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Children left behind during immigration: Repercussions on the mental health of Latin-American mothers and fathers^{*}

Teresa Kirchner Camila Patiño Maria Forns Institute for Brain, Cognition and Behavior (IR3C) University of Barcelona

> *Emigrating and having to leave children behind may be a risk factor* for the mental health of immigrants. This study aimed to compare the psychological symptoms reported by immigrant mothers and fathers who took their children with them with those who left their children behind. The sample comprised 213 Latin American immigrants (123 women and 90 men). The results showed that mothers who did not have their children with them reported more psychological symptoms than those who did. Few differences were observed in the case of fathers, except that those who had their children with them reported more symptoms related with somatization. After controlling for possible confounding variables ('time since immigration', 'having a job', 'legal status' and 'social support') it is concluded that for mothers not being accompanied by one's children explains the largest proportion of the psychological symptoms analyzed, although the time since immigration also accounts for some of the variance in the case of depressive symptomatology and general distress. It is likely that the despair and frustration felt by mothers grows as time goes on and they remain unable to reunite the family. These results may be useful in terms of designing prevention and intervention programs with immigrant mothers.

> Keywords: *immigration, mental health, children left behind, gender differences, Latin-American mothers and fathers.*

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Correspondencia: Teresa Kirchner Ph.D. Faculty of Psychology. University of Barcelona. Department of Personality, Assessment and Psychological Treatments Institute. Correo electrónico: tkirchner@ub.edu

Emigrar sin los hijos: repercusiones en la salud mental de madres y padres latino-americanos

Emigrar y tener que dejar atrás a los hijos puede convertirse en un factor de riesgo para la salud mental de los inmigrantes. El objetivo de este estudio se centra en comparar el nivel de sintomatología psicológica de madres y padres inmigrantes que tienen a sus hijos consigo, con la de aquellos progenitores que han tenido que dejarlos. Con una muestra de 213 inmigrantes latinoamericanos (123 mujeres y 90 hombres), los resultados indican que las madres que han inmigrado sin sus hijos reportan mayor nivel de sintomatología psicológica que aquellas que los tienen consigo. En el caso de los padres, se observan escasas diferencias entre los que tienen y no tienen a sus hijos consigo, excepto por el hecho de que quienes tienen consigo a su prole reportan mayores niveles de somatizaciones. Después de controlar el tiempo de inmigración, el hecho de tener o no trabajo, el estatus de legalidad/ilegalidad y el soporte social, se concluye que no tener a los hijos explica en las mujeres la proporción de varianza más elevada de la sintomatología psicológica evaluada, aunque el tiempo transcurrido desde la inmigración también explica parte de la varianza de la sintomatología depresiva y del malestar psicológico general. Es probable que el desánimo y la frustración se incrementen en las madres privadas de sus hijos a medida que transcurre el tiempo y no pueden efectuar la reagrupación familiar. Los resultados de nuestro estudio pueden ser de utilidad a la hora de diseñar programas de prevención e intervención en salud mental de madres inmigradas.

Palabras clave: inmigración, salud mental, emigrar sin los hijos, diferencias de género, madres y padres latinoamericanos.

Emigration can pose a risk to the immigrant's mental health for several reasons: Acculturation, mourning, new demands, new challenges, conflict, etc. (Achotegui, 2002; 2009; Bhugra, 2004; Finch, Frank & Vega, 2004; Gruesser, Wolfling, Morsen, Albrecht & Hein, 2005; Haasen, Demiralay & Reimer, 2008; Ramos-Villagrasa & García-Izquierdo, 2007; Smart & Smart, 1995). In this regard, another important risk factor is that immigrants often have to leave relatives and loved ones behind, especially their children. It has been shown that separation from family can generate feelings of isolation, aloneness and a lack of social support, all of which have been linked to worse mental health (Barrón & Sánchez, 2001; Grzywacz et al., 2006; Magaña & Hovey, 2003; Remennick, 2005). Furthermore, in collectivist cultures (Triandis, Bontempo, Marcelo & Villareal, 1988) such as the Latin American one, which places great emphasis on the closed and extended family, the ambivalence that results from migrating and leaving one's relatives behind, or indeed remaining and accepting a poorer quality of life, may produce emotional distress (Grzywacz et al., 2006). Some studies have reported that the gender of immigrants may influence the intensity and specificity of these negative experiences, as each sex may be more sensitive to one or another stressor associated with immigration. In this regard, Hiott, Grzywacz, Arcury and Quandt (2006) showed that separation from family was associated with more depressive and anxiety symptoms among immigrant women, but was not associated with depression among men. Similarly, Hovey and Magaña (2002) and Magaña and Hovey (2003) suggested that immigrant women's mental health may be more influenced by family-related factors, while men's mental health may be more influenced by employment experiences. Furthermore, Remennick (2005) found that women were more sensitive to social isolation, whereas men were more concerned about the issue of employment. Support for this notion comes from the study by Aroian, Norris and Chiang (2003), which found that being out of work was a predictor of stress among men but not among women.

Few studies have examined the emotional impact of the migrating without the offspring, taking into account both a wide range of psychopathological symptoms, gender differences, and the control of a number of confounding variables. To our knowledge, it is the first study of its kind held in the Spanish context, so it fills a gap in this area.

The general aim of the present study was to analyze the potential repercussions that having to leave children behind in the country of origin or another far-off place might have on the mental health of Latin-American immigrants. The specific objectives were: a) to analyze whether there are differences in the psychological symptoms reported by immigrants who have or don't have their children with them in the host country; b) to determine whether there are differences according to the gender of immigrants.

To achieve these objectives it is necessary as a preliminary step, to control for the effect of variables that, according to the literature, may influence the mental health of immigrants: 'Time since immigration', 'having a job', 'legal status' and 'social support'. In the present study these variables could be confounders. Indeed, it is likely that immigrants who have their children with them have spent longer in the host country, have stabilized their situation, have a residence permit and, therefore, better employment prospects. Furthermore, it is possible that compared to more recent arrivals, immigrants who have spent longer in the host country will have consolidated a wider social support network. All these factors may be related to mental health and could mask any differences in the psychological symptoms reported by immigrants who live with their children and those who are far away from them.

With respect to time since immigration various authors have indicated that the prevalence of mental disorders increases as time passes (Escobar, Hoyos, Nervi & Gara, 2000; Vega, Sribney, Aguilar-Gaxiola & Kolody, 2004). However, others authors such as Ritsner and Ponizovsky (1999) found that psychological distress peaks during the first 27 months after immigration, whereafter it tends to decrease. At all events, despite the lack of consensus as to whether distress increases or decreases with time since immigration, it is clear that time is a variable whose effect must be controlled for.

Another factor that has been related to the mental health of Latin American immigrants is being out of work (Finch, Catalano, Novaco & Vega, 2003), and it

has been shown that the unemployed have higher levels of stress compared to those in work (Hiott *et al.*, 2006). As regards the illegal status in which many immigrants live, this can be a risk factor that increases stress levels. For the majority of immigrants obtaining a visa is a long and laborious process, and during this time their fears and stress levels may intensify (Achotegui, 2002). As stated by Suarez-Orosco, Bang and Kim (2011: 240) «lack of documentation and concerns about security exponentially added to the distress stemming from having the family torn apart». Finally, numerous studies have analyzed the influence of social support as a protective factor with respect to mental health (Grzywacz *et al.*, 2006).

Method

Participants

Interviews were conducted with 328 Latin American immigrants who were resident in Barcelona (33.2% Colombians, 22.4% Bolivians, 4.2% Ecuadorians, 12.6% Peruvians, 13.6% Hondurans, and 14% Paraguayans).

Of this initial group we selected only those who had children, which yielded a sub-group of 244. Among those immigrants with children, 108 (44.3%) had left them all behind, 105 (43%) had them all with them at the time of the interview, and the remaining 31 (12.7%) had some of their children with them and others still in the country of origin. To make the calculations easier we worked exclusively with the first two groups: Immigrants who had all their children with them at the time of the interview (n = 105) and those who had none of their children with them (n = 108). Thus, the final number of participants was 213, of whom 123 were women and 90 were men. Among the women, 60 had all their children with them at the time of the assessment, while the remaining 63 had none of their children with them. In the group of men the corresponding frequencies were 45 and 45, respectively. The mean number of children was 2.18 (SD = 1.13) in the group who had migrated without their children, and 1.83 (SD= 1.32) in the group whose children had accompanied them. The mean age for women overall was 34.86 years (SD = 8.3), for mothers who had their children with them the mean age was 34.49 years (SD = 8.05) and for mothers without their children 35.19 years (SD = 8.57). The mean age for men overall was 37.66 years (SD = 8.49), and 36.86 years (SD = 8.87) and 38.07 years (SD = 8.37) for fathers with and without their children, respectively. Among participants as a whole, 55% were not working at the time of the assessment and 52% were not legally resident in the country. The mean time since immigration was 29.30 months (SD = 30.17, range 1-135 months). A total of 72% of interviewees said they had friends in Barcelona and 92.5% reported having social support. The 72% of participants emigrated due to economical reasons. Mean years of schooling was 11.59 (SD = 3.98) and the 56.1% of them reported having secondary school level.

Measures

Socio-demographic data were obtained via an *ad hoc* questionnaire comprising 27 items covering three areas: Demographics (personal, educational and employment information), data regarding the process of immigration (e.g. reason for migration, previous migrations, time since immigration, country of origin) and social information data (e.g. having their parents in Barcelona, children in Barcelona, marital status, friendships, perceived social support). From these questionnaire items we selected here those referring to personal information (sex and age), having children in Barcelona, legal status, time since immigration and having a job.

Psychopathological symptoms were assessed using the Spanish adaptation (González de Rivera, De Las Cuevas, Rodríguez & Rodríguez, 2002) of the Symptom Checklist 90 Revised (SCL-90-R; Derogatis, 1977). The SCL-90-R is a self-report multidimensional inventory comprising ninety items. Psychological distress is measured by means of nine symptom scales and three global indices. The nine symptom scales are: Somatization (SOM: Aches and pains), Obsessive-Compulsive (O-C: Difficulty in making decisions and trouble concentrating), Interpersonal Sensitivity (I-S: Feelings o personal inadequacy and inferiority), Depression (DEP: Dysphoric affect and mood, loss of vital energy), Anxiety (ANX: Tension, nervousness, restlessness), Hostility (HOS: Feelings of annoyance and irritability), Phobic Anxiety (PHOB: Agoraphobia, phobic fears), Paranoid Ideation (PAR: Suspiciousness, projection, centrality) and Psychoticism (PSY: Alienated style of life, social alienation). The global indices refer to different aspects of general psychological distress: Global Severity Index (GSi: Current distress level), Positive Symptom Total (PST: Total number of symptoms reported) and Positive Symptom Distress Index (PSDI: Intensity measure, response style). Each item is scored on a four-point Likert scale (from 0 = "not at all" to 4 = "extremely") and indicates perceived distress over the past two weeks. Studies of internal consistency have reported alpha values between .81 and .90 depending on the scale. These values are consistent with those obtained in the present study (alpha = .97for the global scale and between .70 and .90 for the various subscales).

Procedure

Participants were recruited with the help of a Catalan NGO, whose services were targeted mainly at Latin American immigrants. The recruitment process was based on a sampling of consecutive cases, the criterion being that participation should be voluntary. Assessments were conducted individually by two psychologists with expertise in the area of immigration. The instruments were administered in a private room on the premises of the NGO, such that the participant was alone with the researcher during data collection. A pilot test administration had revealed the importance of the researcher being present throughout the session so as to resolve

any doubts that the participants might have. The first step involved administering to participants the socio-demographic questionnaire using a structured, individual interview format. This was followed by other tests that were not part of this study and ended with the administration of the SCL-90-R. The two instruments were all administered in a single session, which lasted around 30-40 minutes per subject.¹ Any queries that arose were clarified at the time. The fact that the measures were administered individually increases the validity of the data obtained. All subjects volunteered to take part in the study and gave their informed consent. Anonymity was ensured by assigning a code to each participant. All aspects of the study fulfilled the ethical requirements set out in the Code of Ethics of the Catalan Psychological Society (*Col.legi Oficial de Psicòlegs de Catalunya*, 1990).

Results

Differences in symptomatology according to whether parents had their children with them or not

Means and standard deviations were obtained for the scores of immigrants on all the scales and indices of the SCL-90-R, grouped according to gender and to whether or not they had their children with them (see table 1). As the population distribution was not parametric, differences were compared by means of the Mann-Whitney U test. As can be seen, all groups, regardless of gender and whether they have or not their children with them have high levels of psychological symptoms on all scales, exceeding the third quartile in relation to the normative population of the test. Nevertheless, the mean scores obtained by mothers on the SCL-90-R differed according to whether or not they had their children with them: Women who were separated from their children obtained significantly higher scores on the O-C, I-S, DEP and PSY scales, as well as on the GSI. In other words, these women showed a greater number of obsessive-compulsive symptoms, greater interpersonal sensitivity, more symptoms of depression and psychoticism and greater overall distress. In contrast to what was observed with women there were only slight differences between the SCL-90-R mean scores of immigrant fathers who had their children with them and those who did not. Only the Somatization scale and, with a lower significance level, the ANX and HOS scales showed a higher mean score among fathers who had their children with them. Thus, these fathers reported a greater number of somatization problems and higher levels of anxiety and hostility.

¹ This study is part of a wider investigation, which aims to investigate other aspects such as coping, stress and quality of life of immigrants. All instruments were applied in a single session with a duration of between one and a half to two hours.

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	CHILDREN WITH THEM $(n = 60)$	DREN THEM (60)	CHILDREN LEFT BEHIND (n = 63)	REN EHIND 63)			CHILDREN WITH THEM $(n = 45)$	REN HEM 45)	CHILDREN LEFT BEHIND (n = 45)	REN HIND 15)		
SCL-90-R	Mean	SD	Mean	SD	Mann- Whitney U	d	Mean	SD	Mean	SD	Mann- Whitney U	р
Somatization	1.29	<u> 06</u>	1.41	.95	1762.50	.41	1.02	.68	.58	.58	586.00	.001
Obsessive-Compulsive	1.23	.80	1.58	.87	1436.00	.02	1.01	69.	96.	.74	958.50	99.
Interpersonal Sensitivity	1.19	.95	1.56	.93	1415.00	.01	1.05	.70	.80	.78	804.00	60.
Depression	1.46	ΤΤ.	1.80	.80	1434.50	.02	1.18	.73	1.21	99.	989.50	.85
Anxiety	1.03	.84	1.31	98.	1587.50	.12	.90	.68	.65	.70	773.00	.05
Hostility	.85	.84	.84	98.	1788.00	.60	.67	.62	.47	.57	776.50	.05
Phobic Anxiety	.81	67.	.94	.83	1715.00	.37	.44	.56	.44	.60	1010.00	98.
Paranoid Ideation	1.18	.71	1.38	80.	1668.00	.26	1.15	.83	1.06	.73	967.50	.71
Psychoticism	.83	.73	1.14	.87	1477.50	.03	.66	.65	.60	.64	848.00	.18
Global Severity Index	1.13	.70	1.38	.76	1514.00	.05	96.	.59	.80	.56	850.00	.19
Positive Symptom Total	45.66	20.26	50.63	19.62	1573.00	.10	41.08	20.16	35.66	19.9	841.00	.16
Positive Symptom Distress Index	2.14	.64	2.34	.68	1612.50	.16	1.99	.51	1.97	.57	972.50	.75
Note: p≤05 are in boldface												

Controlling for confounding variables

'Time since immigration', 'having a job', 'legal status in Spain' and 'social support' are factors that may be related to mental health, and hence we controlled for the effect of these potential confounding variables. Above all, we determined, with respect to these four variables, whether there were significant differences between immigrants who lived with or without their children at the time of the assessment. Table 2 shows the descriptive data and percentages of these four variables for the two groups of immigrants (living with or without their children) and for both genders separately.

Table 2 shows significant differences for 'time since immigration' and 'legal status' according to whether the immigrants live with their children or not: Those immigrants (both men and women) who have their children with them have spent longer in the host country than have those whose children are elsewhere. Similarly, the percentage of immigrants who are legally resident in Spain and who have their children with them is significantly higher than that for those without a residence permit and whose children do not live with them. The variables 'having a job' and 'social support' were not associated with the fact of living or not with one's children. These results suggest that the higher observed levels of psychological symptoms may not be due to parents being separated from their children, but rather to having spent less time in the host country and being there illegally.

In order to analyze the contribution of these two variables to the observed psychological symptomatology we conducted a series of optimal scaling regressions (CATREG analysis). The dependent variables were each of the SCL-90-R symptoms (introduced one by one) that differentiated in the univariate analysis between immigrants who had their children with them and those who did not. The independent variables were 'living with/apart from their children' (nominal), 'time since immigration' (numerical) and 'legal status' (nominal). The analyses were conducted separately for each gender and the results are shown in Table 3.

As shown on Table 3 only one of the independent variables reached statistical significance in men, namely SOM, which was explained by having their children with them. By contrast, the observed differences in scores on the Anxiety (ANX) and Hostility (HOS) scales between fathers who lived with *vs.* apart from their children were minimized when the factors 'time since immigration' and 'legal status' were controlled for. In women, obsessive-compulsive symptoms (O-C) were exclusively explained by not having their children with them. The Interpersonal Sensitivity (I-S) scale was explained, firstly, by not having their children with them and, secondly, by having spent longer in the host country. Depressive symptoms (DEP) and general psychological distress (GSI) were explained, firstly, by having spent longer in the host country and, secondly, by not having their children with them. In other words, as time goes by and mothers are unable to be reunited with their children, their distress increases.

		Mothers				Fathers		
		n = 123				n = 90		
Variables	CHILDREN	CHILDREN	CONTRAST	d	CHILDREN	CHILDREN	CONTRAST	d
	WITH THEM	LEFT BEHIND			WITH THEM	LEFT BEHIND		
	(n = 60)	(n = 63)			(n = 45)	(n = 45)		
Time since immigration	M = 28.20	M = 18.62	F(1, 122) = 5.66	.02	M = 55.64	M = 18.42	F(1.89) = 34.32	<001
	(SD = 29.16)	(SD = 19.22)			(SD = 38.74)	(SD = 17.76)		
Legal status (yes)	66.7%	33.3%	$\chi^{2}(1, N=123) = 10.08$.001	63%	37%	$\chi^2(1,N=90) = 9.07$.003
Job (yes)	46.9%	53.1%	$\chi^2(1, N=123) = .194$.59	56.7%	43.3%	$\chi^{2}(1, N=90) = .80$.37
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social support (yes)	49.1%	50.9%	$\chi^2(1, N=123) = .040$.84	49.4%	50.6%	$\chi^{2}(1, N=90) = .34$.56

TABLE 2. DESCRIPTIVES AND PERCENTAGES FOR THE VARIABLES 'TIME SINCE IMMIGRATION', 'LEGAL STATUS', 'HAVING A JOB' AND 'SOCIAL SUPPORT' ACCORDING TO WHETHER PARENTS HAVE THEIR CHILDREN WITH THEM OR NOT.

		Independent Variables	ables	
Dependent variables Symptoms on the SCL-90-R	WITH/APART FROM CHILDREN	TIME SINCE IMMIGRATION	LEGAL STATUS	R^2 ADJUSTED
Somatization (men)	$\beta = .350, F = .87**$	$\beta = .115, F = .91$	$\beta =154, F = .91$.12
Anxiety (men)	$\beta = .185, F = 2.20$	$\beta = .146, F = 1.34$	$\beta =080, F = .49$.04
Hostility (men)	$\beta = .194, F = 2.35$	$\beta = .035, F = .077$	$\beta = .009, F = .006$.01
Obsessive-Compulsive (women)	β =238, <i>F</i> = 6.28*	$\beta = .192, F = 4.09$	$\beta =077, F = .51$.06
Interpersonal Sensitivity (women)	$\beta =276, F = 8.66**$	$\beta = .215, F = 5.54*$	$\beta =044, F = .41$.08
Depression (women)	β =232, <i>F</i> = 6.24*	$\beta = .304, F = 11.25**$	$\beta =104, F = 1.29$.13
Psychoticism (women)	$\beta = .177, F = 3.36$	$\beta = .117, F = 1.53$	$\beta =120, F = 1.52$.06
Global Severity Index (women)	$\beta = .191, F = 3.59*$	$\beta = .268, F = 8.51 **$	$\beta =117, F = 1.58$.10

** *p<*.01, * *p<*.05

The observed difference in scores on the psychoticism (PSY) scale between mothers who lived with *vs.* apart from their children was minimized when the factors 'time since immigration' and 'legal status' were controlled for. It should be noted, however, that the variance explained by the independent variables is low, which indicates that other variables not included in the analysis must also be intervening. The variable 'legal status' did not make a significant contribution, in either men or women, in explaining the psychological symptoms introduced as dependent variables in the CATREG analysis.

Discussion and Conclusions

This study aimed to analyze the psychological repercussions that having to leave their children behind can have on immigrants. On the basis of the results obtained, all participants showed a high level of psychological symptoms which can be related with their immigrant condition. Moreover, and in line with the proposed hypothesis, it is concluded that being separated in this way from children is associated with an increase of psychological symptomatology, especially among mothers. Immigrant mothers whose children live far away report higher levels of general psychological distress than do mothers whose children are with them. This general distress takes the form of an increase in obsessive behaviors, greater interpersonal sensitivity, more depressive symptomatology and higher levels of psychoticism. This finding is corroborated by the literature on attachment and the relational style of women, which indicates that living far away from loved ones has an important effect on women (Aroian, Norris, González De Chávez & García-Averaturi, 2008; Hiott et al., 2006). In this context, several researches have shown that mothers, more than fathers, maintain regular contact with their children through a variety of methods (Abrego, 2009), this being a way of preserving emotional intimacy despite the distance that separates them (Dreby, 2009).

In contrast to what is observed among mothers, living with or apart from children does not appear to affect the psychological stability of fathers. Indeed, the opposite is observed in some aspects of psychological functioning: Fathers whose children are with them report higher levels of somatization. This finding is consistent with the report of Aroian *et al.* (2008), who observed that living with their children was related to increased distress in men. The authors attribute this to the 'machismo' of Latin American men. Machismo, for these authors, includes the expectation that men must be the family's breadwinner and ensure its welfare, and this can become an overwhelming burden for fathers. The way in which the term 'machismo' is used here is similar to the notion of social gender role. In our view, however, an alternative explanation can be found in anthropological and evolutionary theories, which, with some exceptions (Hewlett, 1991), argue that fathers make a limited contribution to the direct care of offspring (Sear & Mace,

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2008). Some theories suggest that the degree to which fathers become involved in caring for their children depends on various circumstances, including cultural schema and the flexibility of gender roles (Hewlett 1991, 2004). It is possible, as Aroian *et al.* (2008) suggest, that in Latin American populations gender roles are more differentiated when it comes to childcare. Therefore, when the immigrants studied here lived in their country of origin it is likely that the care of offspring was delegated to wives, mothers or other female members of the extended family. In this regard, it is worth noting that the care of children by grandmothers and older sisters is well documented across the evolution of human society. Some anthropologists attribute this fact to the rapid reproductive cycle of women, compared with that of some hominids (Sear & Mace, 2008). Given that the majority of immigrants leave behind the support of the extended family, and that the family structure of immigrants is undergoing a transformation, in that many women are now becoming the major breadwinner (Kim & Grant, 1997), fathers may suddenly find themselves responsible for the direct care of children, which would constitute an additional burden to which they are not accustomed. Conversely, mothers have traditionally taken –and in many cases continue to take– prime responsibility for childcare (Leonard, 2001; Sánchez-Herrero, Sánchez- López & Dresch, 2009), even in countries such as those of north-western Europe which tend to be more advanced in terms of gender equality (Georgas, Berry, Van de Vijver, Kagitcibasi & Poortinga, 2006). Therefore, childcare may be less of an additional psychological burden for immigrant mothers than it is for fathers. Indeed, in all likelihood they were already fulfilling this role in their country of origin. Obviously, this is a hypothesis that needs to be appropriately tested.

One interesting contribution of the present study concerns the need to control for confounding variables when assessing, in immigrant populations, the psychological repercussions of being separated from loved ones. The results here show that mothers whose children are far away have spent less time in the host country and are more likely to be there illegally than are mothers whose children are with them. Although, in the present study, illegal status did not emerge as an explanatory variable with respect to the psychological symptoms reported by mothers who were separated from their children, the time spent in the host country did explain some of the symptomatology analyzed. Noteworthy in this regard is that living far from one's children explained most of the variance for obsessivecompulsive symptomatology, interpersonal sensitivity and symptoms of psychoticism. By contrast, most of the variance for depressive symptoms and general distress were explained, firstly, by the time spent in the host country and, secondly, by being separated from one's children. In other words, mothers who have spent longer in the host country and who are unable to have their children with them report more depressive symptoms and psychological distress. It may be that as time goes by, hopes fade as regards the possibility of being reunited with their children, which thus increases depressive thoughts and leads to despair and frustration. As already pointed out above, illegal status does not appear to affect the psychological stability of women, regardless of whether they have their children with them or not. As various authors suggest (Achotegui, 2002, 2009; Escobar *et al.*, 2000; Grzywacz *et al.*, 2006; Magaña & Hovey, 2003) it is likely that the high level of stress linked to migration means that achieving legal status does not in itself become a factor that protects against psychological symptoms.

With respect to fathers, the only scale that differentiated between those who lived with *vs.* apart from their children was Somatization, although once 'time since immigration' and 'legal status' had been controlled for none of the variables significantly explained any of the psychological symptoms. However, it should be noted that the small number of immigrant men in the sample could have produced a Type II error.

In conclusion, immigrant mothers who had to leave their children behind when migrating are more likely to experience psychological problems than are mothers whose children remain with them. Therefore, emigrating without one's children constitutes an additional risk alongside the many other factors that affect female immigrant's mental health (Patiño & Kirchner, 2010). This finding may be useful when it comes to designing psychological interventions, and it is important that clinicians explore in detail the circumstances that are maintaining psychological problems. As Hiott *et al.* (2006) argue, it is essential to be aware of the social circumstances and psychological state of immigrants when making a diagnosis and offering treatment. According to these authors, different types of treatment (educational, psychotherapeutic, pharmacological, etc.) may be required for immigrants who are separated from their family compared to those who are accompanied by their relatives.

Limitations

The study does have certain limitations. One of these is the fact that the exact circumstances which led parents to emigrate and leave their children behind remain unknown. There may be several reasons for this migration and they could be affecting the results obtained. To understand the effects of parental separation would have been interesting to have deepened in a number of circumstances such as frequency of contact with their children (personal, e-mail, internet), with whom and under what conditions the children have been left in the country of origin, which type of attachment or previous emotional link migrants had with their children, the adopted gender role, and so on.

Another limitation concerns the sample size, especially as regards men, and the sampling method of consecutive cases used which limit the generalizability of the results obtained. Therefore, the present results should be regarded as prelimi120 Children left behind during immigration: repercussions on the mental health of Latin-American...

nary and need to be replicated with larger samples. It should also be noted that the variance explained by the independent variables is rather low, which indicates that other factors may be influencing the results. A further limitation that tends to affect most studies is the cross-sectional design, which makes it difficult to establish causal relationships between the different variables considered. In the case of the present study this means that, strictly speaking, the explanation that immigrant women have more psychological symptoms because they are separated from their children is no more likely than the possibility that women who already have such symptoms prefer to leave their children behind when migrating because they regard themselves as unable or ill-prepared to cope with so many challenges simultaneously. This is an interesting point which requires further, more detailed study, for as some authors have pointed out (Grzywacz et al., 2006) the origin of poor mental health among immigrants could reside in the circumstances that precede the migration, especially as regards the ambivalence felt by immigrants with respect to leaving the family in order to attain better economic welfare for them in another country, or staying with the family in the country of origin but depriving it of opportunities. Despite these limitations the present study is, to the best of our knowledge, one of only a few reports to analyze the psychological effects upon immigrants of living with or apart from their children, and which seeks to establish differences according to gender. The results may be useful in terms of designing prevention and intervention programs.

Future research should deeper into various aspects, especially those relating to the circumstances under which it has had to leave their children, their age, frequency of contact with them and so on. It would also be interesting to analyze participants by couples to capture the family dynamic parameters that would allow for a more interactive perspective on the results we found. The analysis of these variables could increase the knowledge on this topic.

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