy of caregiver perceptions (Kagan, 1998; Rothbart & Bates, 2006). But as O'Connor and Zeanah (2003) make clear, multiple methods are needed to evaluate this issue. Future work would thus benefit from inclusion of observational assessments of IADB.

Lastly, considering clinical implications, this observational study highlights the apparent influence of early and current relational experiences of institutionalized preschool children on IADB. Concerning the negative impact of early risk factors related to the deprivation of parental care, the development of early parental intervention programs, which can effectively support high-risk families, would play an important role. Nevertheless, despite the short- and long-term effects of such programs, a number of children will continue to be removed from their families and placed in substitute care. Regrettably, the availability and use of foster care are very limited in Portugal, resulting in the placement of children in institutions, often as a primary response to serious family problems, including child abandonment. Placement in institutions occurs despite its harmful effects which extensive research has made indisputably clear. Given the frequent absence of structured plans to work with families that visit children at institutions, it would be beneficial for parent education and support programs to connect with these facilities. Our results directly underscore the importance of working to enhance the quality of relational care within institutions.

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No potential conflict of interest was reported by the authors.

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