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## TRANSLATION, ADAPTATION, AND VALIDATION OF THE STANFORD HYPNOTIC CLINICAL SCALE IN PUERTO RICO

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**Abstract:** The only hypnotizability scale that has been translated and validated for the Puerto Rican population is the Barber Suggestibility Scale (BSS). In this article, the Stanford Hypnotic Clinical Scale (SHCS) was translated and validated for this population. The translated SHCS ("Escala Stanford de Hipnosis Clínica" [ESHC]) was administered individually to 100 Puerto Rican college students. There were no significant differences found between the norms of the original SHCS samples and the Spanish version of the SHCS. Both samples showed similar distributions. The Spanish version's internal reliability as well as the item discrimination index were adequate. The authors conclude that the ESHC is an adequate instrument to measure hypnotizability in the Puerto Rican population.

There is abundant evidence that hypnosis is an effective and useful intervention in a wide variety of clinical situations and disorders. Recent reviews indicate that hypnosis is an effective adjunctive procedure in the treatment of psychiatric disorders, among them posttraumatic stress disorder (Lynn & Cardeña, 2007), dissociative disorders (Maldonado, Butler, & Spiegel, 2002), and anxiety disorders (Bryant, 2008). In the area of behavioral medicine, it has been found that persons that receive a hypnotic procedure report a significant drop in pain perceptions (Askay, Patterson, Jensen, & Sharar, 2007; Elkins, Jensen, & Patterson, 2007; Hammond, 2007), reduce risk factors in the area of obstetrics (Brown & Hammond, 2007) and produce substantial benefits in the area of psychosomatic disorders (Flammer & Alladin, 2007). In the area of pediatrics, a recent review concluded that "the research to date indicates that hypnosis holds great promise in helping children

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manage a variety of conditions" (Gold, Kant, Belmont, & Butler, 2007, p. 751).

Some researchers have found that to understand the potential impact of hypnosis on a therapeutic target, it is important to assess a person's level of hypnotizability (Mott, 1979). For example, Liossi, White, and Hatira (2006) found that the therapeutic benefit of hypnotherapy was significantly associated with a patient's level of hypnotizability. Flammer and Alladin (2007) found that there was a positive correlation (r = .31) between suggestibility and outcome in the use of hypnosis in psychosomatic disorders. Recently, Lichtenberg, Bachner-Melman, Ebstein, and Crawford (2004), using the Stanford Hypnotic Susceptibility Scale, Form C, found that highly hypnotizable subjects reported greater persistence, absorption, and focused attentional abilities, suggesting that highly hypnotizable persons have a more effective frontolimbic attentional system.

Many researchers have characterized hypnotizability as "the capacity to produce those effects generally considered to be 'hypnotic''' (Weitzenhoffer, 1997, p. 128). Usually the hypnotizability construct have been measured by administering a standard induction procedure and scoring the responses on some type of hypnotizability scale.

According to Barnier and McConkey (2004), there are 13 measures of hypnotizability, among them the Stanford Hypnotic Susceptibility Scales (SHSS:C; Weitzenhoffer & Hilgard, 1962), the Harvard Group Scale of Hypnotic Susceptibility (Shor & Orne, 1962), the Barber Suggestibility Scale (BSS; Barber, 1965), the Hypnotic Induction Profile (Spiegel & Spiegel, 1978), and the Carleton University Responsiveness to Suggestion Scale (Spanos, 1983).

Nevertheless, the wide use of such scales is hampered by the fact that there are few adequate translations of them in other languages. Specifically, there are very few published reports of the reliability and validity of Spanish hypnotic scales. For example, Sánchez-Armass and Barabasz (2005) recently published the Mexican adaptation of the SHSS:C. The findings indicate that the Mexican adaptation has comparable psychometric properties to those published in English and other languages. Nevertheless, they found that Mexicans tended to have an elevated ability to engage in hypnotic behavior. Another exception is the recent publication by Guzmán-Hosta, Martínez-Taboas, and Rodríguez-Gómez (2007). They studied a Spanish version of the BSS for the Puerto Rican population. They found that the translated BSS showed comparable mean scores to the 1965 sample of the BSS. Additionally, the internal consistency of the BSS was adequate, and there were significant correlations among scale items and total scores. The authors concluded that the BSS is an adequate instrument to measure hypnotic response within the Puerto Rican population.

In the present study, we present the Spanish translation, adaptation, and validation of the Stanford Hypnotic Clinical Scale (SHCS; Morgan & Hilgard, 1978–1979) with a Puerto Rican adult population. The research process included a back-translation, decentralization, evaluation of the preliminary form by a group of expert judges, and the administration of the instrument. The resulting instrument was called in Spanish the "Escala Stanford de Hipnosis Clínica" (ESHC). The central idea is that the Spanish version of the SHCS would serve as an efficient tool to Spanish-speaking clinicians who want to incorporate hypnotic techniques in their clinical practice. The present investigation consisted of two phases: translation and scale validation.

## Method

#### Phase I: Translation

*Procedure.* We utilized two bilingual and bicultural professional translators. One of them translated the original scale from English to Spanish and the other translated the Spanish version to English again. Then, eight judges participated in evaluating the equivalence between the translations. In that way, we verified the equivalence of the scale translated to Spanish. This is part of the reverse translation procedure proposed by Brislin (1986).

For this research, we utilized the reverse translation procedure proposed by Brislin (1986). The procedure of the reverse translation entails several stages. First, we contacted a fully bilingual professional that translated the instrument from English (original language of the scale) to Spanish. Then, we contacted eight bilingual psychologists with interest in hypnosis and presented to them the original instrument in English and the Spanish version. The eight judges were provided a sheet to make notes and recommendations about the usefulness, equivalence, and accuracy of the Spanish translation.

Afterward, the authors of the present study discussed and evaluated the judges' recommendations to make the necessary modifications. During the last stage, another bilingual professional translator, different from the one who made the first translation, translated the preliminary Spanish version to English again. Afterwards, the eight previous judges evaluated the equivalence of the two English versions, making recommendations the same way as done previously. As part of the last stage, the authors met to identify the words with no conceptual equivalence and adapted those words to bring conceptual equivalence to obtain a final form of the instrument.

#### Phase II: Scale Validation

*Participants.* The sample consisted of 100 college students. Hilgard and Hilgard (1975) used university students in the original normalization of the SHCS. We determined that 100 participants was an adequate number to establish the psychometric properties of the instrument. According to Kline (2000), a minimum of 100 participants is more than enough to obtain reliable and valid psychometric properties of an instrument. The sample was selected from several universities in Puerto Rico. The criteria for inclusion were the following: The person is an active university student at 21 years of age or older, can read and write in Spanish and can sign an informed consent. The final sample consisted of 76 females and 24 males between the ages of 21 to 66 years old (M = 35.39, SD = 11.88).

*Materials.* For the second phase, the participants received the written consent for the investigation and they also filled out a document with some demographic information, including participants' gender, age, college, program, and year of study, and their opinion about hypnosis expectation (i.e., positive or negative). Hypnosis expectation was measured with an item in which the participant indicated if he/she has a positive or negative opinion on hypnosis. In addition, the Spanish version of the Stanford Hypnosis Clinical Scale ("Escala Stanford de Hipnosis Clínica" [ESHC]) developed by Deynes-Exclusa, Sayers-Montalvo, and Martínez-Taboas (2007) was used, as well as a digital chronometer, pen, and pencils.

*Procedure.* The student and adult recruitment was made by posting various announcements in several locations and by verbal approach. If the participant was interested in the study, an orientation was given, followed with an appointment to fill out the consent form, to complete the sociodemographic information, and to proceed to administer the scale. The procedure took place at the scientific laboratory of the Carlos Albizu University or in a library cubicle of the university. Both places were private, quiet, and with good illumination. After administering the SHCS-Spanish, the evaluator remained with the participant for about 5 minutes to make sure he/she was alert and reoriented. The participant also received feedback about the level of hypnotizability obtained. Finally, he/she received some basic information about hypnosis.

*Data analysis.* We used the Statistical Package for the Social Sciences, SPSS version 16.0, for the data analysis. First, we calculated a distribution of frequency and measures of central tendencies and analyzed the demographic information of the participants. Then, we calculated the discrimination index ( $r_{bis}$ ) of each item to determine if it was or was not different for the studied population; any item

with an  $r_{\rm bis}$  between .30 and .70 (Kline, 2000) was accepted. An evaluation of internal reliability was made applying the Cronbach's alpha technique; a criterion of .70 (Nunnally, 1978) was established to determine that the instrument has internal reliability. Finally, an exploratory factor analysis was performed to verify unidimensionality. An Eigenvalue greater than or equal to one was determined as the criteria for selecting possible factors. Furthermore, factor loadings had to be greater than or equal to .30 for an item to load in a factor (Kline, 2000).

## Results

#### Item Analysis

The results revealed an  $r_{bis}$  between .30 and .70 for all the items of the SHCS–Spanish (see Table 1), showing that all the items had adequate discrimination indexes (Kline, 2000). The item with the best discrimination index was age regression ( $r_{bis} = .69$ ). Furthermore, the instrument showed an adequate internal reliability, obtaining a Cronbach's alpha of .76 (Nunnally, 1978).

#### Factor Analysis

We utilized a Kaiser-Meyer-Olkin analysis (KMO) for a measure of the partial correlation of the variables. We obtained a KMO of .74, which indicates that the items are significantly correlated between them. Also, the results of the Barlett's Test of Sphericity analysis show that the used sample provide valid results at the moment of the interpretation of the factor analysis (p = .0001).

The factor analysis revealed that the SHCS–Spanish is composed of a single factor that subsumes the five areas of the instrument. This proves that the five items are part of a lineal combination that explains the same construct: Hypnotizability. This factor has an Eigenvalue of

5 5 5	,	
Items	$r_{\rm bis}$	Factor Loading
Age Regression	.69	.85
Amnesia	.61	.79
Post Hypnotic Suggestion	.55	.73
Join Hands	.50	.69
Dream	.33	.49

 Table 1

 Reliability Index and Factor Loadings of the Principal Component

 Analysis of Each Item for the SHCS–Spanish

2.61 and explains 52.3% of the variance. The item or test with the most contribution was age regression, followed by amnesia, posthypnotic suggestion, join hands, and dream. Refer to Table 1 for the factor loadings of each item. Because only one component was extracted, the solution cannot be rotated.

#### Descriptive Information for Participants' Scores

Seventy-five percent of the participants obtained scores between moderate to high hypnotizability (34% and 41%, respectively); 25% turned out mildly hypnotizable. The area that obtained more positive response was join hands (83%), followed by amnesia (70%), age regression (59%), posthypnotic suggestion (39%), and dream (35%). Finally, a chi-square test was performed to compare participants' gender and hypnosis expectation with hypnotizability. No significant differences were found on either of the variables. Table 2 presents the results of the analysis.

Finally, the participants mean score on the SHCS–Spanish was 2.83 (SD = 1.65) and the median was 3.00. In addition, the Skewness analysis resulted in an index of -0.299 and a Standard Error of Skewness of 0.241. This result indicates that the distribution is not skewed. Table 3 provides the distribution of participants' scores on the SHCS–Spanish.

Category	Gender			$\chi^2$	Sig.	
	Female		Male			
	п	%	п	%		
Mild	17	22.4	8	33.3	1.63	0.442
Moderate	28	36.8	6	25.0		
High	31	40.8	10	41.7		
		Hypnosis	Expectatic	n		
	Ро	sitive	Negative			
	п	%	п	%		
Mild	23	24.7	2	28.6	0.496	0.78
Moderate	31	33.3	3	42.9		
High	39	41.9	2	28.6		

 Table 2

 Results of the SHCS–Spanish by Participants' Gender and Hypnosis Expectation

Score	Category	f	%
0	Low	12	12
1	Low	13	13
2	Moderate	15	15
3	Moderate	19	19
4	High	22	22
5	High	19	19

 Table 3

 Frequency of Participants Scores on the SHCS–Spanish

## DISCUSSION

The Spanish translation of the SHCS achieved a discrimination index for every item between .30 and .70, which shows that all reactive discriminate adequately for the construct measurement (Kline, 2000). In addition, the obtained Cronbach's alpha of .76 indicated that it has internal reliability (Nunnally, 1978). There is no significant difference by gender or hypnosis expectation, which agrees with the results of the original instrument. Similar to our results, Guzman-Hosta (2004) did not find a difference by gender on the Spanish version of the BSS.

In the original version of the SHCS, 37% of the participants demonstrated high hypnotizability, 37% moderate hypnotizability, and 26% mild hypnotizability. This compares with the results obtained in the Puerto Rican population where 41% were highly hypnotizable, 34% moderately hypnotizable, and 25% mildly hypnotizable (see Table 3). In both studies, participants oscillated between moderate and high hypnotizability. Moreover, the areas with positive scores in the United States were join hands, followed by age regression, dream, posthypnotic suggestion, and amnesia, respectively. In the Puerto Rican sample, this order was somewhat different, with join hands receiving the highest score, followed by amnesia, age regression, posthypnotic suggestion, and dream, respectively.

The results of the present study indicate that the SHCS Spanish version developed by Deynes-Exclusa et al. (2007) has adequate psychometric properties. The SHCS–Spanish can be used for clinical purposes to identify patients that can obtain therapeutic benefits from the use of hypnotic techniques and also to identify the specific hypnotic abilities of research participants.

In future studies, we recommend the administration of the SCHS– Spanish and the BSS–Spanish versions to compare their usefulness as research instruments and as valid indicators of hypnotizability. Also, subsequent studies should use various clinical samples to create norms specific to such populations.

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### Übersetzung, Adaption und Validierung der >> Stanford Hypnotic Clinical Scale << in Puerto Rico

#### Yazmín Deynes-Exclusa, Sean K. Sayers-Montalvo und Alfonso Martínez-Taboas

Abstract: Die einzige bisher für die puertoricanische Bevölkerung übersetzte und validierte Hypnotisierbarkeits-Skala ist die Barbier Suggestibilitäts-Skala (BBS).In diesem Artikel wurde die *Stanford Hypnotic Clinical Scale*(SHCS) für diese Bevölkerungsgruppe übersetzt und validiert. Die übersetzte SHCS ("Escala Stanford de HipnosisClínica" ESHC) wurde 100 puertoricanischen Studenten einzeln vorgelegt. Es wurden keine signifikanten Unterschiede zwischen den Normen der ursprünglichen SHCS Stichproben und der spanischen Version des SHCS gefunden. Beide Stichproben zeigten ähnliche Verteilungen. Sowohl die interne Reliabilität als auchder Item-Diskriminierungsindex der spanischen Version waren zufriedenstellend. Die Autoren kommen zu dem Schluss, dass die ESHC ein geeignetes Instrument darstellt, um die Hypnotisierbarkeit in der puertoricanischen Bevölkerung zu messen.

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### Traduction, adaptation et validation de l'échelle clinique d'hypnotisabilité de Stanford à Porto Rico

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Résumé: Jusqu'ici, la seule échelle d'hypnotisabilité ayant été convertie et validée pour la population portoricaine est l'échelle de suggestibilité de Barber (BSS). Dans cet article, on aborde l'adaptation et la validation de l'échelle clinique d'hypnotisabilité de Stanford (SHCS) pour cette population. L'échelle SHCS (en espagnol : *Escala Stanford de Hipnosis Clínica*, ESHC) a été administrée individuellement à 100 étudiants portoricains de niveau collégial. On n'a relevé aucune différence significative entre les normes des échantillons de la version originale de l'échelle SHCS et celles de la version espagnole de l'échelle SHCS. Les deux échantillons montraient des distributions similaires. La fiabilité interne et l'indice de distinction des items de la version espagnole étaient adéquats. Les auteurs en ont conclu que l'ESHC constitue un instrument adéquat de mesure de l'hypnotisabilité chez la population portoricaine.

JOHANNE REYNAULT C. Tr. (STIBC)

#### Traducción, adaptación, y validación de la Escala Stanford de Hipnósis Clínica en Puerto Rico

Yazmín Deynes-Exclusa, Sean K. Sayers-Montalvo, y Alfonso Martínez-Taboas

Resumen: La única escala de hipnotizabilidad que ha sido traducida y validada para la población Puerto Riqueña es la Escala de Sugestionabilidad de Barber (BBS). En este artículo, la Escala Stanford de Hipnosis Clínica (ESHC) se tradujo y validó para esta población. La traducción de la ESHC se administró de forma individual a 100 alumnos Puerto Riqueños universitarios. No se encontraron diferencias significativas entre las normas muestrales de la ESHC original y la versión en español. Ambas muestras se distribuyeron de forma similar. La consistencia interna de la versión en español, así como el índice de discriminación de los reactivos fueron adecuados. Los autores concluyen que la ESHC es un instrumento adecuado para medir hipnotizabilidad en la población Puerto Riqueña.

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