

A TAILORED SHSS:C, PERMITTING USER MODIFICATION FOR SPECIAL PURPOSES¹

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Abstract: In the selection of Ss for the study of specific topics within hypnosis it is often desirable to include a few Ss known to have the specialized ability under investigation. To that end a modification of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C) of Weitzenhoffer and Hilgard (1962) has been tested in which one of the original items is replaced at the option of the investigator with an item selected for the purposes of any intended investigation. An empirical test of substituting 4 such items in each of 4 subgroups compared with a standard SHSS:C demonstrated that such a replacement of 1 item by another can be done without violating the usefulness of the established norms on the standardized test. The new form is described as a "tailored" SHSS:C.

For some purposes, it is desirable to select for study those Ss who have special talents in hypnosis in addition to whatever their levels of general hypnotic responsiveness may be. It has long been known that even those Ss scoring very high in general hypnotic responsiveness commonly differ in their response to particular tasks such as hallucinations and post-hypnotic suggestion (Hilgard, 1965, 1978/1979). The Stanford Profile Scales of Hypnotic Susceptibility, Forms I and II (SPS:I and SPS:II) of Weitzenhoffer and Hilgard (1967) were designed to provide a wide sampling of hypnotic performances with such differences in mind. For example, if an investigation is to be concerned with a special area such as automatic writing or suggested deafness, it may be desirable to select for study those Ss who demonstrate the required ability in clear form.

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Although SPS:I and SPS:II were developed for this purpose, their use is time-consuming, and it has seemed desirable to provide some more convenient and efficient method for serving the same purpose. Some of the items of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C) of Weitzenhoffer and Hilgard (1962) are already of this specialized type (i.e., the auditory hallucination of a voice over a hallucinated intercom and the negative visual hallucination of seeing only two of three displayed boxes). It occurred to us to provide instructions whereby *any* item that interests the investigator might be substituted for one of these items without disturbing the normative value of SHSS:C. Such a scale can be described as a "tailored" SHSS:C, the name deriving from the alteration of the test by substituting an alternative to suit the convenience of the investigator.

The present report is based on the data from a laboratory study in which one of four alternate items were inserted as the "tailored" substitutes in four alternative forms of SHSS:C, one tested in each of four subsamples. In addition, an unaltered form was used in another subsample; it served as a control to determine the effect of item substitution on the total SHSS:C scores.

METHOD

Subjects

Of 272 students who were given a modified 10-point version of the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A) of Shor and E. Orne (1962) in introductory psychology classes, 241 students indicated on their self-scoring forms that they would be willing to return for further experiments on hypnosis. Those invited to participate in the present experiment came from this group. The 123 Ss were randomly assigned to five groups, which varied in size from 23 to 27 Ss. Because the added items were expected to lie in the difficult range, it was desirable to have more highly responsive Ss better represented in the subsamples. The mean HGSHS:A score of those Ss who participated in the investigation was therefore somewhat higher than the mean HGSHS:A score of the original sample from which these Ss came, due both to any volunteering bias and to the intentional overrepresentation of the highs. On the 10-point scale, a significant difference was found between the means of 4.87 for Ss in the original sample of 272 and 5.55 for those 241 Ss who participated in the present study ($t = 2.62$, $d.f. = 122$, $p < .01$). For the purposes of the present study, the requirement was that the subsamples should be equivalent; that they were will be discussed later.

Measurement Scales and Tailored Items

The modified HGSHS:A used in the sample selection followed the pro-

cedures of the standardized scale omitting 2 items, head falling and eye catalepsy. This made the administration of the modified HGSHS:A in a 50-minute class period less hurried. The "tailored" SHSS:C was administered individually, using the eye-closure induction provided with the scale. All Ss had the first 9 items in common, plus the final post-hypnotic amnesia item, so that the subgroups could be compared on these 10 common items. Provision was made for replacing one of the 2 remaining items—Item 10, hallucinated voice, and Item 11, negative visual hallucination—with a new item, ultimately to be at the user's discretion. The items selected to test the effects of an arbitrary selection of alternate items were the following four: hallucinated light, from SPS:I, Item 5; posthypnotic automatic writing, from SPS:II, Item 9; a new humor item, based on perceiving one of two unlabelled and affectively neutral cartoons as funny, in a set of three paired cartoons; and an analgesia item, using an improvised method of self-controlled arm pinching to produce the pain used later in testing analgesia.⁷ The 2 standardized items and the 2 unstandardized ones were intended to test the freedom with which SHSS:C might be tailored to the needs of the user.⁸ Each alternate item was scored either 0 or 1, conforming to the practice used with the standardized items.

The intention was to produce a method that would make a minimum of pretesting necessary for *E* who wished to substitute an item of his or her own design, based on that item's face validity. If the item then correlates satisfactorily with the remainder of the test without that item, the reliability of the item can be assumed to be satisfactory. It can readily be demonstrated (by way of the formula for correction for attenuation) that the validity coefficient (the correlation obtained empirically in the investigation) is usually lower than the reliability coefficient. Hence, if the obtained correlation is satisfactory, the reliability may be assumed without performing an additional experiment.

⁷The self-controlled arm-pinching proved useful because it correlated with the total scale; many producing pain in this way did not report any reduction in the pain as a consequence of hypnosis. One reason for using this informal method was the aversion that some subjects have to electric shocks, calling for advance notice if electric shocks are to be employed. However, if circumstances call for a more carefully calibrated item, the shock stimulus of the SPS may be used, for which norms are available.

⁸Because the particular items tested were merely a few chosen to be representative of those that an investigator may design to suit special purposes, it has been felt to be unnecessary to give further details here. Details on the verbatim suggestions and their scoring are provided in a *Manual* which has been deposited with the National Auxiliary Publications Service. Order Document No. 03453 from ASIS-NAPS, c/o Microfiche Publications, P.O. Box 3513, Grand Central Station, New York, New York 10017. Remit in advance \$6.25 for photocopies or \$3.00 for microfiche and make checks payable to Microfiche Publications—NAPS. Outside the United States and Canada, postage is \$3.00 for a photocopy and \$1.00 for a fiche.

TABLE 1
UNALTERED AND ALTERED FORMS OF SHSS:C

Form	N	Item 10	Item 11
I (unaltered)	27	Hallucinated Voice	Three Boxes
II (altered)	24	Hallucinated Voice	Light Hallucination*
III (altered)	23	Hallucinated Voice	Automatic Writing*
IV (altered)	25	Humor*	Three Boxes
V (altered)	24	Analgesia to Self-Pinching*	Three Boxes
Total, Forms II-V	96		

*Optional items for the tailored scales.

Procedure

Each S was randomly assigned to one of the five conditions within 4 hypnotic levels of HGSHS:A; the conditions were defined for E simply by the tailored SHSS:C to be administered. The one unaltered and four altered forms used are listed in Table 1.

All Ss had been scored on the 10-point modified HGSHS:A, and all the unaltered and altered SHSS:C scores had 10 items in common. Thus, the influence of the substituted item could be examined against the common background of scores on other items. Scoring criteria on the added items were decided upon in advance of the testing, and the new items were not rescored on the basis of the findings because the purpose was to see what would happen if the investigator were to supply an alternate item without doing a normative experiment first.

RESULTS

Effects on Mean Scores of Including Altered Items

The scored modifications that result from the introduction of an alternate item can be estimated from the data presented in Table 2. The subgroups proved to be satisfactorily matched in terms of scores on the 10 items they had in common. An analysis of variance showed that the differences between the five means were not significant ($F = 1.04$, $d.f. = 4, 118$; *n.s.*). The total contributions of items 10 and 11, one of which was altered in each of Forms II to V, can be obtained by adding the columns headed "Retained" and "New Items." These totals, to be added to the sum of the common items, vary from 0.42 point in Form II to 0.74 in Form III. Because items 10 and 11 add 0.48 point in the unaltered Form I, the maximum mean discrepancy is only 0.26 point (0.74-0.48), or about a fourth of a point on the mean score of the 12-point scale. The changes in mean score, as shown in Table 2, are so slight as to permit the use of the original SHSS:C norms in describing the level of hypnotizability of a person tested with a tailored scale, provided the internal characteristics of the scale have not been altered.

TABLE 2
 MEAN SCORES ON COMMON ITEMS RETAINED FROM SHSS:C AND NEW INDIVIDUAL
 ITEMS TESTED IN THE TAILORED SHSS:C

Form	Altered Item	N	Mean Scores			Total
			Common Items 1-9; 12	Retained Item 10/11 ^a	New Item 10/11 ^b	
II	(Light Hallucination)	24	5.21	0.29	0.13	5.63
III	(Automatic Writing)	23	5.70	0.35	0.39	6.44
IV	(Humor)	25	6.80	0.16	0.56	7.52
V	(Analgesia)	24	5.96	0.08	0.46	6.50
Total Mean, Forms II-V		96	5.92	0.22	0.39	6.53

^aThe retained item was either Item 10 or Item 11, in its normal position.

^bThe new item replaced either Item 10 or Item 11, whichever had been eliminated.
 The scores for the retained and new Items 10 and 11 are equivalent to the item pass percents.

Correlations Based on Common Items and the Inclusion of Altered Items

The correlation between HGSHS:A and SHSS:C common items is a reliability-validity measure since SHSS:C contains some items that correspond to those of HGSHS:A, although it also has a number of items of more cognitive functions. Due to differential sampling of HGSHS:A subgroups, the correlation (.78) is somewhat higher than would be obtained were the sample more representative. To make the correlation more representative of the original HGSHS:A sample, differential weights were applied in the analysis, which caused the correlation between HGSHS:A and SHSS:C common items for the total sample ($N = 123$) to drop (from .78 to .73).

Correlation analyses, as presented in Table 3, attest to the preservation of the internal characteristics of SHSS:C scale after a new item has been substituted for an original one. The full scale correlations with the common items (all between .97 and .99) are to be expected because the common scores on the 10 items are included when the correlation with the 12-item scale is computed. The biserial correlations are actually more informative. They show that all of the substituted items correlate positively with SHSS:C common items, and thus preserve the common factor in the test.

Added Information from Tailored Items

Thus far, the evidence has shown that arbitrarily substituting one special ("tailored") item will have little disturbing effect on the total scores obtained from SHSS:C. The results therefore permit this degree of "tampering" with the scale, but it remains to be shown that some gain has been made in selecting Ss for the purposes for which the new items were inserted.

TABLE 3
 INTERCORRELATIONS AMONG ALTERED AND UNALTERED ITEMS OF SHSS:C
 AND RETAINED ITEMS FROM THE TOTAL SHSS:C SCALE

Form	N	Full 12-Point SHSS:C versus 10 Items Retained in Tailored Scale (Items 1-9; 12)		Unaltered Item 10 or 11 versus 10 Items Retained in Tailored Scale (Items 1-9; 12)		Altered Item 10 or 11 versus 10 Items Retained in Tailored Scale (Items 1-9; 12)
		r	Item	r _{bis}	Item	r _{bis}
II	24	.99	Hallucinated Voice	.64	Light Hallucination	.55
III	23	.99	Hallucinated Voice	.65	Automatic Writing	.64
IV	25	.97	Three Boxes	.32	Humor	.42
V	24	.99	Three Boxes	.34	Analgesia	.43

The passing percentages in Table 4 throw light on the information that has been gained. The percentages passing each item in the total sample show that they varied in difficulty, as scored. More interest centers in the advantage of having a test of the specific item rather than knowledge only of the scores of Ss in the high susceptibility group (often designated as those scoring 8 to 12 on SHSS:C). It is evident that even Ss in this scoring range cannot be counted on to pass individual items, as shown in the percentages in the last column. Only a third of the high susceptible Ss, as so defined, passed the light hallucination (seeing a second light on a box where one illuminated light was present), although from two thirds to three quarters of these high susceptible Ss passed the easier items. The results of previous research show that there is a positive correlation between scores on the Stanford Hypnotic Susceptibility Scale, Form A (Weitzenhoffer & Hilgard, 1959) and subsequent SPS test-

TABLE 4
 PASSING PERCENTAGES OF ITEMS SUBSTITUTED IN SHSS:C

Item	Percentage Passing					
	All Ss			Of Those Ss Scoring 8-12		
	Total	Passed	%	Total	Passed	%
Adapted from SPS						
Light Hallucination	24	3	13	9	3	33
Posthypnotic Automatic Writing	23	9	39	11	8	73
New Alternate Items						
Humor	25	14	56	14	10	71
Analgesia to Self-Pinching	24	11	46	12	8	67

ing, but there is not enough top in the simpler scales, so that testing with more difficult items is desirable if Ss are to be classified as genuinely high susceptible in any one hypnotic ability or skill (Hilgard, 1977, p. 159).

DISCUSSION

The results indicate that S selection for specialized purposes can be done efficiently and economically by substituting a relevant item for either Item 10 or Item 11 of the standardized SHSS:C scale, thereby creating a "tailored" SHSS:C. Neither the total score on the scale nor the internal correlations of items within SHSS:C will be altered substantially enough to make the published norms unserviceable.

To select highly responsive Ss for particular hypnotic abilities, the following practice is recommended. First, HGSHS:A should be administered as a group test. Then, from HGSHS:A sample, Ss who scored high (perhaps 8-12, or 7-10 if the modified 10-point version is used) would be subsequently given an individually administered "tailored" SHSS:C, with the most appropriate item, for the purposes at hand, substituted for either Items 10 or 11 on the original SHSS:C. If 1 of the 18 SPS:I or SPS:II items is appropriate, its difficulty could be determined from the normative data provided, and it could be scored on a simple pass-fail basis (instead of the 3-point basis provided in the standardization), according to the quality of response desired. If the item is not available, it could be designed and scored on the basis of its face validity, just as the humor item and the self-pinching test for analgesia were introduced in this study.

An experiment must be designed according to its logical requirements; no one experimental design or paradigm has universal utility. As previously noted, the flexibility introduced by the proposed method permits Ss to be selected for studies in which certain hypnotic abilities or skills are essential. It also permits the parametric study of a suggestion not previously investigated in the context of other measures of hypnotic responsiveness. In some instances in which interest lies in the correlation of some special hypnotic response with hypnosis in general, it might be equally important to eliminate from the testing of hypnotic abilities items too closely related, substituting others instead. For example, valid visual hallucinations with eyes open are given by such a small fraction of Ss that a spurious correlation with general susceptibility would be found between a susceptibility test that included such a visual hallucination and a separate item of visual hallucination. In any case, the necessary information can be acquired conveniently by item substitution without destroying the normative value of the general measure of hypnotic susceptibility provided by the standardized SHSS:C.

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Ein zugeschnittener SHSS:C, der dem Gebraucher
eine Modifikation für besondere Zwecke erlaubt

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Abstrakt: Bei der Auswahl von Vpn. für das Studium eines spezifischen Themas innerhalb einer Hypnose hat es sich oft als wünschenswert gezeigt, ein paar Vpn. mit einzuschliessen, von denen bekannt ist, dass sie besondere Fähigkeiten für Untersuchungen besitzen. Zu diesem Zweck wurde eine Modifikation der Stanford-Hypnoseempfindlichkeitsmaszstabs, Form C (SHSS:C) von Weitzenhoffer und Hilgard (1962), geprüft, bei dem nach Wahl des Untersuchenden ein Originalfaktor durch einen Faktoren ersetzt wurde, der zum Vorsatz einer beabsichtigten Untersuchung ausgewählt worden war. Bei einem Vergleich zwischen einem empirischen Test, in dem man 4 solcher Faktoren in jeder von 4 untergeordneten Gruppen substituierte, und dem mustergültigen SHSS:C zeigte es sich, dass solch ein Ersetzen von 1 Faktoren mit einem andern ohne Verletzung der Zweckmässigkeit der festgesetzten Normen des standardisierten Tests vorgenommen werden kann. Diese neue Form wird als ein "zugeschnittener" SHSS:C bezeichnet.

Une échelle hypnotique (SHSS:C) modifiable en fonction d'objectifs spéciaux

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Résumé: Lors de la sélection de Ss en vue d'études portant sur des thèmes spécifiques de l'hypnose, il est souvent souhaitable d'inclure quelques Ss connus comme possédant telle habileté spéciale que l'on veut étudier. A cette fin, les auteurs analysent une forme modifiée du *Stanford Hypnotic Susceptibility Scale, Form C* (SHSS:C) de Weitzenhoffer et Hilgard (1962), où l'un des item originaux peut être remplacé, au choix du chercheur, par un nouvel item, plus pertinent, eu égard à ses objectifs particuliers. La comparaison du SHSS:C standard et d'un test empirique où il y a eu substitution de 4 item dans 4 sous-groupes, a montré que le remplacement d'un item par un autre peut se faire sans porter atteinte à la validité des normes établies à partir de l'échelle standard. La nouvelle forme ainsi obtenue est en quelque sorte un SHSS:C "taillé sur mesure."

Una escala hipnótica (SHSS:C) variable a según de objetivos especiales

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Resumen: Al momento de la selección de los Ss para estudios particulares sobre aspectos específicos de la hipnosis, es muchas veces mejor incluir algunos Ss conocidos que poseen las calidades especiales que se deben estudiar. A este fin, los autores analizan una forma modificada del *Stanford Hypnotic Susceptibility Scale, Form C* (SHSS:C) de Weitzenhoffer y Hilgard (1962), donde uno de los ítem originales puede ser cambiado con uno más pertinente, según sus objetivos particulares. La comparación del SHSS:C standard y de una prueba empírica donde se han cambiado 4 ítem en 4 sub-grupos ha mostrado que se puede cambiar un ítem con otro sin hacer atención a la validez de las normas establecidas para la escala standard. La nueva forma se puede considerar un SHSS:C "traje a la medida."