

## International Adoption: Assessment of Adaptive and Maladaptive Behavior of Adopted Minors in Spain

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Research on adjustment of internationally adopted children indicates that, although they have adequate development, more emotional and behavioral problems are detected compared with nonadopted children. In this research, emotional and behavioral characteristics of a sample of 52 internationally adopted minors were examined with the BASC (Parent Rating Scales and Self-Report of Personality), comparing the outcomes with 44 nonadopted minors, all of them of ages between 6 and 11 years (mean age = 8.01 years). Results indicate differences between adopted and nonadopted children related to somatization, adopted minors are those that obtain lower scores in the scale, and in the adaptability scale, where nonadopted minors obtain higher scores. Significant differences were found in the adaptive abilities scales, suggesting that nonadopted boys show better abilities than adopted ones, and no differences were found among girls. In general, boys present higher scores in externalizing symptomatology and depression than girls. Among adopted children, time spent in an institution is a variable that has negative impact on the onset of externalizing and internalizing problems. Minors coming from Eastern Europe display more attentional problems, poorer adaptive abilities and poorer interpersonal relations than the rest of the minors. According to the age at placement, attentional problems appear in minors adopted after the age of 3 years.

*Keywords:* international adoption, adaptation, institutionalization, BASC.

Las investigaciones sobre la adaptación de menores procedentes de adopción internacional señalan que, aunque estos niños tienen un desarrollo correcto, se detectan más problemas emocionales y conductuales que en niños no adoptados. Esta investigación ha examinado con el BASC (cuestionario para padres y autoinforme) tanto los trastornos de adaptación como los rasgos adaptativos de una muestra de 52 menores procedentes de adopción internacional, comparando los resultados con 44 menores no adoptados de edades comprendidas entre los 6 y los 11 años (media = 8.01 años). Los resultados indican diferencias entre los menores adoptados y los no adoptados relativas a somatización, siendo los menores adoptados quienes obtienen mejores puntuaciones en la escala, y en la escala de adaptabilidad, siendo los menores no adoptados los que obtienen mejores puntuaciones. Se han encontrado diferencias significativas en la escala de habilidades adaptativas, sugiriendo que los varones no adoptados muestran mejores habilidades que los adoptados, no encontrándose diferencias en las niñas. En cuanto al sexo de los menores, en los varones se detecta una mayor sintomatología externalizada y depresión que en las mujeres. Entre el grupo de menores adoptados, el tiempo de institucionalización influye negativamente en la aparición de trastornos, tanto externalizados como internalizados. Según el país de procedencia, los menores procedentes de Europa del Este presentan más problemas de atención, y peores habilidades adaptativas y relaciones interpersonales que el resto de menores. Destaca la aparición de más problemas de atención en los menores adoptados a partir de los tres años.

*Palabras clave:* adopción internacional, adaptación, institucionalización, BASC.

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International adoption is an increasing phenomenon and, according to the data of the Ministry of Education, Social Policy and Sport (2008), the number of international adoptions in Spain in the last five-year interval (2003-2007) was approximately 23,035.

Studies on international adoption in Spain show that most of the adopted minors achieve a very similar adaptation as the minors who live with their biological families, but the adopted children have a higher probability of suffering from behavior problems, hyperactivity, low self-esteem, and academic problems (Berástegui, 2005; Fernández, 2004; Moliner & Gil, 2002; Orjales, 1997).

The review of the investigations carried out abroad shows that most of the adopted minors present adequate psychosocial adjustment (Bimmel, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2003; Juffer & van IJzendoorn, 2005, 2007). However, compared with their peers, they display: more developmental delay (Beckett et al., 2006; Morison, Ames, & Chisholm, 1995), attachment problems (Chisholm, 1998; Marcovitch et al., 1997), psychiatric disorders in adolescence and adulthood (Hjern, Lindblad, & Vinnerljung, 2002; Tieman, Van der Ende, & Verhulst, 2005), and internalized and externalized problems, with higher incidence among the males (Andresen, 1992; Berry & Barth, 1989; Bimmel et al., 2003; Brodzinsky, 1990, 1993; Brodzinsky, Radice, Huffman, & Merkle, 1987; Juffer & van IJzendoorn, 2005; Kirschner & Nagle, 1995; Stams, Juffer, Rispens, & Hoksbergen, 2000; Verhulst, Althaus, & Versluis-den Bieman, 1990; Wierzbicki, 1993).

Among the adopted minors, those who were over 3 years of age at placement present higher rates of problems because they spent more time in conditions that were unfavorable for their development, such as institutionalization (Barth, Berry, Yoshikami, Goodfield, & Carson, 1988; Berry & Barth, 1989; Erich & Leung, 2002).

In international adoption, a large number of the children undergo diverse unfavorable factors before being adopted, which affect their psychosocial adaptation and the parent-child relationship, such as: inadequate pre-, peri-, and postnatal care and insufficient health services, very early maternal separation, psychological deprivation, negligence, abuse, and malnutrition in orphanages or in very poor families (Rutter et al., 1998).

The socioeconomic and political peculiarities of international adoption in the countries of origin can provide some data about the life conditions of these minors before being adopted, which can affect their behavioral profile (Selman, 2002). Studies find differences in the medical and developmental problems depending on the country of origin of the adopted minor (Welsh, Viana, Petrill, & Mathias, 2007): minors from Eastern Asia present the highest rates of craneoencephalic anomalies and skin infections at the moment of adoption, whereas in some studies, minors from Eastern Europe display more

neurological symptomatology, higher rates of prenatal exposure to tobacco and to alcohol. The long-term impact of such exposure and its effects on the fetus, and the prevalence of these problems among the institutionalized minors in Eastern Europe is more pronounced (Miller, Chan, Tirella, & Perrin, 2009). However, individual differences and the institutionalization centers are relevant factors that can affect the minors' development.

Adoption can be defined as a situation in which risk factors such as the above-mentioned ones interact with protection factors such as high self-esteem, acceptance of ethnic identity, parents' cultural competence, and quality in the practice of paternity. Various studies show that the adoptive families are more affectionate and communicative than the nonadoptive ones, and they control their children's behavior appropriately (Bernedo, Fuentes, & Fernández, 2005). In fact, these same families perceive themselves as more affectionate, communicative, and inductive than nonadoptive families, according to the study of Bernedo, Fuentes, Fernández, and Bersabé (2007).

The interaction of these factors may counterbalance the negative effects, leading to children's resilience, a process by which the protection factors are recovered and enhanced (Rutter, 1985, 1987, 1990; Scroggs & Heitfield, 2001; Werner, 1993, 2000).

The adoption process produces a dramatic turn in the minor's life. Between the ages of 5 and 7 years, the minors begin to understand the implications of being adopted, and they begin to join in a more extensive social environment, the school (Brodzinsky, Singer, & Braff, 1984).

The goal of this study is to examine the adaptive and maladaptive behavior of a sample of minors from international adoption, aged between 6 and 11 years, and to compare it with that of a sample of nonadopted minors of the same ages.

Taking into account the above, we began with the following hypotheses:

- a. The adopted minors would present more externalizing problems and internalizing problems in the global dimensions of the Behavioral Assessment System for Children (BASC; Reynolds & Kamphaus, 1992).
- b. The boys will present more externalizing problems and internalizing problems than the girls in the global dimensions assessed with the BASC.
- c. Children adopted as of 3 years of age will present more clinical symptomatology, maladjustment, and externalizing problems / internalizing problems on the BASC, than children adopted at an earlier age.
- d. The minors who were institutionalized for a longer period of time will obtain higher scores in clinical symptomatology of the BASC.
- e. There will be differences in the adaptive and maladaptive behaviors as a function of the country of origin.

## Method

### Participants

The following selection criteria were used: minor's age between 6 and 11 years, with a minimum period of 1 year living with the adoptive family. The exclusion criterion (less than 1 year with the adoptive family) had the aim of avoiding the critical period of adoption (Amorós, 1987; Berástegui, 2005).

The participants were recruited by means of an incidental sample, with the support of Collaborative Entities of International Adoption (CEIA) and associations of adoptive families from Barcelona.

The group of nonadopted minors, who lived with their biological families, was recruited in the same sociodemographic area as the adopted minors, with some exceptions, and they were paired by sex and age.

Out of a total of 116 families contacted, 96 minors participated in the investigation: 52 (54.2%) were internationally adopted: 36 (62.2%) were girls and 16 (30.8%) were boys; and 44 (45.8%) were biological children: 28 girls (63.6%) and 16 boys (36.4%). Of the remaining 20 minors, 50% did not meet the age requirement: they were either younger than 6 years (7) or older than 11 years (3). The remaining 10 minors dropped out of the investigation (8.62% of the total).

Mean age of the sample was 8.01 years ( $SD = 1.625$ ). The mean age of the group of nonadopted minors was 8.18 ( $SD = 1.702$ ) and that of the group of adopted minors was 7.87 ( $SD = 1.560$ ). The mean age at placement in the group of adopted minors was 28.75 months ( $SD = 21.42$ ), and the minimum value was 8 and the maximum 84 months. See sample description in Table 1.

Of the families, 94.1% had some sort of information about their children prior to the adoption. It is noteworthy that 92.3% of the adopted minors had been institutionalized, 14% had lived with relatives for some time before being adopted, and 14% were in a foster home prior to adoption.

The adopted minors were from the following countries of origin: 51.9% from Asia (27 girls, 100% females): 25 from China and 2 from Nepal; 26.9% from Eastern Europe (14 children: 4 girls, 28.6%, and 10 boys, 71.4%: 2 from Bulgaria, 4 from Russia, and 8 from Ukraine); 15.4% from Central and South America (8 children: 4 girls, 50% and 4 boys, 50%: 1 from Colombia, 2 from Guatemala, 1 from Haiti, and 4 from Peru); and the remaining 5.8% were from Africa (3 children: 1 girl, 33.3% and 2 boys, 66.7%: all from Ethiopia).

### Instruments

*Questionnaire of sociodemographic data and adoption data:* Questionnaire elaborated ad hoc for this investigation

and completed by the parents. We collected the following data: number and sex of the adoptive parents civil status, number of children, motivation for adoption, data prior to adoption: institutionalization, staying with relatives or with foster family, medical report in country of origin, data about birth, diagnosed pathology in country of origin and/or on arrival, current medical or psychological pathology, current medical or psychological treatment.

*Behavioral Assessment System for Children (BASC;* Reynolds, & Kamphaus, 1992; Spanish adaptation, TEA, 2004). This is a multidimensional and multimethod questionnaire that collects information from the parents, the teachers, or the individual. In the current investigation, we used the questionnaire completed by the parents (P2) and the self-report (S2).

*Questionnaire for parents.* The subscales and the Cronbach alpha reliability coefficients obtained in the Spanish adaptation were as follows: 9 clinical scales: aggressiveness ( $\alpha = .79$ ), hyperactivity ( $\alpha = .73$ ), behavior problems ( $\alpha = .70$ ), attentional problems ( $\alpha = .76$ ), atypicality ( $\alpha = .60$ ), depression ( $\alpha = .77$ ), anxiety ( $\alpha = .59$ ), withdrawal ( $\alpha = .65$ ), and somatization ( $\alpha = .71$ ); 3 adaptive scales: adaptability ( $\alpha = .66$ ), social skills ( $\alpha = .84$ ), and leadership ( $\alpha = .77$ ); it also provides 4 global dimensions: externalizing problems ( $\alpha = .87$ ), internalizing problems ( $\alpha = .82$ ), adaptive skills ( $\alpha = .89$ ), and the index of behavioral symptoms ( $\alpha = .90$ ). The internal consistency of the questionnaire for the parents was .72 and the rest-retest reliability for a 3-month interval was .78.

*Self-Report.* The self-report provides 8 clinical scales: negative attitude towards school ( $\alpha = .81$ ), negative attitude towards teachers ( $\alpha = .72$ ), atypicality ( $\alpha = .79$ ), locus of control ( $\alpha = .77$ ), social stress ( $\alpha = .72$ ), anxiety ( $\alpha = .81$ ), depression ( $\alpha = .83$ ), and sense of inadequacy ( $\alpha = .72$ ); 5 adaptive scales: interpersonal relations ( $\alpha = .83$ ), relations with parents ( $\alpha = .56$ ), self-esteem ( $\alpha = .75$ ), and self-reliance ( $\alpha = .61$ ); it also provides 4 global dimensions: clinical ( $\alpha = .90$ ), maladjustment ( $\alpha = .90$ ), academic maladjustment ( $\alpha = .85$ ), personal adjustment ( $\alpha = .84$ ), and index of emotional symptoms ( $\alpha = .93$ ). The internal consistency of the self-report was .76, and the rest-retest reliability for a 3-month interval was .69 (González-Marqués, Fernández-Guinea, Pérez-Hernández, Pereña, & Santamaria, 2004).

### Procedure

With the support of the CEIA and associations of adoptive families of Barcelona, we contacted each family that had accepted to participate in the study so they could complete the self-administered BASC questionnaire. After the questionnaires were completed, they were returned personally either by post or by e-mail. All the contacted families accepted to participate and signed the informed consent. After the investigation, a report was provided to each of the 96 families with the results of their children's questionnaires.

Table 1  
Sample Description

	$\chi^2$	Age groups		Sex		Type of family		Civil status		Type of school		
		2.102 ( $p = .350$ )		.336 ( $p = .562$ )		5.296 ( $p = .021$ )		12.811 ( $p < .001$ )		4.219 ( $p = .131$ ) *		
				Female	Male	Bi-parental	Mono-parental	Married	Unmarried	Public	Concerted Private	Private
Adopted (n1 = 52)		Group 6-7	53.8% (28)	69.2% (36)	30.8% (16)	88.5% (46)	11.5% (6)	97.9% (46)	2.1% (1)	66.7% (26)	28.2% (11)	5.1% (2)
		Group 8-9	26.9% (14)									
		Group 10-11	19.2% (10)									
		Total	100% (52)									
Nonadopted (n2 = 44)		Group 6-7	47.7% (21)	63.6% (28)	36.4% (16)	100% (44)	-	70.7% (29)	29.3% (12)	62.9% (22)	17.1% (6)	20% (7)
		Group 8-9	20.5% (9)									
		Group 10-11	31.8% (14)									
		Total	100% (44)									
Total sample (n=96)		Group 6-7	51% (49)	66.7% (64)	33.3% (32)	93.7% (89)	6.3% (6)	85.2% (75)	14.8% (13)	64.9% (48)	23% (17)	12.2% (9)
		Group 8-9	24.0% (23)									
		Group 10-11	25% (24)									
		Total	100% (96)									

\*Fisher's exact statistic

The statistical program SPSS 15.0 was used to analyze the data. A factorial 2x2 between-group ANOVA was performed to study the possible interaction of sex and group (adopted/nonadopted). We used t-tests for independent samples to analyze differences in the questionnaire scores as a function of adopted/nonadopted group and the minor's sex. We used a unifactorial ANOVA for independent data to analyze differences as a function of age at the moment of adoption, and linear regression to analyze the influence of the time the minors had been institutionalized. Unifactorial ANOVA was conducted to study differences in the questionnaire scores as a function of the country of origin.

## Results

We carried out  $\chi^2$  tests in order to analyze the association of age group, sex, type of family, civil status, and type of school and the main dimensions of the study associated with adoption (Table 1). No significant relations by age group, sex, and type of school were found, but significant relations were found with type of family ( $\chi^2 = 5.296$ ,  $p = .021$ ), and the adoptive parents' civil status ( $\chi^2 = 12.811$ ,  $p < .001$ ). As can be observed, 100% of the nonadopter families were biparental, but only 70.7% reported having married. In the case of the adoptive families, 88.5% were biparental and, among them, 100% were married.

### *Adopted/nonadopted Group and Sex Interaction*

In order to study Hypotheses a and b, we carried out a 2 x 2 (Sex x Group) factorial ANOVA with independent data to determine the influence of the minor's sex and group (adopted/nonadopted) on the scores of the diverse questionnaire scales.

The only significant interaction was between sex and group on the scale of Adaptive Skills,  $F(1,95) = 4.592$ ,  $p = .035$ . The simple effects reveal significant differences between the groups of nonadopted and adopted minors, with a difference of means of 9.625 ( $p = .0109$ ), suggesting better adaptive skills in the nonadopted minors. In the girls, the difference of means was nonsignificant (0.052,  $p = .984$ ). No significant differences were found in the rest of the scales.

### *Externalizing and Internalizing problems in the BASC Scales as a Function of Adopted/Nonadopted Groups*

Once the presence of Sex x Group interactions was ruled out, we used t-tests for independent samples to study Hypothesis a, in which we predicted group differences in the BASC scores. Once homocedasticity was confirmed, we only found group significant differences in the Somatization scale, where the highest scores were obtained by the group

of nonadopted minors ( $n1 - n2 = 4.19$ , 95% CI: 0.58 to 7.80). There were no significant differences in the remaining scales, although, once the degrees of freedom had been corrected—because homocedasticity was not met in this analysis—the Adaptability scale was almost significant,  $t(85,41) = 1.73$ ,  $p = .088$ ,  $n1 - n2 = 4.08$ , 95% CI: -0.61 to 8.77, with the group of nonadopted minors obtaining higher scores.

### *Externalizing and Internalizing problems in the BASC Scales as a Function of the Minor's Sex*

We used t-tests to study Hypothesis b, in which we expected to find sex differences in the questionnaire scores. After we had confirmed homocedasticity in all the tests that revealed significant differences, we found more problems among the male minors (independently of whether or not they were adopted) in: aggressiveness ( $n1 - n2 = -4.657$ ,  $p = .042$ , 95% CI: -9.130 to -0.182), behavior problems ( $n1 - n2 = -6.313$ ,  $p = .019$ , 95% CI: -11.562 to -1.063), depression ( $n1 - n2 = -5.953$ ,  $p = .023$ , 95% CI: -11.064 to -0.842), and the general index of behavioral symptoms ( $n1 - n2 = -6.453$ ,  $p = .013$ , 95% CI: -11.500 to -1.406). No differences were found in the rest of the scales.

The descriptive statistics and the main effects of the variables sex and group can be seen in Table 2.

### *Age at Placement*

To study Hypothesis c, we categorized the minor's age at placement into three groups (0-12 months, 13-36 months, and more than 37 months). The differences in the questionnaire scores as a function of age group were analyzed with unifactorial ANOVA for independent data. After the application conditions of the model had been verified, we found significant differences in the scale of attentional problems,  $F(3,91) = 4.766$ ,  $p = .004$ , between the nonadopted minors, the adopted minors between 0 and 12 months, and the minors adopted after 3 years of age. Tukey's HSD contrasts indicate that the difference of means of the older adopted minors with regard to the younger adopted minors was 14.968 points ( $p = .004$ , 95% CI = 3.78 to 26.15), and of 10.136 ( $p = .028$ , 95% CI = 0.78 to 19.50) with regard to the nonadopted minors; that is, minors adopted after 3 years of age have more attentional problems than their nonadopted counterparts and than minors who were adopted at earlier ages. No significant differences were found in the remaining scales of the BASC.

### *Institutionalization*

For Hypothesis d, referring to the effect of the time spent in institutions, we carried out linear regression models. In the initial model, in addition to the time spent in institutions

Table 2  
*Means and Standard Deviations of the Dependent Variables by Sex and Group*

BASC: questionnaire for parents	Group		Sex	
	Total nonadopted (n = 44)	Total adopted (n = 52)	Male (n = 32)	Female (n = 64)
	M (SD)	M (SD)	M (SD)	M (SD)
Aggressiveness	52.00 (11.24)	49.38 (9.94)	<b>53.69 (11.45)*</b>	<b>49.03 (9.85)*</b>
Hyperactivity	47.66 (10.07)	49.48 (12.00)	49.81 (10.75)	48.06 (11.36)
Behavior problems	51.64 (9.97)	51.75 (14.41)	<b>55.91 (11.92)*</b>	<b>49.59 (12.35)*</b>
Attentional problems	48.05 (8.37)	50.81 (13.02)	52.06 (11.58)	48.28 (10.87)
Atypicality	46.07 (9.40)	45.60 (11.58)	48.63 (11.99)	44.41 (9.60)
Depression	49.64 (10.81)	50.19 (13.28)	<b>53.91 (13.37)*</b>	<b>47.95 (11.085)*</b>
Anxiety	46.43 (11.04)	45.69 (10.55)	47.91 (11.80)	45.09 (10.11)
Withdrawal	51.05 (9.16)	53.25 (12.17)	50.94 (11.62)	52.89 (10.55)
Somatization	<b>46.61 (9.98)*</b>	<b>42.42 (7.80)*</b>	44.69 (10.59)	44.17 (8.28)
Adaptability	<b>49.36 (8.56)*</b>	<b>45.29 (14.23)*</b>	44.69 (13.02)	48.39 (11.50)
Social skills	52.95 (9.14)	50.46 (10.99)	51.03 (10.04)	51.89 (10.36)
Leadership	52.70 (9.69)	51.15 (10.91)	52.06 (9.78)	51.77 (10.69)
Externalizing problems	50.80 (11.00)	50.17 (12.83)	53.44 (10.67)	48.97 (12.37)
Internalizing problems	47.23 (10.41)	45.52 (11.36)	49.13 (12.48)	44.89 (9.84)
Adaptive skills	52.11 (9.02)	48.92 (11.52)	49.50 (11.11)	50.83 (10.27)
Behavioral Symptoms Index	47.32 (11.03)	47.73 (12.98)	<b>51.84 (11.94)*</b>	<b>45.39 (11.63)*</b>
BASC: self-report	(n = 23)	(n = 24)	(n = 12)	(n = 35)
Negative attitude to school	53.22 (10.47)	51.13 (5.03)	53.33 (11.08)	51.74 (7.02)
Negative attitude to teachers	49.26 (7.77)	47.50 (7.13)	52.50 (8.27)	46.94 (6.66)
Atypicality	46.43 (7.96)	49.46 (9.32)	50.25 (9.84)	47.20 (8.32)
Locus of control	46.43 (8.21)	48.29 (7.87)	51.67 (8.21)	45.91 (7.50)
Social stress	45.83 (7.95)	48.96 (8.90)	49.17 (9.43)	46.83 (8.23)
Anxiety	47.70 (11.16)	45.29 (9.70)	53.00 (9.28)	44.23 (9.91)
Depression	49.00 (11.04)	49.00 (6.24)	54.17 (13.49)	47.23 (5.81)
Sense of inadequacy	47.35 (8.41)	50.54 (7.46)	52.50 (8.35)	47.77 (7.65)
Interpersonal relations	52.09 (5.21)	51.67 (6.61)	50.00 (5.00)	52.51 (6.12)
Relations with parents	54.57 (4.47)	53.67 (6.20)	53.67 (5.34)	54.26 (5.46)
Self-esteem	52.26 (9.91)	53.33 (4.07)	48.42 (13.29)	54.31 (2.98)
Self-reliance	50.35 (10.58)	47.71 (11.16)	42.83 (11.75)	51.11 (9.82)
-Clinical maladjustment	46.74 (8.74)	47.88 (8.94)	51.83 (9.28)	45.77 (8.15)
-Academic maladjustment	51.43 (8.94)	49.08 (6.57)	54.58 (10.20)	48.74 (6.34)
- Personal maladjustment	53.00 (7.11)	52.04 (5.65)	48.25 (7.68)	53.97 (5.18)
Emotional Symptoms Index	47.43 (9.16)	48.13 (6.68)	52.58 (9.58)	46.14 (6.64)

\* $p \leq .05$ .

measured in months, we included the variables age at placement and time living with the adoptive family. Except for the scores in Self-esteem ( $r^2 = .205$ ,  $p = .030$ ,  $b = -0.77$ ), these variables had significant effect, and were therefore excluded from the definitive analyses. The dependent variables were, in all cases, the BASC scores.

The data about the effect of the predictor variable time spent institutionalized are shown in Table 3. This table shows the regression parameters (a, b) and their confidence

intervals, as well as the significance of the normality tests of the standardized residuals. As noted by Navarro and Domènech (2008), as these are not sequential data, it is not necessary to verify the assumption of independence (Durvin-Watson test). The assumptions of linearity and homocedasticity were verified by analyzing the externally studentized residuals as a function of the foreseen values and of the predictor variable, and we observed no violations of linearity or homogeneity.

There were significant differences in the criterion variable as a function of whether or not the minor was institutionalized before being adopted in the Self-reliance scale, the difference of means was 7.955 (95% CI = 2.882 to 13.027), with higher scores in the noninstitutionalized minors.

*Country of Origin*

Due to the diversity of countries, they were grouped as follows: Asia (China and Nepal), Eastern Europe (Russia, the Ukraine, and Bulgaria), Africa (Ethiopia), and Central and South America (Colombia, Guatemala, Haiti, and Peru). We also included the nonadopted group of minors in the ANOVA.

As seen in Table 4, the application conditions were confirmed, and significant group differences were found in the Attentional problems scale,  $F(4,91) = 3.654, p = .008, \eta^2 = .138$ . By means of Tukey's HSD contrasts, we found differences between the minors from Asia and the minors from Eastern Europe. The mean in Attentional problems of the minors from Eastern Europe was higher than that of the remaining groups, which indicates that these minors have more attentional problems; the difference with the minors from Asia and with the nonadopted minors was significant ( $p = .007$  and  $.022$ , respectively). The difference with the rest of the groups (Africa and Central and South America) was nonsignificant.

We also found significant differences in the scale of Adaptability,  $F(4,91) = 4.304, p = .003, \eta^2 = .159$ , after applying the conservative F, because it did not meet the assumption of homocedasticity. The difference of means between the nonadopted minors and the adopted minors from Eastern Europe was 13.435 ( $p = .002$ ), and the difference of means between the adopted minors from Asia and the adopted minors from Eastern Europe was 11.886 ( $p = .017$ ), which indicates that the minors from Eastern Europe had more difficulties to adapt than the rest of the children of the sample.

Differences were found between the groups in the Adaptive skills scale,  $F(4,91) = 3.588, p = .009, \eta^2 = 0.136$ . These differences refer to the comparison of the group of nonadopted minors—with a difference of 10.756 ( $p = .006$ )—, the minors from Asia—a difference of means of 10.272 ( $p = .020$ )—, and the group of adopted minors from Eastern Europe. These data indicate that, as with the parameter Adaptability, the minors from Eastern Europe have more difficulties to develop their adaptive skills than the nonadopted minors or the minors from Asia.

In the self-report analysis, we excluded the African group, as there was only one participant in this age range. There were quasi-significant differences among the remaining groups in the Interpersonal relations scale,  $F(1,42) = 3.123, p = .08, \eta^2 = 0.182$ , after we applied the conservative F, as the assumption of equality of variances

Table 3  
*Effect of Time spent in Institutions on Symptomatology*

	a (95% CI) Constant	b (95% CI) Slope	r <sup>2</sup>	F (p)	Durbin – Watson statistic	Standardized Shapiro- Wilk residuals
Behavior problems	43.972 (36.263 ÷ 51.680)	.491 (.105 ÷ .877)	.127	6.573 (.014)	1.527	.047
Attentional problems	4.082 (33.871 ÷ 46.293)	.626 (.315 ÷ .937)	.268	16.447 (<.001)	1.436	.305
Atypicality	37.339 (31.232 ÷ 43.446)	.490 (.184 ÷ .795)	.188	10.406 (.002)	1.835	.003
Depression	42.056 (34.866 ÷ 49.246)	.482 (.123 ÷ .842)	.139	7.292 (.010)	2.108	.045
Adaptability	57.547 (49.985 ÷ 65.109)	-.684 (-1.062 ÷ -.305)	.227	13.238 (.001)	2.130	.262
Social skills	56.414 (5.303 ÷ 62.524)	-.330 (-.636 ÷ -.024)	.095	4.728 (.035)	2.269	.197
Leadership	57.624 (51.822 ÷ 63.427)	-.361 (-.0651 ÷ -.071)	.122	6.270 (.016)	2.261	.747
Externalizing problems	43.828 (36.687 ÷ 59.969)	.405 (.048 ÷ .763)	.104	5.218 (.027)	1.985	.056
Internalizing problems	4.157 (34.066 ÷ 46.248)	.312 (.007 ÷ .617)	.086	4.243 (.045)	1.844	.325
Adaptive skills	58.800 (52.968 ÷ 64.632)	-.548 (-.840 ÷ -.257)	.241	14.323 (<.001)	2.552	.202
Behavioral Symptoms Index	38.391 (31.677 ÷ 45.104)	.565 (.229 ÷ .901)	.203	11.453 (.001)	1.812	.695
Negative attitude to school	55.569 (5.758 ÷ 6.380)	-.218 (-.430 ÷ -.007)	.188	4.630 (.440)	1.431	.334
Sense of inadequacy	44.325 (38.658 ÷ 49.992)	.286 (0.037 ÷ .535)	.223	5.735 (.027)	1.397	.251

Table 4  
Country of Origin

Variables			Difference of means (Tukey's HSD )	Significance
Attentional problems	Eastern Europe	Nonadopted	10.026	.022
		Asia	12.108	.007
		South America	4.071	.908
		Africa	6.071	.896
Adaptability	Eastern Europe	Nonadopted	-13.435	.002
		Asia	-11.886	.017
		South America	-13.696	.058
		Africa	-18.738	.079
Global-Adaptive Skills	Eastern Europe	Nonadopted	-10.756	.006
		Asia	-10.272	.020
		South America	-8.768	.284
		Africa	-15.310	.122
Interpersonal relations	Eastern Europe	Nonadopted	-5.687	.181
		Asia	-8.171	.036
		South America	-2.350	.922

was not met. Tukey's HSD contrast detected differences between the groups from Asia and Eastern Europe with a difference of 8.171 ( $p = .036$ ), suggesting that interpersonal relations are significantly more adequate in the minors from Asia than in those from Eastern Europe.

The rest of the scales, both from the questionnaire for parents and the self-report, revealed no significant differences.

### Discussion

Firstly, we wish to clarify that the differences in the family characteristics of the groups of adopted and nonadopted minors, as well as the type of family and the civil status, can be explained by the requirements of the minors' countries of origin, in which common-law couples are not accepted as adopters. Consequently, as reflected in the study, and in accordance with similar works, the adopter parents are legally married heterosexual families, or single-parent adopters (Giménez-Salinas, Luque, Muzelle, Rossell, & Tamayo, 1998).

On the basis of the results found herein, the proposed hypotheses are partially confirmed:

As a function of the group and the minor's sex, there was significant interaction in the scale of Adaptive skills among the males, suggesting that the nonadopted males show better adaptive skills than the adopted males; however, this difference was not significant for the females. We found significant differences between the adopted and nonadopted children only in the Somatization scale, with the nonadopted

minors obtaining higher scores than the adopted minors, and quasi-significant differences for the Adaptability scale, with the nonadopted minors obtaining higher scores. As a function of the minor's sex, and confirming the international investigations reviewed in the introduction, we found more problems among the males in: aggressiveness, behavior problems, depression, and the global index of behavioral symptoms; however, no significant differences were found in the remaining BASC scales.

In contrast to the reports of diverse authors, stating that age at placement (over 3 years) is related to a higher probability of unfavorable experiences (Barth et al., 1988; Berry & Barth, 1989; Erich & Leung, 2002), in the present study, we only found differences in attentional problems. However, a notable fact is that the time spent in institutions seems to be related to diverse developmental areas: the onset of behavior problems, attentional problems, atypicality, depression, poorer adaptability, poorer social skills, less leadership capacity, more externalized and internalized problems, and, in general, poorer adaptive skills, as well as more feelings of inadequacy, thus confirming the unfavorable effects of institutionalization found in other international studies (Rutter et al., 1998).

The minors from Eastern Europe, whose proportion of children is higher than that of the other groups, present higher indexes in the scales of attentional problems, adaptive skills, and interpersonal relations, in comparison to the minors from other countries or to nonadopted minors, and this also coincides with other international investigations (Stams et al., 2000; Verhulst et al., 1990). The differences in



the pre- and postnatal conditions in the countries of origin and the effects of alcohol and tobacco on the fetus could be a working hypothesis for future investigations. The minors from Asia, Africa, and Central and South America present a similar adaptation to that of nonadopted minors, and there were no differences among them in any of the scales of the questionnaire.

Despite the above-mentioned differences, it is noteworthy that the groups of adopted and nonadopted minors generally do not differ significantly in the aspects assessed, except for the Somatization scale, in which the nonadopted minors were more affected, and in the Adaptive skills scale, where the nonadopted males obtained higher scores. It is logical to think that the minors who underwent adverse experiences at the start of their lives would have some kind of problem in the future, compared to minors who did not suffer these situations. However, in this study, these difficulties were not observed. On the basis of these data and that from diverse investigations, we could infer the existence of a series of factors that counterbalance the negative effects, strengthening the resilience of the adopted minors (Rutter, 1985, 1987, 1990; Scroggs & Heitfield, 2001; Welsh et al., 2007; Werner, 1993, 2000).

This study has attempted to examine the current situation of these minors in Spain. From this investigation, we can see that we still lack knowledge about the factors that mediate in this process and how they interact to strengthen the resilience of minors from international adoption.

The results should be interpreted with caution due to diverse limitations of the study. The first limitation is that the sampling was incidental and the control subjects were not completely paired as a function of sex and age with the experimental subjects, which favours bias in the results.

The second limitation of the study is that the results could not be compared with a sample of adopted minors from the national sphere. It would be useful to study this group, because these children have undergone similar adverse situations to those from international adoption, despite the fact that they do not suffer the cultural or language shock that internationally adopted minors must undergo.

The third limitation is the scarce information available to the families about their children prior to adoption, and it is difficult to determine the experiences undergone by these minors. We can infer that the more time they spend in institutions, the more problems they will experience in the future, but we could not collect information of or take into consideration other adverse experiences prior to adoption.

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