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MEASUREMENT INSTRUMENTS FOR DIVERSE PSYCHOSOCIAL CHARACTERISTICS OF MEXICAN GIRLS AND TEENS IN SITUATION OF ABANDONMENT

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Abstract

Girls and teens in situation of abandonment present mental health deficiencies that severely deteriorate their biopsychosocial wellbeing. Yet, evaluation instruments for this population are almost non-existent worldwide. Consequently, reliable diagnoses are lacking. *Purpose*: this preliminary study was conducted to adapt and validate measurement scales for anxiety and depression symptoms, assertiveness and emotional regulation of 413 Mexican girls and teens in situation of abandonment, between 6 and 23 years of age (*M*[*DT*]=11.75[2.78]). *Methodology:* three pilot studies were conducted, and the final version of the questionnaire was applied to 240 participants. *Findings*: the results show estimates of validity and reliability that determine the veracity of the scales' psychometric characteristics. According to the validating factor analysis, appropriate discriminant and convergent adjustment and validity indexes were obtained, which confirms that the tests may be used in the future with similar populations. *Originality*: the usefulness of the study is that, for the first time in Mexico, preliminary instruments are available to measure anxiety and depression symptoms, assertive behaviors and emotional regulation strategies of

girls and teens in situation of abandonment.

Key Words: anxiety; depression; assertiveness; emotional regulation; girls and teens in situation of abandonment.

Introduction

The concept of abandonment comprises different situations of abuse, neglect or helplessness generated by the lack of attention of an individual's needs or the unfulfillment of its essential rights by those responsible of enforcing them (National Commission of Human Rights of the Federal District, s.f.; Martinez-Pampliega, Santibañez, Prieto and Ruiz, 2013). For the purpose of this study, girls and teens in situation of abandonment constitute those who do not have education and working opportunities, who have been victims of some type of abuse, negligence or helplessness within their family, school and/or community of origin, who live in conditions of poverty or extreme poverty, who live amongst social difficulties such as violence, alcoholism and drug addiction, delinquency, overcrowded housing without infrastructure, and who may have been taken in by protective social services. Girls and teens at risk of becoming homeless and homeless also belong in this group. The first ones have family, school or community ties and still live with their families, but they are at risk of abandoning their home or being expelled from it due to adverse conditions. In general, they are referred by third parties or family members to an

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assistance organization to receive support and care mostly in terms of health, food, clothing and education. The latter are those who have completely broken all family, school or community ties, and that have left their home or have been expelled from home, thus lack a fixed or steady home and wander appropriate areas (e.g., departments, institutions, shelters, etc.) and inappropriate areas (e.g., streets, footbridges, empty lots, rented rooms, etc.) finding a place to live in; they may be taken in by assistance organizations to receive care and satisfy their essential needs, however, their stay is partial or intermittent. This typology is based on the proposal of The Canadian Homelessness Research Network (CHRN, 2012) and it matches the characteristics of girls at risk of homelessness and homeless described in the typology of the Mexican population formulated by Castaños in 2014.

Currently, girls and teens in situation of abandonment are the largest growing sector in the population (Committee Opinion, 2013), and this social collective is present in every country in the world, without exception (Jabeen and Azra, 2013). Nevertheless, this problematic has been studied only partially and superficially, this phenomenon has been tackled by research that is insufficient. It is known that this sector is sexually and labor-wise exploited, suffers from every possible type of violence, faces discrimination and censorship more often than the rest of the population (Misganaw and Worku, 2013); consequently, they exhibit higher levels of anxiety and depression than men (Raffaellia *et al.*, 2000). Likewise, it has been found

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that they are impulsive, aggressive, emotionally unstable and attempt suicide three to four times more than males (Capuzzi and Gross, 2008). Therefore, the main reported problems that seriously affect their wellbeing include: anxiety and depression, lack of assertiveness and of emotional regulation. Yet, reliable diagnoses, clear ideas and well-defined action lines are lacking; those that exist have been proven to be inefficient and not sustainable, mainly because the majority of research has used measurement and evaluation tests for different social groups (since scales for this specific group are almost non-existent) (Hesse and Thiesen, 2013). At least in Mexico, there are no psychometric instruments adapted to their characteristics and needs. Moreover, few studies around the world take into consideration anxiety, depression, assertiveness and emotional regulation in female girls and teens in situation of abandonment. As a result, the magnitude and dimensions of such psychosocial characteristics are unknown. This fact has hindered and interfered with the planning and implementation of effective intervention strategies that promote and contribute to providing access to enhanced wellbeing and improved quality of life for this population. Accordingly, and particularly in Mexico, the problematic has grown exponentially, exceeding society and the government's capacity of response.

The objective of this research was to adapt and validate measurement instruments that are culturally relevant in terms of emotional regulation, anxiety and

depression symptoms and assertive behavior for a group of girls and teens in situation of abandonment, based on results obtained with similar groups in a larger study (Castaños, 2014). These factors were chosen because they are critical to preserve mental health, since the presence of untended anxiety and depression, the lack of assertiveness and functional strategies of emotional regulation lead to endless negative effects that persist in adulthood (Crawford and Manassis, 2011): feelings of disability and devaluing, decreased capacity to overcome difficulties and reach goals, lack of conflict resolution and social skills, hostile and aggressive behavior, frustration, lack of self-control, association with groups of risk, deterioration and interruption of healthy emotional relationships, antisocial behavior, risk conducts, physical-psychological abuse, decreased productivity and school performance, school desertion, migration, exclusion, unemployment and bad labor quality.

A hypothesis was proposed to include acceptable reliability and validity indicators, following a procedure of psychometric validation that is culturally relevant for Mexico according to Reyes and Garcia (2008). This would allow obtaining information through which efficient intervention strategies may be drafted and implemented, aimed at increasing wellbeing, since in order to propose effective treatment, there must be a diagnosis of the problem to identify and analyze current characteristics and conditions of a determined phenomenon, leading to an intervention proposal (Kazdin, 2000). Part of the diagnosis process resorts to using diverse data collection sources, which include the measurement instruments. These must consider the sociocultural context of the target population to conduct precise

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evaluations and accurate diagnoses at experimental or clinical level. A lack of useful instruments difficulties the evaluation and understanding of the different psychosocial phenomena, thus, the proposal of effective prevention, rehabilitation and/or intervention treatment.

Method

Participants

413 girls and teens in situation of abandonment between 6-23 years of age *M*[*DT*]=11.75[2.78]), that are involved in any assistance program, chosen in a non-probabilistic way through purposive sample (Kerlinger and Lee, 2002). Purposive sample was chosen because it is a suitable method when working with an inaccessible group, with little visibility and an unknown universe, and to provide information on a partial phenomenon and superficially known, which would serve as foundation and reference to posterior studies (Palys, 2008). The inclusion criterion was for participants to be involved in some type of assistance program in an NGO exclusively for minors and teens in situation of abandonment. Exclusion criteria were: participants who stop collaborating with the research and/or left their respective institution. Participation was voluntary and it was approved by their legal guardians (if any) and/or the organization of origin.

Instruments

The scales used were produced by this research based on instruments validated

with the Mexican population (but not with this specific group), they had appropriate reliability and validity psychometric indicators (See Table 1).

Table 1
Resumed Psychometric Scales

Anxiety Symptoms	Depression Symptoms	Assertiveness	Emotional Regulation
Spence Children's Anxiety Scale (SCAS; Spence, 1998).- Adapted to the Mexican population by Hernandez *et al.* (2008). 44 questions. α=0.80-0.93. Inventory of Anxiety Status-Features (IDARE; Spielberger, Gorsuch and Lushene, 1970).- Adapted to the Mexican population by Diaz-Guerrero and Spielberger (1975). 40 questions. α=0.83-0.92.	Depression Questionnaire for Children (CDS; Lang and Tisher, 1978).- Adapted to the Mexican population by Cruz, Morales and Ramirez (1996). 66 questions. α=0.96. Depression Scale of the Center of Epidemiological Studies (CES-D; Radloff, 1977).- Adapted to the Mexican population by Benjet, L. Hernandez, Tercero, G. Hernandez and Chartt-Leon (1999). 20 questions. α=0.85.	Inventory of Assertiveness (IA; Gambrill and Richey, 1975).- Adapted to the Mexican population by Castaños, Reyes, Rivera and Diaz-Loving (2011). 39 questions: α=0.94.	Scale of Health and Everyday Life of Moos, Conkite, Billing and Finney (1984).- Adapted to the Mexican population by Ayala, Aduna, Vazquez and Lozano (1988). 35 questions. α=0.41-0.66.
Inventory of Health, Life Styles and Behavior (SEVIC; Sanchez-Sosa and Hernandez, 1993).- 178 questions. α= 0.93.			

The scales produced by this work followed Geisinger's (1994) psychometric procedure of culturally relevant psychometric validation, and particularly for Mexican culture, the one by Reyes and Garcia (2008). Six Likert-type answer options were provided, ranging from 1 (Never) to 6 (Always), including equivalent percentage intervals for each answer option as well (1 [0% of the time] a 6 [More than 80% of the time]). New questionnaires were produced based on existing ones because commercial and standardized scales are seldom valid for groups such as this one (Hesse and Thiesen, 2013). The corresponding permissions were requested and granted for the use of said tests (refer to Procedure).

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Procedure

Given that this group is highly transitory, not very visible and inaccessible (Coker *et al*., 2009), we turned to NGOs to facilitate the work with the population and to obtain information. Working with this group was possible thanks to the permissions granted by the institutions. We requested girls and teens to voluntarily participate and cooperate with the study, they received an explanation on the objectives of the project and it was stressed that the collected data would be confidential and used only for the purposes of the research. Participant's doubts were clarified at all times, avoiding a possible bias to their answers. Test sessions had no time constraints and they took place in rooms such as the meeting or computer room, previously determined by the institution's staff. Lastly, the girls were thanked for their participation. In order to avoid a possible bias, the instruments were randomly applied per participant and age range using counterbalance (Kerlinger and Lee, 2002).

To adapt the measurement instruments, it was necessary to first select questions of diverse scales adapted to the adult and child-teen Mexican population, in order to assess the variables being studied. To use the scales, authors were asked for authorization in writing, who (as university researchers themselves) granted it for research purposes only and free of charge. Although only certain questions were selected to be modified and change its formulation to adapt to the study's objectives

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and to its sociocultural group, it was also necessary to ask for written permission of the copyright holder(s). Only questions that were pertinent for this work's objectives and its population were selected, based on the results obtained through content analysis of 300 in-depth interviews on the story of the girls and teens in situation of abandonment between 6-23 years of age (Castaños, 2014). Said shortlist led to proof that was subject to three test sessions, the first with the participation of 30 girls at risk of homelessness between 6-14 years of age (*M*[*DT*]=9.23[2.22]); the second with the participation of 30 homeless teens between 13-22 years of age (*M*[*DT*]=16.33[2.34]); and the third with the participation of 113 girls and teens in situation of abandonment between 6-23 years of age (*M*[*DT*]=10.29[3.07]). Between test sessions, questions were modified and dismissed depending on its understanding by participants, its relevance to evaluate the variable in question and the study's objective, and the repetition and bias of the questions. Likewise, changes applied were evaluated in two situations with 22 and 15 clinical psychologists, respectively, aged between 24-35 (*M*[*DT*]=27.55[2.55] and *M*[*DT*]=30.12[3.75]), who work in the public and private sectors with similar populations and an average of 3-4 years of service. They were selected because they work with the target variables and are familiar with the tests applied, in order to determine the relevance of the selected questions for the population being studied, if these were valid indicators of the research's factors and if the original semantic and theoretical sense of its

predecessors was maintained. Questions that failed to score a minimum 80% of reliability by the judges were eliminated or rewritten and examined again. Each test session lasted 30-60 minutes and was conducted individually in the form of an interview. From the modifications deriving from the test sessions and evaluations, an improved and corrected version of the inventories was obtained, said version was applied to a total of 240 girls and teenagers in situation of abandonment between 6-23 years of age (*M*[*DT*]=11.75[2.78]), individually as an interview or in groups (depending on the participants' reading, writing and comprehension skills); in both cases it took them 15 minutes to answer the questionnaires.

Although the age range is very wide (and it includes several age groups differing in development stage and life experiences, so scales should be specific to each sub-group) in this study the adapted questions are applicable to the population under study, regardless of the age, since the means and standard deviations per sub-group were not significantly different. Likewise, the questions refer to cognitive, emotional and behavior aspects that are common to all participants, regardless of the development stage. The difference lies in the intensity and frequency with which they exhibit these situations or problems, as well as the circumstances in which they arise.

After the selection, modification and evaluation of questions, and the test sessions of the pilot versions, more adjustments and corrections were applied,

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resulting in a more adequate adaptation of the scales; then, the corresponding statistical analyses were carried out using the SPSS and AMOS software, version 21, to examine their psychometric properties. The analyses were: descriptive (e.g.: bias, kurtosis values), of trends (using contingency tables), of question discrimination (Student's t-test) and of reliability (Cronbach's alpha). An additional exploratory factor analysis was conducted on the main components and axes, with the intention of identifying underlying dimensions in the correlation between all of the questions. The main component method was selected because it is the most commonly used when developing new scales (Merenda, 1997). However, the main axis extraction method was also used to obtain more accurate estimations and an unbiased theoretical solution that was free from error and specific variance bias (Tabachnick and Fidell, 2001).

In terms of the ethical guidelines that were applied, this study received the endorsement of the National Council of Science and Technology (CONACYT, for its Spanish acronym), as part of a more extensive research (Castaños, 2014), throughout the research process, the most strict and rigorous ethical guidelines stipulated in the Psychologist's Ethical Code (Mexican Psychology Society [SMP], 2004) were followed, which in turn are based on those by the American Psychological Association (APA). As for the informed consent, the first step was for each health and social work departments of the participating organizations to accept

the study. Then, it was approved by the general director of each institution, who forwarded the decision to the foundations' board of directors. Once the study had been accepted by each organization, if the participants were in condition of abandonment, the institution of origin acted as their legal guardian; the lack of primary caretakers or family members meant there was no need to inform them and get their consent. On the contrary, if the participants lived with their primary caretakers or family members and were involved with an organization, the informed consent of the primary caretakers was obtained along with the institution's. Nevertheless, despite having the approval of each foundation and/or legal guardians, the researcher made sure the participants were totally informed about the study's objective and their part; therefore, prior to each session, they received a thorough explanation (depending on their age, cognitive level, context and development skills) of the study in question and of their right not to participate if they wished. In many cases, the participants did not know how to read and/or write, but they consented by stamping their fingerprint, their will to refuse to partially or totally respond the questions in the questionnaires or to cease their collaboration was respected at all times.

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Results

The results of the statistical analyses show that, according to the descriptive analyses, all of the answer options were considered in each instrument, and that the bias, kurtosis values and standard deviation were among what was expected (-1<+1). Based on the trend analysis with crosstabs, external groups grew and diminished in the expected direction (the group with low scores leaned towards the answer options of ‘sometimes, ‘a few times’, ‘almost never’ and ‘never’, and the group with high scores leaned towards ‘sometimes’, ‘many times’, ‘always’ or ‘almost always’). In terms of the question discrimination analysis using the Student's t-test, it was observed that all questions of the scales discriminated. Also, the reliability analysis conducted using Cronbach’s Alpha showed that each question contributed to the reliability and that none increased the value when eliminated from the set (see Table 2).

Table 2.
Total statistical-element per scale

Anxiety Symptoms				
	Mean of the scale if the element is dismissed	Variance of the scale if the element is discarded	Element correlation - Total corrected	Cronbach’s alpha if the element is discarded
I worry about making mistakes.	28.87	44.016	0.171	0.622
I am easily distracted.	29.1	39.943	0.351	0.578
I believe in myself.	30.74	44.37	0.181	0.618
There are things that make me feel very frightened.	29.04	39.814	0.41	0.565
When something bad is happening to me, I spend all day thinking about it.	28.91	38.139	0.414	0.56
I believe I can solve my problems.	30.09	43.063	0.23	0.608

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I feel I have a lot of problems in my life.	29.15	39.782	0.347	0.579
I worry something bad might happen to me.	28.6	42.809	0.196	0.618
Sometimes I feel so frightened I wish I could run away.	29.03	38.204	0.409	0.561
Depression Symptoms				
I feel lonely.	23.37	47.882	0.466	0.692
I feel sad.	22.9	50.772	0.403	0.704
I feel I'm important.	24.17	48.474	0.508	0.685
I feel I'm important for other people.	23.8	48.3	0.468	0.692
I like the way I am.	24.4	50.627	0.429	0.7
I feel there are people that pay attention to me.	23.78	50.765	0.404	0.704
I think there are people that care about me.	24.25	50.565	0.414	0.702
I have a difficult time when I begin something.	23.06	54.745	0.157	0.748
I feel that only bad things happen to me.	23	49.013	0.405	0.704
Assertiveness				
I can accept if people speak badly of me.	30.16	50.287	0.01	0.626
I am embarrassed to speak to a group of people because I fear they will speak badly of me.	29.39	43.603	0.274	0.56
I can tell a person what I think.	28.77	42.414	0.371	0.533
I can tell a person when something worries me.	28.59	43.54	0.335	0.544
I can tell a person to stop bothering me in front of others.	28.55	41.521	0.37	0.531
I can tell a person when I disagree with something.	28.49	43.33	0.336	0.543
I can tell a person they misbehaved.	29.3	44.1	0.281	0.558
I can tell a person when something is bothering me.	28.44	42.247	0.39	0.528
It bothers me that people show me my mistakes.	29.15	46.34	0.154	0.594
Emotional Regulation				
I talk to a friend about what is happening to me.	20.09	29.674	0.122	0.486
I do things to people (I seek revenge, I get even).	21.63	28.393	0.276	0.42
I feel very bad.	20.36	28.097	0.23	0.437
I tell myself things to feel better (I cheer on myself).	20.26	26.052	0.269	0.417
I prefer to get away from people.	20.49	28.284	0.18	0.461
I act without thinking (I am impulsive, thoughtless, impetuous).	20.55	25.353	0.366	0.369
I seek help.	19.74	30.169	0.148	0.471

Note. The statistical were calculated by taking the questions jointly by scale, since, given the small number of questions, the SPSS' reliability sub-program does not allow to obtain said information per question per factor.

The exploratory factor analysis conducted on the main components and axes,

led to the same factor structures for each instrument (see Table 3). Therefore, it may be concluded that the scales have adequate reliability (Kline, 2011) because the differences among the factor solutions obtained per each method were unimportant. The VARIMAX orthogonal rotation method was applied because there was an assumed independence between the factors. For the scales of Depression Symptoms and Emotional Regulation, a compound factor structure composed of two factors each was obtained, which jointly explain between 49.32%-49.85% of the total variance. In the case of the Anxiety Symptom test, the disposition factor reveals a factor and two indicators that jointly explain 56% of the total variance. Finally, for the Assertiveness inventory, a factor composition was made up by two factors and an indicator, which jointly explain 52% of the total variance. The criterion to determine the number of factors obtained was for them to have a value of or higher than one. Likewise, the structure of each factor was determined by including not just the questions with factor loads of or higher than +-0.30; questions with inferior factor weight and that were present in more than one factor with substantial loads were dismissed; meaning, higher than +-0.40 according to the psychometric theory (Nunnally, 1995).

Thus, the only question dismissed was “I worry about making mistakes”, included in the Anxiety Symptoms test, since it was present in more than one factor. The reliability analysis conducted per factor per scale revealed adequate Cronbach’s

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alpha indicators, given the small number of questions. Subsequently, the factors were defined based on content and concept congruence.

Table 3.

Factor structure of the scales

Factor/Indicator	Questions	Factor weight	Value	% of variance explained per factor	% of total variance explained	Cronbach's alpha
Anxiety Symptoms (n=8 questions)						
1. Negative cognitive symptoms	I am easily distracted.	.738	2.262	28.271	56.035	0.589
	Sometimes I feel so frightened I wish I could run away.	.711				
	When something bad is happening to me, I spend all day thinking about it.	.688				
	I feel I have a lot of problems in my life.	.340				
2. Negative affective symptoms	I worry something bad might happen to me.	.807	1.166	14.577		0.411
	There are things that make me feel very frightened.	.616				
3. Positive cognitive symptoms	I believe in myself.	.773	1.055	13.186		0.353
	I believe I can solve my problems.	.738				
Depression Symptoms (n=9 questions)						
1. Positive cognitive and affective symptoms	I feel I'm important for other people.	.780	2.961	32.903	49.85	0.746
	I think there are people that care about me.	.762				
	I feel I'm important.	.667				
	I like the way I am.	.642				
	I feel there are people that pay attention to me.	.605				
2. Negative cognitive and affective symptoms	I feel lonely.	.716	1.525	16.946		0.629
	I feel sad.	.696				
	I feel that only bad things happen to me.	.679				
	I have a difficult time when I begin something.	.615				
Assertiveness (n=9 questions)						
1. Expression of negative feelings	I can tell a person when something is bothering me.	.710	2.287	25.409	52.072	0.634
	I can tell a person when I disagree with something.	.696				
	I can tell a person to stop bothering me in front of others.	.693				
	I can tell a person when something worries me.	.605				
	It bothers me that people show me my	.802	1.256	13.958		0.457

2. Admitting personal deficiencies and limitations	mistakes. I am embarrassed to speak to a group of people because I fear they will speak badly of me.	.745				
3. Expression of personal thoughts and opinions	I can accept if people speak badly of me. I can tell a person what I think. I can tell a person they misbehaved.	.806 .554 .521	1.143	12.705		0.336
Emotional Regulation (n=7 questions)						
1. Dysfunctional strategies of emotional regulation	I act without thinking (I am impulsive, thoughtless, impetuous). I prefer to get away from people. I feel very bad. I do things to people (I seek revenge, I get even).	.722 .674 .661 .606	1.836	26.224	49.231	0.593
2. Functional strategies of emotional regulation	I seek help. I tell myself things to feel better (I cheer on myself). I talk to a friend about what is happening to me.	.747 .717 .675	1.617	23.097	49.321	0.533

Lastly, and as part of a culturally relevant psychometric validation procedure and to obtain more indicators of the reliability and validity characteristics of the adapted instruments, a preliminary confirmatory factor analysis was conducted using the software AMOS version 21. It is important to clarify that although it is not necessary to apply said analysis to the sample because there is a capitalization on chance, it was included in this work as part of the psychometric validation process to obtain more reliability and validity indexes. There is emphasis on the preliminary aspect, given that said analysis will take place subsequently with a different set of participants. The findings include the calculation of the covariance and correlation between the factors and the loads of the questions on their respective factors per instrument (see Table 4). As it may be observed, specific questions that measure each factor have relatively high standardized loads over the factor, and the

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correlations of the factors is not high. The first result indicates convergent validity in the Anxiety Symptoms, Depression Symptoms and Emotional Regulation scales; the second result shows discriminant convergence in the Assertiveness and Emotional Regulation tests.

Table 4.
Confirmatory factor analysis per scale

			Inter-factor covariance	Inter-factor correlation
Factor	Question	Factor weight	2	2
Anxiety Symptoms				
1. Negative cognitive symptoms	I am easily distracted.	.552**		
	When something bad is happening to me, I spend all day thinking about it.	.543**		
	I feel I have a lot of problems in my life.	.36**		
	Sometimes I feel so frightened I wish I could run away.	.605**		
Depression Symptoms				
1. Negative cognitive and affective symptoms	I feel lonely.	.691**	.477**	0.449
	I feel sad.	.616**		
	I have a difficult time when I begin something.	.322**		
	I feel that only bad things happen to me.	.565**		
2. Positive cognitive and affective symptoms	I feel I'm important.	.64**		
	I feel I'm important for other people.	.711**		
	I like the way I am.	.554**		
	I feel there are people that pay attention to me.	.511**		
	I think there are people that care about me.	.633**		
Assertiveness				
1. Expression of personal thoughts and opinions	I can accept if people speak badly of me.	.142**	0.138	0.604
	I can tell a person what I think.	.585		
	I can tell a person they misbehaved.	.377		
2. Expression of negative feelings	I can tell a person when something worries me.	.485**		
	I can tell a person to stop bothering me in front of others.	.571**		
	I can tell a person when I disagree with something.	.54**		
	I can tell a person when something is bothering me.	.615**		

	Emotional Regulation			
1. Functional strategies of emotional regulation	I talk to a friend about what is happening to me.	.462**	-0.041	-0.062
	I tell myself things to feel better (I cheer on myself).	.462**		
	I seek help.	.681**		
2. Dysfunctional strategies of emotional regulation	I do things to people (I seek revenge, I get even).	.421**		
	I feel very bad.	.53**		
	I prefer to get away from people.	.553**		
	I act without thinking (I am impulsive, thoughtless, impetuous).	.564**		

Note. Only questions that were not dismissed and factors with a minimum of three questions were included.
**p<.01, *p<.05

The achieved adjustment indexes (see Table 5) show (without eliminating any question), insignificant chi-squared values, adjustment indexes that exceed the indicated (>=0.90) in at least two indicators, and RMSEA values near zero and insignificant included in the established trust interval (LI90-LS90).

Table 5.
Adjustment indexes of the confirmatory factor analysis per scale

	Adjustment indexes									90%IC		
	X^2	Gl	p	NFI	RFI	IFI	TLI	CFI	RMSEA	LI	LS	p
Anxiety Symptoms	1.54	2	.463	.98**	.95**	1.01**	1.02**	1.00**	.000	.000	.119	.641
Depression Symptoms	35.28	26	.106	.91**	.88	.98**	.97**	.98**	.04	.000	.068	.703
Assertiveness	20.44	13	.085	.87	.80	.95**	.92**	.95**	.04	.000	.088	.472
Emotional Regulation	26.50*	13	.015	.84	.74	.91**	.85	.91**	.06	.023	.102	.209

Note. *The adjusted chi-squared value (X^2/gl) for the Emotional Regulation variable (X^2=2.04) is lesser than three. Therefore, taking into account that the other adjustment indexes are adequate, said value is accepted as indicator of the model's good adjustment. This because when the sample is larger than 200 individuals, it is common for the squared-chi to be significant. (Kline, 2011).
**>=0.90

Hence, the aforementioned scales have internal consistency and validity, and are suitable to be used in future research and test sessions with similar populations. There is certainty of their psychometric properties.

Discussion and Conclusions

Anxiety, depression, assertiveness and emotional regulation are essential factors for an individual's wellbeing. Girls and teenagers in situation of abandonment suffer anxiety and depression (M. Sarajlija, Jugovic, Zivaljevic, Merdovic and A. Sarajlija, 2014), have difficulties to establish and maintain healthy interpersonal relationships and to be socially competent, and they also show emotional distress (Ganesh, Campbell, Hurley and Patten, 2013). Consequently, they have insufficient psychological adjustment (Votta and Farrell, 2009), inhibiting and interfering with their capacity to learn and acquire the necessary skills to deal environment stressors; these facts extend to adulthood (UNICEF, 2009). Yet, there are only a few attempts at evaluating these factors in this exact sociocultural group; no measurement instruments adapted to their characteristics and needs have been found. Therefore, this study is one of the first of its kind in Mexico, it intends to make up for the lack of scales for this social collective.

The psychometric properties analysis of the questionnaires revealed that these are useful to measure emotional regulation strategies, anxiety and depression symptoms, and assertive behavior in Mexican girls and teens in situation of neglect.

In terms of the questions' descriptive and discrimination analysis, they proved to be sensitive to detecting opposite ends of social desirability per scale. Also, external groups increased and decreased in the expected direction; bias, standard deviation and kurtosis values were among what was expected (Cohen and Swerdlik, 2006).

An index per factor per scale was obtained for the reliability analysis, since the factors measure different aspects of a same construct, if the total inventory's reliability were taken it would decrease given the lack of homogeneity according to the psychometric theory. Thus, Cronbach's alpha values of each factor of each instrument were adapted in the face of the reduced number of questions; in a test, less questions imply less reliability (Nunnally, 1995). As a result, the scales have internal consistency indexes. To increase Cronbach's alpha, it is suggested that more aspects of each variable be assessed in later studies, aimed at increasing the number of questions and obtaining factors that are more homogeneous or similar.

In terms of the exploratory factor analysis conducted, appropriate construct validity indexes were achieved accounting for at least 50% of the variance of each variable being studied. Comparing each scale's factor composition, it can be said that factors that aim at similar contents were obtained, because they evaluate different aspects associated to the same construct, including the indicators that failed to have a minimum of three questions to be considered factors. Only the

assertiveness and anxiety symptoms have one and two indicators, respectively; these were not eliminated because they evaluate relevant aspects of these constructs and have adequate reliability and factor weight. Likewise, questions and factors agree with what the research literature reports in terms of study's variables. Emotional regulation encompasses a series of strategies that may or may not be adaptive in handling and controlling emotions. They are ineffective when they fail to diminish the negative emotion and have an effect on the individual's wellbeing. They are functional when they modify emotional reactions and its associated irrational cognition and disruptive behavior (Gross, 2007). In this study, the factors of the emotional regulation variable were functional and dysfunctional strategies to handle and control emotions. Assertiveness is a construct that includes a set of social skills such as expressing emotions, thoughts and personal opinions, disagreeing and saying sorry or admitting being wrong, among others (Castanyer, 2009). Those social skills correspond to the factors and indicator obtained in the assertiveness variable. Anxiety and depression have cognitive symptoms that refer to self-criticism, hopelessness and perception of vulnerability or risk. Behavior changes associated to these disorders include getting away from people, having difficulties to begin different activities, avoiding stressful situations and ceasing pleasurable actions, among others. The emotional elements that go along with these disorders are irritability, anger, nervousness, guilt and sadness (Greenberger and Padesky, 1998).

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The factor structure of the anxiety and depression instruments allude to said cognitive, affective and/or behavior symptoms. Hence, the factors obtained per scale reflect the different components that make up each construct, as per the reviewed research literature.

Finally, the preliminary confirmatory factor analysis conducted reached convergent validity indexes in each scale, except in the assertiveness test. This means that the questions and its respective factors per questionnaire are related, since they evaluate similar aspects of the same construct. It also implies that the questions consistently measure the factor to which they belong. Similarly, discriminant validity indicators were achieved in the assertiveness and emotional regulation instruments, reflecting that the factors that make up those scales are independent, since they evaluate different, inherent aspects of the same variable. Combined to the aforementioned, the adjustment indexes show proper data organization. The presence of preliminary validity and reliability of the instruments is confirmed, which allows them to be used in future test sessions with similar populations. Nevertheless, it is important to highlight that obtaining the data associated to the psychometric properties of all the scales is a continuous process that needs to be improved each time it is used.

In summary, this research constitutes a first approach to having psychometric instruments for the Mexican child-teen population in situation of abandonment.

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Because of this fact, preliminary versions of measurement tests are now available to enable reliable and precise diagnosis of diverse psychosocial characteristics present in girls and teens in situation of abandonment, such as assertiveness, emotional regulation, and anxiety and depression symptoms. It is therefore recommended to use the inventories in female child-teen population in situation of abandonment, without losing sight of the limitations deriving from the small number of questions on each construct's evaluation, sample size and selection being conducted in a non-probabilistic way, and the obtained Cronbach's alpha levels.

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