Anuario de Psicología
The UB Journal of Psychology | 51/3
Universitat de Barcelona

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Anuario de Psicología
N.º 51/3 | 2021 | págs. 195-203

Enviado: 18 de marzo de 2021
Aceptado: 25 de mayo de 2021

DOI: 10.1344/ANPSIC2021.51/3.22

ISSN: 0066-5126 |

Incidence, severity and preadoption child factors in Spanish adopted adolescents' behavior problems.

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Abstract

Research comparing samples of adoptees and non-adoptees at all ages frequently observes a greater psychological vulnerability in the adoption group, manifested as a higher rate of behavioral problems. Problems become more evident or severe during adolescence. Despite the relevance of Spain in the international adoption landscape in previous decades, studies with Spanish samples are limited. This paper contributes to filling this gap by describing the incidence and severity of behavioral problems, reported by parents, in a sample of Spanish adolescent adoptees and analyzing the role of child pre-adoption factors. Parental CBCL reports of 64 Spanish adopted adolescents were compared with normative scores in Spain. The results showed no differences between adopted adolescents and normative scores in total and broad-band scales. However, a significant group of adolescents show clinical scores that require the attention of social and mental health services. Boys show higher externalizing and total scores. Differences between adoption age groups were found in social, aggression and externalizing problems, showing a non-linear pattern where adolescents adopted in their preschool years show more problems those adopted before or after that age. Adolescents coming from Asia showed fewer problems than other groups in several scales, whereas those adopted from Eastern Europe showed more social problems than the other groups. Relevance for psychosocial intervention and limitations are discussed.

Keywords

Adoption, adolescence, behavioral problems, psychosocial adjustment, CBCL.

Incidencia, gravedad de los problemas de conducta y factores preadoptivos del niño en adolescentes españoles adoptados

Resumen

Las investigaciones que comparan muestras de adoptados y no adoptados en todas las edades observan con frecuencia una mayor vulnerabilidad psicológica en el grupo de adoptados, que se manifiesta en una mayor tasa de problemas de conducta. Los problemas se hacen más evidentes o graves durante la adolescencia. A pesar de la relevancia de España en el panorama de la adopción internacional en décadas anteriores, los estudios con muestras españolas son limitados. Este trabajo contribuye a llenar este vacío describiendo la incidencia y gravedad de los problemas de conducta, reportados por los padres, en una muestra de adolescentes españoles adoptados y analizando el papel de los factores preadoptivos del niño. Se compararon los informes del CBCL de los padres de 64 adolescentes españoles adoptados con las puntuaciones normativas en España. Los resultados no mostraron diferencias entre los adolescentes adoptados y las puntuaciones normativas en las escalas totales y de banda ancha. Sin embargo, un grupo significativo de adolescentes muestra puntuaciones clínicas que requieren la atención de los servicios sociales y de salud mental. Los varones muestran mayores puntuaciones externalizantes y totales. Se encontraron diferencias en los grupos de edad de adopción en los problemas sociales, de agresión y externalización, mostrando un patrón no lineal en el que los adolescentes adoptados en sus años preescolares muestran más problemas que los adoptados después y antes de esa edad. Los adolescentes procedentes de Asia mostraron menos problemas que otros grupos en varias escalas mientras que los adoptados de Europa del Este mostraron más problemas sociales que los otros grupos. Se discuten la relevancia para la intervención psicosocial y las limitaciones.

Palabras clave

Adopción, adolescencia, problemas de conducta, ajuste psicosocial, CBCL

Incidència, gravetat dels problemes de conducta i factors preadoptius del nen en adolescents espanyols adoptats

Resum

Les recerques que comparen mostres d'adoptats i no adoptats en totes les edats destaquen sovint una més gran vulnerabilitat psicològica en el grup d'adoptats, que es manifesta en una taxa de problemes de conducta més marcada, amb una problemàtica que es fa més evident o greu durant l'adolescència. Malgrat la rellevància d'Espanya en el panorama de l'adopció internacional en dècades anteriors, els estudis amb mostres espanyoles són limitats. Aquest treball contribueix a omplir el buit que diem descrivint la incidència i la gravetat dels problemes de conducta, reportats pels pares, en una mostra d'adolescents espanyols adoptats i analitzant el paper dels factors preadoptius de l'infant. Així, es van comparar els informes del CBCL dels pares de 64 adolescents espanyols adoptats amb les puntuacions normatives a Espanya, i els resultats no van mostrar diferències entre els adolescents adoptats i les puntuacions normatives en les escales totals i de banda ampla. Tanmateix, un grup significatiu d'adolescents mostra puntuacions clíniques que requereixen l'atenció dels serveis socials i de salut mental. Els homes solen tenir més puntuacions externalitzants i totals. A més, es van detectar diferències en els grups d'edat d'adopció pel que fa als problemes socials, d'agressió i d'externalització, de manera que mostren un patró no lineal en el qual els adolescents adoptats durant els anys preescolars solen ser més problemàtics que els adoptats després i abans d'aquesta edat. Els adolescents procedents d'Àsia van mostrar menys problemes que altres grups en diverses escales, mentre que els d'Europa de l'Est van presentar més problemes socials que els altres grups. Se'n discuteix la rellevància per a la intervenció psicosocial i les limitacions corresponents.

Paraules clau

Adopció, adolescència, problemes de conducta, ajust psicosocial, CBCL

INTRODUCTION

For adopted adolescents, general challenges of this developmental stage combine with the challenges of adoption and those deriving from the child's early adversity. These circumstances can interact in their development and relations, manifesting as further behavioral problems (Batki, 2018; Bimmel et al., 2003; Burrow et al., 2004, Harf et al., 2007; Hawk & McCall, 2010; Julian & McCall, 2016; Keyes et al., 2008; Rosnati et al., 2008).

The question of an increased risk for psychological and behavioral problems in adopted children has been of interest from the beginning of adoption research (Palacios & Brodzinsky, 2010). Research comparing adopted and non-adopted samples in all ages frequently notes greater psychological vulnerability in the adopted group, manifested in a higher rate of behavioral problems (e.g., Askeland et al., 2017; Barroso et al., 2017; Grotevant et al., 2006; Gunnar, et al., 2007; Rosnati et al., 2008). Furthermore, the problems become more apparent or severe when reaching adolescence (Hawk & McCall, 2010; Merz & McCall, 2010), especially for the externalizing behavior, although the effect size of these differences tend to be small (Bimmel et al., 2003; Harf et al., 2007). When discussing the comparison groups, some authors mention the importance of comparing adopted children with those who remained in institutional care, while others mention the risk of overestimating the behavioral problems of adoptees when their non-adopted peers are used as a comparison group, because they frequently be-

long to socioeconomically and educationally privileged groups (Berástegui, 2013). To counteract the problem of the representativeness of samples, research has used national registrar data, when available, as a source of information (Palacios & Brodzinsky, 2010).

Exploring the distribution of this risk, it is usual to find that most adopted adolescents do not display more behavioral problems than their non-adopted peers (Bimmel et al., 2003; Escobar et al., 2014; Keyes et al., 2008; Kohler et al., 2002; Miller et al., 2000; Nilsson et al., 2011). Nonetheless, the existence of a group with clinical behavioral problems is also consistently noted (Bimmel et al., 2003; Nilson et al., 2011). Most of this research has been conducted using the CBCL as the main meta-analysis asset (Bimmel et al., 2003; Juffer & van IJzendoorn, 2005).

To explore this variability, some children's pre-adoption factors are frequently assessed, such as gender, age at adoption, and place of origin. Adolescent adoptive boys consistently show a greater incidence of behavioral problems than girls (Groza & Ryan, 2002; Miller et al., 2000). However, there is no consensus concerning adopted/non-adopted differences. Some studies find greater differences among boys (Miller et al., 2000), while others observe a greater number of total behavioral problems in adopted girls than in their non-adopted peers (Bimmel et al., 2003).

The consistent statistical relation between older age at adoption and greater behavioral problems has been well documented (Groza & Ryan, 2002; Gunnar et al., 2007; Hawk & McCall, 2010; Merz & McCall, 2010, Miller et al., 2000). Nevertheless, the effect of age has been attributed to the length and amount of prior adversity (Harf et al., 2010; Grotevant et al., 2006; Palacios & Brodzinsky, 2010). Age at adoption has been usually studied as a continuous variable, understanding the greater the risk the older the age at adoption. However, some research suggests a non-continuous approach to age at adoption that allows assessing the role of being adopted in different developmental stages (Barni et al., 2012).

Finally, studies that compare adolescents from domestic and international adoptions generally find greater rates of behavioral problems amongst those adopted from abroad (Castle et al., 2009; Juffer & van IJzendoorn, 2005; Keyes et al., 2010), because of having grown up in worse conditions before adoption. The differences between different care cultures in different countries and continents are frequently noted.

Although there is a great amount of research on adopted children's and adolescent adjustment, including important meta-analysis, studies with Spanish samples are limited (Aramburu et al., 2020; Barcons et al., 2011; Berástegui, 2007, 2010; Berástegui y Rosser, 2012; Fuentes et al., 2004; Sánchez-Sandoval & Palacios, 2012), despite the relevance of cultural issues in the shaping of the adoptive experience and child behavior (Barni et al., 2012; Masha et al., 2007) and the relevance of Spain in the international adoption scene in recent decades (Selman, 2009).

The aims of this study are to describe the incidence and severity of behavioral problems in a sample of Spanish adopted adolescents compared with normative scores of the Spanish adolescent population, and to identify the role of gender, age at adoption, and place of origin in differences within the group of adopted adolescents.

Hypothesis

1) Adopted adolescents show higher levels of behavioral problems than the normative population;
2) There is a higher proportion of adopted adolescents in the clinical ranges of behavioral problems than the normative population;
3) Adopted adolescent boys show more behavioral problems than girls;
4) Adolescents adopted when older show more behavioral problems than those adopted younger;
5) Adopted adolescents show differences in behavioral problems depending on their place of origin.

METHOD

Participants

The participants were 64 Spanish adoptive parents (78.1% mothers), and adolescents aged between 11 and 18 years old. Adolescents were mainly girls (56.3% girls), with a mean age of 13.84 (*SD* = 2.14). Their mean age at adoption was 4.28 years old (*SD* = 2.89): 45.8% were adopted before the age of 3 years, 25.4% between 3 and 6 years old, 23.7% between 6 and 9 years old, and 5.1% at 9 years old or above. Concerning place of origin, 40.6% were adopted from Eastern Europe (15 adolescents were from Russia, 5 from Ukraine, 4 from Romania and 2 from Bulgaria), 26.6% from Latin America (6 adolescents were from Colombia, 4 from Mexico, 3 from Brazil, 2 from Chile and 1 from Honduras), 20.3% from Asia (2 adolescents were from India and 11 from China), and 12.5% from domestic adoptions in Spain. Parents mean age at the time of the study was 50.3 years for mothers (SD= 4.7) and 50.8 years old for fathers (SD=5.7). The majority of the parents have university studies (75% of mothers and 55.5% of fathers).

Measures

The Child Behavior Checklist (CBCL: Achenbach, 1991; Achenbach & Rescorla, 2001, adapted to Spanish by Sardinero et al., 1997) is used to assess adolescents' behavioral problems reported by their parents. Eight "narrow-band syndromes" are assessed (anxiety-depression,

withdrawal, somatic complaints, thought problems, social problems, attention problems, rule-breaking behavior, and aggressive behavior). These factors are clustered in two "broad-band syndromes" (internalization and externalization), and given a total score. The reliability is accurate for the total score (α=.97), the externalizing scale (α= .94), and the internalizing scales and its subscales (α>.75), and its structure has been confirmed in different societies (Masha et al., 2007).

For the comparison with non-adoptive adolescents, we use the normative Spanish scales for the CBCL (Epidemiology and Diagnostic in Developmental Psychopathology Unit, 2013). This normative data was obtained from a representative sample of the Spanish population, collected from 1,430 children between 6 and 17 years old (50% girls).

In addition, a personal information self-report is used to gather the child pre-adoption factors.

Procedure

The convenience sampling strategy was used for this study. Eligible families were adoptive families of adolescents between11 and 18 years old. Participants were recruited either through associations of adoptive families federated in Spain or by contacting collaborators of previous research projects. The data was collected online or by hardcopy (25%). The questionnaires were completed by a father or mother indistinctly. Families with more than one adopted child were asked to choose one of them, in the age range between 11 and 18 years old, and complete the questionnaire regarding the chosen son or daughter. The universal ethical principles governing the conduct of research in psychology have been respected (Declaration of Helsinki), including maintaining confidentiality and obtaining informed consent from participants.

Data Analysis

The statistical package SPSS 26.0 was used to analyze the data, and the one-sample *t*-test conducted to present comparisons with the general population, using the normative scales (6-18 years old) for the Spanish population (Epidemiology and Diagnostic in Developmental Psychopathology Unit, 2013). Effect sizes are reported according to Cohen's criteria for small (*d* >.2), moderate (*d*>.5) and large (*d* >.8) effect sizes. Percentages of adolescents in the normal, borderline, or clinical range according to the same normative scales are presented.

When comparing CBCL scores by child pre-adoption factors, standard scores are presented, and non-parametric tests were chosen because of the sample size and the non-normal distribution of the variables. U-Mann Whitney is used for gender comparisons and the Kruskal-Wallis test for age at adoption and place of origin. Where significative differences are found, Man Whitney post hoc tests have been conducted.

RESULTS

The CBCL scores on descriptive statistics, distribution by ranges and comparison with normative population scores are shown in Table 1. Comparisons between the sample and reference population means using Student's one-sample t-test shows that adopted adolescents have no differences in the total, internalizing and externalizing scales. Significantly higher scores are observed in adopted adolescents compared with the normative population, with a

Table 1. Distribution by ranges, descriptive statistics and comparison of mean CBCL scores with the normative population

	Ranges			Sample		Normative population					
	Normal	Border	Clinic	*M*	*SD*	*M*	*SD*	*T*	*DF*	*Sig.*	*d*
Total problems	73.4	6.3	20.3	37.58	32.450	36.20	25.20	0.34	63	.735	0.05
Internalizing	76.6	6.3	17.2	9.06	8.075	8.39	8.12	0.67	63	.508	0.08
Externalizing	70.3	6.3	23.4	12.94	13.069	10.47	8.63	1.51	63	.136	0.22
Anxious/depressed	79.7	4.7	15.6	4.69	4.771	4.85	3.99	-0.27	63	.786	-0.04
Withdrawn/depressed	67.2	7.8	25.0	3.61	3.412	2.32	2.14	3.02	63	.004	0.45
Somatic complaints	93.8	3.1	3.1	0.66	1.263	2.42	2.82	-11.18	63	.000	-0.81
Social problems	73.4	7.8	18.8	3.44	3.091	3.02	2.88	1.08	63	.284	0.14
Thought problems	96.9	1.6	1.6	1.00	1.690	2.80	3.02	-8.52	63	.000	-0.74
Attention problems	53.1	12.5	34.4	6.72	5.499	4.67	3.53	2.98	63	.004	0.44
Rule-breaking	79.7	3.1	17.2	3.63	4.645	3.45	3.42	0.30	63	.764	0.04
Aggressive behavior	73.4	1.6	25.0	9.16	8.948	7.02	5.88	1.91	63	.061	0.28

One-sample t-test.

moderate effect size in withdrawal or attention problems. Adopted adolescents were also found to have lower scores in somatization and thought problems, with moderate to large effect sizes.

The great majority of adolescents are in a normal range in the total score of the CBCL scale, 5.8% in the borderline and 18% in the clinical range. The proportion of subjects in the clinical range is greater for externalizing behavior than for internalizing behavior; 12.5% of adolescents have clinical scores on both the internalizing and the externalizing scales. The higher percentages of adolescents in the clinical range, with an increase of 25% or more in the clinical range, occur in attention problems, withdrawal-depression, and aggression.

Analyzing *gender differences* in the behavior of adopted adolescents, scores are significantly higher for boys than for girls, with small differences in social problems and rule breaking behavior and moderate differences in aggression, attention and thought problems, with moderate to large effect sizes. The scores are also higher for boys in the externalizing and the total scales, with moderate effect sizes (Table 2).

Concerning *age at adoption*, the Kruskal-Wallis test (Table 3) shows differences between age groups, with higher rates of problems amongst those who were adopted between the ages of 3-5 compared to those adopted before 3 and between 6 and 8 years old, in externalizing problems (U=-12.27, p=.027, d=-0.81 and U=13.16, p=.039, d= 0.77 respectively) and also in social problems (U=-16.85, p=.002, d=-1.00 and U=15.89, p=.012, d= 1.09 respectively), rule breaking (U=-14.62, p=.007, d= -0.85 and U=13.94, p=.026, d=0.97 respectively), and aggressive behavior (U=-13.45, p= .015, d=-0.81, and U=14.07, p=.027, d=1.12 respectively), all with moderate to large effect sizes.

Concerning *place of origin*, significant differences were found in withdrawal, anxiety, social problems, rule breaking, and aggressive behavior (Table 4). Asian children display lower anxiety and aggression problems than those coming from Eastern Europe (U=-16.61, p=.008, d=0.76 and U=-21.29, p=.001, d=1.24 respectively); lower withdrawal and attention problems than those coming from Latin America (U=16.86, p =.013, d=0.74 and U=17.73, p= .010, d=1.06 respectively) and Eastern Europe (U= -20.86, p= .001, d=1.35 and U=-22.21, p= .000, d=0.73 respectively). Adolescents adopted from Eastern Europe have more social problems than adolescents coming from Asia (U=-24.54, p=.001, d=1.52), Latin America (U= -13.63, p=.018, d=0.74) and Spain (U=-20.69, p=.006, d=1.42). Effect sizes are moderate to large.

Finally, we find differences in the age at adoption depending on the place of origin. Adopted adolescents from Asia are younger than those adopted from Spain (U= -22.84, p=.004, d=-1.23); Latin America (U=24.44, p=.001, d=-1.76) and Eastern Europe (U=-21.68, p=.001, d=-1.82), with large effect sizes.

DISCUSSION

Research comparing samples of adoptees and non-adoptees at all ages frequently observes a greater psychological vulnerability in the adopted group, manifested as a higher rate of behavioral problems. Problems become more evident or severe during adolescence.

Despite the relevance of Spain in the international adoption landscape in previous decades, studies with Spanish samples are limited. This paper contributes to filling this gap by describing the incidence and severity of behavioral problems, as reported by parents, in a sample

Table 2. Comparison of means of the standard CBCL scores of adopted adolescents by gender

	Girls (n=36)		Boys (n=28)					
	M	*SD*	*M*	*SD*	*U*	*df*	*p*	*d*
Total problems	29.22	28.42	48.32	34.60	711.5	1	.005	-0.60
Internalizing	7.78	7.35	10.71	8.78	612.5	1	.141	-0.36
Externalizing	9.50	11.72	17.36	13.58	730.0	1	.002	-0.62
Anxious/depressed	4.17	4.10	5.36	5.53	561.5	1	.433	-0.24
Withdrawn/depressed	3.19	3.50	4.14	3.29	618.0	1	.118	-0.28
Somatic complaints	0.61	1.15	0.71	1.41	534.5	1	.614	-0.08
Social problems	2.92	3.08	4.11	3.02	647.5	1	.050	-0.39
Thought problems	0.61	1.29	1.50	2.01	652.0	1	.021	-0.53
Attention problems	5.36	5.08	8.46	5.61	669.0	1	.025	-0.58
Rule-breaking	2.78	4.44	4.71	4.75	721.0	1	.003	-0.42
Aggressive behavior	6.72	7.84	12.29	9.44	712.0	1	.005	-0.64

U-Mann Whitney test. Grouping variable: gender.

Table 3. Comparison of means of the standard CBCL scores of adopted adolescents by age at adoption.

	0-3 n=27		3-6 n=15		6-9 n=14		>9 n=3				
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	χ^2	*df*	*p*
Total problems	32.67	28.51	54.47	35.07	31.14	28.81	70.33	50.29	7.127	3	.068
Internalizing	8.63	8.37	11.20	8.26	8.50	6.61	15.00	13.89	2.783	3	.426
Externalizing	10.19	10.00	20.93	15.95	10.21	11.75	26.33	16.26	8.830	3	.032
Anxious/depressed	4.00	4.75	7.13	6.08	3.86	3.35	5.33	4.16	3.519	3	.318
Withdrawn/depressed	2.81	3.00	5.00	4.26	3.43	2.85	6.33	4.93	5.601	3	.133
Somatic complaints	0.37	0.84	0.80	1.26	0.71	1.07	2.00	3.46	2.492	3	.477
Social problems	2.52	2.72	5.73	3.61	2.50	2.14	3.33	3.51	10.391	3	.016
Thought problems	0.67	1.27	1.60	1.96	0.64	1.39	2.67	3.79	4.717	3	.194
Attention problems	5.48	5.54	9.93	5.13	5.29	4.07	7.67	6.51	7.748	3	.052
Rule-breaking	2.22	3.21	6.40	6.19	1.86	2.28	9.00	7.00	10.00	3	.016
Aggressive behavior	7.30	8.15	15.00	10.61	5.71	5.08	14.33	12.34	8.077	3	.044

Kruskal-Wallis test. Grouping variable: Age at adoption.

Table 4. Comparison of means of the standard CBCL scores and age at adoption of adopted adolescents by place of origin.

	Asia n=13		Eastern Europe N=26		Latin America n=17		Spain N=8				
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	χ^2	*df*	*p*
Total problems	20.00	22.60	40.88	34.08	40.94	31.65	48.25	37.30	7.4	3	.060
Internalizing	5.23	6.99	10.00	8.79	9.59	6.27	11.13	10.08	6.0	3	.110
Externalizing	6.15	7.79	12.92	12.45	16.00	15.79	17.50	13.33	7.3	3	.063
Anxious/depressed	2.54	3.67	5.92	5.11	5.18	5.08	3.13	3.44	8.1	3	.044
Withdrawn/depressed	1.77	2.92	4.46	3.26	4.12	3.43	2.75	3.85	12.9	3	.005
Somatic complaints	0.46	1.13	0.65	1.09	0.65	1.22	1.00	2.07	1.6	3	.666
Social problems	1.38	1.56	5.27	3.27	3.00	2.81	1.75	1.28	18.8	3	.001
Thought problems	0.23	0.60	1.12	1.61	1.35	1.93	1.13	2.42	3.9	3	.271
Attention problems	2.62	3.71	8.88	5.41	7.41	5.24	4.88	5.25	13.9	3	.003
Rule-breaking	0.92	2.47	4.27	4.20	4.94	5.94	3.13	4.52	13.7	3	.003
Aggressive behavior	3.38	4.56	11.92	8.58	9.71	10.55	8.38	8.73	11.5	3	.009
Age at adoption	1.55	0.77	4.56	2.21	5.07	2.72	5.55	4.55	16.2	3	.001

Kruskal-Wallis test. Grouping variable: Place of origin.

of Spanish adolescent adoptees in comparison with normative scores of the Spanish adolescent population.

Adopted adolescents in our sample do not differ from typical Spanish adolescents in their total behavioral problems, in accordance with previous research that identifies good adjustment in most adopted adolescents (Bimmel et al., 2003; Keyes et al., 2008; Kohler, Grotevant & McRoy, 2002; Miller et al., 2000; Nilson et al., 2011). In contrast with the initial hypothesis and with previous research, this study fails to find differences in the externalizing scores (Bimmel et al., 2003; Harf et al., 2007; Simmel et al., 2001) or the internalizing scores (Juffer & Van Ijzerndoon, 2005) for the adopted adolescents as a group.

Most of the adopted adolescents in our sample scored within the normal ranges on the CBCL and their externalizing and internalizing scales. However, they are reported to have more withdrawal and attention problems than the normative adolescent population, these differences being small. The greater incidence of attention problems is a typical finding in adoption research (Juffer & Van Izjerdoon, 2005), but the increased risk or withdrawal

problems is not so common. In contrast, adolescents in our sample show better results in some dimensions, such as in somatization (Barcons et al., 2011), and in thought problems, with moderate to large effect sizes.

Nonetheless, as we expected (Hypothesis 2), there is a significant group of adolescents in the clinical range, as reported by their parents. One in five adopted adolescents in our sample show clinical total scores, especially in the externalizing scale (23.4%). Similar percentages are found in other Spanish samples (Fuentes et al., 2004). This can reflect a greater risk for adopted adolescents but also a greater sensitivity of CBCL to these symptoms or some informant bias. One in three adolescents are reported to have clinical attention problems, one in four clinical withdrawal or aggression problems. The data also shows a relevant interaction between the two broad-band syndromes, with 12.5% of cases scoring clinically on both the internalizing and the externalizing scales, which can predict a worse prognosis (Verhulst & van der Ende, 1993).

In this study, in line with our third hypothesis, boys display more total and externalizing problems than girls, as is shown in other studies in adopted (Groza & Ryan, 2002; Miller et al., 2000) and typical samples (López-Soler et al., 2009). These gender differences are moderate for aggression, attention and thought problems, and small for rule-breaking behavior and social problems.

The relationship between age at adoption and behavioral problems shows a non-linear pattern in contrast with our fourth hypothesis. As has been previously observed (Barni et al., 2012), children adopted in their preschool years (3-6) have higher rates of behavioral problems than those adopted younger (1-3) and older (6-9). This increase could be explained by an interaction between adversity and resources at this developmental stage. At these ages, cumulative levels of adversity can be high but the cognitive and emotional resources to confront them adaptively are not yet developed (Barni et al., 2012; Kahr et al., 2019). Results can relate to adoptability and suitability standards. In older children's adoptions, considerable importance is given to their psycho-emotional situation before evaluating their adoptability and children are placed in specially prepared families. However, in the preschool group the adoptability standards can be less rigorous, and families may be assigned without any special preparation, aggravating problems after adoption.

Concerning place of origin, in line with our final hypothesis, we found differences in behavioral problems depending on the place of origin. Specifically, adolescents adopted from Asia show lower rates of behavioural problems, especially when compared with those coming from Eastern Europe. The latter group of adolescents display more social problems than all the other groups. These data may relate to the different living conditions, different motives for relinquishment, and different types of public care in different countries of origin, as has been hypothesized previously (Barni et al., 2012). It could also be related to the younger adoption age of adolescents coming from Asia. Both factors – age at adoption, and place of origin – require careful evaluation, as the effects of time and pre-adoptive adversity might be concealed by the age and country of origin (Gleitman & Savaya, 2011; Palacios & Brodzinsky, 2010).

This work has several limitations. The first is that, while it is usual to find small samples in adoption research, the sample size and the lack of information about the representativeness of the sample represent a limitation for the generalization of results. Moreover, we chose to compare our sample with the normative population instead of using a non-adopted control group as a comparison. This option allows us to understand the behavioral problems of adoptees in the global context of adolescents in Spain, instead of comparing them with their peers, usually from more privileged socioeconomic and educational samples, which could lead to overestimating the problems of adoptees (Berástegui, 2013). A further limitation is that this is a cross-sectional study. Adoption research in Spain would benefit from more accurate sociodemographic data on adoption, and longitudinal approaches. However, small cross-sectional studies of local samples are the raw material for further comprehensive meta-analysis. Finally, this study is based on one-parent reports, despite the importance of using different informants highlighted in previous research (Palacios & Brodzinsky, 2010; Rosnati et al., 2008). Further research would also benefit from complementing quantitative studies with qualitative approaches, capable of delving into the meaning and impact of behavioral problems on the different agents and giving us some inputs to help understand the differences.

This research has focused on child pre-adoption factors only. In future works, it is essential to understand individual differences so as to consider family factors, such as parenting styles (Reppold et al., 2010), parent-adolescent relationships and conflict (Ferrari et al., 2015; Klahr et al., 2011; Kon & Rueter, 2011; Whitten & Weaver, 2010), family communication (Aramburu et al., 2020; Rueter & Koerner, 2008), and their interaction with child pre-adoption factors.

Despite these limitations, the results suggest that most of the Spanish adopted adolescents show a good level of adjustment, but an important number of them have clinical problems that should be addressed.

Adolescence is a challenging time in family life, and it can be even more so for adoptive families. These results highlight the need for post-adoption support to prepare and guide families in coping with the challenges of adolescence, attending to the externalizing signs of discomfort in their adolescents and also to the internalizing ones. On the other hand, mental health services in Spain should be accessible to these families when behavioral problems become clinical, especially for those with a worse prognosis

due to coexisting internalizing and externalizing symptoms. It is essential to reinforce adoption and mental health services to enable families to tackle these problems and to support the adolescents, helping them to overcome these difficulties and break the barriers that make adaptation difficult in this complex stage of development.

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