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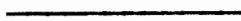
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SUGGESTIBILITY AND ITS RELATIONSHIP
TO INSTRUCTIONAL SET IN
SERIAL LEARNING



A Thesis
Presented to
the Graduate Faculty
Central Washington State College



In Partial Fulfillment
of the Requirements for the Degree
Master of Science



by
Richard Walter Giroux
August 1967

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Suggestibility and its Relationship to Instructional Set
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Required Courses

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Psychology 569 Experimental Design II
Psychology 562 Theories of Learning
Psychology 590.1 Current Issues
Philosophy 480 Philosophy of Science

Elective Courses

Psychology 469 Advanced Psychological Statistics
Psychology 590.2 Current Issues
Psychology 590.3 Current Issues
Psychology 453 Theories of Personality
Psychology 487 Group Processes and Leadership
Psychology 488 Group Dynamics Individual
Psychology 560 Theories and Practices of Counseling
Psychology 600 Thesis

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Problem

In a general overview of serial learning, much consideration is given to the aspects of instructional set and its effect on the rate of serial learning. There have been many studies conducted to determine the effectiveness of instructional set with divergent results.

The purpose of this study was to attempt to determine the influence of two variables, suggestibility and instructional set, upon the individual's performance in a serial learning task. The attempt was made to find whether it is the instructional set that affects the outcome of a serial learning task or whether it is suggestibility that is the primary variable. The approach to this problem was based upon past studies in three different areas of psychological research. These were the areas of set, serial learning, and suggestibility.

Suggestibility

Because studies of suggestibility were primarily associated with the phenomenon of hypnosis, they have not been performed where they were directly associated with set and/or serial learning. The scaling of suggestibility has been of concern to psychologists since the acceptance of hypnosis as an area of legitimate research.

Historically, the subject of the scaling of suggestibility began to be considered as early as 1843 by Baird when he attempted to describe true hypnotic states and their depth. Others followed, however scaling did not begin with respect to suggestibility, but rather in reference to the depth of hypnotic states. Other early researchers in this area have been cited by Hilgard (1965). Among these were Charcot (1882), Riche (1885), and Pitres (1891). These writers failed to agree on any kind of a continuum, but rather seemed to have the collective understanding that this condition was an unhomogeneous mixture of various states of sleep.

In order for this trait to be available for serious study, there was a necessity to differentiate between suggestibility and hypnosis. Suggestibility, therefore, became defined as the effect of verbal and non-verbal influence.

After the determination of the term it became necessary to quantify and scale the degrees of suggestibility. In the latter part of the 19th century, a large number of studies were conducted and, surprisingly, excellent records of these studies still exist. In fact, there were fourteen studies initiated with nearly 20,000 subjects (Hilgard, 1965). These studies pointed out the need for a more exact expression of difference and a more exact means of prediction.

Due to the need for quantification, Clark Hull (1933) began to develop a means of accurately quantifying suggestibility. His major concern was to find a universal means of measurement that would most closely fit a Gaussian curve. He was able to determine that postural sway and eye closure were the criteria that produced the most nearly normal curves. He was preceded in his efforts by Davis and Husband (1931), and followed by Friedlander and Sarbin (1938).

Test items have shown a remarkable "survival quotient" over the years intervening since the 1930's. Many of these items are still in use. The following is a rather complete list of various tests used in determining suggestibility.

- | | |
|------------------------|--|
| 1. Arm or hand raising | 11. Progressive weight
(impersonal) |
| 2. Postural Sway | 12. Progressive weight
(personal) |
| 3. Hand clasping | 13. Heat illusion |
| 4. Eye closure | 14. Press and release |
| 5. Eye Catalepsy | 15. Trapline |
| 6. Hand rigidity | 16. Progressive line |
| 7. Picture Report | 17. Line test with suggestion |
| 8. Chevreul pendulum | 18. Smell |
| 9. Ink blot | 19. Contradictory line length |
| 10. Odor suggestion | 20. Color suggestion |

Suggestibility seems not only to be a common trait, but the tests that have been devised to measure its strength have many items in common. This may well be the reason that the correlations between tests of suggestibility are of a much higher nature than would usually be obtained. The usual correlation in the between tests scaling was found to be in the .80 to .90 range. Test-retest reliability is found to be higher, which is to be expected.

After determining the existence of the trait of suggestibility, that seems existent throughout the population in measurable degrees, it becomes necessary to classify the type of situation used to produce the measurable reaction. Obviously there are many ways to classify suggestibility. Among those proposed are:

1. Verbal - the command situation
2. Non-verbal - imitative behavior
3. Direct - statement of expected responses
4. Indirect - implications of expected responses
5. Prestige - acceptance of the experimenter by the subject
6. Non-prestige - anything that is not of the above
7. Personal - delivered in person
8. Impersonal - delivered by mechanical means
9. Immediate - carried out as suggested
10. Mediate - carried out in symbols or by substitute

In using these means to classify suggestibility, it was necessary to establish a continuum between verbally induced physical reaction and verbally induced mental response. Implied also is the existence of a continuum which moves across the state that exists between wakeful suggestibility and the entry into a hypnotic state. The best answer to this problem seems to be the way a subject moves from one state (wakefulness) to another (trance) without a trance-inducing suggestion.

Given that the trait of suggestibility exists and that it is measurable, then the question may be asked, "What are some of the variables that seem to influence suggestibility?"

One of the first studies of a variable that might affect suggestibility was done by Beaunis (1887). This study has become a classic concerning the effect of a subject's age on suggestibility. Beaunis found that over the span of a subject's life, the produced curve would be positively skewed with the apex of the curve occurring between the ages of 7 and 14. After this the reduction in suggestibility seems to drop markedly and then to remain relatively consistent throughout the life span (Hilgard, 1967).

Recent studies of suggestibility in children began with the work of London (1962) and Moore and Lauer (1963),

who found differences in the responsiveness of children and adults. In a later and more extensive study by London (1965) using 240 children, definite changes were found with age, with maximum suggestibility occurring between the ages of 9 and 14. A related study by Barber and Calverley (1963) studied 724 children, and found maximum suggestibility about ages 9 to 10, but with a more rapid although not more pronounced decrement in suggestibility.

Weitzenhoffer and Weitzenhoffer (1958) compared 100 males and 100 females, half of each sex tested by a male and half by a female, and no sex difference was demonstrated. The Hilgard, Weitzenhoffer and Gough studies (1958) also fail to reveal any sex differences.

Intelligence as measured by WAIS has not been found to be a determining factor in the measurement of suggestibility. However, this may be due to the use of college students as subjects in the majority of recent studies.

Various personality traits, as measured by personality inventories, projective, and behavioral tests, have not shown significant relationships with suggestibility. In a study by Moore (1964), measures of suggestibility to social influence were obtained from 80 male S's through a persuasability test (Janis), an influencibility test (Schacter), and an autokinetic test (Sherif). Factor analysis of the scores showed that the hypnotic scales selected to represent

primary suggestibility are orthogonal to a bipolar factor represented largely by scores on the self report inventories. Only the influencibility test showed a slight positive relationship to hypnosis. Further, birth order relationships failed to confirm predictions that would be made using influencibility. The only direct high correlation established was the correlation between suggestibility tests and the actual ability of the subject to be hypnotized. More substantiation of these results is to be found in a study by Evans (1963) where he found no significant relationship between the Maudsley Personality Inventory and suggestibility.

Abnormal personalities and the mentally ill have also been studied to determine if a relationship exists, but no direct relationship was found between either abnormal personalities or the mentally ill and their degree of suggestibility. Drug addiction seems to influence the subject's suggestibility, but only while directly under the influence of the drug as cited by Hilgard (1965).

After having considered many of the scales of suggestibility among which were Friedlander-Sarbin Scale (1938), Eysenck-Furneaux (1945), Stanford Scale of Hypnotic Susceptibility, Forms A and B (1959), Harvard Group Scale (1962), and the Stanford Scale of Hypnotic Susceptibility, Form C (1962), (SSHS-C), the latter was finally selected. The

reasons for its choice were that it was able to be group administered and group self scored. This also afforded a time saving factor.

The reliability of SSHS-C when tested against Form A was found to be .82. In a test-retest situation it was found to have a stability coefficient of .85 (Weitzenhoffer and Hilgard, 1964).

Cut off points were established on the scoring scale of the SSHS-C. This was done to establish separate groups of high suggestibility (HS) and low suggestibility (LS) subjects. The points chosen were established by Weitzenhoffer and Hilgard (1962). Raw scores ranging from 8 to 12 inclusive were defined as HS; raw scores ranging from 0 to 4 inclusive were defined as LS.

For the purposes of this study, the terms suggestibility and susceptibility were assumed to be synonymous and are defined as a condition whereby a group of ideas presented to another person causes that person to react as if the phenomenon for which the ideas stand were actually present. It also means that degree to which a person is accepting of or follows the instructions given in the required task.

Serial Learning

Serial learning has been researched in its many facets. Positions have been assumed that seem to support almost any

theory of learning that has been proposed. However, it was found that the question of the S's suggestibility in relation to serial learning has not been researched. Much of the work that has been done in serial learning has made use of nonsense syllables. These syllables have usually been trigrams and have been tested for their associative value and meaningfulness. Time has influenced the value norms of the nonsense trigrams that are generally used, and there is a need for newer lists that have been studied more recently.

Garner and Whitman (1965) used four letter nonsense words. They were BROZ, BRAJ, PLOZ, PLAJ, BLAJ, BLOZ, PRAJ, PROZ, BLAZ, BLOJ, PRAZ, PROJ. These 12 words can be varied in their difficulty by the order of presentation. That is, if BLAZ, BLOJ, PRAZ, PROJ, BLAJ, BLOZ, PRAJ, PROZ (8g) are presented in that order, their level of difficulty is significantly greater than if the same initial sub-set of BLAZ, BLOJ, PRAZ, PROJ is presented with sub-set BLAJ, BLOZ, PRAJ, PROZ (8f). The easier of the sets was 8f and the more difficult was set 8g. The difficulty level of 8f was determined to be "low" because it took 1.4 trials to criteria with a mean number of errors of 6.1. Set 8g was determined to be difficult because the mean number of trials to criteria was > 10 with the mean error being 35.7. Criterion was reached when a complete reproduction of the list with no errors of position or spelling was achieved.

Set

In studies dealing with instructional set there is literature to support both the effectiveness of instructional set and its non-effectiveness. Yates (1943) and Doby (1960) assert that the increased performance resulting from instructional set is significant. However, these are only assertions and are not statistically proven in the Yates study (1943).

In 1934, McClusky investigated the negative set induced by a false statement in true-false examinations. It was found that there was a transfer of set from a false statement to the statement immediately following. Although his statistics are rather weak because he has used an inspectional format rather than significance tests, he makes the statement that there is little, if any, correlation between I.Q. (WAIS, WISC) scores and the effect of set in a true-false test.

Set has been investigated more thoroughly in the area of perceptual change than in the area of learning. Among the early researchers were Reymert and Kohn (1940). They devised an apparatus with which they attempted to induce a set for temperature change. Using 120 children and young adults (age range 5-20), they found that such a set could be induced but that the receptiveness to set showed the same trend to decline about the ages of 14 to 16 revealed in

studies of suggestibility. Further, IQ scores and sex differences were not significant.

Yates in 1943, following a pragmatic paradigm, found that a "set for success" could be induced with boxers approaching a contest. Here, however, we find that the design of the study was very loose and the controls were largely non-existent. She merely told her subjects to believe that they were unbeatable and to remind themselves of it every day verbally and by reading positive statements from cards. She "believed" that the number of wins scored by their group was greater than would be expected. Again, it is here emphasized that this conclusion was arrived at intuitively, and that no controls were instituted that could stand statistical analysis. However, Yates and others that preceded her are to be thanked for opening an area of study that is now being pursued.

Spilka, Horn, and Langenderfer (1966) studied the relationship of set to social desirability choices. Using a factor analysis of the correlation of seven putative measures of a social desirability response set revealed no attribute of social desirability that is correlated with set. Social desirability items seem to be unrelated to each other. This would seem to deny results obtained elsewhere (Winters and Bartlett, 1966) and gives further support to the reason for the present study.

Arrowood and Ross (1966) used the theory of subjective probability to test the effectiveness of anticipated responses (set). Because the theory of subjective probability would predict that prior knowledge leading to an event would influence the probable response to that event, it was felt that such preparation for a possible future event tends to increase the probability of the occurrence of said event. This has been substantiated in theoretical framework such as Bayesian theory. Arrowood and Ross found that such is not true to the extent predicted by theory. Other studies have tended to substantiate this finding. Hickok (1967) and Miller (1967) have also been able to show that even though Bayes has provided a solid mathematical framework, subjects do not tend to react to subjective reality in precisely this manner. Holmberg (1964) substantiated this premise when he gave his subjects the set of limitation to obvious unity, yet his results showed that the subjects tended to overestimate unity in the face of such a set.

Winters and Bartlett (1966) found that when using a forced choice scale constructed to measure change in social desirability response tendencies and acquiescence, that standard and fake instructions elicited change. They found that there was no consistency of response due to set. Social desirability changed significantly with standard and fake instructions whereas acquiescence would only respond to change with the standard instructions.

Howard and Diesenhau (1965) found that the reliability of a test score could not be influenced consistently across the sample. That is, in the middle responding area there was a unification of responses in reaction to the set that had been given. Further, only a very moderate formal reliability was observed and the variability was not predictable in relation to the set.

Haber (1966), in a review of the effect of set on perception, concluded that the nature of set can be explained within the framework of two separate and distinct hypotheses and as such cannot be fully explained satisfactorily within any one theory. It is his statement that the dichotomy that exists in results must be further investigated.

It was the purpose of this present study to attempt to determine if the concept of set may be explained, in actuality, not in the terms of two disparate hypotheses but rather within the limits of another concept, specifically that of suggestibility.

The hypothesis was therefore advanced that when subjects tested and found to be highly suggestible are given instructional sets in a serial learning task, they will react to such a set significantly different from subjects pretested and found to be low in suggestibility.

Method

Ninety-four students at Central Washington State College were tested using the Stanford Scale of Hypnotic Susceptibility, Form C (SSHS-C) to derive the necessary samples of high suggestibility subjects (HS) and low suggestibility subjects (LS). The SSHS-C was administered in a group classroom situation with the SSHS-C script administered by means of a Wollensak Model #3000 tape recorder. The instructions were delivered through overhead speakers. The instructional SSHS-C tape was recorded at 3 3/4 inches per second. Scoring was done on the SSHS-C test form by the subjects. Pre-determined levels of HS and LS were selected and determined to be raw scores from 8 to 12 inclusive, HS; raw scores 0 to 4 inclusive, LS. (See Appendix A for SSHS-C and Appendix B for test booklet.)

Ss were told that the SSHS-C was to be administered and were assured that if anyone had any aversion to any form of hypnosis, they were free to excuse themselves and no explanations were necessary. It was further explained that the SSHS-C was being used as a screening device for the second part of the study, which would deal with learning.

At each of the test administration exercises a psychologist was in attendance. This was to insure no "hangovers" from the procedure. No after-effects were observed in any S in any group.

From the population of HS and LS as determined, subsamples of five were randomly drawn and assigned to treatment groups in a random manner. This procedure formed groups as follows:

- Group HDE: HS group with difficult instructional set and easy task
- Group HEE: HS group with easy instructional set and easy task
- Group HDD: HS group with difficult instructional set and difficult task
- Group HED: HS group with easy instructional set and difficult task
- Group LDE: LS group with difficult instructional set and easy task
- Group LEE: LS group with easy instructional set and easy task
- Group LDD: LS group with difficult instructional set and difficult task
- Group LED: LS group with easy instructional set and difficult task

Each group was then presented the instructions (see Appendix C and D), and the nonsense words required by that group. These words were presented by means of a Kodak Carousel 800 slide projector. They were projected from the distance of 15 feet with each word given a 5-second exposure.

At the end of each list of eight words, the subjects were asked to reproduce the list in order and with proper spelling. Each attempt at reproducing was done on a separate score sheet (see Appendix E) and when the trial was completed, the score sheet was turned over. Ss were given one minute to complete the task and then another trial began.

Trial 1 was scored to establish a base line and Trial 10 to determine the amount of learning that took place.

Scoring was done on the basis of spelling error and position error to determine total error. Mean S error decrease was used to determine all scores for each group.

Apparatus

SSHS-C - Script manual

SSHS-C - Score booklets

Pencils

Wollensak Tape Recorder Model #3000

Kodak Carousel Projector Model #800

Projector screen

Recording tape - 6" reel

1 - 20" x 25" sheet gray tagboard

Colored squares 5" x 5", one red, one white, one blue

Colored transparencies of nonsense words

Score sheets for nonsense words. Ten per S in packets.

Results

The raw data in sequential arrangement is as follows:

Group HDE: HS group with difficult instructional set and easy task produced a mean decrease in error of 3.2 with a raw score range from 2 to 4.

Group HEE: HS group with easy instructional set and easy task produced a mean decrease in error of 6.6 with a raw score range from 6 to 8.

Group HDD: HS group with difficult instructional set and difficult task produced a mean decrease in error of 2.4 with a raw score range from 1 to 3.

Group HED: HS group with easy instructional set and difficult task produced a mean error decrease of 6.8 with a raw score range from 5 to 8.

Group LDE: LS group with difficult instructional set and easy task produced a mean error decrease of 6.0 with a raw score range from 5 to 7.

Group LEE: LS group with easy instructional set and easy task produced a mean error decrease of 7.00 with a raw score range from 6 to 8.

Group LDD: LS group with difficult instructional set and difficult task produced a mean error decrease of 5.4 with a raw score range from 4 to 7.

Group LED: LS group with easy instructional set and difficult task produced a mean error decrease of 5.2 with a raw score range from 4 to 7.

These data were treated in several ways. The data received from the HS group was subjected to an analysis of variance with the results shown in Table 1. The F for the effectiveness of instructional set upon the HS group was highly significant. This lends support to the hypothesis that HS subjects are strongly affected by the direction of the verbal instruction given in the learning task.

TABLE 1

Analysis of Variance: High Suggestibility Group

Source	df	MS	F	Sig. Level
Treatments (columns) (A)	1	76.05	76.05	<.01
Levels (B) (Rows)	1	.45	.45	N.S.
Cells	3			
AXB (Rows X Columns)	1	1.25	1.25	N.S.
Within Cells (w)	16	1		

To further substantiate the hypothesis, Table 2 is given, in which the results of an analysis of variance is shown for the LS group. As can be seen, the hypothesis is again supported because the instructional set had no significant influence on the LS group.

When a comparison of the analyses of the two groups is made, it becomes very apparent that the HS group was significantly more changed by the same instructional set over the same group of word presentations than was the LS group.

TABLE 2

Analysis of Variance: Low Suggestibility Group

Source	df	MS	F	Sig. Level
Treatments (A) (Columns)	1	.8	.714	N.S.
Levels (B) (Rows)	1	7.2	6.428	N.S.
Cells	3			
AXB (Rows X Columns)	1	1.8	1.607	N.S.
Within Cells (w)	16	1.12		

Following the analysis of variance, a series of *t* tests were performed. Results are shown in Table 3.

TABLE 3

t Table Between and Within Groups

Comparison	M ₁ to M ₂	df	<i>t</i>
Group HDE to Group HEE	3.2 - 6.6	8	6.20*
Group HDD to Group HED	2.4 - 6.8	8	17.60*
Group LDE to Group LEE	6.0 - 7.0	8	1.82
Group LDD to Group LED	5.4 - 6.2	8	.25
Group HDE to Group LDE	3.2 - 6.0	8	4.80*
Group HEE to Group LEE	6.6 - 7.0	8	.78
Group HDD to Group LDD	2.4 - 5.4	8	4.63*
Group HED to Group LED	6.8 - 5.2	8	1.94

*Significant beyond .01 level.

The significant t derived from the comparison of Groups HDE to HEE supports the hypothesis that the HS subject will be more affected by the instructional set than the LS subject, receiving the same instructional set and same word list (Group LDE and LEE).

The highly significant difference between Groups HDD and HED again supports the hypothesis when compared to the lack of significance in the LS groups LDD and LED receiving the same treatment.

In the comparison of Group HDE to Group LDE directly, wherein the treatments were the same, the variable being suggestibility, a significant difference was found.

The t test performed for the comparison of means of Group HDD to Group LDD again support the hypothesis by producing a highly significant t value.

Group LDE compared to Group LEE and Group LDD to Group LED did not produce significance. This is in support of the hypothesis. It was predicted that instructional set would not significantly affect the performance of the LS groups.

Group HEE compared to Group LEE and Group HED compared to Group LED did not produce significance at the .01 level.

Discussion

Results of the comparison of HEE to LEE and HED to LED can be attributed to the fact that if a task is hard, the instructional set cannot reduce the difficulty but can only affect the rate of acquisition. Further, if the task is easy, the instructional set cannot make it more difficult. That is, there will be changes within groups due to the suggestibility of the subjects, but the changes between groups because of different levels of suggestibility will not be as great. It was also apparent that the range of error in the first trial on the easy list was such that it severely restricted any improvement to a very small range in the criterion trial.

In relating this study to others in the area of suggestibility, with respect to the number of subjects in specific categories, this group was comparable to previously tested populations. Hilgard and Weitzenhoffer (1962) score 26% of an N of 307 as HS. They also found 45% to be LS. Using the same scoring criteria and cut off points, the present study found 23% HS and 43% LS from a population of 94 students.

In the HS group, there were 9 males and 11 females. In the LS group, there were 11 males and 9 females. This tends to support previously cited studies indicating no

significant differences between males and females in suggestibility.

These results give strong evidence in favor of the hypothesis that HS subjects are more influenced by instructional set than LS subjects. It further leads to the conjecture that the disparate results obtained in previously cited studies of set might be due to a high incidence of LS subjects in the groups tested. There is a greater likelihood of a group being loaded in favor of LS over HS, in a random sample, because the curve created by the incidence of suggestibility is skewed in the direction of the LS. The large difference in the F's of the two groups would tend to lend credence to this generalization.

The instructions given had face validity as can be seen in Appendices C and D. The t tests in the HS group would indicate content validity. In the LS group, the t tests would not support the instructional set having content validity. This may be due, in this case, to the LS subject not accepting the content of the instructions.

The SSHS-C use was believed to be strengthened because of the use of a tape recording of the script. This served two purposes. It served to reduce the possibility of transfer occurring from the screening situation to the learning situation, particularly in the HS group. Because tape was used, it reduced the personal type of suggestibility

and at the same time negated the prestige factor. This was necessary to be sure that the subjects were reacting to the instructional set and not to the experimenter.

The results cited in this study clearly offer evidence to support the stated hypothesis. However, it would be desirable to replicate this design. If, upon completion of the replication, the areas of significance were consistent with this study, the implication of these findings could be broadened. At present it is necessary to limit generalization to that which has been shown.

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APPENDICES

APPENDIX A

MANUAL

STANFORD GROUP SCALE OF HYPNOTIC SUSCEPTIBILITY

Adapted from the individual Form C of the Stanford Hypnotic Susceptibility Scale by Bruce D. Sanders and Errol D. Schubot.

Form C by Andre M. Weitzenhoffer and Ernest R. Hilgard

Materials Required

1. Stopwatch, interval timer, or clock with sweepsecond hand.
2. $8\frac{1}{2}$ x 11" cardboard backing with paper and #1 soft lead pencil.
3. Three small colored squares (red, white, and blue), about 5" x 5" mounted on a stiff gray cardboard sheet measuring 25" x 20". The squares are spaced out in a row.

ESTABLISHING RAPPORT PRIOR TO THE INITIAL
INDUCTION (Time: 7 minutes)

In a few minutes I am going to administer a standard procedure for measuring susceptibility to hypnosis. At the end of the standard procedure you yourself will report on what the experience was like in the Response Booklet which has been given to you. Do not open the Response Booklet until I specifically tell you to do so at the end of the standard procedure. On the Cover Page of the Response Booklet are spaces for your name, address, and some other general information. Please fill in this information now. Again, please do not open the booklet now. Fill in the information on the Cover Page only.

Let's talk a while before we start. I want you to be quite at ease, and it may help if I answer a few of your questions first.

People experiencing hypnosis are sometimes a little uneasy because they do not know what the experience will be like, or because they may have a distorted notion of what it is like. It is very natural to be curious about a new experience. Your curiosity will be satisfied before we are through, but you can best get the answers you want by just letting yourself be a part of what goes on, and by not trying to watch the process in detail.

Some people, however, have a tendency to allay their initial uneasiness in a new situation by laughing, or giggling. We must request that you refrain from this type of response for the duration of the procedures here.

To allow you to feel more fully at ease in the situation, let me reassure you on a few points. First of all, the experience, while a little unusual, may not seem so far removed from ordinary experience as you have been led to expect. Hypnosis is largely a question of your willingness to be receptive and responsive to ideas, and to allow these ideas to act upon you without interference. These ideas we call suggestions.

Second, you will not be asked to do anything that will make you look silly or stupid, or that will prove embarrassing to you. We are here for serious scientific purposes.

Third, and finally, I shall not probe into your personal affairs, so that there will be nothing personal about what you are to do or say during the hypnotic state.

You may wonder why we are doing these experiments. Hypnotism is being used more and more by physicians: for example, by dentists to relieve pain, by obstetricians to make childbirth easier, by psychiatrists to reduce anxiety. If we can understand the process involved, we will know more about the relationship between the ideas and action,

more about the way in which personality operates. So in participating here you are contributing to scientific knowledge of a kind that can be used to help other human beings. We are trying here merely to understand hypnotism. Probably all people can be hypnotized, but some are much more readily hypnotized than others, even when each of them co-operates. We are studying some of these differences among people.

Have you any questions or comments before we go ahead? (Answer questions by paraphrasing the above points.)

O. INDUCTION BY EYE CLOSURE

(1) Now please seat yourself comfortably and rest your hands in your lap. That's right. Rest your hands in your lap. Now look at your hands and find a spot on either hand and just focus on it. It doesn't matter what spot you choose; just select some spot to focus on. I shall refer to the spot which you have chosen as the target. That's right . . . hands relaxed . . . look directly at the target.

I am about to help you to relax, and meanwhile I shall give you some instructions that will help you gradually to enter a state of hypnosis. Please look steadily at the target and while staring at it keep listening to my words. You can become hypnotized if you are willing to do what I tell you to, and if you concentrate on the target and on what I say. I am assuming that your presence here

means that you want to experience all that you can. You can be hypnotized only if you want to be. There would be no point in participating if you were resisting being hypnotized. Just do your best to concentrate on the target, to pay close attention to my words, and let happen whatever you feel is going to take place. Just let yourself go. Pay close attention to what I tell you to think about; if your mind wanders bring your thoughts back to the target and to my words, and you can easily experience more of what it is like to be hypnotized. Hypnosis is not something supernatural or frightening. It is perfectly normal and natural, and follows from the conditions of attention and suggestion we are using together. It is chiefly a matter of focusing sharply on some particular thing. Sometimes you experience something very much like hypnosis when driving along a straight highway and you are oblivious to the landmarks along the road. The relaxation in hypnosis is very much like the first stages of falling asleep, but you will not really be asleep in the ordinary sense because you will continue to hear my voice and will be able to direct your thoughts to the topics I suggest. Hypnosis is a little like sleepwalking, because the person is not quite awake, and can still do many of the things that people do when they are awake. What I want from you is merely your willingness to go along and to let happen whatever is about to happen. Nothing will be done to embarrass you. (5 sec.)

(2) Now take it easy and just let yourself relax. Keep looking at the target as steadily as you can, thinking only of it and my words. If your eyes drift away, don't let that bother you . . . just focus again on the target. Pay attention to how the target changes, how the shadows play around it, how it is sometimes fuzzy, sometimes clear. Whatever you see is all right. Just give way to whatever come into your mind, but keep staring at the target a little longer. After a while, however, you will have stared long enough, and your eyes will feel very tired, and you will wish strongly that they were closed. Then they will close, as if by themselves. When this happens, just let it happen. (5 sec.)

(3) As I continue to talk, you will find that you will become more and more drowsy, but not all people respond at the same rate to what I have to say. Some people's eyes will close before others. When the time comes that your eyes have closed, just let them remain closed. You may find that I shall still give suggestions for your eyes to close. These suggestions will not bother you. They will be for other people. Giving these suggestions to other people will not disturb you but will simply allow you to relax more and more.

You will find that you can relax completely but at the same time sit up comfortably in your chair with little

effort. You will be able to shift your position to make yourself comfortable as needed without it disturbing you. Relax more and more. As you think of relaxing, your muscles will relax. Starting with your right foot, relax the muscles of your right leg . . . Now the muscles of your left leg . . . Just relax all over. Relax your right hand, your forearm, upper arm, and shoulder . . . That's it . . . Now your left hand . . . and forearm . . . and upper arm . . . and shoulder . . . Relax your neck, and chest . . . more and more relaxed . . . completely relaxed . . . completely relaxed. (5 sec.)

(4) As you become relaxed your body will feel sort of heavy or perhaps numb. You will begin to have this feeling of numbness or heaviness in your legs and feet . . . in your hands and arms . . . throughout your body . . . as though you were settling deep into the chair. The chair is strong; it will hold your heavy body as it feels heavier and heavier. Your eyelids feel heavy too, heavy and tired. You are beginning to feel drowsy and sleepy. You are breathing freely and deeply, freely and deeply. You are getting more and more sleepy and drowsy. Your eyelids are becoming heavier, more and more tired and heavy. (5 sec.)

(5) Staring at the target so long has made your eyes very tired. Your eyes hurt and your eyelids feel very heavy. Soon you will no longer be able to keep your eyes open.

You will have stood the discomfort long enough; your eyes are tired from staring, and your eyelids will feel too tired to remain open. Your eyes are becoming moist from the strain. You are becoming more and more drowsy and sleepy. The strain in your eyes is getting greater and greater. It would be a relief just to let your eyes close and to relax completely, to relax completely. You will soon have strained enough; the strain will be so great that you will welcome your eyes closing of themselves, of themselves.

(5 sec. pause)

(6) Your eyes are tired and your eyelids feel very heavy. Your whole body feels heavy and relaxed. You feel a pleasant warm tingling throughout your body as you get more and more tired and sleepy. Sleepy. Drowsy. Drowsy and sleepy. Keep your thoughts on what I am saying; listen to my voice. Your eyes are getting blurred from straining. You can hardly see the target, your eyes are so strained. The strain is getting greater, greater and greater, greater and greater. Your eyelids are heavy. Very heavy. Getting heavier and heavier, heavier and heavier. They are pushing down, down, down. Your eyelids seem weighted and heavy, pulled down by the weight . . . so heavy . . . Your eyes are blinking, blinking . . . closing, closing . . .

(5 sec. pause)

Your eyes may have closed by now, and if they have not, they would soon close of themselves. But there is no need to strain them more. You have concentrated well upon your target, and have become very relaxed. Now we have come to the time when you may just let your eyes close. That's it, now close them.

(7) You now feel very relaxed, but you are going to become even more relaxed. It is easier to relax now that your eyes are closed. You will keep them closed until I tell you to open them or until I tell you to wake up . . . You feel pleasantly drowsy and sleepy as you continue to listen to my voice. Just keep your thoughts on what I am saying. You are going to get much more drowsy and sleepy. Soon you will be deep asleep but you will have no trouble hearing me. You will not wake up until I tell you to . . . Soon I shall begin to count from one to twenty. As I count you will feel yourself going down farther and farther into a deep restful sleep, but you will be able to do all sorts of things I ask you to do without waking up . . . One--you are going to go more deeply asleep . . . Two--down, down into a deep, sound sleep . . . Three--four--more and more asleep . . . Five--six--seven--you are sinking into a deep, deep sleep. Nothing will disturb you . . . I would like you to hold your thoughts on my voice and those things I tell you to think of. You are finding it easy just to

listen to the things I tell you . . . Eight--nine--ten--halfway there--always deeper asleep . . . Eleven--twelve--thirteen--fourteen--fifteen--although deep asleep you can hear me clearly. You will always hear me distinctly no matter how deeply asleep you feel you are. Sixteen--seventeen--eighteen--deep asleep, fast asleep. Nothing will disturb you. You are going to experience many things that I will tell you to experience . . . Nineteen--twenty. Deep asleep! You will not wake up until I tell you to. You will wish to sleep comfortably and to have the experiences I describe to you.

I want you to realize that you will be able to write, to move, and even to open your eyes if I ask you to do so, and still remain just as hypnotized as you are now. No matter what you do, you will remain hypnotized until I tell you otherwise . . . All right, then . . .

Go to Instruction 1. HAND LOWERING

1. HAND LOWERING

Now hold your right arm out at shoulder height, with the palm of your hand up. Your right arm straight out in front of you, the palm up. There, that's right . . . Attend carefully to this hand, how it feels, what is going on in it. Notice whether or not it is a little numb, or tingling; the slight effort it takes to keep from bending your wrist; any

breeze blowing on it. Pay close attention to your hand now. Imagine that you are holding something heavy in your hand . . . maybe a heavy baseball or a billiard ball . . . something heavy. Shape your fingers around as though you were holding this heavy object that you imagine is in your hand. That's it . . . Now the hand and arm feel heavy, as if the weight were pressing down . . . and as it feels heavier and heavier the hand and arm begin to move down . . . as if forced down . . . moving . . . moving . . . down . . . down . . . more and more down . . . heavier . . . heavier . . . the arm is more and more tired and strained . . . down . . . slowly but surely . . . down, down . . . more and more down . . . the weight is so great, the hand is so heavy . . . You feel the weight more and more . . . the arm is too heavy to hold back . . . It goes down, down, down. . . more and more down.

Allow ten seconds:

That's good . . . now let your hand go back to its original position in your lap, and relax. You probably experienced much more heaviness and tiredness in your arm than you would have if you had not concentrated on it and had not imagined something trying to force it down. Now just relax. . . Your hand and arm are now as they were, not feeling tired or strained . . . All right, just relax.

2. MOVING HANDS TOGETHER

Now extend your arms ahead of you, with palms facing each other, hands about a foot apart. Hold your hands about a foot apart, palms facing each other.

I want you to imagine a force acting on your hands to pull them together, as though one hand were attracting the other. You are thinking of your hands being pulled together, and they begin to move together . . . coming together . . . coming together . . . moving together . . . closer together . . . more and more towards each other . . . more and more . . .

Allow ten seconds:

That's fine. You notice how closely thought and movement are related. Now place your hands back in their resting position and relax . . . your hands back in their resting position and relax.

3. MOSQUITO HALLUCINATION

You have been listening to me very carefully, paying close attention. You may not have noticed a mosquito that has been buzzing, singing, as mosquitos do . . . Listen to it now . . . hear its high pitched buzzing as it flies around your right hand . . . It is landing on your hand . . . Perhaps it tickles a little . . . there it flies away again.

You hear its high buzz . . . It's back on your hand tick-
ling . . . It might bite you . . . You don't like this
mosquito . . . You'd like to be rid of it . . . Go ahead,
brush it off . . . Get rid of it if it bothers you . . .

Allow ten seconds:

It's gone . . . That's a relief . . . You are no
longer bothered . . . The mosquito has disappeared. No
more mosquito. Now relax, relax completely.

4. TASTE HALLUCINATION

I want you to think of something sweet in your mouth.
Imagine that you have something sweet tasting in your mouth,
like a little sugar . . . and as you think about this sweet
taste you can actually begin to experience a sweet taste . . .
It may at first be faint, but it will grow and grow . . .
and grow . . . Now you begin to notice a sweet taste in your
mouth . . . the sweet taste is increasing . . . sweeter and
sweeter . . . It will get stronger . . . It often takes a
few moments for such a taste to reach its full strength . . .
It is now getting stronger . . . stronger . . .

Allow ten seconds:

All right. Now notice that something is happening to
that taste. It is changing . . . You are now beginning to
have a sour taste in your mouth . . . an acid taste, as if
you have some lemon in your mouth, or vinegar . . . The taste

in your mouth is getting more and more sour, more acid . . .
more and more sour . . .

Allow ten seconds:

All right. Now the sour taste is going away and your mouth feels just as it did before I mentioned any tastes at all. Your mouth is normal now. There, it's quite normal now . . . and you just continue to relax. . . more and more relaxed . . .

5. ARM RIGIDITY (RIGHT)

Please hold your right arm straight out in front of you and fingers straight out, too. That's it, right arm straight out. Think of your arm becoming stiffer and stiffer . . . stiff . . . very stiff . . . as you think of its becoming stiff you will feel it become stiff . . . more stiff and rigid, as though your arm were in a splint so the elbow cannot bend . . . stiff . . . held stiff, so that it cannot bend. A tightly splinted arm cannot bend . . . Your arm feels stiff as if tightly splinted . . . Test how stiff and rigid it is . . . Try to bend it . . . try . . .

Allow ten seconds:

That's fine. You will have an opportunity to experience many things. You probably noticed how your arm became stiffer as you thought of it as stiff, and how much effort it took to bend it. Your arm is no longer at all stiff. Place it back in position, and relax.

6. DREAM

We are very much interested in finding out what hypnosis and being hypnotized means to people. One of the best ways of finding out is through the dreams that people have while they are hypnotized. Some people dream directly about the meaning of hypnosis, while others dream about this meaning in an indirect way, symbolically, by dreaming about something which does not seem outwardly to be related to hypnosis, but may very well be. Now neither you nor I know what sort of a dream you are going to have, but I am going to allow you to rest for a little while and you are going to have a dream . . . a real dream . . . just the kind you have when you are asleep at night. When I stop talking to you very shortly, you will begin to dream. You will have a dream about hypnosis. You will dream about what hypnosis means . . . Now you are falling asleep . . . Deeper and deeper asleep . . . Deeper and deeper asleep . . . very much like when you sleep at night . . . Soon you will be deep asleep, soundly asleep. As soon as I stop talking you will begin to dream. When I speak to you again you will stop dreaming, if you still happen to be dreaming, and you will listen to me just as you have been doing. If you stop dreaming before I speak to you again, you will remain pleasantly and deeply relaxed . . . Now sleep and dream . . . Deep asleep!

Allow one minute. Then say:

The dream is over; if you had a dream you can remember every detail of it clearly, very clearly. You do not feel particularly sleepy or different from the way you felt before I told you to fall asleep and to dream, and you continue to remain deeply hypnotized. Whatever you dreamed you can remember quite clearly, and I want you to review it in your mind from the beginning so you could tell it to someone if asked to.

Allow twenty seconds:

All right. That's all for the dream.

7. AGE REGRESSION

Continue to go deeper and deeper into the hypnotic state. Now you are going to be given a pad and pencil. Take the pencil in your writing hand in such a way that you can easily write on the pad with the pencil. Keep your eyes closed. (Place pad and pencil in hands, being sure eyes remain closed.) Now please write your name . . . and while you are at it, why don't you also write your age and the date. That's fine. Keep the pad and pencil in your hands and listen closely to me. I would like you to think about when you were in the fifth grade of school; and in a little while you will find yourself once again a little child on a nice day, sitting in class in the fifth grade, writing or

drawing on some paper . . . I shall now count to five and at the count of five you will be back in the fifth grade . . . But no matter what you experience you will continue to hear my voice, and you will continue to do what I tell you to do. . . One, you are going back into the past. It is no longer (state present year), nor (state an earlier year) or (state a still earlier year), but much earlier. Two, you are becoming increasingly younger and smaller . . . Three, presently you will be back in the fifth grade, and you will feel an experience exactly as you did once before on a nice day when you were sitting in class, writing or drawing. Four, very soon you will be there. . . Once again a little child in a fifth grade class. You are nearly there now . . . In a few moments you will be right back there. Five! You are now a small child in a classroom sitting happily in school.

Allow thirty seconds:

You are sitting happily in school. You have a pad of paper and are holding a pencil. I would like you to write your name on the pad with this pencil . . . That's fine, and now please write down your age . . . (pause until almost all are through writing) . . . and now the date, if you can . . . (pause until almost all are through writing) . . . and the day of the week . . .

Presently you will no longer be in the fifth grade, but you will be still younger, back at a happy day in the second grade. I shall count to "two," and then you will be in the second grade. One, you are becoming smaller still, and going back to a nice day when you were in the second grade . . . Two, you are now in the second grade, sitting happily in school with some paper and pencil . . . You are in the second grade . . .

Allow thirty seconds

You are sitting happily in school. Would you please write your name on the paper . . . That's good . . . And now can you write how old you are? . . .

That's fine . . . And now you can grow up again and come right back to (state current day and date) in (name of locale of testing). You are no longer a little child but a grown up person sitting in a chair deeply hypnotized.

When you have returned completely to the present (state present date) I want you to hold the pencil that you have been writing with in the air . . . Keep the pencil in the air until it is collected . . . then you may let your arm go back to its original resting position. When you have returned completely to (state date) hold your pencil in the air. (After all pencils are collected) Fine, everything is back as it was. Now just continue to be comfortably relaxed.

8. ARM IMMOBILIZATION (LEFT ARM)

Now your left hand and arm should be in your lap. You are very relaxed and comfortable, with a feeling of heaviness throughout your body. I want you now to think about your left arm and hand. Pay close attention to them. They feel numb and heavy, very heavy. How heavy your left hand feels . . . even as you think about how heavy it is, it grows heavier and heavier . . . Your left arm is getting heavier . . . heavy . . . heavy . . . Your hand is getting heavier, very heavy, as though it were being pressed against your lap. You might like to find out a little later how heavy your hand is--it seems much too heavy to move--but in spite of being so heavy, maybe you can move it a little, but maybe it is too heavy even for that . . . Why don't you see how heavy it is . . . Just try to lift your hand up, just try.

Allow ten seconds:

That's fine. You see how it was harder to lift than usual because of the relaxed state you are in. Now place your hand back in its resting position and relax. Your hand and arm now feel normal again. They are no longer heavy. Just relax . . . relax all over.

9. NEGATIVE VISUAL HALLUCINATION: THREE SQUARES

While you sit there with your eyes closed, I am holding a large cardboard sheet in front of you.

In a little while I am going to ask you to open your eyes and look at the cardboard sheet in front of you, remaining as hypnotized as you now are. There are two colored squares on the cardboard sheet. In fact, that is all there is on the cardboard sheet, just two colored squares. Two colored squares and nothing else . . . All right, open your eyes slowly, and look at the two squares. Notice the colors of the squares you see.

Allow ten seconds:

But now look hard, and you will see that there are really three colored squares. Three colored squares. Now close your eyes and relax as I take away the cardboard sheet.

10. POST-HYPNOTIC AMNESIA

Stay completely relaxed, but listen carefully to what I tell you next. In a little while I shall begin counting backwards from twenty to one. You will awaken gradually, but you will still be in your present state for most of the count. When I reach "five" you will open your eyes, but you will not be fully awake. When I get to "one"

you will be entirely roused up, in your normal state of wakefulness. You will have been so relaxed, however, that you will have trouble recalling the things I have said to you and the things you did or experienced. It will prove to cost so much effort to recall that you will prefer not to try. It will be much easier just to forget everything until I say to you: Now you can remember everything! You will not remember anything until then. After you wake up you will feel refreshed, and not have any pain or stiffness or other unpleasant aftereffects. I shall now count backwards from twenty, and at "five," not sooner, you will open your eyes but not be fully aroused until I reach "one." At "one" you will be fully awake. Ready, now: 20-19-18-17-16-15-14-13-12-11-10 (half-way) 9-8-7-6-5-4-3-2-1. Now you feel wide awake!

Now please turn to page 2 of the Scoring Booklet. (Read instructions on page 2 of booklet.) (Recorder off for 3 min.)

Listen carefully to my words. Now you can remember everything. Please turn now to page 3 of the Scoring Booklet. (Read instructions on page 3.) (Recorder off 2 minutes.)

Now I would like all of you to close your eyes and relax comfortably for a few moments. I would now like to insure that the memories of all that we have done together are coming back to you. Now the entire session is coming

back. All right, when you open your eyes again in a minute or so you will have absolutely no aftereffects of being hypnotized. Your whole body will feel wide awake and normal--any numbness or heaviness is going away completely now . . . any drowsiness or sleepiness is now being replaced by a freshness and alertness. I am going to count backwards from 10 to 0, and you will open your eyes at 5 and by 0 you will all be wide awake and very refreshed. 10-9-8-7-6-5, eyes open, 4-3-2-1-0. Wide awake!

Now please turn to page 4 of your scoring booklet. Please do not return to the earlier pages. You will find listed on page 4, and the following pages, the specific happenings which were suggested to you during the standard hypnotic procedure. Please read the instructions at the top of page 4, and answer each item. If you have any questions, please indicate that to me.

APPENDIX B

STANFORD GROUP SCALE
OF
HYPNOTIC SUSCEPTIBILITY
FORM C

DO NOT OPEN THIS BOOKLET UNTIL THE EXAMINER SPECIFICALLY
INSTRUCTS YOU TO DO SO.

Please supply the information requested below:

Name _____ Age _____ Sex _____

Local Address _____

Phone _____ Today's date _____ Time _____ A.M.
P.M.

Had you ever been hypnotized before this experiment? Yes ___ No ___
If so, please cite the circumstances and describe your
experiences. Please be brief:

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE SPECIFICALLY INSTRUCTED
TO DO SO.

Please write down now briefly in your own words a list of the things that happened since you began looking at the target. Do not go into detail. Spend three minutes, no longer, in writing your reply.

Please DO NOT TURN THIS PAGE until the examiner specifically instructs you to do so.

PLEASE DO NOT RETURN TO PAGE 2

On this page write down a list of anything else that you now remember that you did not remember previously. Please do not go into detail. Spend two minutes, no longer, in writing out your reply.

Please DO NOT TURN THIS PAGE until the examiner specifically instructs you to do so.

PLEASE DO NOT RETURN TO EARLIER PAGES

ITEM SCORING SECTION

Listed below in chronological order are the ten specific happenings which were suggested to you during the standard hypnotic procedure. We wish you to estimate whether or not you objectively responded to these ten suggestions; that is, whether or not an onlooker would have observed that you did or did not make certain definite responses by certain specific criteria.

It is understood that your estimates may in some cases not be as accurate as you might wish them to be and that you might even have to guess. But we want you to make whatever you feel to be your best estimates regardless.

Beneath a description of most of the suggestions are sets of two responses, labeled A and B. Please circle either A or B for these questions, whichever you judge to be the more accurate. Please answer every question. Failure to give a definite answer to every question may lead to disqualification of your record. For a few of the suggestions, a special scale has been devised. Select the response that is the best estimate of your experience.

0. EYE CLOSURE

You were told to rest your hands on your lap and pick out a spot on either hand as a target and concentrate on it. You were then told that your eyelids were becoming tired and heavy. Would you estimate that an onlooker would have observed that your eyelids had closed (before the time you were told to close them deliberately)?

Circle one: A. My eyelids had closed by then.

B. My eyelids had not closed by then.

1. HAND LOWERING (RIGHT HAND)

You were next told to extend your right arm straight out and feel it becoming heavy as though a weight were pulling the hand and arm down. Would you estimate that an onlooker would have observed that your hand lowered at least six inches (before the time you were told to let your hand down deliberately)?

- Circle one: A. My hand had lowered at least six inches by then.
- B. My hand had lowered less than six inches by then.

2. MOVING HANDS TOGETHER

You were next told to hold your hands out in front of you about a foot apart and then told to imagine a force pulling your hands together. Would you estimate that an onlooker would have observed that your hands were not over six inches apart (before you were told to return your hands to their resting position)?

- Circle one: A. My hands were less than six inches apart by then.
- B. My hands were just six inches apart by then.
- C. My hands were more than six inches apart by then.

3. EXPERIENCING OF MOSQUITO

You were next told to become aware of the buzzing of a mosquito which was said to become annoying, and then you were told to brush it off. Would you estimate that an onlooker would have observed you make any grimacing, any movement, any outward acknowledgment of an effect (regardless of what it was like subjectively)?

- Circle one: A. I did make some outward acknowledgment.
- B. I did not make any outward acknowledgment.

4. TASTE EXPERIENCE

You were next told that you would have a sweet taste in your mouth, and then you were told that you would have a sour taste in your mouth.

How strong was the sweet taste in your mouth?

- Circle one: none vague weak strong

Did you make any facial movements, such as lip movements or grimacing that an onlooker would have observed?

Circle one: YES NO

How strong was the sour taste in your mouth?

Circle one: none vague weak strong

Did you make any facial movements, such as lip movements or grimacing that an onlooker would have observed?

Circle one: YES NO

5. ARM RIGIDITY (RIGHT)

You were next told to extend your right arm straight out and make a fist, told to notice it becoming stiff, and then told to try to bend it. Would you estimate that an onlooker would have observed that there was less than two inches of arm bending (before you were told to stop trying)?

Circle one: A. My arm was bent less than two inches by then.

B. My arm was bent at least two inches by then.

6. DREAM

You were next told to have a dream. In the following space describe your dream in detail.

We have found that people have various sorts of experiences in response to this. Which of the following categories do you think best describes your experience?

Circle one letter:

- A. Nothing went through my mind at all.
- B. Just thinking about the topic I reported, as I would think about any topic while normally awake.
- C. Just daydreamed about it, as I might daydream while awake or drowsy.
- D. It was much more vivid imagery than I normally have, like watching a movie or TV.
- E. It was like a real dream, where the imagery was not only vivid and real but I seemed to be physically present "in" the dream while it was occurring, instead of just watching it as in watching a movie.
- F. Something else than these. (Describe)

8. ARM IMMOBILIZATION (LEFT ARM)

You were next told how heavy your left hand and arm felt and then told to try to lift your hand up. Would you estimate that an onlooker would have observed that you did not lift your hand and arm up at least one inch (before you were told to stop trying)?

- Circle one:
- A. I did not lift my hand and arm one inch by then.
 - B. I did lift my hand and arm at least one inch by then.

9. TWO SQUARES HALLUCINATION

You were next told to open your eyes and look at two squares on a large cardboard sheet. Place an "X" next to the statement that most nearly describes your reaction when you opened your eyes.

- _____ 1. I realized immediately that there were three squares.
- _____ 2. At first I saw only two squares, but then I realized that there were three squares.
- _____ 3. I saw only two squares, because I saw the third square as a colored spot or shadow (or something else other than a square).
- _____ 4. I did not see the third square until you told me to look carefully and to see the third square.

If you placed an "X" before items "2", "3", or "4", what were the colors of the squares that you first saw?

PLEASE DO NOT REFER TO EARLIER PAGES

SECTION ON INNER, SUBJECTIVE EXPERIENCES

(1) Regarding the suggestion of EXPERIENCING A MOSQUITO-- how real was it to you? How vividly did you hear and feel it? Did you really believe at the time that it was there? Was there any doubt about its reality?

(2) Regarding the two suggestions of HAND LOWERING (RIGHT) and HANDS MOVING TOGETHER--was it subjectively convincing each time that the effect was happening entirely by itself? Was there any feeling either time that you were helping it along?

(a) Hand Lowering

(b) Hands Moving Together

(3) On the remainder of this page please describe any other of your inner, subjective experiences during the procedure which you feel to be of interest.

THANK YOU FOR YOUR COOPERATION

APPENDIX C

INSTRUCTIONS

DIFFICULT SET

Good morning (afternoon):

We want to thank you very much for your participation in this experiment in learning.

You are going to be asked to perform a task that has previously been determined to be very difficult. You will not be graded or scored as individuals and we assure you that this experience will not be embarrassing to anyone. This is further assured by the fact that no names or code numbers are being requested. Each individual's work will be completely anonymous to everyone.

A series of eight words are going to be shown. These are admittedly difficult to pronounce and even more difficult to remember. You will be asked to reproduce these hard words in the same order and spelling as they are presented.

Do not feel embarrassed when you find that you cannot perform at your expectation level. This will be due to the difficulty of the task. Because of the difficulty of these words, very few people ever complete the list without error. Even though these words are very hard to remember, we want you to concentrate and really try to complete this almost impossible task.

You will find on your chair a packet of ten score sheets. After each list has been completely presented, you are to take one sheet and attempt to reproduce the list you have just seen. Try to reproduce the list in the same order and spelling as presented. After one minute, place this list face down under the packet. Do not refer to the completed lists during any other trial. Any questions?

Watch the screen and try not to allow the difficulty of the list to interfere with your concentration. Remember it is almost impossible to be 100% correct.

Ready--watch the screen.

Presentation of list. -- End of presentation.

Take one score sheet, place the number one (1) in the upper right-hand corner, then reproduce what you can remember, in order, and with correct spelling. You have one minute.

ONE MINUTE

Place the score sheet face down under the packet.

Ready.

Watch the screen.

Trial 2.

Take one score sheet, place appropriate number in the upper right-hand corner, then reproduce what you can remember, in order, and with correct spelling. You have one minute.

APPENDIX D

INSTRUCTIONS

EASY SET

Good morning (afternoon):

We want to thank you very much for your participation in this experiment in learning.

You are going to be asked to perform a task that has previously been determined to be very easy. You will not be graded or scored as individuals and we assure you that this experience will not be embarrassing. This is further assured by the fact that no names or codes are being requested. Each individual's work will be completely anonymous to everyone.

A series of eight words are going to be shown. These are, admittedly, easy to remember in order and spelling. You will be asked to reproduce these simple syllables in the same order and spelling as they are presented.

You will find that you can and will perform at or near your expectation level. This will be due to the relative ease of the task. Because of the simplicity of these words, many people are able to complete the list without error. However, if you are not able to complete the list at first, do not let this deter you as you will soon master the list.

Even though these words are very easy to remember, it will require full concentration to complete this task.

You will find on your chair a packet of ten score sheets. After each list has been completely presented, you are to take one sheet and reproduce the list you have just seen. Reproduce it in the same order and spelling as presented. After one minute, place the list face down under the packet. Do not refer to the completed lists during any other trial. Any questions?

Watch the screen and, even though the list is easy, try to concentrate on learning the list.

Ready--watch the screen.

Presentation of list. -- End of presentation.

Take one score sheet, place the number one (1) in the upper right-hand corner, then reproduce the list in order and with correct spelling. You have one minute.

ONE MINUTE

Place the score sheet face down under the packet.

Ready. Watch the screen. Trial 2.

Take one score sheet, place the appropriate number in the upper right-hand corner, then reproduce the list in order and with correct spelling. You have one minute.

APPENDIX E

Score Sheet

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____