

#### ARTÍCULO ORIGINAL / ORIGINAL ARTICLE

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# Psychological and behavioral problems among left-behind adolescents. The case of Ecuador.

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# **ABSTRACT**

**Purpose:** To assess the impact of parental migration on psychological wellbeing of Left-Behind Adolescents (LBA) in Ecuador. Left-behind are adolescents who stay in their host country, while their parent(s) migrated.

**Methods:** In a cross-sectional study, 659 schoolchildren (43% girls, age 13.9 }1.2) filled in the Strength and Difficulty Questionnaire (SDQ), advanced emotional questions and socio-demographic determinants. Statistics were used to compare the group of LBA and non-LBA (NLBA) and impacts of socio-demographic determinants within LBA's.

**Results:** LBA (46%) scored significant higher on the SDQ then NLBA, especially girls. Socio-demographic determinants were significantly associated with less psychological problems, for example talking about personal problems and migration after LBA aged 5.

**Conclusions:** Parental migration has an impact on psychological wellbeing of LBA in Ecuador. Socio-demographic characteristics influence this impact. This article emphasizes an important and so far neglected public health problem in Ecuador. It underlines the need for policy development and profound research.

**Key words:** adolescent psychology, Child abandoned, adolescent, migration/statistics & numerical data, socioeconomic factors, demographics, child welfare psychology, Adolescent Behavior/psychology, Ecuador.

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### RESUMEN

**Objetivo:** evaluar el impacto de la migración de los padres en el bienestar psicológico de los adolescentes en abandono (LBA) en el Ecuador. Adolescentes abandonados son quienes permanecen en su país de origen, mientras su (s) padre (s) migraron.

**Métodos:** en un estudio Transversal, 659 adolescentes de edad escolar (43% mujeres, con una edad media de 13.9 +- 1.2) llenaron los cuestionarios de fortalezas y dificultades (SDQ), y determinantes socio-demográficos. Las estadísticas fueron utilizadas para comparar el impacto de los determinantes socio-demográficos en el grupo de adolescentes en abandono (LBA) y adolescentes en no abandono (NLBA).

**Resultados:** El 46% de los (LBA) puntuaron significativamente más alto en el cuestionario (SDQ) que los (NLBA), especialmente las niñas. Los determinantes socio-demográficos fueron significativamente asociados con menos problemas psicológicos, por ejemplo, hablando acerca de problemas personales y migración después de la edad de 5 años en LBA.

**Conclusiones:** la migración de los padres tiene un impacto en el bienestar psicológico de los adolescentes en abandono en el Ecuador. Las características socio-demográficas influencian dicho impacto. Este artículo enfatiza un importante y hasta ahora ignorado problema de salud publica en el Ecuador. Esto subraya la necesidad del desarrollo de políticas de salud y una profunda investigación.

**Palabras clave:** Psicología del adolescente, Niño abandonado, adolescente, migración/ estadística y datos numéricos, factores socioeconómicos, datos demográficos, bienestar del niño/psicología, Ecuador.

# **SUMMARY**

This is the first study, that assesses and identifies the impact of parental absence, due to emigration, on the emotional and behavioral wellbeing of Left-Behind Adolescents in Ecuadorian society. It identified specific affected LBA's subpopulations and hopefully creates awareness and serves as an incentive for further research and policy.

### INTRODUCTION

In the last decade, worldwide, a dramatic increase in migration has taken place, with 150 million migrants in 2000 and 214 million migrants in 2010. This increase is mainly considered due to the global economic crises.<sup>(1)</sup>

Ecuador is a low till middle income country, located in the South American Andes with four national regions; the Coast, the Highlands, the Amazon and the Galapagos islands. Sixty four percent of the population lives in urban areas. (2) Ecuador dealt with a huge emigration flow mainly towards the United States, following Europe, which started in the early nineties. During 1998 and 1999 Ecuador's gross domestic product decreased with 30%. Subsequently, salaries declined and thousands of people lost their jobs. (3) Consequently 1999 was the beginning of Ecuador's largest emigration flow. The last 8 years among one million Ecuadorians, mostly young people between 19 and 29 years, have left the country. (4, 5)

Migration should not be seen as a one-way journey: it is a complex process with economical, cultural and social consequences both on migrants and left-behinds. "Many individuals and groups forge connections and social fields across space and time", as McHugh wroted. (6) Migration is a diversification strategy that families choose in order to find work and maintain life sources. Poverty and the increased vulnerability among household members in developing countries are drivers for becoming migrants. (7) Alongside, social and cultural ideas and perceptions of migration, created in host countries, facilitate big international migration flows. (8) Often parents are forced to migrate in order to find work, leaving the family behind. (9) The insecurities, appended with the migration process, makes them believe the family is better off in the host country. (10)

The emigration flow in Ecuador has created many left-behind children (LBC). (9,11) LBC are children whose parents (one or both) have left the community to search for work and are physically away for more than 6 months a year, where the child is left at the location of the household registration. (12) Migration is a long lasting process in Ecuador and the preparation and commencement enhances stress, due to the farewell and the prevailing insecurity about the household economy and migrant's wellbeing. (13) Therefore it is understandable that children encounter problems during the whole



migration process, also before or within the first 6 months of migration. (14)

As LBC grow up in single or zero-parent families, a comparison can be made with orphans or children of divorced parents. (15,16) These processes, a divorce or parental death, have similar consequences, such as the changing family structure, the loss of a caring adult, lack of care and the social stigma's that are created in communities. (17) However, important differences exist between LBC and orphans or children of divorced parents. Parents often migrate deliberately in order to maintain their family; they send remittances to guarantee the LBC's economic recourses, giving them a better future prospective due to educational and health care investments and indirectly because the economic welfare creates a situation, whereby left-behind spouses and caregivers spend time with the LBC instead of working. (18) On the other hand, the choice to migrate means an intentional and desirous choice to leave the children behind. This, in discrepancy with the unpredictability of death or divorce, could contribute to the child's feeling of abandonment. (19) Furthermore, parental migration often is an ongoing stressing factor for the left-behinds as the changing insecurities of remittances and the worries about the migrants' wellbeing persist over years. (8, 20)

Death and divorce are often sole events, where after new balances originate. Finally, migration is a common and acceptable practice in the Ecuadorian highlands. Therefore, parents, communities, societies and policy makers structurally overlook or under appreciate the LBC's problems.<sup>(19)</sup>

The majority of the existing research about LBC has been performed in Asia and Latin-America. Most articles from Asia involved internal, rural-urban, often temporary and principally both-parents migration. (21) They are therefore hardly comparable to the lengthy, mostly one-parent migration in Latin Ame-

rica, often directed to the United States or Europe. (11,12) The majority of studies performed in Asian countries applied large scale randomized-controlled trials in order to demonstrate a direct linkage between migration and their emotional impact on LBC. (21,22,23) In contrary, studies from Latin America, including Ecuador, used in-depth-interviews or retrospective studies to explore the etiology of health inequities among small survey samples. (11,17,19) Important knowledge gaps exist and more studies are needed in order to gather evidence about the different health and development impacts of migration on LBC in different cultures with accompanying determinants.

The main objective of this study is to explore the psychological and behavioral problems of LBA: left-behind by their parents in the South Ecuador's Highlands, areas with Ecuador's highest migration rate. (24) Recently, Ecuadorian qualitative studies described psychosocial problems of LBA. This quantitative study is needed, as stigmatizations about behavioral and emotional problems and family troubles of LBC rule the society. (8) Furthermore, identifying socio-demographic determinants that influence emotional and behavioral problems of LBA, is helpful in constructing a framework that helps migrant families in their diversification strategy. Earlier recognized socio-demographic determinants are for instance; the age of being left-behind, (22) migration of the mother, the father or both, (22) and characteristics of the surrogate caregiver.(10)

### **METHODS**

A cross-sectional sample survey was performed in Cuenca and Biblian, cities in the Ecuadorian highlands. The corresponding districts. Canar and Azuay, are two of the 24 districts of Ecuador. Information was obtained from 755 schoolchildren from the 8th grade of elementary school till the 3rd grade of high school by a questionnaire filled in by the schoolchildren. The population was divided into two groups; the LBA and the nonleft-behind adolescents (NLBA). The latter we used as a control group. Inclusion criteria for the group of LBA were; school-going children of 11 till 16 years old whose parents (one or both) were migrants at the moment of investigation. Within the group of LBA, we further obtained information about socio-demographic determinants to identify affected subpopulations.

# PRACTICAL FEASIBILITY

Three public colleges and one private college were visited during the months January and February 2011. School directors gave written informed consent and schoolchildren gave verbal permission before participating. A pilot study among 12 students was performed to check the understandability and feasibility of the questionnaire. 4 investigators and 40 instructed nurse students visited the different schools to obtain data. Attention was explicitly paid to the voluntariness of the participation and the anonymity of the questionnaires; so in neither way it could be possible to trace back personal data. The children completed the questionnaires in the classroom during school time, in the presence of at least one supervisor and two nurse student. For problems the students could seek help from one of the nurse students.

# **MEASUREMENTS**

The questionnaire included three segments. The first contained confounding variables and socio-demographic determinants, which are independent variables. The second and third were dependent elements that measure emotional and behavioral problems, respectively 'the Strength and Difficulty Questionnaire', and 'Advanced emotional problems'. All questions were constructed or already available into the native Spanish language. 5 investigators, including a native pediatric and public health doctor revised the guestionnaire.

# CONFOUNDING VARIABLES AND SOCIO-DEMOGRAPHICS DETERMINANTS

General characteristics were obtained to determine our study subjects and as confounding variables. Asked were adolescent's age, gender, origin, ethnicity, school grade, adolescent's and family's socio-economic state (estimated by respectively pocket money and households provisions), parental death and parental divorce. Secondly, certain socio-demographic determinants were asked only to the group of LBA. These served to identify more or less affected subpopulations of LBA's and considered migration' characteristics, families' and LBA' features, caregiver's traits and remittances.

# THE STRENGTH AND DIFFICULTY QUESTIONNAIRE

The Strengths and Difficulties Questionnaire (SDQ) is a psychological screening questionnaire designed for children and adolescents. The self-rated version can be completed in 5 minutes by adolescents aged 11 to 16. It measures 25 emotional and behavioral symptoms subdivided in 5 categories; emotional symptoms, hyperactivity, conduct problems, peer problems and pro-social behavior. Pro-social behavior means positive social behavior. Except for the pro-social factor, all other factors are added to generate the Total Difficulties score (TDs). Higher scores mean more intensive problems. The pro-social score works reverse (Table A-B).

The SDQ is generally accepted as a useful tool for community samples; it has an acceptable reliability and the validity is appropriate. (25) The questionnaire has a good specificity and moderate sensibility in community samples. (26) The SDQ has been used globally and is ethical accepted. (22,27) An earlier study used the SDQ to find emotional and behavioral differences between LBA and NLBA in China. (24) The Strength and Difficulty questionnaire had a good utility in Brazil, an adjacent state of Ecuador. (25)

# **ADVANCED EMOTIONAL PROBLEMS**

As an addition to the SDQ, five extra questions focus on psychosomatic and advanced mental health problems. The themes were loneliness, sleeping problems, sadness, suicidal ideas and suicidal plans. These questions were extracted from the Global School-based student Health Survey (GSHS), a collaborative surveillance project designed by

# **TABLE A**

# THE STRENGTH AND DIFFICULTY QUESTIONNAIRE -A-

# Strengths and Difficulties Questionnaire

S 11-17

For each item, please mark the box for Not True. Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of how things have been for you over the last six months.

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings			
I am restless. I cannot stay still for long			
I get a lot of headaches, stomach-aches or sickness			
I usually share with others (food, games, pens etc.)			
I get very angry and often lose my temper			
I am usually on my own. I generally play alone or keep to myself			
I usually do as I am told			
I wony a lot			
I am helpful if someone is hurt, upset or feeling ill			
I am constantly fidgeting or squirming			
I have one good friend or more			
I fight a lot. I can make other people do what I want			
I am often unhappy, down-hearted or tearful			
Other people my age generally like me			
I am easily distracted. I find it difficult to concentrate			
I am nervous in new situations. I easily lose confidence			
I am kind to younger children			
I am often accused of lying or cheating			
Other children or young people pick on me or bully me			
I often volunteer to help others (parents, teachers, children)			
I think before I do things			
I take things that are not mine from home, school or elsewhere			
I get on better with adults than with people my own age			
I have many fears. I am easily scared			
I finish the work I'm doing. My attention is good			

# THE STRENGTH AND DIFFICULTY QUESTIONNAIRE -B-

# Scoring the Self-Report Strengths and Difficulties Questionnaire

The 25 items in the SDQ comprise 5 scales of 5 items each. It is usually easiest to score all 5 scales first before working out the total difficulties score. Somewhat True is always scored as 1, but the scoring of Not True and Certainly True varies with the item, as shown below scale by scale. For each of the 5 scales the score can range from 0 to 10 if all 5 items were completed. Scale score can be prorated if at least 3 items were completed.

Emotional Symptoms Scale	Not True	Somewhat True	Certainly True
I get a lot of headaches, stomach-aches or sickness	0	1	2
I worry a lot	0	1	2
I am often unhappy, downhearted or tearful	0	1	2
I am nervous in new situations	0	1	2
I have many fears, I am easily scared	0	Í	2
Conduct Problems Scale  I get very angry and often lose my temper	Not True 0	Somewhat True	Certainly True 2
I usually do as I am told	2	1	0
I fight a lot	0	1	2
I am often accused of lying or cheating	0	i	2
I take things that are not mine	0	1	2
take things that are not mine	Ü		2
Hyperactivity Scale	Not True	Somewhat True	Certainly True
I am restless. I cannot stay still for long	0	1	2
I am constantly fidgeting or squirming	0	1	2
I am easily distracted	0	1	2
I think before I do things	2	I	0
I finish the work I am doing	2	1	0
Peer Problems Scale	Not True	Somewhat True	Certainly True
I am usually on my own	0	1	2
I have one good friend or more	2	1	0
Other people my age generally like me	2	1	0
Other children or young people pick on me	0	1	2
I get on better with adults than with people my age	0	1	2
Prosocial Scale	Not True	Somewhat True	Certainly True
I try to be nice to other people	0	1	2
I usually share with others	0	1	2
I am helpful if someone is hurt, upset of feeling ill	0	1	2
I am kind to younger children	0	1	2
I often volunteer to help others	0	1	2

## The Total Difficulties Score:

is generated by summing the scores from all the scales except the prosocial scale. The resultant score can range from 0 to 40 (and is counted as missing if one of the component scores is missing).

the World Health Organization (WHO). The GSHS is translated, adjusted and widely applied in the Ecuadorian situation. (28)

### STATISTICAL ANALYZES

All data was entered and processed using SPSS version 18.0. To test the statistical difference between the two groups (e.g. LBA vs. NLBA) and the impact of determinants within the group of LBA, we calculated odds ratios and used univariate chi-square, independent T-tests and Wilcoxon two sample tests. Linear and logistic regression was used for the multivariate analyses in order to calculate the adjusted odds ratios and P-values.

# **RESULTS**

# GENERAL CHARACTERISTICS

Table 1 contains general characteristics. 304 LBA and 355 NLBA between 11 till 16 vears old were included. The prevalence of parental migration was 46%. The average age of the population was 13.9 years (SD=1.2); 43% were girls. The migration rate was higher in Biblian than in Cuenca (51.2% vs. 39%). The general characteristics of the two groups (LBA and NLBA) are visible in table 1. The two groups didn't significantly differ in age, gender, school grade, ethnicity and family provisions. LBA significantly more often had divorced parents (21 vs. 14%) and less often experienced parental death (3 vs. 7%). The group of LBA had significantly more pocket money a week than NLBA's (22.7 dollar vs. 15.3; p< 0,05).

Looking at the group of LBA's, in most cases only fathers migrated (58.6%), followed by both parents (29.9%) and only mothers (11,5%). Destination countries were the United States (93.1%), Spain (4.3%) or other destinations (2.6%). The average age being left-behind was 5.3 years (SD=4.4) for a migration of 8.7 years (SD=4.8). The average money a family received a month due to remittances of the migrant parent(s) was 394 dollar (SD=511).

# **EMOTIONAL AND BEHAVIORAL PROBLEMS**

The difference in TDs between LBA and NLBA is significant (13.29 vs. 14.21; p<0,05). Comparisons for all emotional and behavioral outcomes between the whole groups of LBA and NLBA are given in table 2 and 3. Parental migration was associated with several emotional and behavioral problems,

#### TABLE 1

GENERAL CHARACTERISTICS OF LBA AND NLBA						
CHARACTERISTICS		LBA	NLBA	P-VALUE/OR		
		N=304	N=355	(95% CI)		
		(=0)	(=1)			
MEAN AGE (Years)		13.9	13.9	0,1144		
GENDER	MALE	186	198			
		(61 <sup>6</sup> )	(56)	1,25⁵		
	FEMALE	118	157	(0,91-1,70)		
		(39)	(44)			
MEAN SCHOOL COURSE						
8th, 9th, 10th primary school,		9,63th	9,73th	0,1264		
first, second, third secondary school						
ETHNICITY <sup>3</sup>	MESTIZO (=0)	264	309	1,015		
	OTHER ETHNICITIES (=1)	40	46	(0,64-1,60)		
PLACE OF LIVING	CUENCA (=0)	110	170			
		(36)	(48)	1,625		
	Biblían (=1)	194	185	(1,18-2,21)		
		(64)	(52)			
PARENT(S) DIED?	YES (=0)	9	23			
		(3)	(7)	0,445		
	NO (=1)	295	332	(0,20-0,96)		
		(97)	(93)			
DIVORCED PARENTS?	YES (=0)	63	49			
		(21)	(14)	1,635		
	NO (=1)	241	306	(1,08-2,45)		
		(79)	(86)			
MONEY TO SPEND A WEEK1 (Dollar)		22.7	15.3	0,0014		
PROVISIONS IN THE HOUSE <sup>2</sup>		1.63	1.56	0,5714		

 $<sup>1 \! = \! \</sup>mathsf{MONEY} \mathsf{\,THAT\,ADOLESCENTS\,SPEND\,A\,WEEK\,AS\,POCKET\,MONEY}$ 

<sup>2=</sup> HOW MUCH OF THE FOLLOWING PROVISIONS DOES YOUR FAMILY HAS? (TELEPHONE, MOBILE PHONE, INTERNET)

<sup>3=</sup> MESTIZO IS A TERM TRADITIONALLY USED IN LATIN AMERICA FOR PEOPLE OF MIXED EUROPEAN AND NATIVE AMERICAN HERITAGE OR DESCENT. OTHER ETHNICITIES ARE INDIGENOUS. HALF-BLEED. BLANK AND AFRO-ECUADORIAN.

<sup>4=</sup> INDEPENDENT T-TEST

<sup>5=</sup> ODDS RATIO

<sup>(6)=</sup> PERCENTAGE

even after correction for confounding factors; the LBA more often felt so sad or hopeless for more than 2 weeks on a row, so they could not continue their daily activities (OR:1,739, 95% CI: (0,469-2,225). They faced higher emotional problems scores, higher conduct problems scores and higher 'Total Difficulty' scores (p< 0,05). More abnormal

outcomes on the TDs were observed (OR: 1,754, 95% CI: 1,105-2,784). LBA, nearly significant, more often felt lonely, always or almost always, (OR: 1,641, 95% CI: 0,947-2,841). When specifying these same outcomes for gender, almost all associations were higher for girls than for boys (table 2 and 3).

# TABLE 2

OUTCOME         ANSWERS         WHOLE 6HOUT Hooks on the color of the lutimate year, how offed and year and year and year. How offed and year and year and year and year and year and year. How offed and year. How o	EMOTIONAL AND B	EHAVIORAL OUTCOM	IES BETW	EEN NLBA	AND LBA,	SPECIFIED	FOR GENI	DER
N=35   N=30   N=30   N=30   N=30   N=15   N=15   N=18   N=19   N=19   N=18   N=19   N=19   N=19   N=18   N=19   N=19   N=19   N=18   N=19	OUTCOME	ANSWERS	WHOLE GROUP N=659		ONLY GIRLS N=275		ONLY BOYS N=384	
The utilimate year, how often did you feel lonely:  OR   Always/almost always (=1)   27   33   17   22   10   11   18   175   179   1.8   1.1			NLBA	LBA	NLBA	LBA	NLBA	LBA
You feel lonely:   Always/almost always (=1)   27   33   17   12   10   11			N=355 (=0)	N=304 (=1)	N=157(=0)	N=118(=1)	N=198(=0)	N=186(=1)
OR	The ultimate year, how often did	Sometimes or less (=0)	328	271	140	96	188	175
OR Bad and Plant and	you feel lonely:	Always/almost always (=1)	27	33	17	22	10	11
ORad²         1.64 (0.94 - 2.84)         2.06 (1.01 - 1.26)         1.26 (0.51 - 3.10)           The last year, did you feel so sad or hopeless for two weeks on a row, so that it was impossible to continue your daily activities?         No (=0)         270         200         107         66         163         135           OR¹         (1,17 - 2.32)         (1,02 - 2.76)         1,58         1,50         (1,11 - 2.33)         52           OR¹         (1,17 - 2.32)         (1,02 - 2.76)         (1,11 - 2.33)         1,71         1,76         (1,11 - 2.33)           OR¹         (1,17 - 2.32)         (1,02 - 2.76)         (1,10 - 2.88)         1,80         (1,11 - 2.33)           OR¹         (1,17 - 2.32)         (1,02 - 2.76)         (1,11 - 2.33)         1,71         1,76           The past year, have you thought seriously about attempting suicide?         No (=0)         320         273         136         99         184         174         20           Seriously about attempting suicide?         (0.62 - 1.72)         (0.63 - 2.43)         (0.40 - 2.01)         0.82         (0.60 - 1.23)         (0.65 - 1.81)         (0.69 - 2.76)         (0.82 - 1.83)         (0.40 - 2.01)         0.82         (0.69 - 1.83)         (0.69 - 1.83)         (0.82 - 1.83)         (0.82 - 1.83)         (0.82 - 1.83)         (0.82 - 1.8	OR¹		1	,79	1,	88	1,	18
The last year, did you feel so sad or hopeliess for two weeks on a row, so that it was impossible to continue your daily activities?   Ves (=1)			(0,86	5-2,52)	(0,95	-3,74)	(0,49	-2,85)
The last year, did you feel so sad or hopeless for two weeks on a row, so that it was impossible to continue your daily activities?  OR¹  ORad²  The past year, have you thought seriously about attempting suicide?  OR¹  ORad²  No (=0)  320  270  310  35  31  31  31  31  31  31  31  31  31	OR <sub>ad</sub> <sup>2</sup>		1	,64	2,	06	1,	26
or hopeless for two weeks on a row, so that it was impossible to continue your daily activities?  OR¹  ORad²  ORad²  The past year, have you thought suicide?  OR¹  ORad²  OR¹  ORad²  The past year, have you thought suicide?  OR¹  ORad²  OR¹  ORad²  OR¹  OR¹  ORad²  OR¹  OR¹  OR¹  OR¹  OR¹  OR¹  OR¹  OR			(0,94	-2,84)	(1,01	-4,20)	(0,51-3,10)	
row, so that it was impossible to continue your daily activities?         Ves (=1)         85         104         50         52         35         52           OPI Continue your daily activities?         1.65 (1.17-2.32)         1.85 (1.02-2.76)         1.85 (1.03-2.84)         1.80 (1.03-2.84)         1.80 (1.03-2.88)           The past year, have you thought seriously about attempting suicide?         No (=0)         320         273         136         99         184         174           ORI*         1.03         1.03         2.1         19         14         12           Seriously about attempting suicide?         1.03         3.1         2.1         19         14         12           ORI*         1.03         1.03         1.24         0.90         .82	The last year, did you feel so sad							
continue your daily activities?         Interpretation of the property of the past year, have you thought seriously about attempting suicide?         Interpretation of the past year, have you thought seriously about attempting suicide?         No (=0)         320         273         136         99         184         174         176         186         176         187         187         187         187         187         187         187         187         187         187         187         187         187         187         188         189         181         187         187         187         188 </td <td>or hopeless for two weeks on a</td> <td>No (=0)</td> <td>270</td> <td>200</td> <td>107</td> <td>66</td> <td>163</td> <td>135</td>	or hopeless for two weeks on a	No (=0)	270	200	107	66	163	135
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	row, so that it was impossible to	Yes (=1)	85	104	50	52	35	52
ORag <sup>2</sup> (1,117-2,32)         (1,02-2,76)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,93)         (1,11-2,11)	continue your daily activities?							
OR <sub>ad</sub> ²         1,73 (1,22-2,46)         1,71 (1,03-2,84)         1,71 (1,03-2,84)         1,72 (1,03-2,84)         1,73 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,84)         1,74 (1,03-2,43)         1,74 (1,04-2,04)	OR¹		1	,65	1,	68	1,	80
The past year, have you thought seriously about attempting suicide?   No (=0)   320   273   136   99   184   174   122   183   195   144   122   183   184   174   182   183   184   174   182   183   184   18			(1,17	'-2,32)	(1,02	-2,76)	(1,11-	-2,93)
The past year, have you thought seriously about attempting suicide?   No (=0)   320   273   136   99   184   174   122   183   195   144   122   183   184   174   182   183   184   174   182   183   184   18	OR <sub>ad</sub> <sup>2</sup>		1	,73	1,	71	1,	76
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	au		(1,22	2-2,46)	(1,03	-2,84)	(1,08	-2,88)
suicide?         Include (0,62-1,72)         Include (0,63-2,43)         Include (0,40-2,01)           ORad²         1,09         1,38         0,82           1,09         1,38         0,82           (0,64-1,84)         (0,69-2,76)         (0,367-1,85)           The ultimate year, did you make a plan about attempting suicide?         No (=0)         320         274         139         99         181         175           ORad²         1,00         1,00         1,48         0,66         0,66           ORad²         1,00         1,14         0,66         0,06           OBad²         1,05         1,53         0,67           Orbing the ultimate year, how often did you feel so worried that you couldn't sleep?         No         322         274         141         103         182         171           ORad²         1,10         1,25         1,25         0,95         0,075-3,12)         0,047-2,08)         0,99           ORad²         1,10         1,25         0,05         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07         0,07 <td>The past year, have you thought</td> <td>No (=0)</td> <td>320</td> <td>273</td> <td>136</td> <td>99</td> <td>184</td> <td>174</td>	The past year, have you thought	No (=0)	320	273	136	99	184	174
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	seriously about attempting		35	31	21	19	14	12
OR <sub>ad</sub> <sup>2</sup>			_	22	-	0.4		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	OR <sup>1</sup>			•			1	
The ultimate year, did you make a plan about attempting suicide? Yes (=1) 32 30 18 19 17 11  OR¹ Yes (=1) 35 30 18 19 17 11  OR¹ (0,59 -1,67) (0,74 -2,96) (0,30 -1,46)  ORad² (0,69 -1,78) (0,75 -3,12) (0,30 -1,49)  During the ultimate year, how often did you feel so worried that you couldn't sleep?  OR¹ (0,65 -1,78) (0,75 -3,12) (0,30 -1,49)  During the ultimate year, how often did you feel so worried that you couldn't sleep?  OR¹ (0,65 -1,86) (0,60 -2,71) (0,75 -3,12) (0,30 -1,49)  ORad² (0,65 -1,86) (0,60 -2,71) (0,47 -2,08)  ORad² (0,70 -2,05) (0,74 -3,36) (0,47 -2,08)  ORad² (0,70 -2,05) (0,74 -3,36) (0,45 -2,00)  Do you have one close friend or more?  No 41 26 20 15 21 11  more? Yes 314 277 137 103 177 174  OR¹ (0,42 -1,20) (0,48 -2,04) (0,24 -1,11)  ORad² (0,42 -1,20) (0,48 -2,04) (0,48 -1,04) (0,24 -1,11)  Categories Total difficulty score Abnormal (=1) 36 52 13 21 21 31  OR¹ (1,10 -2,78) (1,10 -2,78) (1,10 -3,90) (0,85 -2,721)	0B_ 4 <sup>2</sup>			. ,				
The ultimate year, did you make a plan about attempting suicide?         No (=0)         320         274         139         99         181         175           OR¹         1,00         1,48         0,66	ad		· ·				· ·	
a plan about attempting suicide?       Yes (=1)       35       30       18       19       17       11         OR¹       1,00       1,48       0,66       0        0       0       0       0       0       0       0       0       0       0       0       0       0       0       0        0	The ultimate year did you make	No (=0)						
OR¹         1,00         1,48         0,66           (0,59-1,67)         (0,74-2,96)         (0,30-1,46)           ORad²         1,05         1,53         0,67           During the ultimate year, how often did you feel so worried that you couldn't sleep?         Sometimes or less (=0)         322         274         141         103         182         171           OR¹         Always/almost always (=1)         32         30         16         15         16         15           OR¹         1,10         1,28         0,99         0,67-2,08)         0,47-2,08)         0,47-2,08)           ORad²         1,20         1,25         0,95         0,45-2,00)         0,45-2,00)           Do you have one close friend or more?         No         41         26         20         15         21         11           OR¹         0,70         0,70         0,99         0,53         0,53         0,53         0,53         0,53         0,64-2,00)         0,53         0,64-2,00)         0,51         0,64-1,13)         0,51         0,64-1,13)         0,51         0,64-1,13)         0,51         0,64-1,13)         0,51         0,64-1,13)         0,51         0,64-1,13)         0,51         0,64-1,13)         0,51         <		. ,						
OR <sub>ad²</sub> (0,59-1,67)         (0,74-2,96)         (0,30-1,46)           OR <sub>ad²</sub> 1,05 (0,62-1,78)         1,53 (0,75-3,12)         (0,30-1,49)           During the ultimate year, how often did you feel so worried that you couldn't sleep?         Sometimes or less (=0)         322 274 141 103 182 171           OR¹         Always/almost always (=1)         32 30 16 15 15 16 15         16 15           OR¹         1,10 (0,65-1,86)         (0,60-2,71)         (0,47-2,08)           ORad²         1,20 (0,70-2,05)         (0,74-3,36)         (0,45-2,00)           Do you have one close friend or more?         No 41 26 20 15 21 11         21 11           Yes         314 277 137 103 177 174         174 0,99 0,53 (0,42-1,13)           OR¹         (0,42-1,20) (0,42-1,20) (0,48-2,04) (0,24-1,13)         (0,24-1,13)           ORad²         0,73 (0,43-1,23) (0,48-2,09) (0,48-2,09) (0,24-1,11)         (0,24-1,11)           Categories Total difficulty score         Normal/ Borderline (=0) 318 251 144 97 175 155         155 155           Abnormal (=1) 36 52 13 21 21 31         31 21 21 31           OR¹         1,16-2,88 (1,146-5,016) (0,851-2,721) (0,81-2,64)           ORad²         1,75 2,05 (1,16-2,88) (1,146-5,016) (0,851-2,721)		100 (-1)			_			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$								
During the ultimate year, how often did you feel so worried that you couldn't sleep?         Sometimes or less (=0)         322         274         141         103         182         171           OR¹         Always/almost always (=1) that you couldn't sleep?         1,10 (0,65-1,86) (0,60-2,71)         1,28 (0,47-2,08)         0,99 (0,47-2,08)           ORad²         1,20 (0,70-2,05) (0,70-2,05)         (0,70-3,36) (0,45-2,00)         (0,45-2,00)           Do you have one close friend or more?         No         41         26         20         15         21         11           OR¹         0,71 (0,42-1,20) (0,48-2,04) (0,48-2,04)         0,73 (0,43-1,23) (0,48-2,04) (0,24-1,13)         177         174           ORad²         0,73 (0,43-1,23) (0,48-2,09) (0,48-2,09) (0,24-1,11)         0,51 (0,24-1,11)         0,51 (0,24-1,11)         0,51 (0,24-1,11)           Categories Total difficulty score         Normal/ Borderline (=0)         318 251 144 97 175 155         1,52 (0,24-1,11)         1,55 (1,16-2,88) (1,146-5,016) (0,851-2,721)           ORad²         1,83 2,93 (1,146-5,016) (0,851-2,721)         1,52 (1,16-2,88) (1,146-5,016) (0,851-2,721)         1,46 (0,851-2,64)	OR <sub>od</sub> <sup>2</sup>							
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	- au							
often did you feel so worried that you couldn't sleep?         Always/almost always (=1)         32         30         16         15         16         15           OR¹         1,10         1,28         0,99         0,65-1,86)         (0,60-2,71)         (0,47-2,08)         0,99           ORad²         1,20         1,25         0,95         0,74-3,36)         (0,45-2,00)         0,95         0,07         0,07         0,07         0,07         1,10         1,10         1,10         1,10         0,74-3,36)         0,045-2,00)         0,00	During the ultimate year how	Sometimes or less (=0)						
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		` ,						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	-	ravajo, amost arvajo (= 1)	02	00		.0		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	OR¹		1	,10			0,	99
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			(0,65	5-1,86)	(0,60	-2,71)	(0,47	-2,08)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	OR <sub>ad</sub> <sup>2</sup>		1	,20	1,	25	0,	95
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			(0,70	)-2,05)	(0,74	-3,36)	(0,45	-2,00)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Do you have one close friend or	No			20			
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		Yes						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	OR¹						1	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$			(0,42-1,20)		(0,48-2,04)		(0,24-1,13)	
	OR <sub>ad</sub> <sup>2</sup>		0,73				· ·	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			(0,43					-1,11)
OR¹     1,83     2,39     1,52       (1,16-2,88)     (1,146-5,016)     (0,851-2,721)       ORad²     1,75     2,05     1,46       (1,10-2,78)     (1,07-3,90)     (0,81-2,64)	Categories Total difficulty score							
ORad²     (1,16-2,88)     (1,146-5,016)     (0,851-2,721)       1,75     2,05     1,46       (1,10-2,78)     (1,07-3,90)     (0,81-2,64)		Abnormal (=1)						
0Rad²     1,75     2,05     1,46       (1,10-2,78)     (1,07-3,90)     (0,81-2,64)	OR <sup>1</sup>						1	
(1,10-2,78) (1,07-3,90) (0,81-2,64)			(1,16-2,88)					
	OR <sub>ad</sub> <sup>2</sup>						1	
	1_ ODDE DIEV O LOCIETIO	DECRECCION (CORRECTED FOR CONF.			(1,07	-ა,90)	(0,81	-2,04)

TABLE 3

OUTCOME TOTAL DIFFICULTY SO	ORE FOR LB	A IN COMPA	RISON WITH	NLBA, ALSO	SPECIFIED FO	R GENDER	
OUTCOME	WHOLE GR	OUP N=659	ONLY GIR	LS N=275	ONLY BOY	′S N=384	
	NLBA	LBA	NLBA	LBA	NLBA	LBA	
	N=355 (=0)	N=304 (=1)	N=157 (=0)	N=118 (=1)	N=198 (=0)	N=186 (=1)	
MEAN EMOTIONAL SYMPTOMS SCORE <sup>3</sup>	3,600	4,029	4,178	4,848	3,14	3,51	
P-VALUE <sup>1</sup>	0,0	111	0,0	112	0,0	72	
P-VALUE <sub>ad</sub> <sup>2</sup>	0,0	07	0,0	115	0,1	91	
MEAN HYPERACTIVITY SCORE4	3,701	3,706	3,312	3,237	4,010	4,010	
P-VALUE <sup>1</sup>	P=0	,974	0,7	'31	0,982		
P-VALUE <sub>ad</sub> <sup>2</sup>	P=0	,651	0,5	35	0,887		
MEAN CONDUCT PROBLEMS SCORE <sup>5</sup>	2,791	3,151	2,433	2,966	3,078	3,269	
P-VALUE <sup>1</sup>	P=0	,015	0,0	117	0,326		
P-VALUE <sub>ad<sup>2</sup></sub>	P=0	,031	0,0	118	0,3	82	
MEAN PEER PROBLEMS SCORE <sup>6</sup>	3,220	3,316	3,057	3,144	3,350	3,425	
P-VALUE <sup>1</sup>	0,4	82	0,6	90	0,672		
P-VALUE <sub>ad</sub> <sup>2</sup>	0,5	40	0,7	'33	0,7	35	
MEAN PRO-SOCIAL BEHAVIOR SCORE <sup>7</sup>	6,617	6,562	7,031	7,009	6,288	6,280	
P-VALUE <sup>1</sup>	0,7	27	0,921		0,967		
P-VALUE <sub>ad</sub> <sup>2</sup>	0,9	133	0,81		0,985		
MEAN TOTAL DIFFICULTIES SCORE <sup>8</sup>	13,289	14,208	12,981	14,195	13,53	14,22	
P-VALUE <sup>1</sup>	0,0	0,021 0,051		0,1	0,193		
P-VALUE <sub>ad<sup>2</sup></sub>	0,0	144	0,0	173	0,3	12	
1=Independent T-test		5=Conduc	t problems score (0-3	3=Normal, 4=Borderli	ne, 5-10=Abnormal)		

2= Linear regression (corrected for confounding variables) 3=Emotional score (0-5=Normal, 6=Borderline, 7-10 =Abnormal) 4=Hyperactivity score (0-5=Normal, 6=Borderline, 7-10 =Abnormal) 6=Peer problems score (0-3=Normal, 4-5=Borderline, 6-10=Abnormal) 7=Pro social behavior (6-10=Normal, 5=Borderline, 0-4=Abnormal) 8=Total Difficulty Score (0-15=Normal, 16-19=Borderline, 20-40=Abnormal)

Fuente: departamento de estadística del HVMC. Elaborado: por autores.

### SOCIO-DEMOGRAPHIC DETERMINANTS

Table 4 shows us the associations within the group of LBA's in socio-demographic determinants; general characteristics, characteristics of LBA and family and migration' characteristics. Significant results were found when comparing these determinants with the TDs on a scale. LBA, who talked about their personal problems with anyone had a lower difficulty score (p<0,05). A good relationship with the migrating parent, before the migration process was significantly related to a lower TDs (p<0,05). Migration before the age of 5 years was significantly associated with a higher TDs, as well as a duration of migration longer than 9 years (p<0,05). Some of the determinants were not significant, but inclined to a lower TDs, such as the adolescents' age, 13 years or younger, having a mother as the main responsible for the

daily care, having monthly contact with the migrant parent, the adolescent' opinion of a stable parental relationship before migration and his/her expectation of a stable parental relationship after the migration process. Other migration and family determinants were not or hardly associated with the TDs.

Estimating odds ratios of the same socio-demographic determinants on an abnormal TDs, results are nearly significant (figure 1).

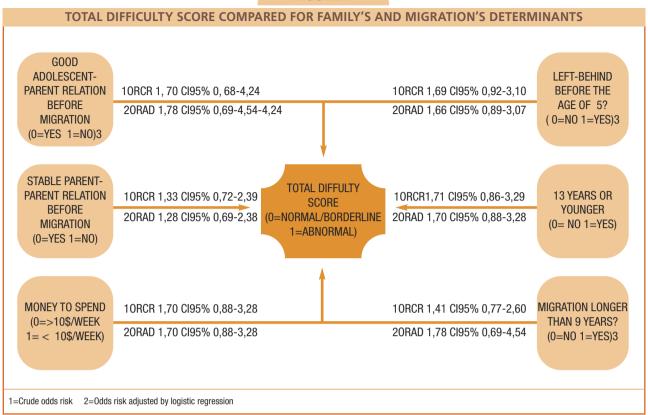
# **DISCUSSION**

As samples of several neighborhoods in different districts and high schools of Azuay and Canar were collected, the results are representative for LBA in Azuay and Canar. The parental migration

# TABLE 4

	IABLE 4			
TOTAL DIFFICULTY SCORE COM	MPARED FOR FAMILY'S	AND MIGRATION'S DETERN	IINANTS	
DETERMINANT	POSSIBILITIES	MEAN TOTAL DIFFICULTY SCORE <sup>4</sup>	P-value <sup>2</sup>	P-value <sub>ac</sub>
General characteristics:				
13 years or younger?	Yes (=0)	13,6	0,076	0,101
	No (=1)	14,6	<u> </u>	· ·
Place of living:	Cuenca(=0)	13,89	0,420	0,416
	Biblían(=1)	14,39	-,	2,
Parent(s) died?	No(=0)	14,21	0,908	0,904
	Yes(=1)	14.00	0,000	0,00.
Parents divorced?	No(=0)	13,99	0,146	0,231
Talono divoloca.	Yes(1)	15,05	0,110	-, -
How much money do you spend a week?	100(1)	10,00		
>10 \$	<=10 \$ (=0)	14,55	0,098	0,175
>10 ψ	>10 \$ =(=1)	13,50	0,000	0,173
Who is responsible for your daily care?	>10 φ =(=1)	13,30		
Your mother?	Voc. ( 0)	12.02	0.007	0.100
four motiler?	Yes (=0)	13,82	0,097	0,180
MCshh a da kallı ka alı ak	No (=1)	14,82		
With whom do you talk to about your personal prob		40.05	0.000	0.007
With anyone?	Yes (=0)	13,85	0,028	0,027
	No (=1)	15,38		
Which of your parents migrated?				
Migration of father against migration of the mother	Father (=0)	14,41	0,907	0,797
	Mother (=1)	14,18		
What is the duration of the migration?				
Longer than 9 years?	No (=0)	13,6	0,030	0,042
	Yes (=1)	14,9		
Which age did you have, when your parent(s) migra	ited?			
Younger than 5 years?	Older (=0)	13,49	0,014	0,023
	Younger (=1)	14,95		
What was the main cause of the migration?				
To create welfare or because of the poverty?	More welfare (=0)	14,69	0,195	0,251
	The poverty (=1)	13,90		
What was the impact of the migration process on the	ne family?			
Consolidated or destroyed the family ties?	Consolidates (=0)	14,17	0,501	0,774
	Destroyed (=1)	14,58		
How often do you have contact with your migrant p	arent?			
Once a month or more?	Yes (=0)	14,05	0,103	0,080
	No (=1)	15,69	,	,
How was your relationship with your migrant paren	` '	2722		
Was it good, or not good or don't you know?	Good (=0)	13,84	0,033	0,033
That it good, or not good or don't you thow.	Not good/ I don't know (=1)	15,17	0,000	0,000
How was/is the relationship between your parents?		10,11		
Before migration?	Stable (=0)	13,81	0,063	0,063
before migration:	Not stable/don't know¹ (=1)	14,90	0,003	0,003
After migrating (expectation)?	Stable (=0)	·	0.067	0.067
After migrating (expectation)?	` ′	13,97	0,067	0,067
What is the highest education of very surrent	Not stable/ don't know1 (=1)	15,38		
What is the highest education of your current careg		44.00	0.070	0.000
Primary school or higher?	Yes (=0)	14,36	0,273	0,362
	No (=1)	13,63		
Do you receive remittances of your migrated parent	, ,	,		
Do you receive remittances of your migrated parent Remittances?	Yes (=0) No(=1)	14,10 15,25	0,262	0,244

### FIGURE 1



Fuente: departamento de estadística del HVMC. Elaborado: por autores.

rate (46%) and the accompanying remittances (of 394 dollar a month a family) confirm the integration of migration as a diversification strategy in the current Ecuadorian society. LBA significantly less often had parents who died then NLBA, logically because parental death prevents the left-behind parent to migrate. LBA significantly more often had divorced parents, most reliable as a consequence of migration.

The group of LBA faced significant more emotional and conduct problems, more loneliness and sadness and a higher TDs in comparison with the group of NLBA. The direct lack of parent(s), (12) but also the disrupted left-behind family situations create instability. (8, 20) Fathers, grandparents, even siblings suddenly have to take care of children or adolescents, provoking authority problems. Left-behind mothers are suddenly the head of the family, responsible for big amounts of money, which creates stress. (8, 20) The adolescent's role in family life is disturbed. It suddenly receives lots of money, a good education and presents due to incoming remittances, but loses the parent's presence, support and its responsibilities in daily family life. This phenomenon causes a misplaced feeling of reciprocity, leading to a symptom-cluster called 'Nervios'. This gives voice to the children's feelings of abandonment and exists of extreme sadness, explosive anger, malicious acts of violence and a general refusal to carry on day-to-day activities. An adjacent explanation could be found in the pre-existent psychosocial problems existing already before migration. Family violence, bad parental relations or poverty, could both enhance adolescents' psychosocial problems as well as parental migration itself. (29)

The gender differences of our whole study group, equal the global literature, even when directly comparing the SDQ outcomes. (30) Being left-behind has gender specific impacts, whereby left-behind girls seem more affected than leftbehind boys. Partly, this could be explained by internalization of psychological problems by girls. (31) Alongside, girls are more concerned with interpersonal and family issues; the caretaking and involvement into family problems makes them vulnerable for emotional problems and depressions. (32) Contrary to the existing literature of LBA, girls, more then boys are susceptible in developing conduct disorders; the aforementioned 'Nervios', was mainly observed in left-behind boys. (11) Family discord, stressful events and low family support, all consequences of parental migration, (11,33) play a greater role in the development of conduct problems of girls than boys.<sup>(34)</sup> Furthermore our study focused on adolescents, while Pribilsky's record concentrated on children.<sup>(11)</sup> Gender differences are distinct in childhood and adolescence and, while entering adolescence, gonadal steroids delay females' ability to recover from stress, which leaves them more affected by long-term effects of migration than males.<sup>(35)</sup>

Socio-demographic determinants, even more than migration itself, influence emotional and behavioral outcomes. Various determinants affected TDs. LBA, younger than 13 years, had more emotional and behavioral problems: vounger adolescents in general are more vulnerable for emotional and behavioral problems, when exposed to familial problems. (36) Parental migration before LBA reached the age of 5 or migration during longer than 9 vears, intensified the emotional and behavioral problems. The early childhood is, as the WHO declares, a susceptible period for changing family circumstances. Health impact, originated in early childhood continue into adolescence and work on over generations. (36) The important role of the mother-child relationship on the adolescent's wellbeing and development is a known fact. (37) Consequently, it would be expected that mother migration has more impact than father migration, but it did not. However, the little group of mother migration in our study, made it impossible to perform a good comparison. However LBA's, with a mother as a primary caregiver, have less emotional and behavioral problems, although not significant. Determinants, considering family relations, such as the child-parent and parent-parent relation before migration and child-migrated parent communication during migration, are important factors on LBA's wellbeing. When the migration process happens in a family without conflicts, children report higher levels of security, despite the distance. The relation between the parents and themselves support their feelings of confidence in the family project. Without this confidence and safety, feelings are affected even before parents distanced themselve. (8) Adolescents, who talk with someone about their personal problems, have less emotional and behavioral problems. This is both visible within the group of LBA as well as NLBA.

Asian studies are not directly comparable with our study, but state the fact that LBA are vulnerable in different cultures and due to comparable socio-demographic determinants. Though Fan (2010) found different results; more hyperactivity problems, less pro-social behavior and comparable emotional,

conduct and peer problems among LBA, compared to NLBA in China. Other Chinese records reveal more sadness, loneliness, anxiety and depressions among LBA, in comparison with NLBA, with the same gender specific pattern and comparable socio-demographic determinants as in our study. (21, 23)

In the introduction, some gross differences were mentioned between single and zero parentsituation originated out of migration or because of parental divorce or death. However the found psychological outcomes and accompanying socio-demographic determinants are comparable. (15,16) Parental divorce is associated with conduct problems, depressions and loneliness among adolescents.(38,39) Conduct and emotional problems are seen in orphan adolescents, with the same gender distribution as with parental migration. Parental loss before the age of 5 has more influence on behavioral and emotional problems than parental loss after the age of 5 and the risk of disturbance is higher when a family is less cohesive. (15) Migration as a cause of broken families must therefore receive the same attention as parental divorce or death.

Several limitations must be recognized. First, we collected our data only from schoolchildren, which is a selecting bias. The school going rate among LBA could be higher than in NLBA and it is imaginable that non-school-going children face more psychological problems. (11) Second, as the design is cross-sectional, we found statistical associations. but not direct causative relations. Third, the adolescents filled in the family and migration characteristics themselves. We adjusted the questions to the average adolescent's level and knowledge, but problems with understanding or social desirable answers are possible. However, the response rate was high and it is not reasonable that the LBA did this in greater extent than NLBA; it could undervalue the total results, but it does not explain the differences between LBA and NLBA. Fourth, we failed to correct for socio-economic state and parental divorce. Most reliable, the higher parental divorce rate and the higher SES of the LBA are direct consequences of the long-distance migration and the remittances, instead of a pre-existent fact. (14) It was impossible to obtain reliable information about the SES and the parental state before the migration process started. Finally, several results failed to show significance, but showed tendencies to significance. With a larger study population, we could have obtained significant results.

This is the first quantitative large set-up research in Ecuador and, as far we know, in Latin-America that demonstrates the existing associations between parental migration and emotional or behavioral problems among LBA. It provides evidence of the health impact of migration on LBA in the Ecuadorian society and states a fact for LBA in general. By identifying underlying socio-demographic determinants, this article underlines the need for health professions and public health to address this neglected problem. Recommendations for the future must be made. A systematic and realist review of the literature might provide information on specific knowledge gaps in Latin America. Qualitative research, such as depth interviews or longitudinal studies, are needed, that give us more insights into the upstream driving forces of problems in LBA. A possible intervention program for LBA's has been proposed by Pottinger. (18) He constructed a counseling framework to teach and advice families for a forthcoming or current family member migration. Showing them the consequences of migration, preparing the families on a forthcoming migration and giving them hints in order to strengthen family relations, reduced the migration impact on LBA and other family members. Based on this study, parents could for instance be advised to strength the family ties before migrating or to migrate when the child is somewhat older. Children could be stimulated to talk about their personal problems, and their feelings regarding the migration. In these high endemic areas, counselors should work on schools or communities to make it a talk-able subject. To really solve this tremendous problem, well structured long-during programs should be set up. (40) We therefore hope that this study will raise awareness about the need to put this preventable public health problem on a wider agenda.

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