

# ANÁLISIS PSICOMÉTRICO DEL «CUESTIONARIO DE CREENCIAS ACTITUDINALES SOBRE EL COMPORTAMIENTO SUICIDA» EN POBLACIÓN ADOLESCENTE EN ENTRE RÍOS, ARGENTINA

## PSYCHOMETRIC ANALYSIS OF THE «QUESTIONNAIRE OF ATTITUDINAL BELIEFS ABOUT SUICIDAL BEHAVIOR» IN ADOLESCENCE FROM ENTRE RÍOS, ARGENTINA

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Recibido: 27 de setiembre de 2010

Aceptado: 12 de setiembre de 2011

### RESUMEN

Al trabajar con adolescentes con síntomas de depresión y/o ideación de suicidio, es valioso para el profesional evaluar los pensamientos orientados hacia el suicidio. El disponer de un instrumento que mida las cogniciones de los jóvenes, es una herramienta útil para la investigación, prevención y tratamiento de adolescentes con esta problemática. Sin embargo, no se cuenta en nuestro medio con una prueba para tal fin. Teniendo en cuenta que las pruebas verbales de evaluación psicológica, son sensibles a cambios culturales, debiera evitarse su utilización fuera del contexto en que han sido diseñadas y validadas sin un estudio previo de su funcionamiento. El objetivo de este trabajo fue estudiar las propiedades psicométricas del CCCS-18 (Ruiz Hernández, Navarro-Ruiz, Torrente Hernández, & Rodríguez González, 2005) en población argentina. La versión española del instrumento fue administrada a 122 sujetos pertenecientes a tres instituciones educativas de nivel secundario. La edad promedio fue de 16.06 años. Para evaluar la fiabilidad de la prueba en cuanto a su consistencia interna, se calculó el *alpha* de Cronbach, obteniendo un valor satisfactorio (0,86) para la escala general. En cuanto a la validez, se realizó un análisis factorial exploratorio, encontrando tres dimensiones que operacionalizarían el constructo. Este modelo fue contrastado con el de cuatro factores, propuestos por los autores del test, a través de un análisis factorial confirmatorio. Los resultados indicaron que el modelo de tres factores ajusta mejor a los datos. En conclusión, se encontró que la prueba posee adecuadas propiedades psicométricas para su utilización en población argentina.

**Palabras clave:** Actitudes, creencias, adolescencia, suicidio, evaluación, análisis psicométrico.

### ABSTRACT

When working with teenagers that present depressive and/or suicidal ideation symptoms, the evaluation and detection of thoughts oriented to suicide is very important for the mental health professional. Having an instrument that measures youth's cognition towards suicide is a useful aid for research, prevention and treatment of adolescents with this *problematic*.

Unfortunately, there is no psychological test available in our means that can fulfill this purpose. Considering that changes in culture can modify verbal tests of psychological assessment, *for which the avoidance of administrating psychological tests driven out of the context where they have been designed and validated without previous adjustment*, the target of this study was, precisely, to validate and adjust the CCCS-18 (Ruiz Hernández, Navarro-Ruiz, Torrente Hernández, & Rodríguez González, 2006) in Argentina. The Spanish version of this instrument was administered in a sample of 122 individuals from three secondary educational institutions. The average age was 16,06 years. *To evaluate* the reliability of the test regarding its *internal consistency*, Cronbach's *alpha* showed a satisfactory value (0.86). Regarding *validity*, the Varimax rotation method *was used as a factorial analysis*, showing a slight difference of factors compared to the original scale. In addition, the results indicate that this test possesses adequate psychometric properties for its administration in argentine population.

**Key words:** Attitudes, Beliefs, Adolescence, Teenagers, Suicide, Assessment, Psychometric Analysis

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## Introduction

### *Teenage suicide ideation*

Studying the problem of suicide is a urgency topic, because according to estimates by the World Health Organization (WHO) for the year 2020, suicide deaths will increase by 50%, reaching 1, 5 million annual deaths worldwide. It is also known that currently the high risk groups are young people (epidemiological profile of suicide, Argentina, 2011).

Recent research on this topic indicated that suicide in the adolescence is among the main causes of mortality in this age group (15 to 19 years), occupy third place among the most frequent causes (Salvo, Melipillan & Castro, 2009).

According to data reported by Ministry of Health of Argentina (2011), the suicide rate for the age group 15 to 24 years is 12.4 per 100,000, which indicates the second cause of death for this age group. In terms of gender, the suicide rate is 19.1 in men and women are 5.6 per 100,000 inhabitants (Epidemiological profile of suicide, Argentina, 2011).

Suicidal tendency can be understood as a process that begins with the suicidal ideation, pass by the suicide attempt to end with the suicide. Suicidal ideation is a complex fraction of this process. Suicidal ideation can involve from thoughts of lack life's value to the programming of a lethal act, passing through wishes more or less intense of death. In some cases, it involves an acute destructive concern of delirious nature. It is important to emphasize that suicidal ideation is one of the most important risk factors for suicide (Muñoz, Pinto, Callata, Napa & Perales, 2006). Suicidal ideation is considered a disorder, such as the start or first stage of a continuous that leads the individual to consummate the suicide. (Sanchez-Sosa, Villareal-Gonzalez, Musitu & Martinez, 2010).

Take into account the suicidal ideation, is of great importance because the relationship between the thoughts, feelings and behavior allow you to build a string from the initiation of the process, which will be key to solving the problem behavior and its contingencies (Katz & Cox, 2002).

The results of other studies show that those that present repeated episodes of suicide attempt constitute a population

with considerable psychopathology grade, including high levels of disturbances of personality, anxiety and depressive symptomatology (Tyrer, Jones, Thompson, Catalan, Schmidt, Davidson, Knapp & Ukoumunne, 2003). Despite this, the suicidal attempts realized by adolescents do not tend to be addressed with the seriousness it deserves. Many times both society and the family from teenager trivialize the issue, saying that it is only an incident not so serious.

Some explanatory models of the suicidal ideation as developed by Sanchez - Sosa et to the. (2010) point to a path of direct and indirect relations with suicidal ideation involving personal and contextual variables. This model shows us that the family functioning and proper school integration can be considered as indirect protective factors of suicidal ideation.

Other research realize that those who have had a recent incident of suicide attempt are at special risk of repeating in a short period of time the episode autolytic (Gilbody, 1997; cited in Tirer et al. , 2003; Gutierrez, 2005; Salvo et al., 2009). Hence, it arises the need for and relevance of identifying young people with suicide ideation, to investigate on time would allow to tackle the risk situations opportunely (Salvo et al., 2009).

This reality involves great risk because it is known that one of each 100 people who have attempted suicide achieves this objective in the course of the next year; while more than 10% of parasuicidal patients will end with their life in the following years (Gunnel & Frankel, 1994; cited in Tirer et al. 2003).

It is necessary to make a chain of analysis about the behaviors that have taken the person to the suicide attempt. This allows a detailed understanding of the cognitive and emotional events that precipitated the attempt of suicide (Katz & Cox, 2002).

It is interesting to emphasize that the investigation conducted by Chavez Hernandez, Perez Hernandez, Macias Garcia & Paramo Castillo (2004) with students between 13 and 22 years, the results showed that not all cases the intention of the suicidal act is removing life. They found that 19.5 % of those who once made a suicide attempt mentioned did not want to die, to half of them (49.7 %) was not interested if they died or lived and only 30.8% of the

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students who made a suicide attempt, they were looking for death. The number of women who had as objective take their life overcomes to that of the men (2,5:1), while the men showed more indifference with regard to the conclusion of the attempt of suicide (Chavez Hernandez et. to., 2004).

The reasons that motivated the adolescent women to suicide were the following according to the order of importance: (a) interpersonal problems (61.7 %) and b) emotional factors such as loneliness, depression, and sadness (24.4 %).

The men explained the suicide attempt in function of precipitating events such as illness, sexual abuse, and mainly the loss, either through death or separation, of a significant person.

At the same time, there are more men than women who explain its attempt of suicide as an experiment or a way of looking for diversion, nevertheless, this was the reason least mentioned by the total population (Chavez Hernandez et. al. , 2004).

### ***Importance of prevention***

In relation to the current problem stated, there is the need to define community preventive programs for the early detection and approach of suicidal crises. It is important to consider the urgency of changes in intervention and mainly in the prevention of these events, this becomes essential to have instruments to assess adolescents, as mentioned Martinez (2007), and complement an evaluation completed in order to make the decision to include a teenager to a program or group, to derive them to a professional to perform a specific intervention, or placing a patient with suicide risk (Martinez, 2007).

Although we known some scales of suicide self-administered for adolescents what have been used to identify suicidal ideation, (Winters, Myers and Proud, 2002; Brown, 2000; Beck, Kovacs and Weissman, 1979; Salvo et al., 2009) unfortunately, many of them require more studies to replicate the findings of their psychometric properties in our country. As a result, there is no enough tools in Entre Ríos nor in Argentina to assess the attitudinal beliefs of

adolescents to the suicidal behaviors. To this purpose, it was created the Spanish verbal test: the CCCS-18 by Ruiz Hernandez, Navarro-Ruiz, Torrente Hernandez and Rodriguez Gonzalez (2005). Now, although there are known the advantages that offer the verbal tests of psychological assessment, as they are: a) the agility that implies the possible collective administration of the tests and (b) the objectivity with regard are based on stimuli objectives and standardized (Matesanz, 1997; Fernandez Ballesteros, 2000), Which facilitates the calculation of indices for validity and reliability; as counter-part, these positive aspects, may be affected if the evaluator is not aware that this type of evidence is very sensitive to the cultural changes. Therefore, should be avoided the use of psychological tests outside of the context in which they have been designed and validated, without its previous adaptation (Richaud de Minzi, Lemos and Oros, 2004) or study of its functioning psychometric in the environment in which requires to be used the instrument. In this regard, Matesanz (1997) mentions that: «a psychological structure, the psychological contents of a dimension or feature, you cannot generalized without further to a universe of subjects other than that for which the instrument was built, and still less belonging to other countries or cultures» (p.203).

The possible problems that can arise when you use a test designed in another socio-cultural context, are: (a) the possible variation cross-cultural of the operationalization of the psychological construct to measure, (b) psychometric properties dependence of population's instrument from which are extracted the data and (c) the differences in the meaning that is given to words in other cultures (Matesanz 1997).

Many of the available verbal tests in our language have been constructed in other countries mainly in United States and translated and adapted in Spain. This could lead to naivety or comfort, to be used inappropriately these versions without being studied in our environment.

For all this, the objective of this work is to study the psychometric functioning of CCCS-18 (Ruiz Hernandez et al. 2005) in our midst (Entre Rios, Argentina) in adolescent from 15 to 18 years old.

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## Method

### Participants

For the study of the CCCS-18 made in Entre Ríos, Argentina, we respected the original format of the questionnaire. The instrument was administered to 122 adolescents from four schools in middle class, according to the socio-economic index provided by the educational supervision of the town to which they belong such educational establishments (Diamante, Entre Ríos). The students were between 15 and 18 years old and were attending to 1st or 2nd year of polymodal. In this research included participants from four institutions of average level. The 38.8 % of the sample was composed by men, while 61.2 % were women. The average age of the adolescents was 16.06 years with a standard deviation of 0.965.

### Instruments

#### Spanish Version

The questionnaire was built in Murcia, Spain, by Ruiz Hernandez et al. (2005). The definitive test realized by the authors was studied with a sample composed by 219 college students, and the average age was 20, 7 years. The internal consistency of the instrument was 0, 87.

The factorial analysis carried out by the authors, through the method of main components with Varimax rotation showed that the questionnaire presents four factors that explain the 60.74 % of variance. The first factor operationalized in the spanish version, grouped items: 1, 5, 8, 10, 14 and 18, and was named «Legitimization of the suicide» (18.60 %); the second factor «Suicide in terminally patients» (15,52 %), included the items: 2, 6, 11 and 15; in the third factor «Moral dimension of the suicide» were weighed the following items: 3, 7, 12 and 16 (13,90 %) and in the fourth factor «the proper suicide» (12,72 %), the items: 4, 9, 13 and 17 (Ruiz Hernandez et to., 2005) (See Table 8).

The questionnaire has 18 items, and can be considered as an focused additive scale on the subject, assuming that the variation in the responses will be up to individual differences related to beliefs and attitudes that adolescents

have about suicide. The format of the questionnaire is Lickert, with seven options of answer that indicate the grade of agreement or disagreement with regard to the affirmation that proposes the item: 1 = Strongly Disagree; 2 = Disagree slightly; 3 = Slightly disagree; 4 = Not important; 5 = somewhat agree, 6 = Agree slightly, 7 = Strongly Agree It is important to emphasize that the items 3, 7, 9, 12 and 16 scoring in an inverse way.

### Procedures

It highlights the fact that, before proceeding to the administration of the questionnaires to the teenagers, we conducted an informative talk with them, and gave an informed consent document that must be signed by the parents or tutors of the adolescents authorizing the voluntary participation of its children in this project. The following statistical procedures were carried out for purposes of analyzing the test:

1. Analysis of the items: to examine the power discriminative of the items, we worked with the criterion of contrasting group, analyzing later the answers through the t-test of difference of averages for independent samples. This was done to see if there were statistically significant differences between the subjects who have attitudes and beliefs that go against the suicide (bottom quartile or percentile 25) and the subjects who have beliefs and attitudes in favor of suicide (upper quartile or percentile 25).
2. We studied the relevance to factor analysis using the index of sampling adequacy Kaiser - Meyer - Olkin and Bartlett's sphericity test. This was followed by a factor analysis through the method of principal components with Varimax rotation.
3. To compare the model of three factors found as a result of the exploratory factor analysis, with the model of four factors proposed by the authors of the CCCS-18, was made a confirmatory factor analysis.
4. To assess the reliability from the aspect of internal consistency, both for the general scale as for each of the dimensions found, was calculated Alpha's Cronbach Index.

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## Results

### Analysis of the items

As it can be seen from table 1, 2, 3 and 4, the items have an adequate discriminative capacity, with the exception of item no. 12 ( $t(59) = 1.367$ ;  $p = 0.177$ ): «The suicide are people who go against society», belonging to the factor III (moral dimension of suicide), where it is observed that it

does not discriminate in a significant way between the subjects who have high values of the attribute and who show low scores (see Table 3). Anyway, it was decided to keep it, instead of to eliminating it because it was not improving significantly the average of multiple correlations, nor the internal consistency of the instrument, so it was not considered justified modifying the original structure of the questionnaire.

**Table 1**

Comparison of the standard average values of the adolescents for the upper and bottom quartile of the factor 1: «Legitimization of the suicide».

Variable	Grupo alto		Grupo bajo		Estadísticos	
	Media	Desvío	Media	Desvío	t	p
Aceptaría ciertas formas de suicidio	3,44	1,938	1,06	0,333	7,254	0,000
Si alguien quiere intentar suicidarse, es asunto suyo y no deberíamos intervenir	5,12	2,048	1,31	0,624	10,528	0,000
Aceptaría el suicidio en personas mayores	4,24	1,690	1,06	2,32	11,194	0,000
El suicidio debería ser una forma legítima de morir	3,76	1,422	1,17	,378	10,455	0,000
El suicidio sería una cosa normal en una sociedad ideal	3,40	1,607	1,03	,167	8,820	0,000
Debería haber clínicas para que los suicidas puedan quitarse la vida de una manera privada y con menos sufrimiento	4,20	2,000	1,06	,232	9,377	0,000

**Table 2**

Comparison of the standard average values of the adolescents for the upper and bottom quartile of the factor 3: «The suicide in terminally ill patients»

Variable	Grupo alto		Grupo bajo		Estadísticos	
	Media	Desvío	Media	Desvío	t	p
Debería permitirse el suicidio de una manera digna a las personas con enfermedades incurables	5,12	1,563	2,08	1,360	8,066	0,000
El suicidio es un medio aceptable de querer terminar con una enfermedad incurable	4,96	1,695	2,17	1,577	6,599	0,000
Es comprensible ayudar a suicidarse a un enfermo terminal	3,52	2,124	1,50	1,384	4,502	0,000
Aceptaría el suicidio en personas a las que les queda poco tiempo de vida	4,52	1,759	1,72	1,344	7,041	0,000

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**Table 3**

Comparison of the standard average values of the adolescents for the upper and bottom quartile of the factor 3: «Moral Dimension of suicide».

Variable	Grupo alto		Grupo bajo		Estadísticos	
	Media	Desvío	Media	Desvío	t	p
El suicidio va en contra de la moral	4,20	2,062	2,69	2,400	2,549	0,013*
El suicidio es un acto inmoral	4,16	1,795	2,69	2,328	2,646	0,010*
Los suicidas son personas que atentan contra la sociedad	5,08	1,891	4,33	2,230	1,367	0,177
Se debería prohibir el suicidio porque es un asesinato	5,04	1,767	2,86	2,140	4,191	0,000**

**Table 4**

Comparison of the standard average values of the adolescents for the upper and bottom quartile of the factor 4: «The suicide».

Variable	Grupo alto		Grupo bajo		Estadísticos	
	Media	Desvío	Media	Desvío	t	p
Es posible que me suicidara si estuviera en una situación extrema	4,72	2,170	1,92	1,360	6,203	0,000
Bajo ningún concepto me suicidaría	4,44	2,022	2,42	2,347	3,500	0,001
Si me sintiese muy solo y deprimido intentaría suicidarme	3,52	2,220	1,25	,906	5,524	0,000
Algunas veces, el suicidio es la única vía de escape ante los problemas de la vida	3,80	2,198	1,28	,741	6,399	0,000

### Construct validity through a Factorial Analysis

We studied the relevance to factor analysis using the index of sampling adequacy Kaiser - Meyer - Olkin (KMO= 0,822) and Bartlett's sphericity test ( $X^2(153) = 806,923$ ;  $p = ,000$ ), finding satisfactory results for both statisticians.

As in the study of the original questionnaire, we used the rotation of Varimax factors because, although the factors are presumed related, they are different sizes of beliefs and attitudes towards suicide.

But, taking into account that both the chart on the slope of Cattell as the criterion of Autovalue 1, they coincided with the presence of three underlying factors and analyzing the distribution of the items in each factor, It was considered more appropriate for the sample of Argentina to establish three factors and not four as in the original questionnaire (see table 7), which implies one factor less than the CCCS-18 in Spain (see table 8).

The total of the variance explained by the three factors was 51.61 %. The distribution of the same for each factor was considerably uniform. The first factor is called «the suicide and the others», with 22, 51% of variance, the second factor «Suicide in terminally ill patients and right to suicide» with 15, 94%, the third factor «Moral dimension of suicide» with 13, 15% of explained variance.

In this way, the items of the factor «Legitimization of suicide» in the Spanish version did not weighed clearly as a different factor in the Argentine version. The 6 Items that made up this factor were distributed in two of the new factors that were found with the Argentina sample: The item 5, 8 and 10 were included in the factor called «terminally ill patients and right to suicide». The item 1, 14 and 18 were included in the factor that for the Argentine version is called «the own suicide and the others» factor which also added the 15 item that in the Spanish version belonged to the factor «Suicide in terminally ill patients». The factor from

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**Table 7**  
*Rotated component matrix.*

Item	Componente		
	F1: El propio suicidio y el de los demás	F2: Enfermos terminales y derecho al suicidio	F3: Dimensión moral del suicidio
13. Si me sintiese muy solo y deprimido intentaría suicidarme	0,829		
4. Es posible que me suicidara si estuviera en una situación extrema	0,722		
17. Algunas veces, el suicidio es la única vía de escape ante los problemas de la vida	0,719		
1. Aceptaría ciertas formas de suicidio (ej.: sobredosis de pastillas)	0,639		
15. Aceptaría el suicidio en personas a las que les queda poco tiempo de vida	0,634	0,451	
18. El suicidio sería una cosa normal en una sociedad ideal	0,570		
14. Debería haber clínicas para que los suicidas puedan quitarse la vida de una manera privada y con menos sufrimiento	0,531		
11. Es comprensible ayudar a suicidarse a un enfermo terminal		0,704	
10. Aceptaría el suicidio en personas mayores	0,345	0,650	
5. Si alguien quiere intentar suicidarse, es asunto suyo y no deberíamos intervenir		0,627	
2. Debería permitirse el suicidio de una manera digna a las personas con enfermedades incurables	0,475	0,627	
6. El suicidio es un medio aceptable de querer terminar con una enfermedad incurable	0,517	0,535	
8. El suicidio debería ser una forma legítima de morir		0,447	
3. El suicidio va en contra de la moral			0,722
7. El suicidio es un acto inmoral			0,721
12. Los suicidas son personas que atentan contra la sociedad			0,639
9. Bajo ningún concepto me suicidaría	0,353		0,608
16. Se debería prohibir el suicidio porque es un asesinato		0,382	0,436

**Table 8**  
*Comparison of distribution of items by factors between Spain and Argentina.*

	Items que pesan en el Factor España	Items que pesan en el Factor Argentina
Factor 1: Legitimación del Suicidio (Este factor se eliminó en la adaptación para Argentina)	1, 5, 8, 10, 14 y 18	
Factor 2: Suicidio en enfermos terminales (Adaptación Argentina: Enfermos terminales y el derecho al suicidio)	2, 6, 11 y 15	2, 5, 6, 8, 10 y 11
Factor 3: Dimensión moral del suicidio	3, 7, 12 y 16	3, 7, 9, 12 y 16
Factor 4: El propio suicidio (Adaptación Argentina: El propio suicidio y el de los demás)	4, 9, 13 y 17	1, 4, 13, 14, 15, 17 y 18

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LIBERABIT: Lima (Perú) 17(2): 187-198, 2011

ISSN: 1729-4827

Spanish version that was less changed was: «Moral dimension of suicide», which was added by weigh in this factor the item 9 in the Argentine version.

As well can be seen as the structure was changed from four factors, in the Spanish sample, to three factors in the Argentine version. These modifications were carried out, as mentioned above; taking into account the results of the exploratory factorial analysis that reflected this structure more adapted for our context.

Also the similarity can be appreciated between factor's names of the Spanish and Argentine version, since although the factorial structure was not identical; the items are used in the same theoretical sense.

The following describes in what factors the items have been weighed to make the factor analysis for the sample Argentina.

The Factor I («The proper suicide and of the others») it would be shaped by the items 1, 4, 13, 14, 15, 17 and 18.

The Factor II («Incurable patients and the right to the suicide»), it would remain composed by the items 2, 5, 6, 8, 10 and 11. In this factor, the item 6 («The suicide is an acceptable means of wanting to end with an incurable disease») presents factor complexity for being also in the factor I. But it was held in the factor II for two reasons: (a) because it weighed more in factor II and (b) because the statement of the item 6 coincides completely with the subject and the rest of the items of factor II.

In the Factor III («moral dimension of the suicide») is added the item 9 (Under no circumstances I would kill myself) which is understandable since the assertion is probably interpreted as a moral decision, rather than situational. This factor would be formed then by items 3, 7, 9, 12 and 16.

### ***Comparison of the Spanish and Argentine models through a Confirmatory Factor***

In table 9 the adjustment coefficients are summarized for the two models. Although in both models  $\chi^2$  obtained turned out to be significant, to calculate the  $\chi^2$  corrected ( $\chi^2/df$ ), was obtained a value of 1.69 for the model of 3

factors and 1.73 for the model of four factors, both values, are satisfactory.

Comparing the rest of the indexes of adjustment and error of both models, as it can be observed in the Table 9, in all the cases, the model of three factors presents indexes slightly better.

In Figures 1 and 2 present the models of structural equations corresponding to the Spanish model of four factors and the Argentine of three factors, respectively, with their corresponding coefficients of path.

### ***Reliability of the Questionnaire***

It was calculated the internal consistency of the instrument from Alpha's Cronbach Index, obtaining a satisfactory value (0,86), very similar to that the authors of the CCCS-18 obtained in Spain (0,87).

Also, the internal consistency of each one of three factors was calculated, obtaining a satisfactory value in each of them:

Factor 1: «the own suicide and the others» (0.83)

Factor 2: «Suicide in terminally ill patients and right to suicide» (0.78)

Factor 3: «The moral dimension of suicide» (0.69)

### **Discussion**

The importance of studying the psychometric properties of the CCCS-18 in a sample argentina, takes root in the certainty to have an instrument that is short, valid and reliable and that can be used in adolescents both in clinical samples and non-clinical samples. Although it is undeniable that the psychometric methods cannot replace an exhaustive clinical evaluation, the questionnaires for self-report are useful tools in adolescent populations not consultants who are in suicide risk and who need to receive psychological attention urgently (Salvo et al., 2009; Soler Santana, Castillo Nuñez, Brossard Cisnero & Peña Garcia, 2010).

In the study of the instrument, from the sample Argentina could be found three factors, which contrasted with the model of four factors by Spanish authors, presented a better fit to the data.

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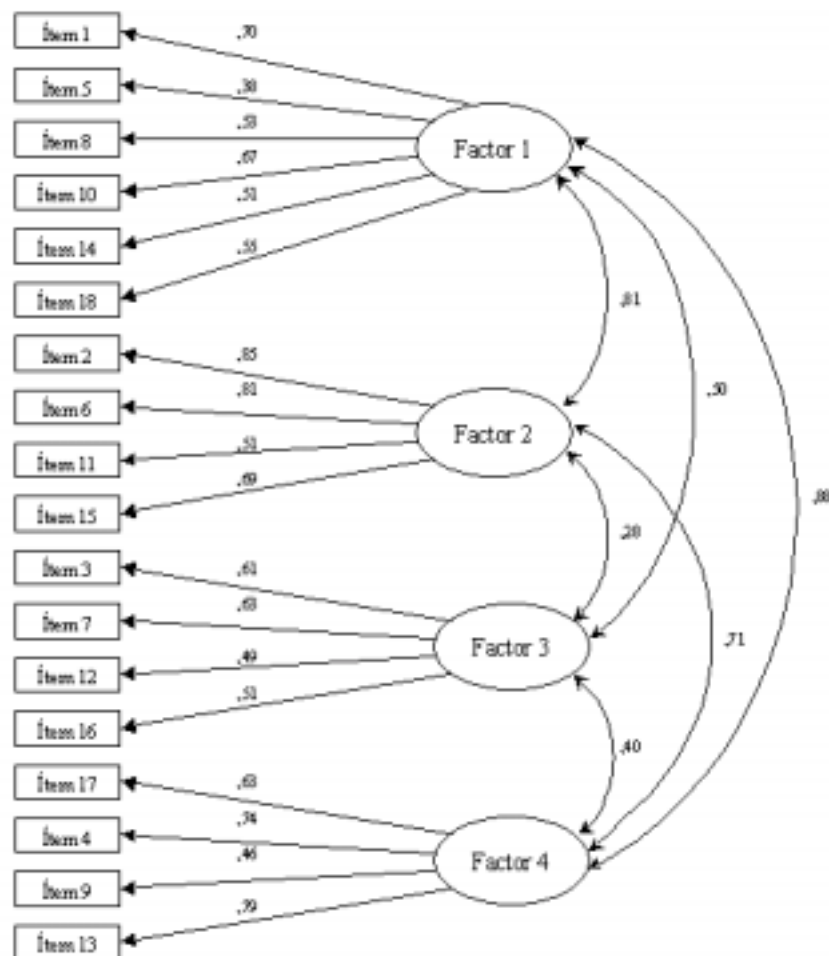
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**Table 9**  
*Summary of adjusted goodness of models*

Modelo	$\chi^2(132)$	$p$	$\chi^2/gf$	GFI	AGFI	RMSEA
3 factores (Argentina)	222,696	0,000	1,69	0,84	0,79	0,07
4 factores (España)	229,4	0,000	1,73	0,83	0,78	0,08



**Figure 1.** Model of confirmatory factor analysis with four factors of CCCS-18.

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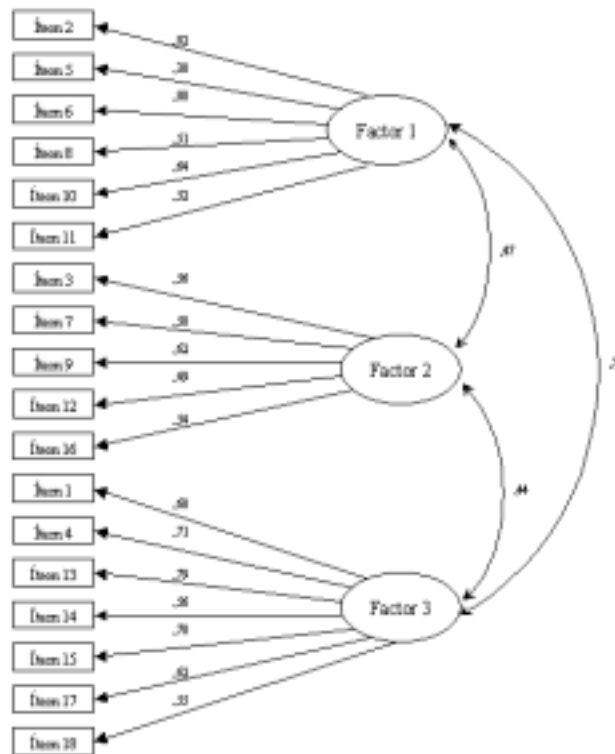


Figure 2. Model of confirmatory factor analysis with three factors of CCCS-18.

The internal consistency of the CCCS-18, as well as, for each one of the factors, obtained from the factor analysis, turned out to be very satisfactory. Each one of the factors explained an important percentage of variance; therefore it would be useful not only to obtain a general measurement of the attitudes and thoughts towards the suicide, but also, a score of each of the factors.

In this sense, the factor that would indicate more directly the thoughts and attitudes in favor of suicide would be the factor «moral dimension of suicide»; while the factor that would be link more directly to the suicidal behavior would be the factor «own suicide and of others».

We believe that the use of this questionnaire would be very valuable to assess the situation of adolescents with respect to the suicidal ideation and suicide risk. It might be a useful way to prevent problems linked to the suicidal conduct, allowing after the evaluation, to take the suitable

measures. But although we know that the most suitable thing would be to administer it in a preventive way, also its use is feasible during a psychological treatment, and simultaneously a treatment might be applied after finished, as pursuit.

The advantages of the CCCS-18 are: (a) the administration is very simple, (b) requires very little time to complete it and c) it allows realizing it in group form. These three advantages are fundamental at the time of working with adolescents, and we think that it can turn out to be more suitable than other similar instruments.

The CCCS-18 is a questionnaire that can be incorporated easily to models of intervention with adolescents. Interventions in this area have shown that diagnose in a suitable way and on time, often allowing to generate protective factors and / or preventive suicidal ideation (Sanchez -Sosa et al., 2010).

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## Conclusions

Based on the results of the study, it is possible to conclude that:

- A) From 18 items, only one does not discriminate successfully, however, it does not affect statistically the reliability of the instrument. Taking into account this last, it was decided to keep the item in order to not alter the structure from original questionnaire.
- B) There is a difference in the amount of factors and in the distribution of items by factors with respect to CCCS-18 from Spain, but the model of the three factors proposed from the results of the sample Argentina, according to AFC adjusted better to the data that the model of four factors proposed by Spanish authors.
- C) The CCCS-18 has a reliability and validity, evaluated with the factorial study, suitable to be used in Entre Ríos, Argentina.

In conclusion, it can be said that the «beliefs attitudinal on suicidal behavior questionnaire: CCCS-18» has good psychometric properties so it can be used to assess these attributes in Argentine population, with a proper degree of validity and reliability.

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## Appendix A

### Attitudinal Beliefs Questionnaire on suicidal behavior: «CCCS-18»

<b>CCCS-18</b>							
<p>Below are a series of statements about what people think and feel about suicidal behavior. Please note that there is no right or wrong sentences, neither correct nor incorrect, we are only interested in your opinion. Please try to answer honestly and use your own discretion. Your answers are completely anonymous.</p> <p>To answer, in each phrase around the option that best describes your level of agreement or disagreement with the following scale:</p> <p>1 = Strongly Disagree; 2 = Disagree slightly; 3 = Slightly disagree; 4 = Not important; 5 = somewhat agree, 6 = Agree slightly, 7 = Strongly Agree</p>							
01	Accept certain forms of suicide (example: overdose of pills)	1	2	3	4	5	6 7
02	Suicide should be allowed a dignified manner to people with incurable disease.	1	2	3	4	5	6 7
03	Suicide is against morality.	1	2	3	4	5	6 7
04	I might commit suicide if I were in an extreme situation.	1	2	3	4	5	6 7
05	If someone wants to attempt suicide, that's your business and we should not intervene.	1	2	3	4	5	6 7
06	Suicide is an acceptable means of wanting to end with an incurable disease.	1	2	3	4	5	6 7
07	Suicide is an immoral act.	1	2	3	4	5	6 7
08	Suicide should be a legitimate way to die.	1	2	3	4	5	6 7
09	Under no circumstances I would kill myself.	1	2	3	4	5	6 7
10	Accept suicide in older people.	1	2	3	4	5	6 7
11	Understandably help terminally ill commit suicide.	1	2	3	4	5	6 7
12	Suicide bombers are people who threaten society.	1	2	3	4	5	6 7
13	If I felt very lonely and depressed suicide attempt.	1	2	3	4	5	6 7
14	There should be clinics for the bombers to kill oneself in a private way and with less suffering.	1	2	3	4	5	6 7
15	Accept suicide in people who have little time of life.	1	2	3	4	5	6 7
16	Suicide should be prohibited because it is a murder.	1	2	3	4	5	6 7
17	Sometimes suicide is the only way to escape life's problems.	1	2	3	4	5	6 7
18	Suicide would be a normal thing in an ideal society.	1	2	3	4	5	6 7

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LIBERABIT: Lima (Perú) 17(2): 187-198, 2011

ISSN: 1729-4827