

# Hypnotizability: Harvard and Stanford Scales with African American College Students

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The purpose of this study was to assess hypnotizability using the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A), and the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C) with African American college students. There were 103 African American undergraduate students participating in this study. Like a previous study by Sapp and Hitchcock (2001), the Inner Subjective Experiences method for scoring the HGSHS:A produced more reliable results than the standard scoring system. The SHSS:C and the Inner Subjective Experiences Scale for the SHSS:C both produced reliable results, and point estimates for coefficient alphas for the SHSS:C and Inner Subjective Experiences did not differ from values obtained for European American college students. (**Sleep and Hypnosis 2004;6(1):14-18**)

**Key words:** *Hypnotizability, African American college students, cognition, adolescents, cultural differences*

## INTRODUCTION

Group and individual hypnotizability scales are standardized measures for determining the levels of responsiveness that participants have to hypnosis (1). It was during the 1950s and early 1960s that the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A) was derived from the Stanford Hypnotic Susceptibility Scales (2). The HGSHS:A is the benchmark or standard for group measures of hypnotizability, and it consists of 12 items (3).

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The Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C) is the benchmark for individual assessment of hypnotizability. Normative data by Hilgard (4) reported an internal consistency reliability of .85. This scale has a variety of cognitive items, and its items have greater difficulty than the HGSHS:A.

Norms have been reported that investigate group hypnotizability, creative imagination, absorption, and dissociation with African American college students (5). In addition, Sapp and Hitchcock (6) investigated measuring dissociation and hypnotizability with African American college students, and Sapp (3) developed a new scale to measure dissociation with African American college students and European American students.

Council (7) reported that extensive norms exist for European Americans and Europeans on the HGSHS:A and SHSS:C. However, only

HGSHS:A norms exist for African Americans college students Sapp and Hitchcock (1); however, there are no data for the SHSS:C. Therefore, the purpose of this study was to assess group hypnotizability of African American college students using the HGSHS:A, and individual hypnotizability with African American college students using the SHSS:C.

## METHODS

Participating in this study were 103 African American college students from a predominately African American four-year college. There were 61 females and 42 males. The mean age was 19.44, the standard deviation was 2.82 years, and the range for the age variable was 17 to 41. All participants received extra credit for their participation.

### Procedures

For the first part of this experiment, participants completed the experimental procedures in groups. They received the following experimental procedure: tape-recorded HGSHS:A. After participants completed the experimental procedure and the standard scoring of the HGSHS:A (which is based on participants' self-reports of their overt behaviors), they completed the Inner Subjective Experiences Scale (ISES) for the HGSHS:A, a nonvolitional hypnotic measure comprised of the 12 Likert items related to the HGSHS:A.

Next, participants completed the Tellegen Absorption Scale (TAS) (8), the Dissociation Experiences Scale (DES), and the General Dissociation Scale (GDS). The TAS is 34-item true/false scale that measures psychological absorption. The DES is a 28-item Likert scale that ranges from 0 to 100 (9). Finally, the GDS is a 15-item Likert scaled instrument that has been standardized with European American and African American college students (3).

For the second part of this experiment, participants individually completed the SHSS:C, the Inner Subjective Experiences Scale (ISES) for the Stanford, Hypnotic Depth (HD) for the Stanford, and Vividness of Imagination (VIS) for the Stanford.

## RESULTS

Table 1 has the item difficulties or percentages of participants passing each item of SHSS:C. The overall mean for item difficulties was 1.04, and the standard deviation was .34. The cognitive items such as negative hallucination, age regression, simulated voice, simulated taste, dream, and anosmia were the most difficult items. In contrast, motor items such as hand lowering, hands moving apart, arm rigidity, and arm immobilization were easier items.

Coefficient alpha was .78 for the SHSS:C. The 95% confidence interval around the population coefficient alpha was .68 for the lower limit and .82 for the upper limit. In

**Table 1. Item difficulties: Percentage of participants passing each item of the SHSS:C, means, and standard deviations**

	Item Difficulty	Mean	Standard Deviation
1. Hand Lowering	.43	1.43	.50
2. Hands Moving Apart	.24	1.24	.43
3. Simulated Fly Experience	.11	1.11	.31
4. Simulated Taste Experience	.04	1.04	.19
5. Arm Rigidity	.18	1.17	.38
6. Dream	.06	1.06	.24
7. Age Regression	.01	1.01	.10
8. Arm Immobilization	.15	1.15	.35
9. Verbal Inhibition	.09	1.09	.28
10. Simulated Voice Experience	.03	1.13	1.00
11. Anosmia	.09	1.09	.28
12. Negative Hallucination	.00	0.00	.00

addition, the hypothesized value of coefficient alpha of .85, obtained from European American college students, was tested against the obtained value of .78,  $F=.24$ ,  $p=1.00$ . The two values did not differ significantly. The Inner Subjective Experiences Scale (ISES) items had a coefficient alpha of .71. A 95% confidence interval around the population coefficient alpha was .62 for the lower limit and .79 for the upper limit. The obtained value of .71 for coefficient alpha did not differ significantly from a hypothesized value of .96,  $F=.14$ ,  $p=1.00$ .

The results of the other instruments were similar to those obtained by Sapp and Hitchcock (1,5,6). The coefficient alpha for the HGSHS:A was .18. The point estimate for coefficient alpha of .18 (a value obtained by Sapp and Hitchcock) was tested with another sample of African American college students, and they did not differ at a significant level:  $F=.94$ ,  $p=.6462$ . Like previous studies, the scoring system of the HGSHS:A, which uses the standard scoring procedure, did not produce reliable items with African American college students. However, the Inner Subjective Experiences Scale for items of the HGSHS:A had a point estimate of coefficient alpha of .83. The 95% confidence interval around the population coefficient alpha was .83 for the

lower limit and .91 for the upper limit. The point estimate value of coefficient alpha of .83 was tested against the coefficient alpha of .96, which was found with another sample of African American college students, and they did not differ significantly:  $F=.31$ ,  $p=1.000$ . The reliability for items of the GDS was .89, and the 95% confidence interval around the population reliability coefficient was .85 for the lower limit and .92 for the upper limit. The point estimate of .89 did not differ from a value obtained from another sample of African American college students of .87,  $F=1.20$ ,  $p=1.000$ .

The point estimate of coefficient alpha for the DES was .91. The 95% confidence interval around the population coefficient was .89 for the lower limit and .94 for the upper limit. The point estimate of coefficient of .91 was tested against the value of .96 that was obtained from another sample of African American college students, and the values did not differ:  $F=.47$ ,  $p=1.000$ .

The TAS had a coefficient alpha of .92, and the 95% confidence interval around the population coefficient alpha was .90 for the lower limit and .94 for the upper limit. The point estimate of .92 was tested against a value of .96 that was obtained from another African American sample of college students, the two values did not differ at a statistically significant

**Table 2. Intercorrelation of the dependent variables**

Intercorrelation of Dependent Variables									
	ISES-SHSS	SHSS	TAS	DES	GDS	ISES-HGSHS:A	HGSHS:A	VIS	HD
ISES-SHSS	1.0								
SHSS	.498**	1.0							
TAS	.224*	.147	1.0						
DES	.176*	.032	.556**	1.0					
GDS	-.016	-.067	.355**	.599**	1.0				
ISES-HGSHS:A	.423**	.423**	.228**	.341**	-.365**	1.0			
HGSHS:A	-.154	-.068	-.358**	-.356**	-.310**	-.365**	1.0		
VIS	.590**	.414**	.167	.128	.129	.298**	-.186	1.0	
HD	.592**	.439**	.087	.034	.014	.207*	-.059	.564**	1.0

ISES-SHSS: Inner Subjective Experiences Scale for the Stanford Hypnotic Susceptibility

Scale

SHSS: Stanford Hypnotic Susceptibility Scale

TAS: Tellegen Absorption Scale

DES: Dissociative Experiences Scale

GDS: General Dissociation Scale

ISES-HGSHS:A Inner Subjective Experiences Scale for Harvard Group Scale Hypnotic Susceptibility, Form A

HGSHS:A Harvard Group Scale of Hypnotic Susceptibility, Form A.

VIS: Vividness of Imagination Scale for SHSS

HD: Hypnotic Depth for SHSS

\*\* Correlation is significant at the .01 (2-tailed).

\* Correlation is significant at the .05 (2-tailed).

level:  $F=.50$ ,  $p=1.000$ .

A two-group MANOVA compared males and females on total scores for the seven dependent variables. Males and females did not differ at a significant level, Wilks' Lambda=.887 (7,95),  $p=.294$ . Sapp and Hitchcock (3) reported similar findings.

Table 2 has the intercorrelation of the dependent variables. The total scores of the Inner Subjective Experiences of the HGSHS:A correlated .423 with the total scores of the Inner Subjective Experiences Scale of the SHSS:C, and .498 with the total scores of the SHSS:C. The Vividness of Imagination Scale (VIS) for the SHSS:C correlated .564 with the Hypnotic Depth Scale for the SHSS:C. The VIS correlated .590 with the Inner Subjective Experiences Scale of the SHSS:C, and .414 with the total scores of the SHSS:C.

## DISCUSSION

The Inner Subjective Experiences Scale for the HGSHS:A has items that can assess hypnotizability with African American college students, but the standard or behavioral scoring system of the HGSHS:A did not produce reliable items with African American college students. These results have been consistently verified with three separate samples of African American college students.

African American college students appear to have expectancies for hypnotic responding to occur by itself. Moreover, they expect that hypnotic experiences will happen automatically. This is one explanation for why the reliability of items and the standard scoring of the HGSHS:A are unreliable. However, items for inner subjective experiences for the HGSHS:A were reliable because they assess

automatic hypnotic responding.

The SHSS:C and the Inner Subjective Experiences Scale for the SHSS:C both produced reliable items. The point estimate for coefficient alpha for African American college students did not differ from a value obtained for European American college students. This study supported other studies that found that dissociation and absorption can be reliably assessed with African American college students. Furthermore, group hypnotizability and individual hypnotizability can also be assessed reliably with these students. In addition, this study provided confidence intervals around reliability for the dependent variables used. A confidence interval is an interval among an infinitely large set of intervals for a given parameter in which a certain percentage of the intervals would capture the population parameter (10-12). Confidence intervals around reliability indices require non-centralized distributions. Fan and Thompson (13) provided the computer codes for determining such distributions. In essence, confidence intervals allow researchers to get beyond null hypothesis testing, they allow a researcher to determine the percentage of time in which an infinitely large number of intervals capture a population parameter (11,14).

Finally, additional research is needed that investigates group and individual measures of hypnotizability with African American college students. Clearly, larger sample sizes are needed. It would be interesting to compare a sample of American college students measured on group and individual hypnotizability against European American college students. In closing, group data on the Waterloo-Stanford Group Scale of Hypnotic Susceptibility, Form C are needed with African American college students.

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