

Ex post-facto study of long term stress in a sample of adoptees

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Título: Estudio ex post-facto del estrés a largo plazo en una muestra de personas adoptadas.

Resumen: En este trabajo estudiamos el impacto que el proceso de abandono y adopción tuvieron en sintomatología postraumática en una muestra de 55 adultos que fueron adoptados con anterioridad a 1970. También se ha estudiado el efecto de la institucionalización, el maltrato, la revelación traumática del estatus de adoptado y los acontecimientos vitales estresantes. No se han encontrado diferencias significativas entre adoptados que fueron institucionalizados y aquellos que no lo fueron en sintomatología postraumática. Sin embargo, los adoptados que sufrieron maltrato, revelación traumática y altos niveles de sucesos vitales estresantes puntuaron más alto de un modo significativo en intrusión y *arousal* que aquellos adoptados que respectivamente no sufrieron maltrato, ni revelación traumática y que sus niveles de acontecimientos vitales estresantes eran bajos. Revelación traumática, sola o en asociación con maltrato, parece jugar un importante papel en la sintomatología postraumática encontrada en la muestra estudiada.

Palabras clave: Adopción; Institucionalización; Maltrato; Revelación traumática; Acontecimientos vitales estresantes; Sintomatología postraumática.

Abstract: In this work we study the impact of relinquishment and the adoption process in posttraumatic symptoms in a group of 55 adults that were adopted as children before 1970. The effects of institutionalization, maltreatment, traumatic revelation of the adopted status and stressful life events have also been studied. No significant differences were found between institutionalized and non-institutionalized adoptees in posttraumatic symptomatology. However, adoptees who suffered maltreatment, traumatic revelation and high level of stressful life events scored significantly higher in intrusion and arousal than those adoptees non-maltreated, without traumatic revelation and with low level of stressful life events respectively. Traumatic revelation, alone or in association with maltreatment, seems to play an important role in posttraumatic symptoms in the sample studied.

Keywords: Adoption; Institutionalization; Maltreatment; Traumatic revelation; Stressful life events; Posttraumatic symptomatology.

Introduction

David Brodzinsky developed a complete model in adoption which includes biological, personal and environmental variables as possible stress sources in adoptees that could influence the adoption outcome (Brodzinsky, 1990). Adoption is a significant event that increases the risk of developing behaviors consistent with the category of Posttraumatic Stress Disorder (PTSD) when the environmental circumstances of adoptees are specially negative and traumatic, such as separation from one or both parents or experience of violence (Terr, 1991). Accordingly, the study of the role of environmental variables such as institutionalization, maltreatment or traumatic revelation of the adopted status is necessary.

In this context, serious stress situations have been reported in adoptees that have experienced very negative events, usually in institutionalization settings. Adoptees from Romania, which had been institutionalized after birth in severe deprivation, have been shown to exhibit PTSD (Hoksbjerg, ter Laak, van Dijkum, Rijk, Rijk & Stoutjesdijk, 2003), severe attachment behavior and lower cognitive levels, with little evidence of decrease in several years of follow up (O'Connor, Rutter & the English and Romanian Adoptees Study Team, 2000a; O'Connor Rutter, Beckett, Keaveney, Krepner & the English and Romanian Adoptees Study Team, 2000b). Similarly, Nickman et al. (2005), in a review of literature of American children adopted younger than 18 years old, found developmental delays, attachment disturbances and PTSD. Institutionalization has been a variable widely studied in adopted children because it seems to be

accompanied by behavioral and emotional difficulties (Hodges & Tizard, 1989), but as Vorria, Rutter, Pickles, Wolkind, and Hobsbaum (1998) argue, there are modulating factors involved. Previous experiences prior to admission, to be institutionalized before 3 years old with no attachment experiences with the biological family and contact with the biological family if the relationship is good, are factors that could modulate the negative effect of institutionalization. A more recent study also by Vorria et al. (2006), found that children who were institutionalized for a period of two years and adopted later were less secure and less able to understand emotions than family-reared children, concluding that residential care had long-lasting effects in important socio-emotional and cognitive abilities.

Maltreatment is a second environmental source of stress. Abuse of any child is potentially devastating; children who have experienced chronic early maltreatment are at significant risk of a variety of behavioral, neuropsychological, cognitive, emotional, interpersonal and psychobiological disorders. Sexually abused children are at significant risk of developing anxiety disorders (2 times the average), major depressive disorders (3.4 times the average), alcohol abuse (2.5 times the average), drug abuse (3.8 times the average), and antisocial behavior (4.3 times the average) according to MacMillan (2001). Pre-adoptive childhood sexual abuse in boys is strongly associated to externalizing symptomatology; these boys being at the greater risk of clinical severe aggressive behavior (Nalavany Ryan, & Hinterlong, 2009). Maltreated children are, as adults, at risk of developing a variety of psychological problems and personality disorders (Schreiber & Lyddon, 1998). An important aspect in this context is how long lasting are the effects of early maltreatment in adoptees. Pavio & Patterson (1999) warned about

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the long term consequences of child abuse in poor social adjustment, feeling of isolation and problems in marital relationships. Traumatic incidents are recalled more frequently than any other autobiographical memory (Porter & Birt, 2001) and they are usually accompanied by intense feelings and recurrent recall of related thoughts of the moment of the incident (Manzanero & López, 2007). Children with histories of maltreatment have a significantly higher risk of developing PTSD and depression as adults (Allan, 2001; Andrews, Varewin, Rose & Kirk, 2000; Putnam, 2003). Also, studies in internationally adopted samples demonstrated the effect of early adversities on mental health problems in childhood, adolescence and adulthood (Cederblad, Höök, Irhammar & Mercke, 1999; Fensbo, 2004; Hoksbergen, 1997; Juffer & IJzendoorn, 2005). Finally, a study by Van der Vegt, van der Ende, Ferdinand, Verhulst and Tiemeier (2009) with internationally adopted children found no reduction in the impact of early maltreatment over a period of 28 years, from childhood to adulthood, even though the children had been taken out of their problematic environments and raised in enriching environments.

A third environmental source of stress in adoptees is the revelation of their adoptive status. Nowadays, there is a clear position on the subject: all adoptees have the right to know their adoptive status. Also, a majority of research in adoption have provided similar answers to the *when*, *how*, *what* and *who* questions (Ocón, 2007). The answers to *who* invariably points to the adoptive parents (Giberti, 1992, Colaner & Kranstuber, 2010), the answer to *when* points towards the age of two to five years old, and as the *how* and *what*, the common suggestion is that the information given has to be matched to the child's cognitive development (Brodzinsky, Schechter, Braff & Singer, 1984). McRoy, Grotevant, Ayers López and Furuta, (1985) in a study about adoption revelation and communication issues, found that 84% of an adoptive young sample (11 to 17 years old at the time the research was performed) had problems adjusting to the adoptive status, including hostility, rejection, anger, confusion, disbelief and embarrassment upon learning about their adoption. The work of Reppold & Hutz (2009) reports the role of variables such as institutionalization, and the manner and age at which the adoption was revealed in the emotional adjustment of adoptees; late revelation of adoption being connected to higher levels of depression and low self-esteem in adoptees and with the perception of negligent and authoritarian parenting style.

Cultural and social demands, constraints and resources form part of the environmental variables in the stress and coping model of adoption adjustment (Brodzinski, 1990). The Spanish Civil War (1936-1939), followed by a very prolonged post-war, compounded by the outbreak of the Second World War and its post-war, created a situation of poverty and underdevelopment that extended up to the late fifties. This, together with a society characterized by backward and rigid attitudes led to children being relinquished and adopted in higher numbers than in any other period in

Spain. However, research on adoption in Spain with samples of adoptees that were adopted prior to what is known as "Law 21" from 1987 is hindered by the absence or reliable records, derived from the lack of direct involvement of the government in the adoption process. Law 21 emerged in response to public media accusations of the government not fulfilling its protecting duty, a situation that derived in cases of adoption in exchange of money (Sanchez, 2001). From 1987, this and successive laws based in children protection, including the ratification of the Hague Convention, established a series of requirements for adoptive parents, including economical, psychological and pedagogical aptitudes, medical coverage and a study of matching between future adoptive parents and children to be adopted. No psychological, educational or social assessment was used before the cited law and, because of the lack of involvement of the government there are no reliable data about adoptions before that date. A consequence of this situation is that adoptees do not have a state record or agency they can turn to in their search for their biological background, having instead to go in a pilgrimage through religious institutions, hospices, hospitals, etc., in order to get information about themselves.

Here we present the results of a study on the long term impact of relinquishment and adoption in a sample of adults that were adopted in the period between the Spanish Civil War until 1970. Following Brodzinsky (1993), we present the results of the analysis as performed in the whole adopted group and in subgroups classified according to the circumstances of institutionalization, maltreatment, traumatic revelation of their adoptive status and level of stressful life events.

Method

Participants

The number of participants in the sample is composed by 55 (within-country) adopted adults relinquished in convents, child care institutions and hospitals when they were babies and were adopted afterwards. All of them came from the association "*Derecho a Saber*" (Right to Know) and, as the name implies, were looking for their biological family. Because of this circumstance, these subjects are normally referred to as "searchers" in adoption studies. Some adoptees remained institutionalised for many years because, at that time, the adult legal age in Spain was 21. The age mean was 61.52 ranging from 45 to 74 years old. They were adopted from 1937 to 1966, specifically, 19 (34.5%) from 1937 to 1946, 19 (34.5%) from 1947 to 1956, and 17 (31%) from 1957 to 1966. The sample is characterized by having more women (69%), married (69%) and having an educative level mostly corresponding to primary studies (58.2%).

Specific features of this adoptees sample are shown in Table 1. Most adoptees were relinquished in their first month of life (81.1%) and the remainder between the second month and three years old. Most of them were given in

adoption before they were three years old (85.5%), the remainder being adopted when they were between three and nineteen years of age. With respect to institutionalization, 36.4% of adoptees were never institutionalized, 52.7% were institutionalized between the first months of life and three years, and 10.9% were in institutions for periods of 9 to 19 years. Finally, about a third of the adoptees suffered maltreatment and slightly more than a half received the infor-

mation about their adoptive condition in a traumatic way. None of these variables showed significant differences in the sample distribution, except gender in the case of traumatic revelation, where the majority of the women (63.2 %) had found out their adopted status in a traumatic way, whereas a majority of the men (70.6%) received this information in a non-traumatic way ($\chi^2 = 4.55, p = < .03$).

Table 1. Specific characteristics of the adoptees sample.

		N (%)	Gender	
			Female (%)	Male (%)
Relinquishment age	At the birth	45 (81.8)	31 (81.6)	14 (82.4)
	1 month to 1 year old	6 (10.9)	3 (8)	3 (17.6)
	>1 to 2 years old	2 (3.6)	2 (5.2)	0 (0)
	>2 to 3 years old	2 (3.6)	2 (5.2)	0 (0)
Adoption age	< 1 month old	20 (36.4)	15 (39.5)	5 (29.4)
	1 month to 1 year old	17 (30.9)	12 (31.6)	5 (29.4)
	1 to 3 years old	10 (18.2)	6 (15.8)	4 (23.5)
	> 3 years old	8 (14.5)	5 (13.1)	3 (17.6)
Years institutionalized	Never	20 (36.4)	14 (36.8)	6 (35.3)
	< 1 year	20 (36.4)	15 (39.5)	5 (29.5)
	1 to 3 years	9 (16.3)	6 (15.8)	3 (17.6)
	9 to 19 years	6 (10.9)	3 (7.9)	3 (17.6)
Maltreatment	Yes	15 (27.3)	13 (43.2)	2 (11.8)
	No	40 (72.7)	25 (65.8)	15 (88.2)
Traumatic revelation	Yes	29 (52.7)	24 (63.2)	5 (29.4)
	No	26 (47.3)	14 (36.8)	12 (70.6)

Procedure

The procedure we used in the case of the adopted group involved contacting the subjects through the association "Derecho a Saber" (Right to Know), sending a letter to all of its adoptee members containing the questionnaires and a detailed explanation of how to answer them. A contact cell phone number was also included in the information in case any question might arise. From a total roll of 322 adoptees, only 64 (19.9%) subjects sent the questionnaires back over a period of up to two years after receiving them, 55 (17.1%) having answered completely all the questionnaires and information required. The response rate matches the interval reported in previous adoption studies (19-26%) using ordinary mail as the mean to send answered questionnaires (Sorosky, Baran, & Pannor, 1984; Burnell & Norfleet, 1979). The data collection and data analysis have been performed in the last three years.

Measures

Impact of Events Scale-Revised, IES-R (Weiss, 1996). This scale has been adapted to Spanish samples by Báguena, Villarroya, Beleña, Díaz and Reig (2001). It has 22 items with four answer categories and it assesses three factors: intrusion, avoidance and arousal. In the second version of IES-R (Weiss & Marmar, 1997), the cut point to consider a high possibility of suffering PTSD was ≥ 41 with five alternative answers (0, 1, 2, 3, 4); in our study using the first version of

the IES-R (Weiss, 1996) with four alternative answers (0, 1, 3, 5), the cut point used by extrapolation was a total score of ≥ 51 . In the instructions for the participants in the adopted group we asked about the relinquishment and adoption process. We asked to answer the scale taking into account the last seven days. When we asked how long ago the relinquishment and adoption process had taken place, the range were from 45 to 74 years ago (mean = 54.87). Reliability of IES-R variables in our study was high (Cronbach α : Intrusion = .94; Avoidance = .87 and Arousal = .92).

Stressful Life Events Scale, SVEAL-PEL, (Pelechano, 1998). This scale includes 49 items with dichotomist response (Yes-No). The scale assesses frequency of stressful life events grouping in the next categories: own or close person traffic accident, illness or hospitalization; serious problems in work or economic; death of someone close; own or close person problems with addictions; serious problems and breaks with couple or close relative, problems in intra or interpersonal relationships and shooting someone or being shot by someone. The reliability and validity of the scale have been shown in several studies (Báguena et al., 2001, Báguena, Díaz, Beleña, Roldán & Villarroya, 2006; El Borouni, 2007). The score is the total stressful life events reported in the scale. The variable Frequency of Stressful Life Events showed an adequate reliability (Cronbach $\alpha = .76$).

Story of Relinquishment and Adoption: This information has two different parts, the first one with specific questions about "if, when or for how long" were relinquished, adopted

or institutionalized and, “when and how” they found out they were adopted; and a second part where they reported their story in a open way, telling in several pages the most important events in their relinquishment and adoption process. From the reading of their stories, three important events seemed to have had an important impact in the life of the adoptees: institutionalization, maltreatment and the traumatic revelation of their adoptee status. First part provided the institutionalization and traumatic revelation variables. In the second part, because of its qualitative nature, three independent reviewers (with experience working in maltreatment and gender violence) read the free writing reports and selected 15 cases classed as maltreatment on the basis of a complete agreement between the three reviewers (concordance between reviewers = 100%). The criteria used by the reviewers has been to consider *Maltreatment* when the adoptee reported sexual abuse (rape), frequent and serious physical beatings, and/or psychological maltreatment including rejection, contempt, disparagement, threats of beatings (after serious beatings), abandonment or making the children feel as lower or worthless persons. The maltreatment was inflicted by caregivers in institutions and by the parents in the adoptive family; none of the adoptees were old enough to remember a possible maltreatment in the biological family because all were relinquished before they were three years old. The maltreatment reported had in all cases happened during the adoptees childhood and adolescence. *Traumatic revelation* of their adopted status has been considered when the adoptees have received this information late (older than 15), from somebody that is not their adoptive family and in a way that made them feel deceived and rejected by their adoptive parents. The *Story of Relinquishment and Adoption* data is also presented in **Table 1**.

Statistical Analyses

We obtained Cronbach's α , one-way ANOVAs and Cohen's d on the comparisons between four subgroups in which the adoptees had been divided: institutionalized/non-

institutionalized, maltreated/non-maltreated, with traumatic revelation/without traumatic revelation and high level of stressful life events/low level of stressful life events. High and low stressful life events groups have been created using the median as cut point. Mann-Whitney U has been calculated in the case of subgroups with fewer than 20 participants. Cross-tabulations have been performed between the variables maltreatment and traumatic revelation, obtaining those subjects with an IES-R total score equal or higher to 51. Relationship between the three posttraumatic variables and the four groups concerning the circumstances of adoption are presented next. Finally, in order to know the predictive role of maltreatment, traumatic revelation and stressful life events in the categorical variable IES-R total score lower/equal or higher to 51, we performed several logistic regression analyses.

Results

Reliability was adequate for all variables (Cronbach's α range .76-.94). The comparison between non-institutionalized and institutionalized adoptees showed in **Table 2** did not produce significant differences. The maltreated adoptees showed higher intrusion and arousal related to the relinquishment and adoption process than the non-maltreated adoptees. In the comparison between the adoptees with and without traumatic revelation, the differences were the same and in the same direction than those found in maltreatment variable; adoptees who suffered traumatic revelation presented more traumatic symptoms, specifically intrusion and arousal than adoptees without traumatic revelation. Finally, the adoptees with high level of stressful life events showed higher intrusion and arousal than those with low stressful life events. In the three cases, the comparisons between maltreated/non maltreated, with/without traumatic revelation and with high/low stressful life events showed strong or very strong size effects when using the categories defined by Cohen (1988) and Rosenthal (1996).

Table 2. Differences between circumstances in adoption in intrusion, avoidance and arousal.

		Intrusion			Avoidance			Arousal		
		<i>M</i> (<i>SD</i>)	<i>F/U</i>	<i>d</i>	<i>M</i> (<i>SD</i>)	<i>F/U</i>	<i>d</i>	<i>M</i> (<i>SD</i>)	<i>F/U</i>	<i>d</i>
Institutionalization	No (N=20)	18.45 (13.80)			7.65 (7.88)			10.90 (10.43)		
	Yes (N= 35)	11.91 (12.67)	3.18	.56	12.94 (11.30)	3.42	0.54	6.23 (8.79)	3.14	0.44
Maltreatment	No (N=40)	10.73 (11.70)			9.25 (9.39)			4.55 (6.92)		
	Yes (N= 15)	23.80 (13.14)	125.5***	1	15.73 (11.90)	203	0.60	16.93 (10.11)	103.5 ***	1.46
Traumatic revelation	No (N=26)	6.74 (5.98)			9.70 (8.14)			1.57 (2.15)		
	Yes (N=29)	21.10 (14.32)	20.36***	1.43	12.79 (12.02)	1.11	0.27	13.45 (10.22)	29.94***	1.66
Stressful life events	Low (N=27)	8.11 (9.39)			10.70 (8.46)			3.26 (6.55)		
	High (N=28)	20.25 (14.01)	2.37*	1.02	11.32 (12.19)	0.82	0.06	12.43 (9.99)	2.04*	1.09

* $p < .05$; *** $p < .001$; *M*= Mean; *SD*=Standard Deviation; *d* = Cohen's d ; *U* = Mann Whitney's U calculated in Maltreatment

A non-parametric comparison between 6 adoptees who suffered psychological maltreatment and 8 who suffered both physical and psychological maltreatment in the IES-R total score was performed and no significant differences were found (Mann-Whitney $U = 22$).

Following Weiss & Marmar (1997) considerations, we obtained the total IES-R score equal or above 51 as an index with a high possibility of suffering PTSD. Fourteen adoptees were in this situation. **Figure 1** shows the cross-tabulation analyses among the adoptees in the two subgroups (Maltreatment and Traumatic Revelation) with significant differences in the previous comparative analysis. The 26 adoptees not having reported traumatic revelation have shown IES-R

scores lower than 51, suggesting no PTSD problems. Five adoptees, one third (33.3%) of those reporting traumatic revelation but not maltreatment, got IES-R scores equal/above 51. Nine adoptees, almost two thirds (64.3%) of those reporting both traumatic revelation and maltreatment, obtained IES-R scores equal/above 51. Eight adoptees (57.4%) reported the three conditions: maltreatment, traumatic revelation and high stressful life events. These results suggest that traumatic revelation, alone or as part of maltreatment or stressful life events, play an important role in the development of posttraumatic symptoms in adoptees who have suffered those conditions.

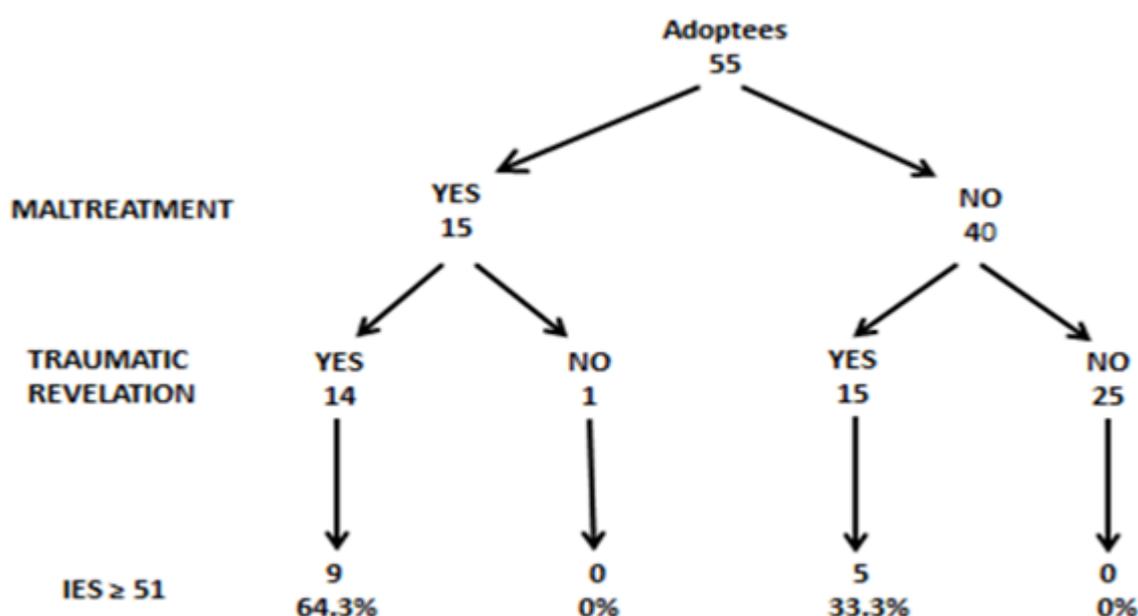


Figure 1. Cross-tabulation of adoptees in Maltreatment, Traumatic REvelation and IES-Rscore equal or higher than 51.

The interest of the possible effect and relation between the four possible circumstances affecting the adoptees and posttraumatic symptoms led us to perform Spearman correlations. As shown in Table 3, all relationships between intrusion and arousal with maltreatment, traumatic revelation and

stressful life events were high and significant (from .45 to .60, $p < .001$). However, neither institutionalization nor avoidance did show significant relationships with the other variables.

Table 3. Spearman correlations.

	Institutionalization	Maltreatment	Traumatic revelation	Stressful life events
Institutionalization	1			
Maltreatment	.04	1		
Traumatic revelation	-.01	.53***	1	
Stressful life events	.01	.60***	.45***	1
Intrusion	-.19	.45***	.47***	.46***
Avoidance	.23	.25	.08	.03
Arousal	-.22	.52***	.56***	.48***

*** $p < .001$

Finally, we performed logistic regression analyses using IES-R total score (below/equal or higher to 51) as a categorical dependent variable and maltreatment, traumatic revela-

tion and stressful life events as predictive variables. Due to the lack of differences and relationship between institutionalization and posttraumatic symptoms, institutionalization

has not been included in the analysis. The inclusion of stressful life events in the logistic regression did not produce any increase in the explained variance (41%) by the model and a loss in the predicting role of maltreatment and traumatic revelation variables. So, the logistic analysis with the inclusion of traumatic revelation and maltreatment showed the following results, Nagelkerke $R^2 = .41$, explaining 41% of variance and an accurately predicted percentage of 81%. Maltreatment obtained $B = -1.51$, and $Wald = 3.80$ ($p < .05$), $OR = 10.68$, 95% $CI [1.14, 100.26]$; traumatic revelation obtained $B = -2.38$ and $Wald = 4.30$ ($p < .03$), $OR = 4.53$, 95% $CI [1.00, 20.67]$. Again, this analysis confirms that maltreatment and traumatic revelation variables showed an important role in the prediction of high posttraumatic scores in adoptees.

Discussion

Our results confirm Brodzinsky's theory about personal and environmental variables as stress sources in adoptees. According to Brodzinsky, these variables can affect the final outcome of the adoption process, especially if the historical period during which the adoption process took place, as is the case in our study, has been characterized by a total lack of guarantees of protection for adopted children and an the absence of laws governing the adoption process.

Forty four out of fifty five adoptees (80%) in our sample had negative or very negative events to report, such as maltreatment or/and traumatic revelation of their adoptive status. It is also striking that some of these maltreated adoptees reported the traumatic revelation rather than the maltreatment as the more negative aspect of the adoption process, probably reflecting their view of the traumatic revelation itself as the worst part of their psychological maltreatment. The significant predictive role and relationship between both variables points in that direction.

Looking into each of the four circumstances used to divide the adopted sample in subgroups, institutionalization had a very modest role. Institutionalization has often been assumed to have a strong negative effect (Hodges & Tizard 1988) and this has been found to be the case in some countries such as post-Ceucescu Romania, mostly due to a high children/caregiver ratio (O'Connor et al. 2000a, 2000b). However, the effect of institutionalization in our sample was not as negative as has been reported from other studies in other countries. We may hypothesize that given the prevailing conditions in Spain after the Civil War and the following period of dictatorship, with food and fuel shortages and a very repressive regime, orphanages could at least provide the basic needs of food, clothing and shelter, hence the not so negative perception. These situational circumstances, together with the fact that most of the adoptees (89%) were institutionalized before they were three years old, may have acted as adoption-outcome modulating factors, as proposed by Vorria et al. (1998). We do have case stories that reported maltreatment in the institution; however we also had cases

that reported good adaptations to the institution, with good relationship with caregivers and other inmates and which, after leaving the institution, were maltreated by their adoptive families.

Maltreatment has shown a very different picture from institutionalization, with significant differences in most of the variables in the comparison. Maltreated adoptees presented higher levels of posttraumatic symptoms: Intrusion and arousal. Also, the relationship with other circumstance of adoption, traumatic revelation, is high and significant. Fifteen of the adoptees participating in this study had been maltreated; of these, nine (60%) scored above 51 in IES-R, suggesting high probability of suffering PTSD. This result supports those found by Allan (2001), Andrews et al. (2000) and Putnam (2003) about the high risk of suffering PTSD as an adult when there was a previous history of maltreatment as a child. We did not find significant differences between the different kinds of maltreatment, equating the effect of type of abuse.

Traumatic revelation give a very similar picture: adoptees with traumatic revelation present two posttraumatic symptoms: intrusion and arousal. All adoptees that scored over 51 in IES-R shared the same characteristic: all of them discovered their adopted status in a traumatic revelation situation. Adoptees with traumatic revelation, compared with those without traumatic revelation, multiply by 4.5 their possibilities of high posttraumatic symptoms, therefore the risk of PTSD. Accordingly, traumatic revelation seems to play an important role in traumatic symptoms, as important as or more important even than maltreatment. The fact that all the adoptees in the sample were actively searching for their biological families may explain why they did not show adoption-process avoidance. These results also support Pavio and Pattenon (1999) results about the long term consequences of child abuse in poor social adjustment and isolation feelings, and extend the consequences of maltreatment after maltreatment episodes well beyond the 28 years reported by Van der Veet et al (2009). In our study, maltreatment was combined with traumatic revelation of adoptee status in a part of the sample, and this combination produced a stronger effect in posttraumatic symptoms. McRoy et al. (1985) proposed several points to minimize the problems associated to the revelation of the adoption status, among them that parents should be the first to reveal his/her adopted status to the child, to express empathy or to show an open attitude towards the topic; none of them were applied in our subsample of adoptees with traumatic revelation.

Given the importance that maltreatment and traumatic revelation have shown in this study in adults adopted as children, the inclusion of both variables in treatment or prevention programs in the field of adoption is vital. The disclosure of the adopted status is an important issue in every adoption, and the problems concerning revelation might, as our results show, be in the background of other adoption related issues. The importance of trust between adoptive parents and the adopted child cannot be overstressed. When

this trust is broken, the effects of other environmental stressors may have a higher impact in the adoptee (Cadonet, O'Gorman, Heywood & Troughton, 1985).

The long term impact of relinquishment and adoption has been accompanied by a higher frequency of stressful life events in an important portion of adoptees who suffered also maltreatment and traumatic revelation (57.4%). This result points in the same direction than those by Sobol & Cardiff (1983) and Haugaard, Schustack and Dorman (1998) who found that samples of adoptees that were actively searching for their biological families had experienced more stressful life events and had stronger feelings towards them.

A condition shared by all the adoptees in this study is that they were "searchers"; all of them were looking for information about their biological background. Several studies have reported distinctive attributes of searchers in opposition to non-searchers. Baden & Wiley (2007), reviewing 13 studies concluded that, generally, there were no differences in the basic demographics of the adoptees, but the searchers were more often women (Sobol & Cardiff, 1983; Kohler, Grotevant, & McRoy, 2002; Schecher & Bertocci, 1990), older at adoption (Aument & Barret, 1984; Sobol & Cardiff, 1983; Haugaard, et al., 1998), scored higher in: dissatisfaction with their adoption (Haugaard, et al., 1998), level of depression, feeling different, not belonging to their adoptive families (Slobodnik, 1997; Howe & Feast, 2000), stressful life events, dissatisfaction with the way that communication about adoption-related issues was handled in the adoptive family (Sobol & Cardiff, 1983; Haugaard, et al., 1998), maladjustment (Cubito & Obremski, 2000) and, finally, scored lower in self-esteem (Border, Penny, & Portnoy, 2000). However, not all studies found negative aspects. Pacheco & Eme (1993) found that 93% loved and 89% felt loved by their adoptive parents and that 61% felt like they belonged with their adoptive parents. Also, in a more recent study, Wrobel, Grotevant and McRoy (2004) reported that the

search behavior was not related to family functioning or problematic behavior.

Sobol & Cardiff (1983), Kohler et al. (2002) and Schecher & Bertocci (1990) found in their studies that women were more willing to participate in research on searching. The composition of our volunteer sample of adoptees involved in searching, in which women amount to over two thirds (69%) of the participants, and the significant difference found in traumatic revelation with more women than men receiving the adoption information in a traumatic way, seems to confirm these findings. This also gives indirect support to the results found by Kohler et al. (2002) and Schecher & Bertocci (1990) showing that women were more preoccupied with their having been adopted than men. Although little is known about the meaning of this difference, Kohler et al. (2002) suggest that women express greater interest in their birthparents than do men because, first, they identify more strongly with their birthmothers and gain a heightened awareness of the importance of intergenerational linkages through their own experiences with pregnancy and childbearing, and second, they possess greater overall openness or sensitivity to interpersonal relationships in general.

There are limitations of this study, first the low response rate, although it was consistent with the rates reported by other studies, using also the post as the contact medium (Sorosky, Baran, & Pannor, 1984; Burnell & Norfleet, 1979). Given the absence of reliable records of adoption prior to 1987, obtaining a volunteer sample from this association was the only viable option. A second limitation is the fact that all the participants were searchers of their biological roots, so the conclusion should be generalized to similar samples. Finally, the social and political context lived by the participants should also frame the results of this study. However, notwithstanding the possible limitations, this is, to our knowledge, the first time posttraumatic stress symptoms are assessed in an adult adopted sample that were adopted as children in this difficult period in Spain.

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