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Behavior problems and attachment in adopted and non-adopted adolescents

María Josefina Escobar [a,b,*], Ximena Pereira [c,d], María Pía Santelices [a]

[a] School of Psychology, Pontificia Universidad Católica de Chile, Santiago, Chile
[b] Laboratory of Cognitive and Social Neuroscience (LaNCyS), UDP-INECO Foundation Core on Neuroscience (UIFCoN), Universidad Diego Portales, Santiago, Chile
[c] School of Medicine, Universidad de Chile, Santiago, Chile
[d] School of Psychology, Universidad del Desarrollo, Santiago, Chile

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ABSTRACT

Many studies have shown that adopted adolescents present more behavioral problems than non-adopted adolescents do. However, few studies have been published about national adoption in South America, even though this is the most common type of adoption in these countries. The goal of this study was to examine the differences in behavioral problems between nationally adopted and non-adopted adolescents (using Achenbach's Child Behavior Check-list (CBCL) and the Youth Self Report (YSR)), as well as to examine the relationship between behavioral problems and attachment style in adolescents. Participants: 25 adolescents adopted at the age of 6 months or older and 25 non-adopted adolescents. Results: No significant differences were found between groups in terms of behavioral problems. Adolescents adopted at a later age presented more "social problems" than those who were adopted earlier on. Even though the adopted adolescents presented more insecure attachment, there were no significant differences between groups in terms of behavioral problems and attachment style. There was a significant interaction between adoption and attachment on the Thought Problems scale of the YSR, with the non-adopted/insecure adolescents scoring higher. Possible interpretations of these results are presented in the discussion. In general, the adopted adolescents were not significantly different from the adolescents who grew up with their birth families. Furthermore, adoption within the first two years of life may represent a protective factor against "social problems" during adolescence. These findings may contribute to the de-stigmatization of adoption and a move away from the idea that adopted adolescents are "difficult".

1. Introduction

Adolescence is typically considered a difficult stage in life. This stage may be particularly difficult for adopted individuals. In addition to significant physical and psychological changes, questions regarding identity and origin become important during adolescence as well (Bimmel, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2003). Previous studies support the idea that adopted adolescents present more behavioral problems than their peers who grew up with their biological families (Hawk & McCall, 2011; Merz & McCall, 2010). However, some have found that said differences are not significant (Juffer & van IJzendoorn, 2005; Brodzinsky, Radice, Huffman, & Merkler, 1987). Some studies investigating attachment in adopted children showed that those adopted before 12 months of age presented less attachment security than non-adopted children (van den Dries, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2009). It has also been reported that adopted adolescents show more insecure attachment than non-adopted adolescents and/or the general population (Barcons et al., 2012; Beijersbergen, Juffer, Bakermans-Kranenburg, & van IJzendoorn, 2012; Escobar & Santelices, 2013). Moreover, some studies (some with adopted children) have shown that the insecure attachment style acts as a risk factor for later behavioral problems (Buist, Deković, Meeus, & van Aken, 2004; Judge, 2004; Marcovitch et al., 1997; Pace & Zappulla, 2011; Pierrehumbert, Miljkovitch, Plancherel, Halfon, & Ansermet, 2000).

Finally, the number of published studies regarding international adoption is increasing, but in Latin-America, national adoptions are more common. Over 81% of adoptions in Chile are done by parents living in Chile. To our knowledge, only a few studies have explored issues relevant to adoption in the context of national adoption in South America. This is important because a meta-analyses showed that national adoptions presented more behavioral problems than international adoptions (Juffer & van IJzendoorn, 2005).

1.1. Adoption and behavioral problems

Although several studies have suggested that adopted children have a greater risk of developing behavioral problems (Peters, Atkins, & McKernan McKay, 1999; Sharma, McGue, & Benson, 1998; Wierzbicki, 1993), this issue remains controversial.

Yet another set of studies reported no significant differences between groups (Cederblad, Höök, Irhammar, & Mercke, 1999; Goldney, Donald, Sawyer, Kosky, & Priest, 1996; Juffer & van IJzendoorn, 2005). One study found significant differences between adopted and non-adopted infants, but the differences disappeared by the age of 10–11 (Brodzinsky et al., 1987). These results suggest that any differences observed between

* Corresponding author at: Vergara 275 (CP 8370076), Santiago, Chile. Tel.: +56 994378947.
E-mail address: maria.escobar@udp.cl (M.J. Escobar).

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the adopted and non-adopted may diminish with age. This finding contradicts the idea that adolescence is more problematic for adopted individuals than other stages of development.

A meta-analysis of 66 publications investigating adoption and psychological adjustment showed that adopted individuals had more externalizing disorders and problems in academics than adolescents who grew up with their biological families (Wierzbicki, 1993). Also, there was a greater difference between adopted versus non-adopted individuals among adolescents than among children or adults. Finally, this analysis revealed no significant differences related to age at the time of adoption (Wierzbicki, 1993).

With regard to international adoptions, two meta-analyses were published between 2003 and 2005. The first reviewed 10 studies and aimed to assess the prevalence of behavioral problems among adopted adolescents (Bimmel et al., 2003). This study reported that the adopted adolescents had relatively more behavioral problems, which were observed in externalizing problems but not in internalizing problems (Bimmel et al., 2003). However, the majority of adopted adolescents are well adjusted. The second meta-analysis, published in 2005, was the first to assess behavioral problems and mental health in international adoptions compared to control groups of nationally non-adopted and adopted adolescents (Juffer & van IJzendoorn, 2005). The authors reviewed 34 articles about "mental health referral" and 64 about "behavior problems". The main findings were that the group of international adoptions showed more behavioral problems, both externalizing and internalizing, compared to the non-adopted adolescents. However, the authors warned that they had small effect sizes: the higher scores for behavioral problems were moderate, indicating that although relatively more international adoption individuals resorted to mental health services, most of them were in fact well-adjusted (Juffer & van IJzendoorn, 2005). This difference in mental health referrals has already been cited in clinical as well as non-clinical studies (Haugaard, 1998); some authors suggest that adopted adolescents are overrepresented in the clinical population because adoptive parents are more likely to resort to counseling (Miller et al., 2000). Another finding from the last meta-analysis was that international adoptions manifest fewer behavioral problems than national adoptions, both externalizing and internalizing (Juffer & van IJzendoorn, 2005). Finally, in support of the aforementioned results (Wierzbicki, 1993) regarding international adoptions, adolescents were shown to have fewer behavioral problems than individuals in middle and early childhood (Juffer & van IJzendoorn, 2005).

A more recent study about international adoption with children aged 4 to 18 reported that those who had been institutionalized for at least two years had significantly higher scores than the control group, reflecting greater problems with both internalizing and externalizing behaviors (Gunnar et al., 2007). These authors suggested that age at adoption, together with early institutionalization, can increase behavior problems, particularly externalizing problems (Gunnar et al., 2007). Similarly, another study with internationally adopted children aged 6 to 18 found that institutionalization was linked to a higher risk of attention problems and externalizing symptoms (Hawk & McCall, 2011; Merz & McCall, 2010). They also found that the scores for behavioral problems increased significantly when the child was adopted after the age of 18 months. Moreover, this relationship between age at adoption, social problems and externalizing problems was more significant when evaluated during adolescence (12–18 years) than during infancy (6–11 years) (Hawk & McCall, 2011; Merz & McCall, 2010). This last finding contradicts some of the earlier mentioned studies (Juffer & van IJzendoorn, 2005; Wierzbicki, 1993).

Finally, regarding age at the time of adoption, Gleitman and Savaya (2011) studied a group of adolescents who had been adopted between birth and 9 years of age. These authors found no relationship between age at adoption and adaptation. They also reported low levels of behavioral problems, both for externalizing and internalizing symptoms. Contrary to this finding, a transcultural study including participants from 5 different countries reported that the age at which the adolescents were adopted predicted the presence of symptoms associated with ADHD, as measured with the scale for attention deficit/hyperactivity problems (Roskam et al., 2013). Also in a study by Hawk and McCall (2011), late adoption individuals (after 18 months of age at the time of adoption) scored higher for attention problems during infancy (6–11 years) as well as adolescence (12–18 years).

Therefore, whether adopted adolescents indeed present greater behavioral problems remains controversial. There is also no consensus regarding whether these problems arise in adolescence or simply become more pronounced during this developmental period. Finally, a clear link between behavioral problems and age at adoption has yet to be established.

1.2. Informant discrepancies in the assessment of behavioral problems

Previous studies investigating discrepancies between informants in the behavioral problem evaluation (De Los Reyes & Kazdin, 2005) have revealed differences between parents' reports and children's self-reports (Achenbach, McConaughy & Howell, 1987; Grigorenko, Geiser, Slobodskaya, & Francis, 2010). These discrepancies can be explained by different variables. One of these is the age of participants at the time of evaluation. There were more discrepancies among the parents' reports than among the adolescents' (Achenbach et al., 1987). Another important variable is the type of problem, as there seems to be a higher level of agreement between informants when it comes to externalizing problems (Achenbach et al., 1987; Duhig, Renk, Epstein, & Phares, 2000; Langberg et al., 2010) and more parent–child discrepancies for internalizing problems. In the latter case, young people give these problems higher scores than their parents (Achenbach et al., 1987; Hughes & Gullone, 2010; Youngstrom, Loeber, & Stouthamer-Loeber, 2000). Finally, it has also been shown that certain psychological conditions affecting the parents (such as depressed (Chi & Hinshaw, 2002) and anxious mothers (Najman et al., 2000)) may increase the level of informant discrepancy. In short, most investigators agree that it is necessary to include multiple informants in the evaluations of behavioral problems (De Los Reyes & Kazdin, 2005; Epstein, Renk, Duhig, Bosco, & Phares, 2004).

1.3. Attachment and the adopted adolescent

Several studies have suggested a link between adoption with a background of institutionalization, and insecure or disorganized attachment (Chisholm, 1998; Chisholm, Carter, Ames, & Morison, 1995; Rutter, Kreppner, & O'Connor, 2001; Van IJzendoorn & Juffer, 2006; Vorria et al., 2006). A meta-analysis of attachment in adopted children showed that those adopted before 12 months of age presented less attachment security than non-adopted children (van den Dries et al., 2009). Studies about styles of attachment in adopted adolescents are scarce. Beijersbergen et al. (2012) showed that in a sample of 125 early adopted adolescents, 76% showed insecure attachment, more than that observed in the general population. Another recent study with 116 adopted children ages 8 to 11 ($M = 8.92$; $SD = 1.08$) found that the distribution of attachment patterns in this sample was very similar to that of the general population (Barcons et al., 2012) (60.3% of safe attachment, similar to 62% for the general population). However, adopted children showed more insecure-avoidant attachment (25% compared to 15% for the general population and 12% ambivalent attachment compared to 9% for the general population). With regard to disorganized attachment, the adopted children only got 1.7% compared to 15% found in the general population. This suggests that adopted children are mostly able to develop an organized attachment pattern (only two cases presented disorganized attachment (Barcons et al., 2012)). In a recent study conducted with the same group of participants from the current study, we found a significant predominance of insecure attachment patterns in adopted adolescents relative to their non-adopted peers (Escobar & Santelices, 2013). Similar to the study by Barcons et al. (2012), adopted adolescents mostly displayed insecure-avoidant attachment. Interestingly, neither type of disorganized attachment was found in the Chilean sample.

1.4. Attachment and behavior problems

Some studies have reported a relationship between attachment style and behavioral problems, both in childhood and in adolescence. In one study, a link was found between insecure-avoidant attachment and externalizing problems in children (Pierrehumbert et al., 2000). Insecure attachment has also been associated with internalizing behavioral problems, such as anxiety and somatic difficulties (Manassis, Bradley, Goldberg, & Hood, 1995), as well as symptoms of depression (Kobak, Sudler, & Gamble, 1991). On the other hand, adolescents who had a higher quality of attachment displayed fewer internalizing and externalizing problems, while those with a lower quality of attachment had greater internalizing and externalizing behavioral problems (Buist et al., 2004). These results were supported by a study with 535 adolescents in which insecure attachment – both avoidant and anxious – predicted both internalizing and externalizing problems (Pace & Zappulla, 2011).

Studies with adopted children also showed similar findings. A study with 56 adopted children found that the children who were institutionalized for a longer time showed more insecure attachment and more behavioral problems (Marcovitch et al., 1997). Another study with 124 adopted children found that the children who scored lower on secure attachment presented more atypical behavioral problems (Judge, 2004). In short, there is evidence to suggest that the insecure attachment style could act as a risk factor in the development of behavioral problems.

The goal of the current study was to compare the behavioral problems of adopted and non-adopted adolescents, while considering both their age at adoption and the data gathered from the parental and self-reports. In addition, we wanted to explore the relationship between behavioral problems and the attachment style (secure vs. insecure) of the adopted and non-adopted adolescents.

2. Method

2.1. Participants

This study is part of the Attachment Adoption Research Network (AARN, website: http://aarnetwork.wordpress.com/), which is an international project focusing on forms of attachment in adopted adolescents and their parents.

Three groups of Chilean adolescents ($n = 50$) aged between 11 and 18 ($M = 12.90$; $SD = 1.74$) participated in this study. Participant characteristics are listed in Table 1. All adopted adolescents were national and late adoptions ($> = 6$ months of age) and they were divided into two groups. We divided the groups according to age at adoption

(before and after 24 months), as research with institutionalized children has suggested that the first two years of life are a critical neurodevelopmental period during which intervention should occur (Vanderwert, Marshall, Nelson, Zeanah, & Fox, 2010) and children adopted after the age of 2 presented higher rates of behavioral problems (Gunnar et al., 2007). The first group consisted of 14 adolescents (5 females) adopted between the ages of 6 and 23 months ($M = 10.14$; $SD = 5.09$) and the second group included 11 adolescents (6 females) adopted between the ages of 24 and 72 months ($M = 46.09$; $SD = 14.61$). Twenty-one (21) adopted adolescents had lived only in institutions before being adopted. Of the remaining 4 cases, one had lived in institutions and in foster care and the other three had lived only in foster care.

Adopted adolescents that matched the inclusion criteria were found in the adoption registry and contacted through three authorized adoption agencies in Chile: Servicio Nacional de Menores (SENAME), Fundación Chilena para la Adopción and Fundación San José para la Adopción. The adoption agencies made the first contact with the families and invited them to participate in the study. Researchers had access to the data of only 37 families who had agreed to be contacted for the study. Of these, eight families decided not to participate. The reasons for not participating were: in three cases, they felt that they did not want to stir up past issues; in three other cases, the adolescent refused to participate; and in one case, the mother said she would participate only if the adolescent would not be interviewed because he did not yet know he was adopted. Another five cases were excluded because they did not meet inclusion criteria, as follows: one adolescent had a developmental disorder, and in four cases, the adoptions were early (before the age of 6 months). The final group consisted of 25 adoptive families.

The control group consisted of 25 non-adopted adolescents who grew up with their biological families (11 women). The adolescents of the non-adopted group were paired by gender, age, educational level and socio-economic level to members of the group of adopted adolescents. The control families were specially chosen in order to be able to pair both groups by socio-economic level, age, gender and educational level of the adolescents in the adopted group. We obtained this information through social networks (Facebook groups, chain letters). Parents were allowed to see their child's neuropsychological evaluation.

The family's socio-economic level was defined according to the parents' level of education and their occupation, resulting in the following groups: high socio-economic level (38%); middle socio-economic level (58%); low socio-economic level (4%).

Exclusion criteria used in this study included adolescents with mental disabilities or a serious psychiatric illness in their medical history, as reported by the mother.

2.2. Instruments

2.2.1. Family data form and adoption background

Family's socio-demographic information: socio-economic level, parents' educational level, children's educational level, age at adoption.

Medical history: history of childbirth and subsequent complications, health information prior to the adoption (in the group of adopted adolescents), information about the child's current health and history of medical or mental health. All information was provided by the mothers.

2.2.2. The Child Behavior Check-list (CBCL)

The *Child Behavior Check-list* (CBCL) (Achenbach, 1991a) is a 120 item questionnaire used to rate the child's behavior, emotional problems and symptoms. The parent has to complete a list of items about child behavior, if it is not true (0), somewhat true (1) or often true (2). The CBCL identify syndromes of problems like subscales. The syndromes are: Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, Aggressive Behavior, Other Problems, and Sex Problems. The last one do not have counterpart in the self report version. Also, the CBCL have two groupings of syndromes: Internalizing (grouped: Withdrawn, Somatic Complaints, and Anxious/Depressed syndromes) and Externalizing (grouped: Delinquent Behavior and Aggressive Behavior). Different forms of this questionnaire are completed by the parents (Parent Report Form, for mother or mother and father) and other by the children themselves (Youth Self-Report).

The *Youth Self-Report* (YSR) (Achenbach, 1991b) consists of 116 items arranged in nine subscales (Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, Aggressive Behavior, Other Problems, and Self Destructive/Identity Problems) that describe a range of behaviors, feelings, and thoughts. For each, respondents are asked to indicate whether it is not true (0), somewhat true (1) or often true (2) of themselves. The subscales cover Internalizing behaviors (withdrawn, somatic complaints, and anxious-depressed) and Externalizing behaviors (delinquent behavior and aggressive behavior).

2.2.3. The Friends and Family Interview (FFI)

The *Friends and Family Interview* (FFI) (Steele, Steele, Kerns, & Richardson, 2005) was used to evaluate adolescent attachment. This is a semi-structured interview adapted from the Adult Attachment Interview (AAI) (George, Kaplan, & Main, 1985). The FFI has 8 dimensions (Coherence; Reflective function; Evidence of secure base; Evidence of self-esteem; Peer relations; Sibling relations; Anxieties and defenses; Differentiation of parental representations) each with its respective subcategories The interview also contains non-verbal codes for fear/distress and frustration/anger and the global attachment classification. The dimensions are scored using four ratings (1 = no evidence; 2 = mild evidence; 3 = moderate evidence and 4 = marked evidence), following the authors' coding guidelines (Steele, Steele, & Kriss, 2009).

For the global attachment classification portion of the interview, both the video and the transcript were taken into consideration. In the coding guidelines, the authors suggest considering the styles as strategies for emotion-regulation, i.e., adolescents with a secure attachment at times showed flexibility and ease in coping with themselves, as well as an ability to turn to others for support and offer support to others

Table 1
Descriptive analysis of the sample.

	Adopted from ≥6 to 23 months		Adopted from ≥24 to 72 months		Non-adopted		Total	
Sex	No.	%	No.	%	No.	%	No.	%
Masculine	9	64.3	5	45.5	14	56	28	56
Feminine	5	35.7	6	54.5	11	44	22	44
Total	14	100	11	100	25	100	50	100
	M	SD	*M*	SD	*M*	SD	*M*	SD
Age at assessment	13.21	1.88	12.36	1.43	12.96	1.79	12.9	1.74
Age at adoption	10.14	5.09	46.09	14.61	–	–	25.96	20.85

in need. According to the manual, people who show avoidance use derogation or idealization as a defense, and show restriction when acknowledging or expressing distress. Ambivalent adolescents rate highly on anger or passivity. Finally, disorganized people rate highly on fearfulness and non-verbal distress.

For the current study, we used the categories of global attachment classification: secure attachment, insecure-avoidant attachment, insecure ambivalent attachment or disorganized attachment. Each interview lasted on average 35 min (minimum of 18 min and maximum of 1 h and 40 min). Every interview was videotaped and later transcribed, and a code was generated using both materials (video and transcript). For this study, two trained evaluators coded six interviews and obtained a Cohen's Kappa = 0.94, while another 44 interviews were conducted by only one of the two evaluators.

2.3. Procedure

This project was approved by the Ethics Committee of the School of Psychology of the Pontifical Catholic University of Chile. Once the family was contacted, all participants (parents and adolescents) signed a voluntary consent form in accordance with the Declaration of Helsinki. Following informed consent, we conducted an interview with each adolescent's mother, and then an interview with each adolescent. Interviews and compilation of questionnaires were conducted at the participants' homes.

2.4. Data analysis

Statistical analyses were conducted using the 20.0 version of the Statistical Package for the Social Sciences (SPSS) software. We used Student's t-tests to compare adopted and non-adopted adolescents with regard to behavioral problems, and the Mann Whitney *U* test to compare groups with different institutionalization times. To analyze the relationship between behavioral problems and parents' and adolescents' reports, we used Pearson's correlations. We also used Student's t-tests to analyze the differences between these correlations in adopted versus non-adopted adolescents. Finally, we conducted a factorial ANOVA to assess the impact of adoption and attachment on behavioral problems, taking into account both the parents' and the adolescents' perception. For the analyses of CBCL and YSR, we used raw scores (not *T* scores).

3. Results

Internal consistency was low for the Thought Problems scales of the CBCL questionnaire and the Withdrawn, Social Problems, Thought Problems, Delinquent Behavior Problems and Other Problems scales of the YSR questionnaire. Internal consistency was acceptable in the Withdrawn, Somatic Complaints, Social Problems, Delinquent Behavior, and Sex Problems scales of the CBCL and in the Attention Problems and Somatic Complaints scales of the YSR. Finally, the Attention Problems scale of the CBCL and the Anxious/Depressed, Aggressive and Self Destructive Behavior/Identity Problems scales of the YSR had good internal consistency, while the Anxious/Depressed, Aggressive Behavior, Other Problems, and externalizing and internalizing scales of the CBCL and the externalizing and internalizing problems of the YSR scales had optimal reliability, as measured with Cronbach α (See Table 2). Regarding the study's main goal, the differences between adopted and non-adopted adolescents were analyzed with regard to behavioral problems, as reported by the parents (CBCL) and the adolescents themselves (YSR). The results are listed in Table 3. There were no significant differences between the adopted and the non-adopted groups regarding behavioral problems, as reported by the parents (CBCL) or themselves (YSR).

When we separately analyzed the two subgroups of adopted adolescents (those adopted between the ages of 6 and 24 months) (n = 14, 56%) and those adopted between the ages of 2 and 6 years (n = 11, 44%) using both parents' and adolescents' reports, we only observed significant differences in adolescents' self-reports of social problems ($U = 36.500$, $Z = -2.256$, $p = 0.025$), with adolescents adopted at a later age obtaining a higher score (see Table 4).

Results for the correlation between adolescents' and parents' perception of behavioral problems are listed in Table 5. Parents' reports were correlated with adopted children's reports on two of the 11 scales and with non-adopted children's reports on seven of the 11 scales. This difference between the adopted and non-adopted adolescent groups was significant ($t = -2.947$, $p = 0.008$).

As mentioned above, the groups differed significantly in their attachment styles (Escobar & Santelices, 2013), with the adopted adolescents presenting more insecure attachment (see Table 6). 32% of adopted adolescents had secure attachment, 52% had insecure-avoidant attachment and 16% had insecure-ambivalent attachment. On the other hand, 72% of non-adopted adolescents showed secure attachment, 20% insecure-avoidant attachment and 8% insecure-ambivalent attachment.

There was a significant effect of adoption as well as a significant interaction of adoption and attachment on the Self Report Thought Problems variable (Table 7). Even though a significant interaction effect was found between the factors of the variable Self Report Anxious/Depressed, the estimation of the interval of trust for the size of the effect doesn't allow maintaining the statistical strength of said difference.

Therefore, non-adopted adolescents obtained higher scores than adopted adolescents on the Self Report Thought Problems scale. In addition, non-adopted adolescents scored higher on insecure attachment ($M = 3.29$, SD = 1.98) of the Self Report Thought Problems than the adopted adolescents ($M = 0.88$, SD = 0.93). These differences were relatively smaller for secure attachment (adopted: $M = 1.5$, SD = 1.31; non-adopted: $M = 1.56$, SD = 2.33) (Fig. 1).

The assumed homogeneity of the variances was met for most of the sub-scales. In cases where it was not met and statistically significant differences were detected, we re-distributed the variables into four groups respecting the interaction and using the Welch correction in order to control for possible errors.

4. Discussion

The main objective of this study was to evaluate the differences in behavioral problems between adopted adolescents and adolescents who grew up with their biological families. We did not observe significant differences between the groups, either on parental or self-reports. Although adoptive mothers scored higher on both internalizing and externalizing problems than biological mothers, as reported in previous studies (Brodzinsky et al., 1987; Cederblad et al., 1999; Goldney et al., 1996), these differences were not significant in the current study.

Unlike the reports of the studies we reviewed above (Bimmel et al., 2003; Hawk & McCall, 2011; Wierzbicki, 1993), our data revealed no significant differences between adopted and non-adopted adolescents on any of the behavioral problem scales. This is particularly interesting, as results were non-significant both for the parental and for the adolescents' self reports. Therefore, our study is in agreement with previous studies that did not find significant differences between adopted and non-adopted adolescents (Brodzinsky et al., 1987; Cederblad et al., 1999; Goldney et al., 1996; Juffer & van IJzendoorn, 2005). This suggests that both from the perception of the parents and that of the adolescents there are no differences in the behavior problems during adolescence of an adopted child and an adolescent who grew up with his/her biological family. These results could help de-stigmatize adolescence in adopted children, as their behavior, according to the results of this study, are no different from that of children growing up with their biological families.

Table 2
Descriptive scales data (CBCL/YSR).

Scale	Min-max	$M \pm SD$	95% CI	α
CBCL				
Withdrawn	0–13	2.70 ± 2.7	1.9–3.5	0.69
Somatic Complaints	0–9	1.52 ± 2.1	0.9–2.1	0.69
Anxious/Depressed	0–26	5.34 ± 5.5	3.8–6.9	0.88
Social Problems	0–8	2.34 ± 2.2	1.7–2.9	0.60
Thought Problems	0–4	0.98 ± 1.2	0.6–1.3	0.23
Attention Problems	0–15	4.88 ± 3.9	3.8–5.9	0.79
Delinquent Behavior	0–9	2.40 ± 2.6	1.7–3.1	0.64
Aggressive Behavior	0–21	7.28 ± 6.3	5.5–9.1	0.89
Other Problems	0–29	5.50 ± 6.1	3.8–7.2	0.83
Sex Problems Syndrome	0–7	0.44 ± 1.2	0.1–0.8	0.67
Internalizing	0–42	8.48 ± 8.3	6.1–10.8	0.89
Externalizing	0–30	9.68 ± 8.5	7.3–12.1	0.90
YSR				
Withdrawn	0–9	2.44 ± 1.9	1.9–2.9	0.38
Somatic Complaints	0–8	2.50 ± 2.4	1.8–3.2	0.65
Anxious/Depressed	0–16	5.56 ± 4.1	4.4–6.7	0.76
Social Problems	0–8	2.64 ± 1.9	2.1–3.2	0.35
Thought Problems	0–9	1.56 ± 1.9	1.0–2.1	0.58
Attention Problems	0–11	4.98 ± 2.8	4.2–5.8	0.62
Delinquent Behavior	0–9	3.40 ± 2.3	2.7–4.1	0.52
Aggressive Behavior	0–19	7.20 ± 4.6	5.9–8.5	0.77
Other Problems	0–16	7.60 ± 3.8	6.5–8.7	0.55
Self Destructive/Identity Problems	0–7	1.94 ± 1.7	1.5–2.4	0.71
Internalizing Problems	1–26	10.50 ± 7.0	8.5–12.5	0.83
Externalizing Problems	1–28	10.60 ± 6.4	8.8–12.4	0.81

A second important finding was the discrepancy between the reports from the different informants (mothers vs. adolescents). Taking into consideration the 11 common scales, parent responses were correlated with adopted adolescent responses on only two of the measures, and with non-adopted adolescent responses on seven scales. These differences suggest that there is a relatively greater difference in the perception of behavioral problems between parent reports and those of the adopted adolescents. The adoptive mothers scored higher than their children on almost every scale. This allows for two interpretations of the data. The first has to do with adoptive mothers and the second with adoptive children. With regard to the first hypothesis, the studies indicate that the condition of adoptive parents places them in a more alert state with regard to the behavior of their children. This is understandable because most of them had to go through psychological suitability evaluations (Bimmel et al., 2003) and participated in pre-adoption education programs (Miller et al., 2000). Also, they are very motivated to raise their children well and are perhaps more sensitive to the presence of symptoms (Bimmel et al., 2003; Juffer & van IJzendoorn, 2005). This hypothesis is in line with the position presented by Miller et al. (2000), who suggested that adopted parents present a lower threshold for referring their child to mental health counseling. Other differences present in the aforementioned studies are the socio-economic and educational levels, which are higher in the adoptive families. However, these differences were overcome in the current study, as our control group was matched to our adopted group on both of these variables. The second hypothesis is that adolescents scored lower in their self reports in an attempt to present themselves as better adapted. In both cases, it is worthwhile to ask about the post-adoption processes. It would be good to provide support for the parent so that they can live the processes with less anxiety about the children/adolescents in order to help them through the development processes of the children and/or work with the children on the possibility of acting like themselves without the insistence or need to please the rest.

Table 3
Differences in behaviors problems between adopted (n = 25) and non-adopted adolescents (n = 25) based on parent information (CBCL) and self-report (YSR).

	Adopted	Non-adopted	t	p
	M (SD)	M (SD)		
CBCL				
Total Withdrawn	3.32 (3.23)	2.08 (1.82)	1.669	0.102
Total Somatic Complaints	1.28 (2.03)	1.76 (2.146)	−0.812	0.421
Total Anxious/Depressed	5.88 (5.86)	4.8 (5.18)	0.689	0.494
Total Social Problems	2.84 (2.26)	1.84 (2.07)	1.627	0.11
Total Thought Problems	1.2 (1.22)	0.76 (1.16)	1.302	0.199
Total Attention Problems	5.56 (3.83)	4.2 (3.91)	1.241	0.221
Total Delinquent Behavior	2.76 (2.72)	2.04 (2.40)	0.99	0.327
Total Aggressive Behavior	7.48 (5.70)	7.08 (6.88)	0.224	0.824
Total Other Problems	5.96 (5.40)	5.04 (6.87)	0.526	0.601
Total Sex Problems Syndrome	0.36 (0.86)	0.52 (1.44)	−0.475	0.637
Internalizing	9.08 (9.09)	7.88 (7.47)	0.51	0.613
Externalizing	10.24 (8.08)	9.12 (8.98)	0.463	0.645
YSR				
Total Withdrawn	2.64 (1.99)	2.24 (1.71)	0.76	0.451
Total Somatic Complaints	2.52 (2.50)	2.48 (2.25)	0.059	0.953
Total Anxious/Depressed	5.72 (3.82)	5.4 (4.42)	0.274	0.786
Total Social Problems	2.6 (1.60)	2.68 (2.11)	−0.151	0.881
Total Thought Problems	1.08 (1.07)	2.04 (2.33)	−1.866	0.071
Total Attention Problems	4.88 (2.69)	5.08 (3.04)	−0.246	0.807
Total Delinquent Behavior	3.28 (2.17)	3.52 (2.55)	−0.358	0.722
Total Aggressive Behavior	6.84 (4.87)	7.56 (4.45)	−0.545	0.588
Total Other Problems	8.04 (3.10)	7.16 (4.38)	0.819	0.417
Total Self Destructive/ Identity Problems	1.92 (2.15)	1.96 (1.17)	−0.081	0.936
Internalizing Problems	10.88 (6.96)	10.12 (7.16)	0.38	0.705
Externalizing Problems	10.12 (6.47)	11.08 (6.44)	−0.525	0.602

A third finding of the study is that among the adopted adolescents, differences in the social problems scale were determined by age at adoption: adolescents who were adopted after the age of 2 scored significantly higher on this scale. These data partially support the study by Sharma et al. (1998) who also found differences on the "social problems" scale of the YSR, but also reported differences on the "self-destruct" and "withdrawn" syndromes, which we did not find in our own analysis. Similarly, Merz and McCall (2010) found that age at adoption has a significant effect, mainly in terms of adolescents' "social problems" and "externalizing problems". The current study supports the notion that age at adoption is a risk factor only for "social problems", thus emphasizing the importance of early adoptions.

Finally, as we reported in a previous study, adopted adolescents presented more insecure attachment than the adolescents who grew up with their biological families, predominantly of the insecure-avoidant type (Escobar & Santelices, 2013). We hypothesize that this is mainly due to not having a stable figure during the earliest periods of development. As a result, they must learn to be independent and fend for themselves. For the same reason, if there are no people whom they can trust during their social development, this may make them more vulnerable in crisis situations (Escobar & Santelices, 2013). On the positive side, adopted adolescents were able to develop a pattern of adaptive attachment, whether secure or insecure. We did not observe any disorganized attachments (Escobar & Santelices, 2013).

Although no effects were observed when we considered attachment in behavior disorders only, we did observe significant effects of the adoption factor, as well as a significant interaction between adoption and attachment on the Self Report Thought Problems scale. This suggests that insecure attachment leads to a higher risk of presenting thought problems in non-adopted adolescents. The interpretation of this result presents certain difficulties, but it most likely suggests that this kind of symptomatology is more evident in adolescents with insecure attachment who grew up with their biological families, given that we may not have considered all relevant variables associated with adopted adolescents. This of course raises the question of which other variables (other than attachment) should be taken into consideration. Finally, one must be careful when interpreting the data, however, as internal consistency of the thought problem scale is weak.

Table 4
Differences in behaviors problems between adopted from ≥6 to 23 months (n = 14) and adopted from ≥24 to 72 months (n = 11) based on parent information (CBCL) and self-report (YSR).

	Adopted from ≥6 to 23 months	Adopted from ≥24 to 72 months	*U*	Z	*p*
	M	*M*			
CBCL					
Total Withdrawn	12.11	14.14	64.500	−0.694	0.501
Total Somatic Complaints	14.36	11.27	58.000	−1.128	0.317
Total Anxious/Depressed	13.21	12.73	74.000	−0.165	0.893
Total Social Problems	12.46	13.68	69.500	−0.415	0.687
Total Thought Problems	12.04	14.23	63.500	−0.771	0.467
Total Attention Problems	11.82	14.5	60.500	−0.906	0.373
Total Delinquent Behavior	11.39	15.05	54.500	−1.251	0.222
Total Aggressive Behavior	11.25	15.23	52.500	−1.347	0.183
Total Other Problems	13.14	12.82	75.000	−0.110	0.936
Total Sex Problems Syndrome	14.5	11.09	56.000	−1.545	0.267
Internalizing	12.32	13.86	67.500	−0.522	0.609
Externalizing	11.25	15.23	52.500	−1.344	0.183
YSR					
Total Withdrawn	11.75	14.59	59.500	−0.979	0.344
Total Somatic Complaints	12.96	13.05	76.500	−0.028	0.979
Total Anxious/Depressed	13.61	12.23	68.500	−0.470	0.647
Total Social Problems	10.11	16.68	36.500	−2.256	0.025*
Total Thought Problems	14.04	11.68	62.500	−0.833	0.434
Total Attention Problems	12.68	13.41	72.500	−0.249	0.809
Total Delinquent Behavior	11.64	14.73	58.000	−1.061	0.317
Total Aggressive Behavior	12.18	14.05	65.500	−0.632	0.536
Total Other Problems	14.14	11.55	61.000	−0.881	0.403
Self Destructive/Identity Problems	14.25	11.41	59.500	−0.987	0.344
Total Socially desirable Items	13.79	12	66.000	−0.607	0.572
Internalizing Problems	12.86	13.18	75.000	−0.110	0.936
Externalizing Problems	12.11	14.14	64.500	−0.688	0.501

* Significant differences at the 0.05 level (2-tailed).

This study has certain limitations that must be taken into consideration. Its first limitation is its small sample size. This is a reflection of the difficulty of reaching the participants, the confidentiality of the adoption records, the fact that the families prefer not to talk about adoption with their children, and the lack of follow-up of the families, as well as the changing demographics over time. Adoption studies are voluntary and require parents' authorization as well as children's willingness and motivation to participate. This in itself may present an added confound, as it is possible that the adolescents who agree to participate are also those who are better-adapted and have a better relationship with their parents (Gleitman & Savaya, 2011). Despite these limitations, we believe our study presents an important contribution to the field, as it is the first study investigating behavioral problems in a population of adopted adolescents in Chile. Thus, new questions have come up as well as new information, which is very relevant for clinical psychologists working with young children and adults. It allows accentuating which aspects should be considered when facing an adopted adolescent. Likewise, it makes us aware of the importance to consider the possibility of finding discrepancies among informants. And that is why the information of multiple informants is relevant in the evaluations of the adolescents, and a more external observer could be included, such as a teacher.

5. Conclusion

The results of this study may help de-stigmatize adoption and weaken the notion that adopted adolescents are necessarily "problematic", since overall, we did not observe significant behavioral differences between adopted adolescents and those who grew up with their biological families. However, adoptions after the age of 2 seem to carry a higher risk for social problems later on, which highlights the importance of early adoptions. Even though adopted adolescents presented more insecure attachment than their non-adopted peers, we found no interaction between insecure attachment and behavioral problems.

Table 5
Correlations between parent–adolescent behavior problem assessment (CBCL–YSR).

	Correlation adopted	Correlation non-adopted
Withdrawn	0.637**	0.3
Somatic Complaints	0.306	0.386
Anxious/Depressed	0.282	0.416*
Social Problems	0.13	0.225
Thought Problems	0.082	0.341
Attention Problems	0.301	0.489*
Delinquent Behavior	0.202	0.634**
Aggressive Behavior	0.24	0.671**
Other Problems	0.428*	0.514**
Internalizing Problems	0.292	0.558**
Externalizing Problems	0.217	0.702**

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 6
Attachment pattern depending on their condition.

	Adopted	Non-adopted	χ^2 (1)	*p*
	n (%)	n (%)		
Secure attachment	8 (32%)	18 (72%)	8.013	0.005
Insecure attachment	17 (68%)	7 (28%)		

Table 7
Two-way analyses of variance for the adoption and attachment and the behavior problems of the adolescents in self and parent perspective.

Dependent variable	Main effects		Interaction effects
	Adoption	Attachment style	Adoption * attachment style
CBCL			
Withdrawn	$F_{(1,46)} = 2.14, p = 0.150$	$F_{(1,46)} = 0.01, p = 0.916$	$F_{(1,46)} = 0.06, p = 0.811$
Somatic Complaints	$F_{(1,46)} = 0.06, p = 0.807$	$F_{(1,46)} = 2.17, p = 0.147$	$F_{(1,46)} = 2.85, p = 0.98$
Anxious/Depressed	$F_{(1,46)} = 0.75, p = 0.391$	$F_{(1,46)} = 0.45, p = 0.507$	$F_{(1,46)} = 0.36, p = 0.552$
Social Problems	$F_{(1,46)} = 1.89, p = 0.175$	$F_{(1,46)} = 0.02, p = 0.884$	$F_{(1,46)} = 0.58, p = 0.450$
Thought Problems	$F_{(1,46)} = 0.70, p = 0.407$	$F_{(1,46)} = 0.70, p = 0.407$	$F_{(1,46)} = 0.00, p = 0.958$
Attention Problems	$F_{(1,46)} = 1.32, p = 0.256$	$F_{(1,46)} = 0.00, p = 0.939$	$F_{(1,46)} = 0.02, p = 0.882$
Delinquent Behavior	$F_{(1,46)} = 0.66, p = 0.422$	$F_{(1,46)} = 0.09, p = 0.766$	$F_{(1,46)} = 0.742, p = 0.394$
Aggressive Behavior	$F_{(1,46)} = 0.06, p = 0.808$	$F_{(1,46)} = 1.27, p = 0.267$	$F_{(1,46)} = 0.01, p = 0.942$
Other Problems	$F_{(1,46)} = 0.23, p = 0.631$	$F_{(1,46)} = 0.00, p = 0.948$	$F_{(1,46)} = 0.12, p = 0.734$
Sex Problems Syndrome	$F_{(1,46)} = 0.21, p = 0.650$	$F_{(1,46)} = 0.00, p = 0.948$	$F_{(1,46)} = 0.02, p = 0.902$
Internalizing Problems	$F_{(1,46)} = 0.32, p = 0.577$	$F_{(1,46)} = 0.09, p = 0.768$	$F_{(1,46)} = 0.13, p = 0.721$
Externalizing Problems	$F_{(1,46)} = 0.00, p = 0.949$	$F_{(1,46)} = 0.85, p = 0.363$	$F_{(1,46)} = 0.10, p = 0.755$
YSR			
Self Report Withdrawn	$F_{(1,46)} = 0.19, p = 0.669$	$F_{(1,46)} = 0.34, p = 0.563$	$F_{(1,46)} = 0.30, p = 0.588$
Self Report Somatic Complaints	$F_{(1,46)} = 0.28, p = 0.603$	$F_{(1,46)} = 1.67, p = 0.203$	$F_{(1,46)} = 1.43, p = 0.238$
Self Report Anxious/Depressed	$F_{(1,46)} = 0.09, p = 0.769$	$F_{(1,46)} = 0.09, p = 0.761$	**$F_{(1,46)} = 4.365, p = 0.042$** partial $\eta^2 = 0.087$, CI 95% [0.00, 0.26]
Self Report Social Problems	$F_{(1,46)} = 0.40, p = 0.530$	$F_{(1,46)} = 1.38, p = 0.246$	$F_{(1,46)} = 0.37, p = 0.546$
Self Report Thought Problems	**$F_{(1,46)} = 5.14, p = 0.028$** partial $\eta^2 = 0.100$, CI 95% [0.05, 0.18]	$F_{(1,46)} = 1.05, p = 0.310$	**$F_{(1,46)} = 4.68, p = 0.036$** partial $\eta^2 = 0.092$, CI 95% [0.05, 0.16]
Self Report Attention Problems	$F_{(1,46)} = 0.04, p = 0.835$	$F_{(1,46)} = 0.04, p = 0.835$	$F_{(1,46)} = 2.76, p = 0.104$
Self Report Delinquent Behavior	$F_{(1,46)} = 0.37, p = 0.547$	$F_{(1,46)} = 0.39, p = 0.535$	$F_{(1,46)} = 0.66, p = 0.420$
Self Report Aggressive Behavior	$F_{(1,46)} = 0.84, p = 0.365$	$F_{(1,46)} = 0.73, p = 0.397$	$F_{(1,46)} = 2.78, p = 0.102$
Self Report Other Problems	$F_{(1,46)} = 0.20, p = 0.656$	$F_{(1,46)} = 0.40, p = 0.532$	$F_{(1,46)} = 1.45, p = 0.234$
Self Report Destructive/Identity Problems	$F_{(1,46)} = 0.10, p = 0.755$	$F_{(1,46)} = 1.20, p = 0.280$	$F_{(1,46)} = 1.34, p = 0.237$
Self Report Internalizing	$F_{(1,46)} = 0.22, p = 0.644$	$F_{(1,46)} = 0.21, p = 0.651$	$F_{(1,46)} = 3.10, p = 0.085$
Self Report Externalizing	$F_{(1,46)} = 0.78, p = 0.381$	$F_{(1,46)} = 0.72, p = 0.401$	$F_{(1,46)} = 2.26, p = 0.140$

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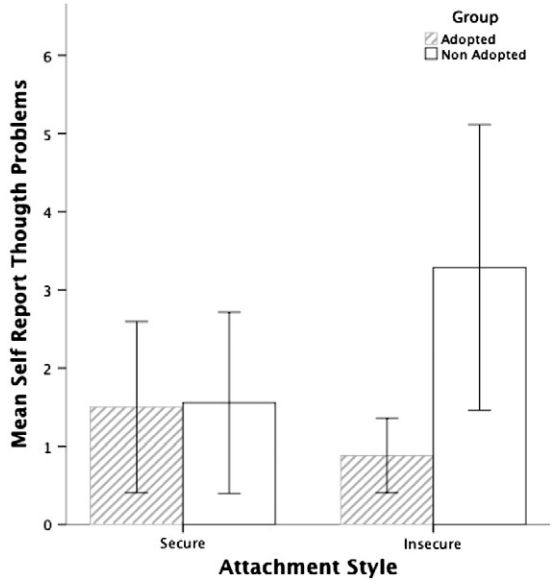

Fig. 1. Interaction effect attachment pattern and condition in Self Report Thought Problems.

References

Achenbach, T. M. (1991a). *Manual for the CBCL/4-18 and 1991 profile.* Burlington, VT: University of Vermont Department of Psychiatry.
Achenbach, T. M. (1991b). *Manual for the youth self-report and 1991 profile.* Burlington, VT: University of Vermont, Department of Psychiatry.
Achenbach, Thomas M., McConaughy, Stephanie H., & Howell, Catherine T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101*(2), 213.
Barcons, N., Abrines, N., Brun, C., Sartini, C., Fumadó, V., & Marre, D. (2012). Social relationships in children from intercountry adoption. *Children and Youth Services Review, 34*(5), 955–961.
Beijersbergen, Mariëlle D., Juffer, Femmie, Bakermans-Kranenburg, Marian J., & van IJzendoorn, Marinus H. (2012). Remaining or becoming secure: Parental sensitive support predicts attachment continuity from infancy to adolescence in a longitudinal adoption study. *Developmental Psychology, 48*(5), 1277.
Bimmel, N., Juffer, F., van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2003). Problem behavior of internationally adopted adolescents: A review and meta-analysis. *Harvard Review of Psychiatry, 11*(2), 64–77.
Brodzinsky, D. M., Radice, C., Huffman, L., & Merkler, K. (1987). Prevalence of clinically significant symptomatology in a nonclinical sample of adopted and nonadopted children. *Journal of Clinical Child Psychology, 16*(4), 350–356.
Buist, Kirsten L., Deković, Maja, Meeus, Wim, & van Aken, Marcel A. G. (2004). The reciprocal relationship between early adolescent attachment and internalizing and externalizing problem behaviour. *Journal of Adolescence, 27*(3), 251–266.
Cederblad, Marianne, Höök, Börje, Irhammar, Malin, & Mercke, Ann-Mari (1999). Mental health in international adoptees as teenagers and young adults. An epidemiological study. *Journal of Child Psychology and Psychiatry, 40*(8), 1239–1248.
Chi, Terry C., & Hinshaw, Stephen P. (2002). Mother–child relationships of children with ADHD: The role of maternal depressive symptoms and depression-related distortions. *Journal of Abnormal Child Psychology, 30*(4), 387–400.
Chisholm, Kim (1998). A three year follow-up of attachment and indiscriminate friendliness in children adopted from Romanian orphanages. *Child Development, 69*(4), 1092–1106.
Chisholm, Kim, Carter, Margaret C., Ames, Elinor W., & Morison, Sara J. (1995). Attachment security and indiscriminately friendly behavior in children adopted from Romanian orphanages. *Development and Psychopathology, 7*, 283.
De Los Reyes, Andres, & Kazdin, Alan E. (2005). Informant discrepancies in the assessment of childhood psychopathology: A critical review, theoretical framework, and recommendations for further study. *Psychological Bulletin, 131*(4), 483.
Duhig, Amy M., Renk, Kimberly, Epstein, Monica K., & Phares, Vicky (2000). Interparental agreement on internalizing, externalizing, and total behavior problems: A meta-analysis. *Clinical Psychology: Science and Practice, 7*(4), 435–453.
Epstein, Monica K., Renk, Kimberly, Duhig, Amy M., Bosco, Georgetta L., & Phares, Vicky (2004). Interparental conflict, adolescent behavioral problems, and adolescent

competence: Convergent and discriminant validity. *Educational and Psychological Measurement*, *64*(3), 475–495.
Escobar, María Josefina, & Santelices, María Pía (2013). Attachment in adopted adolescents. National adoption in Chile. *Children and Youth Services Review*, *35*(3), 488–492.
George, C., Kaplan, N., & Main, M. (1985). *Adult attachment interview (AAI)*. Unpublished manuscript. : University of California at Berkeley.
Gleitman, Ilana, & Savaya, Riki (2011). Adjustment of adolescent adoptees: The role of age of adoption and exposure to pre-adoption stressors. *Children and Youth Services Review*, *33*(5), 758–766.
Goldney, Robert D., Donald, Maxine, Sawyer, Michael G., Kosky, Robert J., & Priest, Susan (1996). Emotional health of Indonesian adoptees living in Australian families. *Australasian Psychiatry*, *30*(4), 534–539.
Grigorenko, Elena L., Geiser, Christian, Slobodskaya, Helena R., & Francis, David J. (2010). Cross-informant symptoms from CBCL, TRF, and YSR: Trait and method variance in a normative sample of Russian youths. *Psychological Assessment*, *22*(4), 893.
Gunnar, M. R., Van Dulmen, M. H. M., Achenbach, T. M., Ames, E., Ames, E. W., Berry, M., et al. (2007). Behavior problems in postinstitutionalized internationally adopted children. *Development and Psychopathology*, *19*(1), 129.
Haugaard, Jeffrey J. (1998). Is adoption a risk factor for the development of adjustment problems? *Clinical Psychology Review*, *18*(1), 47–69.
Hawk, Brandi N., & McCall, Robert B. (2011). Specific extreme behaviors of postinstitutionalized Russian adoptees. *Developmental Psychology*, *47*(3), 732.
Hughes, Elizabeth K., & Gullone, Eleonora (2010). Reciprocal relationships between parent and adolescent internalizing symptoms. *Journal of Family Psychology*, *24*(2), 115.
Judge, Sharon (2004). Adoptive families: The effects of early relational deprivation in children adopted from Eastern European orphanages. *Journal of Family Nursing*, *10*(3), 338–356.
Juffer, Femmie, & van IJzendoorn, Marinus H. (2005). Behavior problems and mental health referrals of international adoptees. *JAMA, the Journal of the American Medical Association*, *293*(20), 2501–2515.
Kobak, R. Rogers, Sudler, Nanette, & Gamble, Wendy (1991). Attachment and depressive symptoms during adolescence: A developmental pathways analysis. *Development and Psychopathology*, *3*(04), 461–474.
Langberg, Joshua M., Epstein, Jeffery N., Simon, John O., Loren, Richard E. A., Arnold, L. Eugene, Hechtman, Lily, et al. (2010). Parent agreement on ratings of children's attention deficit/hyperactivity disorder and broadband externalizing behaviors. *Journal of Emotional and Behavioral Disorders*, *18*(1), 41–50.
Manassis, Katharina, Bradley, Susan, Goldberg, Susan, & Hood, Jane (1995). Behavioural inhibition, attachment and anxiety in children of mothers with anxiety disorders. *The Canadian Journal of Psychiatry/La Revue Canadienne de Psychiatrie*, *40*(2), 87–92.
Marcovitch, Sharon, Goldberg, Susan, Gold, Amanda, Washington, Jane, Wasson, Christine, Krekewich, Karla, et al. (1997). Determinants of behavioural problems in Romanian children adopted in Ontario. *International Journal of Behavioral Development*, *20*(1), 17–31.
Merz, Emily C., & McCall, Robert B. (2010). Behavior problems in children adopted from psychosocially depriving institutions. *Journal of Abnormal Child Psychology*, *38*(4), 459–470.
Miller, Brent C., Fan, Xitao, Grotevant, Harold D., Christensen, Mathew, Coyl, Diana, & van Dulmen, Manfred (2000). Adopted adolescents' overrepresentation in mental health counseling: Adoptees' problems or parents' lower threshold for referral? *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*(12), 1504–1511.
Najman, Jake M., Williams, Gail M., Nikles, Jane, Spence, Sue, Bor, William, O'Callaghan, Michael, et al. (2000). Mothers' mental illness and child behavior problems: cause-effect association or observation bias? *Journal of the American Academy of Child and Adolescent Psychiatry*, *39*(5), 592–602.
Pace, Ugo, & Zappulla, Carla (2011). Problem behaviors in adolescence: The opposite role played by insecure attachment and commitment strength. *Journal of Child and Family Studies*, *20*(6), 854–862.
Peters, Beth R., Atkins, Marc S., & McKernan McKay, Mary (1999). Adopted children's behavior problems: A review of five explanatory models. *Clinical Psychology Review*, *19*(3), 297–328.
Pierrehumbert, Blaise, Miljkovitch, Raphaële, Plancherel, Bernard, Halfon, Olivier, & Ansermet, Francois (2000). Attachment and temperament in early childhood: Implications for later behavior problems. *Infant and Child Development*, *9*(1), 17–32.
Roskam, I., Stievenart, M., Tessier, R., Muntean, A., Escobar, M. J., Santelices, M. P., et al. (2013). Another way of thinking about ADHD: The predictive role of early attachment deprivation in adolescents' level of symptoms. *Social Psychiatry and Psychiatric Epidemiology*, *1–12*.
Rutter, Michael L., Kreppner, Jana M., & O'Connor, Thomas G. (2001). Specificity and heterogeneity in children's responses to profound institutional privation. *The British Journal of Psychiatry*, *179*(2), 97–103.
Sharma, A. R., McGue, M. K., & Benson, P. L. (1998). The psychological adjustment of United States adopted adolescents and their nonadopted siblings. *Child Development*, *69*(3), 791–802.
Steele, H., Steele, M., Kerns, K., & Richardson, R. (2005). The construct of coherence as an indicator of attachment security in middle childhood: The friends and family interview. *Attachment in middle childhood*, *137–160*.
Steele, H., Steele, M., & Kriss, A. (2009). *The friends and family interview (FFI) coding guidelines*. (Unpublished manuscript).
van den Dries, Linda, Juffer, Femmie, van IJzendoorn, Marinus H., & Bakermans-Kranenburg, Marian J. (2009). Fostering security? A meta-analysis of attachment in adopted children. *Children and Youth Services Review*, *31*(3), 410–421.
Van IJzendoorn, M. H., & Juffer, F. (2006). The Emanuel Miller Memorial Lecture 2006: Adoption as intervention. Meta-analytic evidence for massive catch-up and plasticity in physical, socio-emotional, and cognitive development. *Journal of Child Psychology and Psychiatry*, *47*(12), 1228–1245.
Vanderwert, R. E., Marshall, P. J., Nelson, C. A., Zeanah, C. H., & Fox, N. A. (2010). Timing of intervention affects brain electrical activity in children exposed to severe psychosocial neglect. *PLoS One*, *5*(7), e11415.
Vorria, P., Papaligoura, Z., Sarafidou, J., Kopakaki, M., Dunn, J., Van IJzendoorn, M. H., et al. (2006). The development of adopted children after institutional care: A follow-up study. *Journal of Child Psychology and Psychiatry*, *47*(12), 1246–1253.
Wierzbicki, M. (1993). Psychological adjustment of adoptees: A meta-analysis. *Journal of Clinical Child Psychology*, *22*(4), 447–454.
Youngstrom, Eric, Loeber, Rolf, & Stouthamer-Loeber, Magda (2000). Patterns and correlates of agreement between parent, teacher, and male adolescent ratings of externalizing and internalizing problems. *Journal of Consulting and Clinical Psychology*, *68*(6), 1038.