Harvard Group Scale With African American College Students

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The purpose of this study was to assess hypnosis, with African American college students, using the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A). Two hundred seventeen undergraduate African American students participated in this study. Students completed the HGSHS:A, a measure of hypnotic depth, the Dissociative Experiences Scale (DES), the Inner Subjective Experiences scoring of the HGSHS:A, a measure of nonvolitional responding, and the Tellegen Absorption Scale (TAS). This sample was compared to other samples on the HGSHS:A. A one-way ANOVA did not find that the African American college sample differed from two European American college samples in terms of difficulty indices on items on the HGSHS:A; however, the reliability of the HGSHS:A for the African American college sample was lower than the other two American college samples, and these researchers suggest that the Inner Subjective Experiences method for scoring the HGSHS:A may be more appropriate for African American college students than the behaviorally scored items of the HGSHS:A. (Sleep and Hypnosis 2001;3(3):120-126)

Key words: sleep-wake cycle, diurnal sleepiness, sleep deprivation, adolescents, school schedule, sleep-wake cycle phase delay

INTRODUCTION

Hypnotizability scales are standardized measures that determine the level of responsiveness that participants have to hypnosis (1-3). Kirsch (4) distinguishes between hypnotizability, the increase in suggestibility after a hypnotic induction, and suggestibility, a theoretical construct that does not require an induction. Moreover, Kirsch noted that a minority of participants do not report an increase in suggestibility following a hypnotic induction.

Many researchers confuse hypnotic susceptibility with hypnotic depth. Hypnotic depth is a participant's subjective experience of low, medium, or deep levels of hypnosis. In practice, it is possible for a participant to score highly on a hypnotizability scale, but not to experience a deep level of hypnosis.

During the 1950s and early 1960s, the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A) was derived from the Stanford Hypnotic Susceptibility Scales (5). The HGSHS:A is the benchmark standard for group measures of hypnotizability, and it consists of 12-items that are reported to have reliability for the measures of .83. It contains the following items: head falling, hand lowering, arm immo-

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bilization, finger lock, arm rigidity, hands moving together, verbal inhibition, communication inhibition, hallucination of a fly, eye catalepsy, posthypnotic suggestion, and posthypnotic amnesia. Peters, Lundy, and Landy (6) found from a cross-validated factor-analytic study, for the items of the HGSHS:A, that 3 factors comprised this scale, and the factors were challenge-item performance, responses to passive motor suggestions, and cognitive performance. It takes about an hour to administer the HGSHS:A, and it is scored on objective criteria with scores ranging from 0 to 12. Finally, Angelini (7) found that the HGSHS:A is an equally valid measure of hypnotic susceptibility whether administered in groups or individually. Over the last 38 years, the HGSHS:A has been evaluated extensively (8). For example, normative studies have been provided from Harvard University (5); the University of California at Berkley (9); the University of Queensland, Australia (10); in Canada, at Concordia University in Montreal (11). Norms have been provided in a variety of languages. For example, there are German norms (12) Finnish norms (13), Danish norms (14), Italian norms (15); and there are Spanish norms (16). Hence, it is possible to evaluate the HGSHS:A across several cultures;however, unfortunately, African American norms do not exist;therefore, the purpose of this study was to provide norms of hypnotizability for African American college students using the HGSHS:A.

METHODS

Two Hundred seventeen undergraduate African American college students from a predominantly African American 4-year college participated in this study. There were 113 females and 104 males. The mean age was 19 and the standard deviation was 2.66 years. All study participants received extra credit for their participation.

Procedures

Participants completed the experimental procedure in groups, and they received the following experimental condition: tape-recorded HGSHS:A. After participants completed the experimental condition, and completed the standard scoring of the HGSHS:A, which is based on participant's self-reports of their overt behavior during hypnosis, they completed the Inner Subjective Experiences Scale, a 12-item subjective experiences scale. This scale is a Likert scale with ranges from 1 to 6 for 12 items pertaining to the HGSHS:A; and finally, this scale measures the automaticity of hypnotic responding. Next, participants completed the Hypnotic Depth Scale (HDS) that was used as an indication of participants' hypnotic depth. This scale was adapted from Szabo (17), and it is a Likert scale ranging from 0 to 10, with 10 being the deepest hypnotic experience. Finally, participants completed the Tellegen Absorption Scale, TAS (18), and Dissociation Experiences Scale (DES) (19). The TAS is a 34-item (true-false) scale that measures absorption, and Roche and McConkey (20) reported that it correlates .38 with hypnotizability. The DES is a 28-item Likert scale that ranges from 0 to 100 percent. The measures for this scale has a test-retest reliability of .84, and it correlates with hypnotizability between .08 and. 61 (19).

RESULTS

Table 1 has the item difficulty or percentages of participants passing each item of the HGSGS:A for items the African American college sample and for a Berkeley and Boston sample of European American college students. A one-way ANOVA did not find any statistical significant differences among the group in terms of difficulty indices from items of the HGSHS:A, $F(2,33)=1.79$, $p>.05$. Moreover, the African American students' mean on the HGSHS:A was 5.94 and the standard deviation was 2.30. These descriptive statistics are similar to the ones reported by Shor and Orne (5); however, the African American sample had a lower difficulty index on item 1 of the HGSHS:A than the two European American samples; nevertheless, the African American college students had

Table 1. Item difficulty: percentages of participants passing each item of the HGSHS: A in three normative samples

Items	African American 2001 N=217	Berkley 1964 N=168	Boston 1963 N=134
1Head Falling	40	68	86
2 Eye Closure	54	56	74
3 Hand Lowering	54	71	89
4 Arm Immobilization	66	35	48
5 Finger Lock	61	52	67
6 Arm Rigidity	66	48	57
7 Hands moving	61	77	86
8 Verbal Inhibition	59	44	50
9 Hallucination	26	33	39
10 Eye Catalepsy	55	39	56
11 Post-Hypnotic Suggestion	55	34	36
12 Amnesia	61	35	48
Mean % pass per Item	55	49	61

Note Mean HGSHS:A was 5.94 and standard deviation was 2.30 for African American College Sample.

Table 2. Measure of automatic hypnotic responding: inner subjective experiences scale

Item	Mean	Standard Deviation	r
1 Head Falling	2.67	1.77	.456**
2 Eye Closure	2.82	1.87	.265**
3 Hand Lowering	2.72	1.89	.356**
4 Arm Immobilization	2.52	1.77	-.129
5 Finger Lock	2.56	1.82	.294**
6 Arm Rigidity	2.37	1.77	.066
7 Hands moving	2.41	1.83	.176**
8 Verbal Inhibition	2.42	1.88	.137
9 Hallucination	1.73	1.34	.248**
10 Eye Catalepsy	2.39	1.73	.350**
11 Post-Hypnotic Suggestion	1.79	1.37	.216**
12 Amnesia	2.60	1.78	-.028

Note The values represent a percentage.

**=p<.01

noticeably higher difficulty indices on items 4 and 12. For the African American college student sample, coefficient alpha was .52, Shor and Orne reported a Kuder-Richardson reliability coefficient of .80 for the HGSHS:A. Sapp (21) noted that for commercially prepared standardized tests items' reliabilities usually range from .80-.90. Finally, the standard error of measurement for the HGSHS:A was 1.59; again, similar to other normative samples.

In terms of gender differences, African American female students had at a multivariate level significantly higher means than African American males when they were compared using a two-group MANOVA on the 12 items of the HGSHS:A, Wilks's Lambda =.118 (12, 182), p<.001. Items 3, 4, and 5 contributed to the multivariate significance. The means for African American females on items 3,4, and 5, respectively were .7143, .6723, and .7193; and their standard deviations for items 3,4, and 5 respectively were .45, .47, and .45. For African American males, their respective means for items 3,4, and 5 were .5814, .5233, and .5765; and their respective standard deviations for items 3, 4, and 5 were .50, .50, and .50.

Table 2 has the results from automatic hypnotic responding that was measured by the

Table 3. proportion of participants passing each suggestion for the inner subjective experiences scores on the HGSHS:A.

1. Head Falling							
I did not experience my head falling forward.	.442 1	.069 2	.143 3	.171 4	.074 5	.101 6	My head fell forward by itself
2. Eye Closure							
I closed my eyes intentionally.	.396 1	.124 2	.120 3	.115 4	.101 5	.143 6	My eyes closed all by themselves
3. Hand Lowering							
My hand did not feel heavy.	.43 1	.10 2	.14 3	.95 4	.95 5	.43 6	My hand felt heavy and lowered by itself
4. Arm Immobilization							
I could easily lift my arm.	.486 1	.085 2	.127 3	.118 4	.090 5	.094 6	My arm felt too heavy to lift
5. Finger Lock							
I could easily take my hands apart.	.495 1	.090 2	.066 3	.160 4	.085 5	.104 6	My fingers were so tightly lockedtogether that I could not separate them.
6. Arm Rigidity							
My arm did not feel stiff at all.	.557 1	.052 2	.113 3	.099 4	.094 5	.085 6	My arm felt so stiff that I could not bend it.
7. Moving Hands Together							
I did not feel anything pulling my hands.	.557 1	.057 2	.104 3	.090 4	.085 5	.108 6	I felt a strong force pulling my hands.
8. Communication Inhibition							
I could easily shake my head "no."	.536 1	.081 2	.142 3	.057 4	.066 5	.119 6	It was impossible to shake my head "no."
9. Experiencing Of Fly							
I did not hear or feel the fly.	.728 1	.061 2	.066 3	.089 4	.014 5	.042 6	I heard and felt the fly as vividly as if it were really there.
10. Eye Catalepsy							
I could easily open my eyes	.535 1	.066 2	.117 3	.118 4	.089 5	.075 6	It was impossible to open my eyes.
11. Post-Hypnotic Suggestion							
I just decided whether or not to touch my left ankle.	.689 1	.080 2	.080 3	.075 4	.052 5	.024 6	I was surprised to find myself touching my ankle.
12. Amnesia							
I easily remembered everything.	.474 1	.065 2	.135 3	.135 4	.098 5	.093 6	It was impossible to remember anything.

Table 4. Intercorrelation of HGSHS:A, hypnotic depth, inner subjective experiences, DES, and TAS

	1	2	3	4	5
1. HGSHS:A	1.0				
2. Hypnotic Depth	.324**	1.0			
3. Inner Subjective Experiences Scale	.433**	.678**	1.0		
4. DES	.190**	.360**	.344**	1.0	
5. TAS	.233**	.219**	.294**	.491**	1.0

** = p<.01.

Inner Subjective Experiences Scale. In addition, Table 2 also has the correlation of items from the HGSGS:A with items from the Inner Subjective Experiences Scale-denoted by r. The means and standards deviations for the Inner Subjective Experiences Scale are similar to the results reported by Kirsch, Council, and Wickless (22). In contrast, the r's or the correlations of items of the HGSHS:A with items of the Inner Subjective Experiences Scale were much lower than the results of Kirsch, Council, Wickless (22). Moreover, the mean of the Inner Subjective Experience Scale was 28.57 and the standard deviation was 14.64, which is in line with previous research. Finally, coefficient alpha for the Inner Subjective Experiences Scale items was .91, which is also similar to other published research on this scale. Table 3 has the proportion of participants passing each item of the Inner Subjective Experiences Scale for the HGSHS:A. As one would expect, items with Likert scores of 1 had the highest proportion of participants passing those items, whiles items with Likert scores of 6 had lower proportions passing those items. Table 4 has the intercorrelation of the HGSHS:A, Hypnotic Depth, Inner Subjective Experiences Scale, DES, and TAS. Hypnotic depth had a correlation of .678, p<.01 with the Inner Subjective Experiences Scale, and the TAS had a significant correlation with DES, r=.491, p<.05. Finally, the mean and standard deviation for Hypnotic Depth was 2.01 and 2.30, respectively. The mean the DES was 748.933 and the standard deviation was 506.17, and it had a coefficient alpha of .9562. Moreover, the mean for the TAS was 16.44 and the standard deviation was 7.39, and coefficient alpha was .890.

DISCUSSION

Clearly, the HGSHS:A needs modifying in order to more reliably measure hypnotic susceptibility with African American college students. As previously stated, coefficient alpha for items from the HGSHS:A was .52; therefore, 52% of the variation among African American college students who took the HGSHS:A was true variation, and 1-.52 =.48 or 48% of the variation is random. Sapp (21) defined reliability of test items as true score variance divided by observed score variance. In addition, he noted that coefficient alpha is affected by total test variance, sum of items variances, and homogeneity of items difficulty. Reinhardt (23) found through a Monte Carlo study, a computer simulation study, that total test variance is maximized when half of the participants receive the lowest possible score and half receive the highest possible score. Moreover, the sum of the item score variance can be maximized in the same way as total test variance, by maximizing the variance of the items. In summary, Reinhardt found that test variance accounted for the most of the variance for coefficient alpha, followed by the standard deviation of item difficulties, and the sums of the item variance. The relevance that this discussion has for the items of the HGSHS:A is that items are needed for African American college students that increase total test variance. One explanation for the lack of consistency in responding to items of the HGSHS:A is that participants may have thought that ideomotor items should just happen by themselves.

Interestingly, these writers believe that the Inner Subjective Experiences Scale, which

measures automaticity of hypnotic responding, is a better measure of hypnotic susceptibility for these participants than the behavioral items of the HGSHS:A. We believe this because coefficient alpha for the Inner Subjective Experiences Scale was .91, which indicates that 91% of the variation among the African American college students who took the Inner Subjective Experiences Scale was true variation, and 9% random variation. Moreover, the Inner Subjective Experiences Scale had a .678, $p<.01$ with hypnotic depth, which is 45.97% of the variance on hypnotic depth is explained by the Inner Subjective Experiences Scale.

Little is know about African American college students and hypnotizability. And additional research is needed that maximizes these students total test score variance on the HGSHS:A; however, the HGSHS:A, in its current form, does not appear to maximize total test variance. In conclusion, additional research is needed within this area that explores the factors that influence hypnotic responsiveness with African American college students. Finally, norms are needed for African American college students for individually administered scales such as the Stanford Hypnotic Susceptibility Scale.

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