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Running head: Attachment styles and socioemotional difficulties in residential, foster and parental care

Attachment Representations and Socio-emotional difficulties in Alternative Care: A comparison between Residential, Foster and Family Based Children in Chile.

Abstract

Attachment has been assessed in children living in alternative care (AC) settings, such as Residential Homes (RC) and Foster Care (FC). However, no study has been conducted to compare attachment styles in residential, foster and parental care conducted as usual in the same country at the same point in time. There is also a lack of studies conducted in less developed countries. Therefore, the aim of this study was to compare outcomes for children living in three different types of care in Chile. Three groups of children (N=77), living in (RC), (FC) and with biological parents (PC) were compared. Attachment styles, Indiscriminate Friendliness (IF) and socio-emotional / behavioral difficulties were assessed. Higher rates of secure attachment were observed in the RC group (36.1%) when compared to studies in RC in other countries (mean 18%). However, children in both types of AC were significantly more likely to have insecure and/or disorganized attachment styles than PC children. Higher rates of socio-emotional and behavioral problems were observed in RC (55.6%) and FC (50%) compared to PC (10%). Within type of AC, no significant differences were found, for attachment styles or for socio-emotional/behavioral difficulties, the only difference were the levels of IF, with children in RC having higher levels. As a conclusion, impact of placement in AC can vary between different countries, other factors, rather than only type of AC could better explain differences in attachment security for children. Implications for research and practices are discussed.

Keywords: Alternative Care, Attachment, Socio-emotional problems, behavioral problems, Foster Care, Residential Care.

Attachment Representations and Socio-emotional problems in Alternative Care: A comparison between Residential, Foster and Family Based Children in Chile

Attachment theory has been an important framework for the study of outcomes in institutional settings. This perspective has highlighted the importance of the relationship a child establishes with its primary caregiver for his/her future social, emotional and behavioral development (Ainsworth, 1989; Bowlby, 1979; Mikunelincer, Shaver, & Perey, 2003). Children with a *Secure* attachment have had the experience of an available and stable caregiver and, thus, have developed a sense of secure base, which allows them to explore the world and express their feelings and needs. Interactions with less available or less consistent caregivers generate insecure attachments in children, which are less optimal strategies. These can be *Avoidant* (in which attachment system is suppressed and the child learns to be self-sufficient, avoiding the expression of needs and feelings) or *Ambivalent* patterns (in which attachment system is hyper-activated and the child is focused on the relationships and emotional expression, such that their exploration of the world is impaired). A fourth group of children are unable to develop any organised form of attachment (i.e., Secure, Insecure Avoidant/Ambivalent); these children have usually been exposed to extreme neglectful or abusive caregiving or to severe instability of caregiving (e.g., in institutional care). In institutions, factors such as shift systems, high staff turnover or very high child-to-caregiver ratios often reduce caregiver's physical and emotional availability. Thus, the setting in which children are raised is likely to impact on their emotional care and subsequent attachment.

A large body of research has been conducted with children living in institutions or children who were raised in institutions and then moved to foster care or were adopted. The majority of these studies have been conducted in the USA and Europe, and they reveal that the experience of being raised in large, impersonal institutions has a negative impact on attachment styles and other outcomes for children, such as behavioral and socio emotional

difficulties. In fact, being raised in a deprived institution is considered a risk factor for developing behavioral problems (such as impulsivity and aggressive behavior or, alternatively, inhibited behavior) and socio-emotional difficulties (such as anxiety, withdrawal and lack of self-regulation; Rutter et al, 2010). Additionally, studies have revealed that children raised in deprived institutions usually develop what has been called “indiscriminate friendliness”, an over-socially behavior in which the child does not differentiate unknown from familiar adults (Zeanah, Smyke, & Dumitrescu, 2002). However, the outcomes previously mentioned could be mediated by the quality of the interactions that children have with their caregivers while living under their care.

In terms of attachment in children living in institutional care, rates of secure styles vary from 0% to 47% and disorganized attachment from 5.35% to 65.8% depending on the country and the methodology of the study (for a detailed review of outcomes see [*names removed for anonymous review*]). Based on the results of these studies, several countries have developed the implementation of foster care programs as a better setting for children without parental care. Secure attachment rates in children raised in these settings are higher when compared to institutional care (52%-69.4% in FC) and disorganization is lower (13.1%-42.7% in FC; *names removed for anonymous review*). However, a recent meta-analysis found that foster care did not improve the rate of behavioral problems in children (Goemans, van Geel, & Vedder, 2015). Furthermore, the few studies conducted in less developed countries reveal that the characteristics of institutional care, foster care and outcomes for children can vary widely between countries and that rates of attachment styles in residential care are moderated by country of origin, among other factors (Lionetti, Pastore, & Barone, 2015).

Interpretation of findings within studies of attachment in alternative care is complicated by the fact that few studies compare outcomes of attachment in different settings *within* the same country; rather, comparisons are usually made between residential homes in

one country and foster care in another, which may vary in their social, economic and cultural realities. The only study that compared residential, foster and parental care was conducted in Romania where foster care did not exist previously; thus, the study included a group of children that were placed in a foster care program which was specially designed as an intervention with optimal conditions that may not be present in foster care programs conducted as usual (Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010).

In addition, despite large numbers of children in public care, little research has been conducted in Latin America and, specifically, in Chile regarding outcomes for children living in Alternative Care. The two previous studies conducted in Chilean institutions revealed higher security rates in children raised in residential care when compared to other countries (51.2% and 47% vs 18%; Herreros, 2009; Lecannelier, 2014). During the last two years, important debates have taken place in Chile regarding the quality of care provided by residential homes, and recommendations that foster care should be utilized over residential care are being implemented. One other study explored the presence of difficulties (socio-emotional and behavioral) in this group and found high levels of total difficulties and emotional difficulties as measured by Strengths and Difficulties Questionnaire (Zavala & Jimenez, 2015). However, no study has yet explored attachment styles in children living in foster care in Chile. Furthermore, no study has yet been conducted with three different types of care (conducted as usual) *within one* country to assess attachment styles and other outcomes for children.

Aims

Therefore, the aim of this research was to conduct the first study to compare attachment styles in children living in residential care, foster care (conducted as usual) and parental care children in the same country. Specifically, the study aimed to explore attachment styles, indiscriminate friendliness, and socio-emotional and behavioral problems

in children living in two types of alternative care (residential and foster) and to compare differences between them and a group of children raised by their parents. Five hypotheses were explored in this study regarding outcomes for children in three groups of care in Chile:

- 1) Based on a previous meta-analysis, it is hypothesized that children in Residential care in this Chilean sample will have higher rates of secure attachment and lower rates of disorganized attachment compared with samples in other countries.
- 2) There will be: a) higher rates and b) higher scores of insecure attachment and disorganized attachment in children in alternative care (RC and FC) compared to those raised by biological parents (PC).
- 3) Children living in RC will score higher for indiscriminate friendliness compared to children in foster care or parental care.
- 4) There will be higher levels of socio-emotional and behavioral problems in children living in alternative care (RC and FC) compared to children in PC.
- 5) There will be better outcomes for children living in FC compared to those children in RC regarding attachment styles and total difficulties.

Method

This study is part of a wider study of attachment in alternative care in Chile, which included 17 residential homes (see [*names removed for masked review*] for a description of the characteristics of residential setting included in this study) and five foster care programs in two of the main regions of Chile. This paper presents findings related to attachment styles, socio-emotional and behavioral problems and indiscriminate friendliness in three different groups of care (RC, FC and PC).

Ethical approval

Ethical approval for this study was gained from the ethical committee of the University of Birmingham (ERN 13-1187/131187A) and the local bodies for each group of

care (Directive teams for each residential home; Regional Children's Service for foster care programs). Ethical principles were adhered to, such as gaining informed consent and right to not take part/withdraw (see 'procedure'). The children's welfare was priority throughout.

Sample

The total sample consisted of 77 children and their carers: 36 children living in residential homes (RC), 21 in foster care (FC) and 20 parent raised children (PC). All children who met the inclusion criteria and were present at the moment of the visit to the residential or foster programs were included in the study. Inclusion criteria: 3 to 7 years old, no severe disability and at least 6 months living in present placement (for more details regarding response rates and characteristics of institutions see [*names removed for anonymous review*]). Children were aged 3 to 7 years old ($M= 64.12$ months, $SD=14.2$), with slightly more girls than boys ($n=43$, 55.8% girls; $n=34$, 44.2% boys). Children in care had spent an average of 22.28 months in this placement ($SD=12.06$) and 32.5% of them had previous placements (average 1.38 previous placements, $SD=.57$). The mean age at first placement was 32.64 months ($SD= 20.31$). The mean age of the PC group was younger than the other two, but there was no significant difference between age of RC and FC. No significant differences were found between groups regarding gender, number of previous placements and time in placement (see Table 1 for more details about characteristics in each placement).

[Table 1 here]

Measures

Three measures were used to explore the outcomes for children reported within this paper (i.e., Attachment style, Indiscriminate Friendliness (IF), and socio-emotional and behavioral outcomes).

Attachment Story Completion Task (ASCT; Bretherton, Ridgeway & Cassidy, 1990)

Attachment representations were assessed using the ASCT. In this, a doll play procedure is used to present a set of incomplete stories in attachment relevant topics (i.e., failure, hurt, fear, separation and reunion) to which the child must elaborate an end. This measure assesses attachment styles in children from 3 to 7 years old, it focusses in the representations of attachment these children construct in their relationship with significant caregivers, for this study a modified version of the ASCT for children in AC was used. The presentation of significant figure as “the caregiver” (with the term that the child normally uses), seeks to elicit attachment representations associated in that context. This procedure is non-threatening for children and allows detailed analysis of their narratives. The 20-minute play procedure is video-recorded for coding. A modified version of the ASCT has been used in institutional settings, with coding completed using the Story Completion Cards (CCH) system (Miljovitch et al., 2003). The CCH is a Qsort procedure in which the characteristics of the narrative are classified according to 65 items (the child’s narrative, behavior and responses), with the coding process taking about two hours per child. Scores are obtained on the four main attachment scales for security, deactivation (avoidance), hyperactivation (anxiety/ambivalence) and disorganization of attachment representations and ten subscales related to the narratives.

The Total Scores for the four main attachment scales can be analyzed in a continuous model and/or can be classified in attachment categories. For the continuous analysis, higher scores mean higher levels of each of the styles described above, in the children’s narratives.

For the Categorical analysis, in order to obtain categories, the score on the ‘Security’ scale is calculated first; if this security score is 50 (+/-1SD) the child is classified as secure. If, however, the score is below this range or if any of other three scales are higher than

50+2SD, the secondary strategy is observed, whereby the classification is based on whichever of the three scales is highest (i.e., avoidant, ambivalent or disorganized).

Children with a secure attachment easily integrate positive and negative emotions into the stories and are able to construct a resolution for the situations presented, expressing the need of caregiving figures and happiness at reunion. In contrast, children with an Avoidant attachment tend to construct adequate but 'cold' stories; they are usually brief, sometimes mention evasive solutions (e.g., going to sleep), no difficulty is presented with separation and there is very little reaction to reunion. Children with Ambivalent attachment construct stories that seem to be stuck in emotions, have difficulty in creating an end and have high expression of conflict. Disorganized children are unable to elaborate a resolution, often presenting destructive, chaotic and bizarre contents or remain paralyzed, and this is expressed through their behavior as well as in the content of their stories. According to Miljkovitch et al. (2004), reliability for the four attachment subscales is very good with intra class coefficients of .94, .94, .85, and .90, with a median of .91. In the current study, the overall inter-rater reliability for attachment classification was good (Kappa=.75).

Indiscriminate Friendliness 5 points measure - IF5 scale (Chisholm, 1995)

The IF5 scale comprises five questions that are asked of the parent/carer during an interview. A score of 1 is given each time a response indicates indiscriminate friendliness (range 0-5). Higher scores mean that the child exhibits higher levels of indiscriminate friendliness behaviors. This scale has been used in institutionalized, adopted and general population children with a good reliability for institutionalized (alpha=.72; Chisholm, 1998).

Strengths and Difficulties Questionnaire - Spanish version (SDQ-SpV), Goodman (2001)

Emotional, behavioral, hyperactivity and social difficulties, plus prosocial behavior were assessed using the SDQ (Spanish version), completed by the carer. This questionnaire has been used in the general population but also with institutionalized and fostered children

(Goodman, Ford, Corbin, & Meltzer, 2004; Muris & Maas, 2004; Palmieri & Smith, 2007). Scores on each sub-scale range from 0 to 10 and total scores range from 0 to 40 and can be categorized (normal/borderline/abnormal) or analyzed as a continuous measure. Scores that fall in the “Normal” category correspond to scores in the general population (80% according to authors’ norms in previous samples) and reflect behavior without any special risk or difficulty beyond what is expected for child’s age. Scores classified as “Abnormal” describe a child who presents problematic behaviors in one or more domains and this is interpreted as clinically relevant (corresponds to the higher 10% of the sample). Scores in the “Borderline” category reflect a situation in which the child presents with levels of problematic behavior that cannot be considered as abnormal but which can reveal some level of risk or alert (corresponds to the 20% higher scores). According to Goodman (2001), the SDQ has generally satisfactory internal consistency, with a Cronbach alpha coefficient reported of .73. In the current study Cronbach alpha coefficient was .80.

Procedure

Parents, caregivers or people who held parental responsibility for the child signed a consent form to participate in this study. The RC group was from eight different residential homes (all children that met the inclusion criteria were included). The FC group was collected from five foster care programs (all children that met the inclusion criteria were included). For the PC group, children were recruited from a state/public pre-school located in a similar neighborhood to match socio-economic backgrounds with RC and FC groups.

Children were assessed in their home (RC and FC) or their pre-school (PC) by the main researcher and a research assistant. Videos were then coded and a third double-coded by a blinded researcher from the University of Barcelona, trained in ASCT-CCH. Cohen’s Kappa determined that the level of agreement between raters on attachment classifications was good ($ka=.75, p<.005$).

Treatment of data

Power analysis was conducted with G*Power for chi-square 6df and 2df (Faul et al., 2008), ANOVA for 3 groups and MANOVA 4x3 (Faul et al., 2013). In order to detect medium size effects, as reported in a previous meta-analysis (Lionetti et al., 2015), the desired sample size ranged from 57 to 159 depending on the statistic, and for large size effects from 24 to 66 participants. This study had 77 participants and hence could potentially detect medium-large effects.

The analysis of the data was conducted as follows: preliminary assumption testing was conducted for normality, linearity, outliers, homogeneity of variance and multicollinearity with no serious violations noted. For categorical analysis of four attachment styles, a chi-square for independence was conducted but was invalid (60% of cells had less counts than expected). Therefore, attachment categories were merged (Avoidant and Ambivalent into a single 'Insecure' category), in order to calculate significant differences for three categories with chi-square test for independence. A one-way between-groups analysis of variance (ANOVA) was conducted to explore the impact of type of placement on 'secure' and 'disorganized' scores (measured by ASCT-CCH), with Kruskal-Wallis utilized for Avoidance and Ambivalence scores due to lack of normal distribution. A Bonferroni adjusted alpha level of .005 was used when multiple comparisons were conducted for 10 subscales of ASCT-CCH.

A one-way between-groups ANOVA was conducted to explore the impact of type of placement on indiscriminate friendliness in children, as measured by the IFF interview, and to explore the impact of type of placement in levels of problems in children, as measured by SDQ questionnaire (Total Problem Scale). Finally, a one-way between-groups multivariate analysis of variance (MANOVA) was performed to investigate differences between type of placement groups on the 10 ASCT-CCH subscales and four SDQ subscales.

Results

Results will be presented in the same order as the hypotheses stated for this study.

Attachment classification in Chilean residential care

In order to test the **first hypothesis**: “based on a previous meta-analysis children living in RC in this Chilean sample will have higher rates of secure attachment and lower rates of disorganized attachment compared with samples in other countries”, we compared attachment classifications in Chilean RC with attachment classifications in the meta-analysis mentioned above (Lionetti et al., 2015).

In the RC group (n=36), 36.1% of the children presented secure representations of attachment, 27% were classified as Avoidant, 11.1% Anxious and 25% Disorganized (Table 2). A chi-square goodness of fit test indicates there was a significant difference in the rate of secure, insecure and disorganized classifications in this RC group (36.1%, 38.1% and 25% respectively), compared with 18%, 28% and 54% obtained in a previous meta-analysis (Lionetti et al., 2015), $\chi^2(2, n=36)=13.69, p=.001$.

[Table 2 here]

Relationship between type of placement and Attachment Style

In order to test the **second hypothesis**: “There will be: a) higher rates and b) higher scores of insecure attachment and disorganized attachment in children in alternative care (RC and FC) compared to those raised by biological parents (PC), attachment rates and attachment scores were analyzed by group of placement and comparisons were made.

Categorical Analysis. Attachment classifications differed between groups (Figure 1). There was a higher rate of secure classification in PC (60.0%) compared to both RC (36.1%) and FC (42.9%). In addition, more children were classified as ‘Ambivalent’ in the FC group and ‘Avoidant’ in the RC group when compared to the other two groups.

[Figure 1 here]

However, comparison between these groups was not possible, due to small cell count. Therefore, Avoidant and Anxious attachments were merged in a single 'Insecure' category. With the merged groups, no significant difference in attachment classification was found between different types of placement ($\chi^2(4, n=77)=4.99, p=.29$).

Continuous Analysis (Attachment scores between groups). Using continuous scores, a one-way between-groups ANOVA demonstrated a significant difference between type of placement and mean scores on the security scale as measured by the ASCT-CCH ($F(2, 74)=5.5, p=.005$). The effect size (eta squared) was .131 (medium). Post-hoc comparisons using Gabriel's test indicated that the mean security score for the PC group ($M=54.89, SD=12.04$) was significantly different from the RC ($M=44.64, SD=11.30$) and FC groups ($M=45.77, SD=10.72$). The two latter groups did not differ significantly from each other (Figure 2).

In terms of disorganized attachment, a one-way between-groups ANOVA showed a significant difference for the three placement groups; $F(2,74)=5.8, p=.005$. The effect size (eta squared) was .15 (large). Post-hoc comparisons using Gabriel's test indicated that the mean PC disorganization score ($M=43.94, SD=12.21$) was significantly different from the RC ($M=56.04, SD=13.90$) and FC groups ($M=56.21, SD=14.69$). These two groups did not differ significantly from each other (Figure 2).

[Figure 2 here]

A Kruskal-Wallis Test revealed no statistically significant difference in Avoidance scores across the three different types of placement, $H(2)=.004, p=.998$. The same was true for the Ambivalence score, $H(2)=2.114, p=.348$. Finally, a one-way between-groups MANOVA showed a statistically significant difference between the three groups on the combined 10 ASCT-CCH subscales, $F(20,130)=2.53, p=.001$; Wilkis' Lambda=.98; partial

eta squared =.28. However, when the 10 subscales were considered separately, none of the subscales reached statistical significance (with Bonferroni adjustment).

Distribution of Indiscriminate Friendliness by type of care

In order to test the **third hypothesis**: “Children living in RC will score higher for indiscriminate friendliness compared to children in FC or PC”, comparison of the IF scores by type of placement was conducted. A one-way between-groups ANOVA was conducted to explore the impact of type of placement on indiscriminate friendliness, as measured by the IF5; a statistically significant difference was found between groups, $F_{(2, 74)} = 3.2, p=.04$ (Figure 3). The effect size calculated using eta squared was .08 (medium). Post hoc comparisons using the Dunnett test indicated that the mean IF score for RC (M=2.81, SD=1.32) was significantly different from PC (M=2.05, SD=1.31), but not from FC (M=2.05, SD=1.24).

[Figure 3 here]

Distribution of difficulties scores (SDQ) by type of care

In order to test the **fourth hypothesis**: “There will be higher levels of socio-emotional and behavioral problems in children living in alternative care (RC and FC) compared to children in PC”, distribution of attachment scores (categorical classifications and mean scores) by type of placement were compared.

Categorical analysis. Looking at SDQ Total Difficulties, 55.6% of the RC children and 50% of the FC children had scores in the ‘abnormal’ range (clinical concern) compared to 10% of the PC children (Table 3). A chi-square test for independence indicated a significant association between Total Difficulties (categorized as Normal, Borderline and Abnormal) and type of placement with a large size effect, $\chi^2_{(4, n=76)} = .39, p=.00, V=.39$. Regarding sub-scales, a similar pattern was observed for emotional ($\chi^2_{(4,76)} = .22.93, p=.00, V=.39$), behavioral ($\chi^2_{(4,76)} = 11.93, p=.18, V=.28$) and social problems ($\chi^2_{(4, 76)} = .63, p=.00,$

V=.45), but not for hyperactivity and prosocial behaviors, where no significant association with type of placement was observed.

[Table 3 here]

Comparisons in mean scores between groups (Continuous Analysis). Continuous Total Difficulty Scores in the three groups were compared using a one-way between-groups ANOVA (Figure 4), with a statistically significant difference found between the three placement groups: $F_{(2, 73)} = 19.9, p = .00$. The effect size calculated using eta squared was .54 (large). Post-hoc comparisons using Gabriel's test indicated that the mean score for PC (M=5.3, SD=4.65) was significantly different from FC (M=12.85, SD=6.03) and RC (M=5.58, SD=6.32), neither of which differed significantly from each other.

[Figure 4 here]

A one-way between groups MANOVA compared differences between type of placement groups on the SDQ subscales (i.e., emotional, behavioral, hyperactivity, social relationship difficulties, and pro-social behavior). Equality of variances assumption was violated so alpha levels were adjusted to .01. There was a statistically significant difference between groups of care on the combined five subscales, $F_{(10,138)} = 5.34, p = .000$; Wilkis' Lambda = .520; partial eta squared = .27. Considered separately, three of the five subscales reached statistical significance, using a Bonferroni adjusted alpha level of .002: **Emotional Difficulties** $F_{(2, 73)} = 14.39, p = .000$, partial eta squared = .28; **Behavioral Difficulties** $F_{(2, 73)} = 9.22, p = .000$, partial eta squared = .20; and **Social Relationship Difficulties** $F_{(2, 73)} = 13.10, p = .000$, partial eta squared = .26. Large effects were found for each of these three subscales. An inspection of the mean scores indicated that PC scored lower in the three difficulties scales. In order to explore the significance of specific differences among three groups in these subscales, a one-way ANOVA was conducted with post hoc tests. Significant differences were observed only between the PC and other two groups (RC and FC); no statistically

significant differences were found between the RC and FC groups in any of the three problem scales. Emotional Difficulties RC ($M=2.75$, $SD=1.680$), FC($M=2.10$, $SD=1.917$) and PC ($M=.40$, $SD=.821$); Behavioral Difficulties RC ($M=3.83$, $SD=2.48$), FC ($M=2.95$, $SD =2.06$) and PC ($M=1.25$, $SD=.151$); Social Relationships Difficulties RC ($M=3.64$, $SD=1.62$) FC ($M=3.15$, $SD=2.47$) and PC ($M=1.05$, $SD=1.43$).

Comparison of RC and FC outcomes

In order to test the **fifth hypothesis**, “There will be better outcomes for children living in FC compared to those children in RC regarding attachment styles and total difficulties”, results regarding attachment styles, and socio-emotional and behavioral difficulties were compared by groups as presented above, and findings were summarized according to the existence (or not) of difference between children living in each type of AC (i.e. RC and FC)

As reported above, no statistically significant differences were found between children living in residential care and in foster care in any of the variables explored, i.e., attachment classifications and emotional, behavioral or social difficulties.

Discussion

This is the first study to compare attachment styles between three groups of care (children living in residential and foster homes, or with parents) within the same country and where no intervention was included, i.e., placements were conducted as usual. Three of the five hypotheses explored in this study were confirmed, one had mixed results and the last one could not be confirmed. First, and as previous studies with Chilean RC samples have reported (e.g., Herreros, 2009; Lecannelier et al., 2014), in residential care approximately twice as many children had a secure attachment classification and approximately half had a disorganized attachment classification compared to previous studies conducted in institutional settings in other countries (see Lionetti et al., 2015 and [names removed for anonymous review] for a review of studies in institutional settings). Note that these reviews

and meta-analysis include studies using several different measures of attachment according to the age of the children (mainly SSP) but a number of these studies use the same measure (ASCT) that this paper reports (n=8). According to the meta-analysis (Lionetti et al., 2015), higher rates of insecure attachment styles were reported in studies using representational measures (such as the ASCT), when compared to those using behavioral measures (such as SSP). Previous studies with Chilean RC samples using other methods (i.e., behavioral measures, SSP) have also found higher rates of secure attachment classifications. Therefore, this factor could not explain the higher rates of children classified as secure in this Chilean sample.

However, other possible reasons for this difference might be the influence of cultural factors that can facilitate a less ‘mechanical’, routine care in residential settings, such as more expression of affection (e.g., Chilean children in care refer to their caregivers and other significant figures as ‘Aunties’, while hugs and kisses are seen as positive and common expressions). In fact, country of origin was previously stated in a meta-analysis as a moderating factor for security of attachment in RC (Lionetti et al., 2015). Other moderating factors mentioned in the meta-analysis were age at entry to RC and age at assessment; these two factors may have an influence in the lower disorganized rates found in this Chilean sample. In the first place, the mean age at entry to RC was older than 12 months and according to meta-analysis, being placed in RC before 12 months is linked to higher likelihood of disorganized pattern than being placed after that age. Second, age at assessment was older than 3 years, which has been established as a cut-off point, with a greater percentage of children in RC younger than 3 years being disorganized than children above that age. These could be confounding factors that needs to be explored further. However, previous samples in Chilean RC that had different characteristics regarding age at placement and age at assessment found convergent results.

Other possible reasons that could explain the higher rates of secure attachment in this sample, could be more sensitive caregivers, smaller groups of children and better staff-child ratios. The influence of all these factors for different types of care need to be studied. A curious note is that children in PC presented rates of secure attachment slightly lower (60%) that seen in the international literature on general populations (65-70%). However, this PC sample had similar socioeconomic conditions to the AC groups in order to control for other possible confounding variables. As such, families in this PC group also had some degree of vulnerability due to social stressors that could impact upon the parent-child relationship. This is an interesting avenue to explore further.

Second, as expected, attachment styles in alternative care (RC and FC) differed from that observed in parental care, presenting higher levels of insecure and disorganized patterns. However, mixed results were found for this hypothesis: in terms of rates, the small sample size by group did not allow for comparisons between groups in all categories. Therefore, further studies with larger samples are desirable to explore in detail the differences between groups given that a certain trend of a different pattern of insecurity was found within type of AC, with RC having more avoidant and FC more ambivalent patterns. Theoretically this could have a basis in the specific characteristics of each placement. For example, a higher child to staff ratio in RC could lead to a suppression in the expression of needs/avoidance, whilst possible greater instability in foster care due to uncertainty about length of placement, plus the existence of biological children in the same foster home, may lead to a more ambivalent pattern. However, these are all theoretical speculations that need to be studied further in order to describe differences between the type of AC.

With merged categories, no significant difference was found between Secure and Insecure in terms of type of placement. However, when using continuous analysis, lower levels of security and higher levels of disorganization were found in the AC groups when

compared to PC. Something that needs to be considered is the fact that disorganized attachment may be interpreted in a different way in residential settings as resulting from the complexity and instability of care in these contexts, rather than as a dysfunctional or pathological relationship with the carer due to severe neglect or maltreatment (as it would be interpreted in family settings).

Third, Indiscriminate Friendliness was higher in children living in residential care, as has been found in other studies as characteristic of institutional care and persists even after adoption (Chisholm, 1998; O Connor, Rutter and the English and Romanian Adoptee Study Team, 2000). In this Chilean sample, levels of IF were similar to those reported in other countries, which is interesting given that this sample had different pattern of rates of attachment to other countries.

Fourth, a higher percentage of children in both types of AC had SDQ scores that were classified as Abnormal, compared to children raised by their parents. This has been observed in previous studies and can be interpreted as a negative outcome for children who have experienced lack of appropriate parental care (i.e. abuse and neglect). However, it is difficult to differentiate the effects of being placed in AC from the effects of previous family adverse experiences which the child brings with them when entering AC (i.e., maltreatment and other factors in their family contexts that led to placement in AC). This is especially considering the age at first placement in this AC sample ($M=32.64$ months), which means that children had lived for nearly three years with their biological parents prior to enter AC. This demonstrates the importance of working with families at an early stage to prevent increasing difficulties and/or maltreatment, to try to prevent the placement of children in AC. Further research regarding mediating factors for socio-emotional and behavioral differences in these contexts is needed.

Fifth, surprisingly, the last hypothesis could not be confirmed as no significant differences were found between the RC and FC groups regarding security or disorganization of attachment, total problems, or behavioral, emotional or social problems. Worldwide, foster is seen as a better form of care, yet this outcome highlights the need for local research to study the conditions in which foster care programs have been implemented and the quality of care being provided. The only domain in which there were significant differences between FC and RC was IF, which was higher in RC and has been associated to specific characteristics of residential settings. Several authors (Chisholm, 1998; Zeanah, Smyke, & Dumitrescu, 2002) have stated that IF behavior can have a different meaning in residential settings and can be adaptive in these contexts (while more pathological if present in family contexts). These authors state that IF can be observed in children with a clear attachment figure as well as in those who do not have one, meaning that it is a different construct from attachment disorders as stated in international classifications.

Hence, these findings challenge the idea that foster care always and in all conditions, provides better outcomes for children than residential care. However, it is important to consider whether other factors may better explain the differences among attachment styles beyond type of placement; these include quality of care, stability of placement and caregiver factors (e.g., sensibility, motivation, etc.) and these need to be explored further in order to provide the best care possible in every country.

Limitations and future challenges

The residential homes and foster carers voluntarily agreed to participate in the study and, hence, the findings might be impacted upon by that in terms of generalizability. Although a range in quality of care was found within the residential homes included in this study, there were none that had extremely poor quality of care and very few were classified as big institutions (see [*names removed for anonymous review*] for details of quality of care

in residential settings included in this study). It may be that some other places or programs that chose not to participate or that had different characteristics and quality of care, might have different patterns of attachment within their children. In addition, other countries in Latin America may have differences in their policies and facilities for children in alternative care. Therefore, additional studies both within Chile and across Latin America would be useful.

This study considered an age range of 3 to 7 years old. However, babies and toddlers require more personalized one to one, and sensitive care, which has been proven to be crucial. Hence, it would be interesting to explore outcomes for even younger children or for age at admission. A number of other possible associated factors (as mentioned above) should be considered to explore associations and impact on attachment styles and other outcomes for children.

Conclusion

In conclusion, early intervention programs for families in vulnerable circumstances and with those that have started to present difficulties in their child rearing practices can help to avoid the need to place those children in alternative care. This should be a priority considering that outcomes for children are not optimal in either form of alternative care. However, whilst that takes place, residential care need not be demonized, but knowledge built on how it can be useful and meet children's needs given that, at least in the short term, there will be children cared for in such settings. Similarly, research needs to consider why some foster care is not meeting the needs of children any more than residential care. Chile, and every country, needs to consciously assess the type of care they are providing to vulnerable children who suffer breakdowns in attachment formation and diverse socio-emotional and behavioral problems, in order to better implement public policies for their care. Caution is needed when replicating the experience of one country in another or when comparing one

type of setting in one country with a different setting in another country that may have very different characteristics. Each country should evaluate different programs to improve the provision of services for children in need. Finally, the presence of several difficult outcomes in these settings (socio-emotional and behavioral difficulties, IF and attachment insecurity and disorganization) should lead to the provision of mental health services for children living in AC as a priority.

References

- Ainsworth, M. (1989). Attachment beyond infancy. *American Psychology*, 44, 709-716.
- Bowlby, J (1979). The making and breaking of affectional bonds. London: Tavistock Publications Ltd.
- Bretherton, I., Ridgeway, D., & Cassidy, J. (1990). Assessing internal working models of the attachment relationship. An attachment story completion task for 3-year-olds. In M. T. Greenberg, D. Cicchetti, & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research and intervention*. Chicago: University of Chicago Press.
- Chisholm, K. (1998). A three-year follow-up of attachment and indiscriminate friendliness in children adopted from Romanian orphanages. *Child Development*, 69(4),1092-106.
- Chisholm, K., Carter, M., Ames, E., & Morison, S. (1995). Attachment security and indiscriminately friendly behavior in children adopted from Romanian orphanages *Development and Psychopathology*, 7(2), 283-29. DOI: 10.1017/S0954579400006507
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2008). G*Power Version 3.1.2 [computer software]. Universität Kiel, Germany. Retrieved from <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/download-and-register>

- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2013). G*Power Version 3.1.7 [computer software]. Universität Kiel, Germany. Retrieved from <http://www.psych.uni-duesseldorf.de/abteilungen/aap/gpower3/download-and-register>
- Garcia Quiroga, M. & Hamilton-Giachritsis, C. (2016). "Getting Involved": A Thematic Analysis of Caregiver's Perspectives in Chilean residential Children's Homes. *Journal of Social and Personal Relationships* (early online view) DOI: 10.1177/0265407516637838
- Garcia Quiroga, M., & Hamilton-Giachritsis, C. (2016). Attachment in alternative care: A Systematic Literature Review. *Child and Youth Care Forum*, 45(4), 625-653. Published online 17 December 2015. DOI 10.1007/s10566-015-9342-x
- Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire (SDQ). *Journal of the American Academy of Child and Adolescent Psychiatry*, 40, 1337-1345.
- Goodman, R., Ford, T., Corbin, T., & Meltzer, H. (2004). Using the Strengths and Difficulties Questionnaire (SDQ) multi-informant algorithm to screen looked-after children for psychiatric disorders. *European Child and Adolescent Psychiatry*, 13(Suppl 2), II25-31.
- Herreros, F. (2009). Attachment security of infants living in a Chilean Orphanage. *Poster presented at the Biennial meeting of the Society for Research in Child Development*. Denver, Co.
- Lionetti, F., Pastore, M., & Barone, L. (2015). Attachment in institutionalized children: A review and meta-analysis. *Child Abuse & Neglect*, 42, 135-145. DOI 10.1016/j.chabu.2015.02.013

- Lecannelier, F., Silva, J. R., Hoffmann, M., Melo, R., & Morales, R. (2014). Effects of an intervention to promote socio-emotional development in terms of attachment security: a study in early institutionalization in Chile. *Infant Mental Health Journal*, 35, 151–159. DOI: 10.1002/imhj.21436
- Mikyulincer, M., Shaver, P., & Perey, D. (2003) Attachment theory and affect regulation: the dynamics, development and cognitive consequences of attachment related strategies. *Motivation and Emotion* (27) 77-102.
- Miljkovitch, R., Pierrehumbert, B., Karmaniola, A., & Halfon, O. (2003). Les représentations d'attachement du jeune enfant. Développement d'un codage pour les histoires à compléter. *Devenir*, 15, 143-177. Miljkovitch, R., Pierrehumbert, B., Bretherton, I., & Halfon, O. (2004) Associations between parental and child attachment representations. *Attachment & Human Development*, 6:3, 305-325. DOI: 10.1080/14616730412331281557
- Muris P, & Maas, A. (2004). Strengths and difficulties as correlates of attachment style in institutionalized and non-institutionalized children with below-average intellectual abilities. *Child Psychiatry and Human Development*, 34, 317-328
- O'Connor, T., Rutter, M., & The English and Romanian Adoptee Study Team (2000) Attachment disorder behavior following early severe deprivation: extension and longitudinal follow-up. *J Am Acad Child Adolesc Psychiatry* 39:703-712
- Palmieri, P.A., & Smith, G.C. (2007). Examining the structural validity of the Strengths and Difficulties Questionnaire (SDQ) in a U.S. sample of custodial grandmothers. *Psychol Assess*, 19, 189-98.
- Rutter, Michael, Edmund J. Sonuga-Barke, Celia Beckett, et al. (2010) *Deprivation-Specific Psychological Patterns: Effects of Institutional Deprivation*. Monographs of the Society for Research in Child Development 75.1. Boston: Wiley-Blackwell.

RC

FC

PC

Zavala, M., & Jiménez, J. (2015) Acogimiento Familiar en Chile: Análisis de los perfiles familiares y del ajuste de niños y niñas. Tesis Doctoral presentada en la Facultad de Psicología. Universidad de Sevilla. (Dissertation)

Zeanah, C, Smyke, A., & Dumitresku, A. (2002) Attachment Disturbances in Young Children. II: Indiscriminate Behavior and Institutional Care. *Journal of the American Academy of Child and Adolescent Psychiatry* (41): 8 983-989.

DOI:10.1097/00004583-200208000-00017

Table 1
Characteristics of the sample by type of placement

	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Security in Attachment Mean Score	44.64	11.30	45.77	10.72	54.89	12.04
Disorganization in Attach. Mean Score	56.04	13.90	56.21	14.69	43.94	12.21
Age (Mean, in months)	63.78	13.01	64.71	16.35	53.63	3.22
Months in placement (Mean)	23.3	11.83	20.48	12.58	n/a*	
Age at first placement (Mean, in months)	37.73	18.27	24.25	21.15	n/a*	
Gender						
Boys (%)	18 (50%)		7 (33.3%)		11 (45%)	
Girls (%)	18 (50%)		14 (66.7%)		9 (55%)	
Reason for placement					n/a*	
Protection/Judicial (%)	16 (44.4%)		7 (33.3%)			
Abuse/Neglect/Maltr (%)	15 (41.7%)		9 (42.9%)			
Abandoned/Orphan (%)	3 (8.3%)		5 (23.8%)			
Had previous placements(%)	10 (27.8%)		15 (71.4%)		0	
Had contact biol. Parents(%)	18 (50%)		6 (28.6%)		20 (100%)	
In adoption status (%)	18 (50%)		10 (47.6%)		0	
Total N	36		21		20	

*n/a=Not applicable

Table 2

Distributions of Attachment Styles by Type of Placement

	Secure		Avoidant		Ambivalent		Disorganized		Total	
	n	%	n	%	n	%	n	%	n	%
RC	13	36.1	10	27.8	4	11.1	9	25.0	36	100
FC	9	42.9	3	14.3	6	28.6	3	14.3	21	100
PC	12	60.0	4	20.0	3	15.0	1	5.0	20	100
Total	34		17		13		13		77	
%	44.2%		22.1%		16.9%		16.9%		100	

Table 3

Distributions of SDQ Total Difficulties Categories by Type of Placement*

	Normal		Borderline		Abnormal		Total	
	n	%	n	%	n	%	n	%
RC	17	19.4	9	25.0	20	55.6	36	100
FC	6	30.0	4	20.0	10	50.0	20	100
PC	17	85.0	1	5.0	2	10.0	20	100
Total	30		14		32		76	
%	39.5%		18.4%		42.1%		100	

*Meaning of each category detailed in the description of the measure.

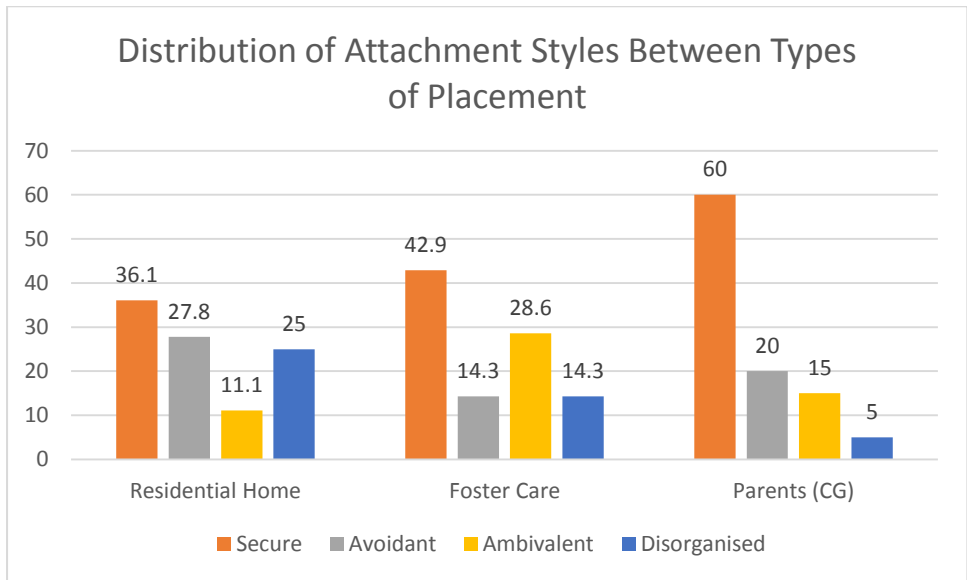


Figure 1.

Percentages of attachment styles categories by type of placement

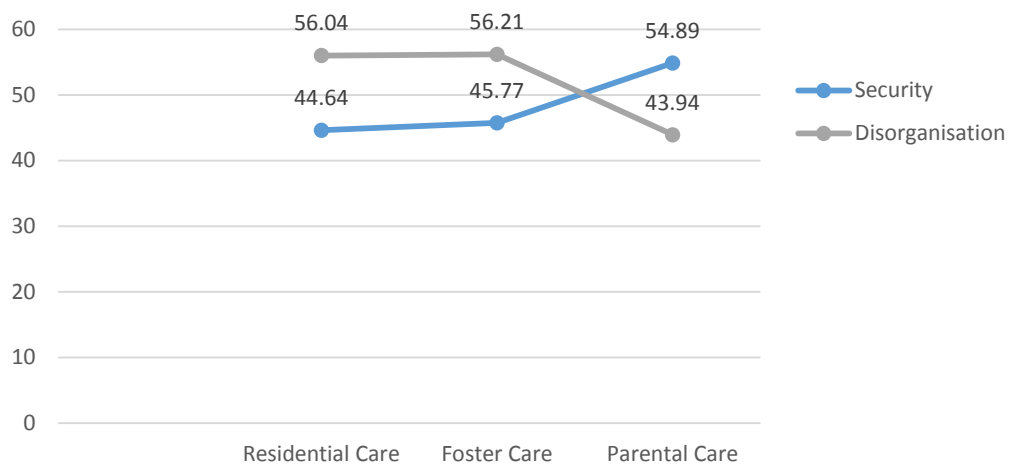


Figure 2.
Mean scores in security and disorganisation by type of placement

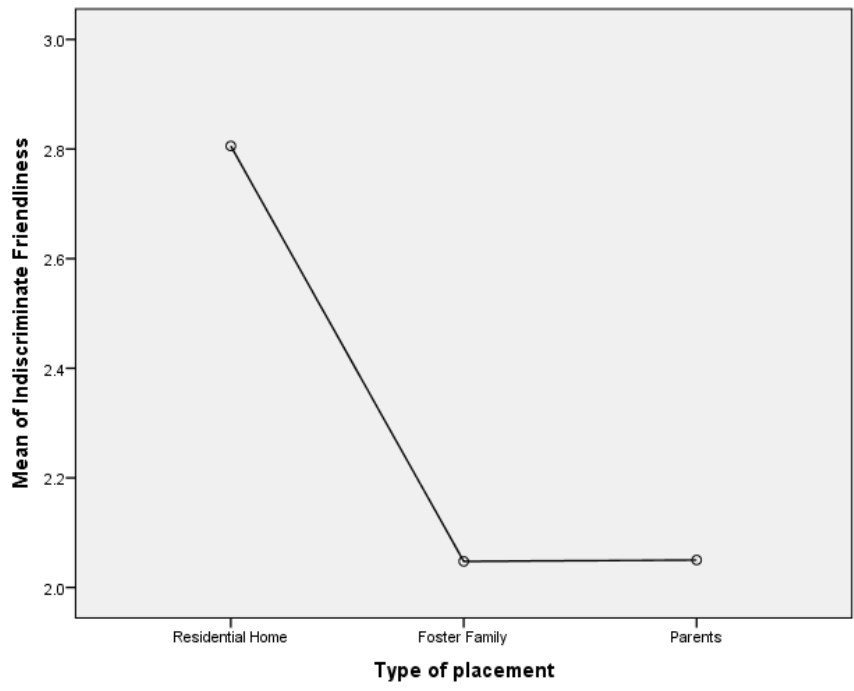


Figure 3

Mean scores in indiscriminate friendliness scale by type of placement

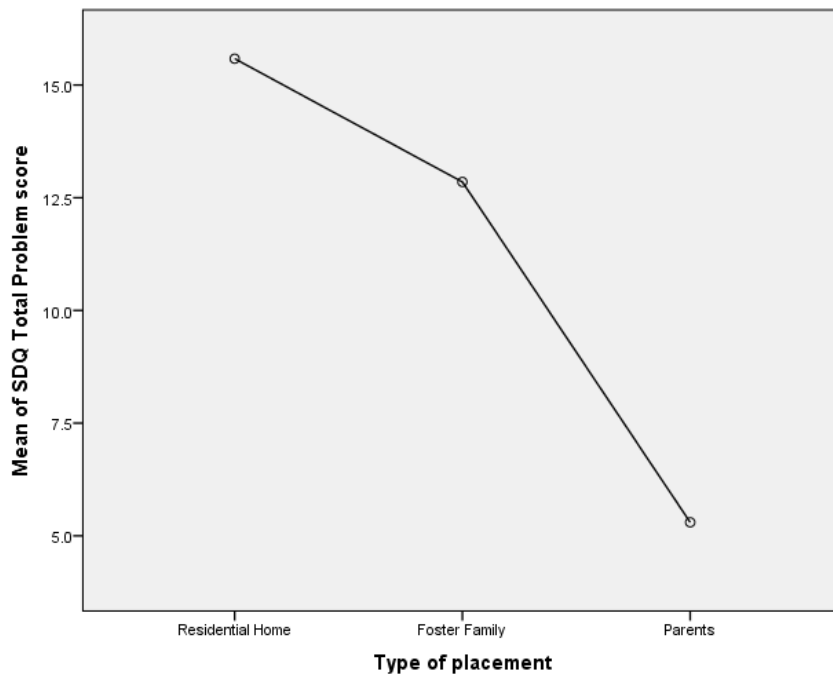


Figure 4.

Mean scores in SDQ total difficulties scale by type of placement