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IMAGINATIVE INVOLVEMENT AND HYPNOTIC SUSCEPTIBILITY

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J. Hilgard (1970, 1972, 1974, 1979), utilizing an interview format, asserted that a personality variable, namely, an individual's capacity to become imaginatively involved in experiences outside of hypnosis, was significantly correlated with his or her hypnotic susceptibility. Tellegen and Atkinson (1974) operationalized the imaginative involvement variable in a 37-item questionnaire, the Tellegen Absorption Scale (TAS) that correlated significantly with hypnotic susceptibility (e.g., Crawford, 1982). However, Council, Kirsch, and Hafner (1986) suggested that the relationship between the TAS and hypnotic susceptibility is a context-mediated artifact in that the two correlate only when the TAS is administered within a context clearly identified as involving hypnosis. As the interviews conducted by J. Hilgard (1970, 1972, 1974, 1979) were done within a context clearly identified as involving hypnosis, the possibility exists that the relationship between imaginative involvement and hypnotic susceptibility is also a context-mediated artifact. In a test of this possibility, 86 subjects were

interviewed concerning their imaginative involvements. Forty-three subjects were interviewed within a context defined as "research investigating hypnosis" and 43 subjects were interviewed within a context defined as "research investigating imagination." Hypnotic susceptibility was assessed in sessions separate from the interviews.

In the present study, an individual's hypnotic susceptibility was not found to be significantly related to his or her imaginative involvement. It appears J. Hilgard's original finding may have been due to chance correlations compounded by subsequent experimenter expectancy effects. It is recommended that J. Hilgard's work be clarified through more extensive replications in which experimenter blindness is assured.

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CHAPTER I

IMAGINATIVE INVOLVEMENT AND HYPNOTIC SUSCEPTIBILITY

It is generally believed that large, stable individual differences exist in hypnotic susceptibility (E. Hilgard, 1965, 1975; Kihlstrom, 1985; Morgan, Johnson, & Hilgard, 1974; Shor & Orne, 1962; Spanos, Radtke, Hodgins, Bertrand, Stam, & Moretti, 1983; Weitzenhoffer & Hilgard, 1959; Weitzenhoffer & Hilgard, 1962). Curiously, most studies utilizing standardized personality inventories (Barber, 1964; E. Hilgard, 1965) and personal experience questionnaires (As, O'Hara, & Munger, 1962; Lee-Teng, 1965; Shor, Orne, & O'Connell, 1962) failed to identify personality variables which consistently correlated with hypnotic susceptibility.

However, J. Hilgard (1970, 1972, 1974, 1979), utilizing an interview format, discovered that an individual's reported capacity to become imaginatively involved in sensory and imaginative experiences in contexts outside of hypnosis was correlated with his or her hypnotic susceptibility at a low but significant level. Other research based on her works but done outside her lab appears to support this finding (Baum & Lynn, 1981; Bowers, 1979; Fellows & Armstrong, 1977; Davis, Dawson, & Seay, 1978;

Pettigrew, Wolfson, & Dawson, 1982). Tellegen and Atkinson (1974) operationalized this variable, which they termed absorption, in a 37-item questionnaire, the Tellegen Absorption Scale, (TAS) that correlated significantly with hypnotic susceptibility across several studies (e.g., Council, Kirsch, Vickery, & Carlson, 1983; Crawford, 1982; Finke & McDonald, 1978; Spanos, Rivers, & Gottlieb, 1978). Recently, however, Council et al. (1983) reported that absorption as measured by the TAS was not related to hypnotic susceptibility once the variance due to expectancy was controlled. Council, Kirsch, & Hafner (1986) reported that the TAS was correlated with hypnotic susceptibility only when administered within a context clearly identified as a hypnosis experiment. When the TAS was administered in a non-hypnotic context and hypnotic susceptibility was assessed separately, the two measures failed to correlate. Council et al. (1986) suggested that the relationship between absorption and hypnotic susceptibility is a context-mediated artifact. They discounted prior research establishing the relationship because, almost without exception, the TAS was administered in a context identified as hypnotic.

J. Hilgard's (1970, 1974, 1979) original work, which supposedly established the imaginative involvement/hypnotic susceptibility relationship, may now be suspect since she assessed imaginative involvement within a context clearly

identified as a hypnosis experiment. The supporting research done outside her laboratory is vulnerable to the same methodological criticism. The possibility exists that the relationship J. Hilgard observed is a context-mediated artifact.

Hypnotic Susceptibility as a Stable Characteristic

It has long been recognized that large individual differences exist in hypnotic susceptibility or responsiveness (E. Hilgard, 1975). Hypnotic susceptibility can be defined as "the ability to become hypnotized, to have experiences characteristic of the hypnotized person, and to exhibit the kinds of behavior associated with it" (E. Hilgard, 1965, p.68). Efforts have been made to quantify these individual differences through the development of objectively scoreable standardized hypnotic susceptibility scales (Barber, 1965; Shor & Orne, 1962; Spanos, Radtke, Hodgins, Bertrand, Stam, & Moretti, 1983; Weitzenhoffer & Hilgard, 1959; Weitzenhoffer & Hilgard, 1962). Work with such scales has lent support to the widely accepted notion that hypnotic susceptibility, when measured under standard conditions, is a stable personality characteristic or trait. Alternate form reliability generally ranges from the upper .80s to the lower .90s (E. Hilgard, 1965, 1975; Kihlstrom, 1985). A longterm retest correlation of .60 was found for subjects who were originally tested while they were college students and were subsequently tested ten years later

(Morgan, Johnson, & Hilgard, 1974). Other evidence for this stability comes from Morgan's (1973) study of the heritability of hypnotic susceptibility in twins, in which the susceptibility scores of monozygotic twins correlated .56 while those of dizygotic twins correlated only .18. The demonstrated stability of this attribute has led to extensive research designed to discover other personality characteristics that might be related to it.

Standard Personality Assessments and Hypnotic Susceptibility

Earlier researchers attempted to correlate hypnotic susceptibility with such things as hysteria, neuroticism, extraversion, response to the Rorschach, Minnesota Multiphasic Personality Inventory, Edwards Personal Preference Schedule, Guilford-Zimmerman Temperament Survey, Leary Interpersonal Check List, California Personality Inventory, Maudsley Personality Inventory, and various clinical methods of personality assessment (Barber, 1964; E. Hilgard, 1965). In reviewing these studies, Barber (1964) concluded that researchers had failed to find any reliable relationships between hypnotic susceptibility and other relatively enduring characteristics of personality. Later research also investigated such areas as locus of control (Saavedra & Miller, 1983), achievement, autonomy, and self-monitoring (Kihlstrom, Diaz, McClellan, Ruskin, Pistole, & Shor, 1980) and cognitive styles such as tests of repression-sensitization and field dependence (E. Hilgard,

1975), none of which correlated consistently with hypnotic susceptibility. In recent reviews, E. Hilgard (1975), Kihlstrom (1985), and Spanos (1982) concluded that personality and cognitive characteristics as assessed by standard techniques such as the common multidimensional personality inventories have not been found to consistently correlate with hypnotic susceptibility.

Personal Experience Questionnaires and Hypnotic Susceptibility

Another avenue in the search for correlates of hypnotic susceptibility was based on the theoretical work of Shor (1959). Of interest here is Shor's theoretical formulation that one of the occurrences during hypnosis is a fading of the usual waking generalized reality orientation into a relatively nonfunctional unawareness such that much of the usual critical self-appraisal is suspended. This view has certain ramifications:

One expectation easily deduced from our theoretical formulations is that individuals who can readily become profound hypnotic subjects probably have had many profound "hypnotic-like" experiences which have occurred naturally in the normal course of living. Our theory supposes that these individuals have the ability to suspend their usual generalized reality-orientation so that "hypnotic-like" experiences can occur. In other words, we may hypothesize that permanent

attributes of mental functioning lie behind the ability to achieve profound hypnosis. We have conceived of such attributes as cognitive abilities and see them as largely cutting across most of the currently common classifications of personality traits, such as hysteria or submissiveness. (Shor, 1960, p. 151)

Following these theoretical formulations, Shor, Orne, & O'Connell (1962) expanded Shor's Personal Experiences Questionnaire (PEQ), which was meant to elicit reports of personal experiences outside hypnosis believed to be indicative of the factors underlying hypnotizability. In their initial administration, the intensity of such experiences was found to correlate .31 with hypnotic susceptibility while the frequency of such experiences was found to be of no practical use in predicting hypnotizability. Unfortunately, the cross-validation sample used subjects of known hypnotic susceptibility and was loaded with highly susceptible subjects. When these subjects were excluded, the PEQ/hypnotic susceptibility relationship virtually disappeared. They concluded that the PEQ predicted hypnotizability in the "deeper region" of hypnotizability but was less predictive, if at all, in the "lighter region."

Barber and Calverly (1965) and Dermen and London (1965) also found no significant relationship between the PEQ and hypnotic susceptibility.

As, O'Hara, and Munger (1962) included 18 of Shor's (1960) items into their Experience Questionnaire (EQ), which was intended to tap subjective experiences outside hypnosis which they believed to be related to hypnotic susceptibility. As (1963) reported difficulties with the EQ while attempting to improve its predictive value through item analysis. As constructed a shorter scale which yielded a higher correlation with the original subject sample on which item selection was based but which, on replication, was no more predictive than a scale composed of the discarded items. He concluded "it is also very possible that the nature of the relationship between hypnotizability and subjective experiences is such that a score of a restricted number of items always predictive of hypnosis cannot be found" (As, 1963, p. 146). Barber and Calverley (1965) and Dermen and London (1965) both failed to find a significant relationship between hypnotic susceptibility and the EQ.

Lee-Teng (1965), drawing heavily from the PEQ and EQ, constructed the Hypnotic Characteristics Inventory (HCI) as an attempt to clarify the aspects of personality and experience measured by PEQ and EQ. Lee-Teng (1965) reported that her results were confounded with an acquiescence response tendency and that the HCI was not correlated with hypnotic susceptibility.

Imaginative Involvement

In 1958, J. Hilgard (1965, 1970) undertook a series of clinical interviews with an extensive sample of Stanford University undergraduates in hopes of identifying personality characteristics related to hypnotic susceptibility. Using an interview approach, J. Hilgard hoped "to make differentiations that are not ordinarily made in personality inventories" (E. Hilgard, 1965, p. 343).

This approach bore fruit in that, over the ensuing years, a conspicuous relationship emerged between hypnotic susceptibility and the individuals' capacity for imaginative involvement in various areas of everyday experience. This "involvement" was defined as "the quality of almost total immersion in the activity, with indifference to distracting stimuli in the environment" (J. Hilgard, 1970, p. 5).

Individuals who were highly susceptible to hypnosis also "commonly had a number of areas in which they could become deeply involved, temporarily setting reality aside as they savored the experience" (J. Hilgard, 1974, p. 139).

Involvements found to be related to hypnosis included reading, drama, creativity, religion, childhood imagination, sensory stimulation, and adventuresomeness. The correlation of the sum of these involvements (as determined by judges ratings of the interviews) with hypnotic susceptibility was .35, significant at the .001 level (J. Hilgard, 1970, 1972). Over several studies, involvements, particularly in the

areas of reading, drama and the esthetic appreciation of nature (sensory stimulation), appeared to be highly related to hypnotizability. Indeed, when only those individuals evidencing high or low levels of susceptibility were examined, their degree of imaginative involvement in the three above areas differed widely (e.g., Chi-square for reading involvement = 15.6258, $p < .00008$; chi-square for sensory experience = 26.6158, $p < .000009$; chi-square for drama = 13.8754, $p < .0002$ based on data in J. Hilgard, 1974). Although low susceptibles occasionally evidenced an area of high involvement, they were different from high susceptibles in that the latter evidenced multiple areas of involvement. J. Hilgard (1974) reported that ninety-three percent of highly susceptible subjects evidenced high involvement in the savoring of sensory experiences, such as esthetic enjoyment of nature, and that the same percent evidenced high involvement in either reading, drama or both.

Referring to J. Hilgard's and others' findings, Spanos and Barber (1974) commented, "These positive results are especially impressive when it is kept in mind that imaginative involvement is the only 'personality measure' that has consistently yielded positive correlations with hypnotic susceptibility" (p. 507).

J. Hilgard's findings have been supported by other researchers who were inspired by her findings but who worked outside her laboratory. Fellows and Armstrong (1977)

reported that highly hypnotizable subjects rated both their involvement in a story read during the experiment and their usual reading involvement significantly higher than did low susceptible subjects. Davis, Dawson, and Seay (1978), using an 18-question inventory based on J. Hilgard's (1970) case studies, found that individuals measured as high in imaginative involvement had significantly higher hypnotic susceptibility scores than individuals in the low imaginative involvement group. Pettigrew, Wolfson, and Dawson (1982), using the same 18 questions inventory, found that it correlated .26 with hypnotic susceptibility. Bowers (1979) reported that a questionnaire she created, which measured imaginative involvement in reading, movie viewing, daydreaming and music listening, correlated .41 with hypnotizability. Baum and Lynn (1981) found that, while highly susceptible subjects rated themselves as more involved in reading passages rated high in imaginativeness than did low susceptible subjects, the two groups did not differ in involvement on passages rated low in imaginativeness.

Absorption and Hypnotic Susceptibility

While the research cited lends independent support to J. Hilgard's findings, a major validation came in the form of Tellegen and Atkinson's (1974) work. They constructed a paper and pencil test (Tellegen's Absorption Scale or TAS) composed of appropriate imaginative involvement items along

with items selected from the MMPI. Subsequent factor analysis revealed three factors, two of which corresponded to the traditionally identified MMPI factors of introversion-extraversion and stability-neuroticism; a third orthogonal factor, labeled "absorption," was also identified. Of the three factors, only absorption correlated significantly with hypnotic susceptibility in two large sample cross-validations ($r = .27$ and $r = .43$). Tellegen and Atkinson (1974) defined the absorption factor as

a disposition for having episodes of "total" attention that fully engage one's representational (i.e., perceptual, enactive, imaginative and ideational) resources. This kind of attentional functioning is believed to result in a heightened sense of the reality of the attentional object, imperviousness to distracting events, and an altered sense of reality in general, including an empathically altered sense of self (p. 268).

Concluding that absorption was a personality trait which represented an essential component of hypnotic susceptibility, they further commented:

Most directly pertinent to the present findings, however, is the intensive interview study by Josephine Hilgard (1970). Hilgard documented the occurrence among her subjects of deep involvements in a variety of

experiences and activities and advances the concept of "imaginative involvement." The nature of the involvements of Hilgard's subjects corresponds to the content of the Absorption factor . . . Her findings, then, are clearly supported by the present trait-oriented psychometric investigation. (Tellegen & Atkinson, 1974, p.276).

Subsequent to Tellegen and Atkinson's (1974) article, numerous studies have appeared utilizing the TAS. Almost without exception, the TAS has been shown to positively correlate with several different scales measuring hypnotic susceptibility. Council et al. (1983), using a sample of 100 subjects, found the TAS correlated with the Stanford Hypnotic Susceptibility Scale: Form C (SHSS:C) .21. Crawford (1982), with a sample of 56 subjects, found the TAS correlated with the SHSS:A and SHSS:C .30. Using a group version of the SHSS:C, Finke and MacDonald (1978) found a correlation of .39 with the TAS over a sample size of 188 subjects. Several researchers have reported positive correlations between the TAS and the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS) ranging from $r = .27$ to $r = .56$ (Farthing, Venturino, & Brown, 1983; Saavedra & Miller, 1983; Spanos & McPeake, 1975; Spanos, Radtke, Hodgins, Bertrand, Stam & Moretti, 1983; Spanos, Steggle, Radtke-Bodorik & Rivers, 1979; Yanchar & Johnson, 1981). In an extensive study utilizing six samples totaling 1300

subjects, Kihlstrom et al. (1980) found a correlation of .27 between the TAS and HGSHS. Using a modified version of the HGSHS, Roberts, Schuler, Bacon, Zimmermann, and Patterson (1975) found a correlation with the TAS of .40. Utilizing the Carleton University Responsiveness to Suggestion Scale (CURSS), Spanos et al. (1983) found correlations between the TAS and various scales on the CURSS which varied from .33 to .42. J. Hilgard credits the works of Tellegen and Atkinson (1974) and other studies cited above as evidence which "builds from a number of directions in regard to the role of imaginative involvement in hypnotizability" (J. Hilgard, 1979, p. 494).

Recently, however, doubt has been cast on the validity of the relationship between the TAS and hypnotic susceptibility. Council et al. (1983), in a serendipitous discovery, found that although the TAS correlated positively with susceptibility, once the variance due to the subjects' hypnotic response expectancies was controlled for, the TAS score was unrelated to the hypnotic susceptibility score. This suggested that the power of the TAS in predicting hypnotic susceptibility was mediated by the subjects' response expectancies. Previous work had demonstrated that response expectancies and, in turn, that actual hypnotic responses could be affected by contextual variables (Gregory & Diamond, 1973; Saavedra & Miller, 1983; Spanos & McPeake, 1975). As such, Council et al. (1986) hypothesized that the

contextual information provided by the TAS, when administered in a context openly identified as measuring hypnotic susceptibility, could affect the subject's construal of the experimental situation. They concluded that it might, therefore, influence the subject's hypnotic response expectancies and, ultimately, his or her actual hypnotic responses. So, for example, an individual who endorsed only a few items on the TAS "just prior to hypnosis might label him- or herself as a poor hypnotic subject and thus have low expectancies for successful hypnotic responding" (Council et al., 1986, p. 4). They reasoned that if the TAS's relationship to hypnotic susceptibility was affected by contextual factors, it should correlate with hypnotic susceptibility in a markedly different manner when administered in different contexts. To test this position, they administered the TAS to one group of subjects just prior to hypnosis in an experimental setting defined as a hypnosis experiment. Another group of subjects completed the TAS as part of a battery of personality measures as a laboratory exercise in an introductory psychology class which was in no way connected with hypnosis. At a later date these subjects were solicited to volunteer for a hypnosis experiment at which time their hypnotic susceptibility was assessed. As predicted, the TAS correlated with hypnotic susceptibility when administered within the hypnotic context but did not correlate when

administered in a context not connected with the assessment of hypnotic susceptibility. Council et al. (1986) concluded "that when absorption is measured within a context that is associated with hypnosis, subjects interpret their responses to the scale as an indication of their hypnotizability and accordingly alter their expectations of how they will respond to hypnosis" (p. 24).

All the studies cited above which purported to demonstrate a relationship between the TAS and hypnotic susceptibility were done within contexts openly identified with a subsequent assessment of hypnotic susceptibility. This was also true of the studies cited which examined the relationship between hypnotic susceptibility and imaginative involvement questionnaires as well as those examining hypnotic susceptibility and reading involvement. Council et al., 1983, 1986, findings raise the possibility that the results obtained in these studies were largely context-mediated artifacts.

Implications for Imaginative Involvement

The implications of all this for J. Hilgard's (1970, 1972, 1974, 1979) works cannot be ignored. Absorption, as measured by the TAS, and imaginative involvement, as assessed by interviews, appear to tap the same variable. The interviewing portion of J. Hilgard's research was done in a context clearly identified as hypnotic (J. Hilgard,

1970). In fact, the interview session began by the interviewer telling the subject:

This research project is concerned with how people respond to hypnosis. We have become aware through our earlier studies that there are areas of hypnotizability that are related to the kinds of experiences a person has had in ordinary life, outside hypnosis. Hence we want to know about your interests, some of your thinking about yourself, and your relationships to your family. (J. Hilgard, 1970, p. 269)

It seems reasonable to assume that the contextual information provided by interviews concerning a subject's imaginative involvements, when done within a hypnotic context, could affect that individual's construal of the experimental situation and, by extension, their hypnotic responsiveness. For example, a subject who admits to only limited imaginative involvements just prior to hypnosis might label him- or herself a poor hypnotic subject, have low expectancies for successful responding, and demonstrate limited hypnotic response. Parallel effects, but in a different direction, would be expected for subjects who admit to moderate or high imaginative involvements within a context clearly identified as concerned with assessing their hypnotic susceptibility.

In light of all of the above, it would appear that the possibility exists that Hilgard's (1970, 1972, 1974, 1979)

findings might be context-mediated artifacts. A direct test of this possibility would serve to clarify her work.

Purpose

The present study was designed in part to test the hypothesis that the relationship between imaginative involvement and hypnotic susceptibility is a result of the reactive effects of conducting interviews to assess imaginative involvement within a hypnotic context. A second purpose was to examine the possibility that the relationship between the inventory of imaginative involvement (Davis, Dawson, & Seay, 1978) is similarly reactive to the context in which the inventory is administered. A third purpose was to further examine the effects of the context of administration on the relationship between the TAS and hypnotic susceptibility as reported by Council et al. (1986).

This study utilized only subjects who were either high or low in hypnotic susceptibility in order to highlight any real differences in imaginative involvement between these groups.

The present study utilized a 2 x 2 design (imaginative involvement assessed in a hypnotic versus a non-hypnotic context by high versus low hypnotic susceptibility) with rated imaginative involvement in reading, drama, and esthetic enjoyment of nature, the score on the inventory of imaginative involvement (Davis et al., 1978), and the score

on the Tellegen Absorption Scale (Tellegen, 1982) as dependent measures. Thus, four groups resulted:

1. Imaginative involvement of high susceptible subjects assessed within a hypnotic context.
2. Imaginative involvement of low susceptible subjects assessed within a hypnotic context.
3. Imaginative involvement of high susceptible subjects assessed within a non-hypnotic context.
4. Imaginative involvement of low susceptible subjects assessed within a non-hypnotic context.

A 2 x 2 MANOVA was used as the principal analysis to detect group difference across dependent measures. If multivariate F-tests were significant, F-tests for univariate effects and planned comparisons were made. It was hypothesized that a significant interaction effect would be obtained with group 1 evidencing a significantly greater degree of rated imaginative involvement based on interviews than groups 2, 3, and 4, with groups 2, 3, and 4 not differing significantly from one another. A second hypothesis was that group 1 would also evidence a significantly higher score on the inventory of imaginative involvement of Davis, Dawson, and Seay (1978) than would groups 2, 3, and 4, with the later 3 groups not differing significantly from one another. A third hypothesis was that group 1 would obtain significantly higher scores on Tellegen's Absorption Scale (Tellegen, 1982) than would

groups 2, 3, and 4 with the later 3 groups not differing significantly from one another.

CHAPTER II

METHOD

Subjects

A total of 72 subjects was selected from among undergraduate students at North Texas State University who volunteered to participate in return for extra credit points. Of the volunteers, 42 scoring in the 8-12 range and 30 scoring in the 0-4 range in hypnotic susceptibility as measured by the Stanford Hypnotic Susceptibility Scale: Form C (SHSS:C) constituted the final subject pool. These subjects were randomly assigned to one of four treatment groups (two hypnotic context and two non-hypnotic context groups) of 21 subjects each for the 8-12 range of hypnotic susceptibility and 15 subjects each for the 0-4 range of hypnotic susceptibility.

Hypnotists

Several male and female doctoral graduate students in clinical or counseling psychology served as hypnotists. All the hypnotists had received didactic training and supervised practice in the administration of standard hypnotic scales. Each hypnotist had a minimum of two years of experience in the administration of standard hypnotic scales. Hypnotists were kept blind with respect to group assignment of

subjects. It was expected that no significant differences between hypnotists would occur.

Interviewers

Three advanced graduate students were trained as interviewers to follow a modified form of the interview questionnaire devised by Hilgard (1970). The interviewers were trained to thoroughly inquire about imaginative involvements in the areas of reading, drama, and esthetic appreciation of nature. These three areas of inquiry were selected as they were the areas consistently reported to differentiate between high and low susceptible subjects (J. Hilgard 1970, 1972, 1974, 1979).

Raters

Two advanced graduate students were trained to rate the interviews for degree of imaginative involvement in each of the areas of reading, drama, and esthetic appreciation of nature. Raters utilized the rating scales employed by J. Hilgard (1970). Training continued until interrater reliability of .70, a level acceptable for research purposes (Kaplan & Saccuzzo, 1982), was achieved. This level was comparable to that obtained by J. Hilgard (1970) in her original work (e.g., involvement in reading $r = .75$ for female sample, $r = .61$ for male sample; involvement in movies or TV $r = .71$). Raters were blind to group assignment of the subjects.

Materials

Stanford Hypnotic Susceptibility Scale, Form C

(SHSS:C). This 12 item susceptibility scale (Weitzenhoffer & Hilgard, 1962), designed for individual administration, was the measure selected to determine hypnotic susceptibility. The SHSS:C is a satisfactory criteria to be utilized when the relationships between hypnotic susceptibility and interview data or paper and pencil tests thought to be predictive of hypnotic susceptibility are being examined (Weitzenhoffer & Hilgard, 1962). The SHSS:C was normed on university undergraduate students. Reliability calculated by the Kuder-Richardson Formula 20 is .85 while the correlation between the SHSS:C and Stanford Hypnotic Susceptibility Scale, Form A (SHSS:A) total scores is .85 corrected for attenuation (Weitzenhoffer & Hilgard, 1962). The scale requires administration and scoring by the hypnotist. Scores range from 0 to 12 with 0 -4 defined as low and 8-12 defined as high and very high (Weitzenhoffer & Hilgard, 1962).

Interviewing Format. An interviewing format modified from J. Hilgard (1970) was utilized. For the hypnotic context group, the introductory remarks were identical to Hilgard (1970). For the non-hypnotic context group, all references to hypnosis in the introductory remarks were deleted and, where relevant, replaced by references to imagination. The actual interview format was the same

regardless of context and was modified from J. Hilgard (1970).

Rating Scales. The interviews were rated using scales modified from J. Hilgard (1970). Ratings were based on a scale of 1-7 with 1 representing little imaginative involvement and 7 representing much imaginative involvement. Reliabilities published by J. Hilgard (1970) for these scales were given above. Rating scores from the three areas were summed and the total score used as the imaginative involvement rating score. As scores on each of the three items could vary between 1 and 7, the total score varied from 3 to 21. Scores were summed to better approximate overall involvement following J. Hilgard's (1974) report that some low susceptibles occasionally evidence an area of high involvement while high susceptibles generally report several areas of high involvement. When raters disagreed, scores were averaged for data analysis.

Imaginative Involvement Inventory. The Imaginative Involvement Inventory (II) is an 18-item questionnaire which was derived by taking verbatim statements from case studies reported in J. Hilgard's Personality and Hypnosis (1970) (Davis, Dawson & Seay, 1978). Subjects are asked to report on a 7 point Lickert scale how likely they would be to say or think statements tapping imaginative involvements in nine different areas. The inventory correlated .26 with the HGSHS:A (Pettigrew, Wolfson, & Dawson, 1982). A factor

analysis was performed utilizing a varimax rotation which yielded six factors: 1) strong faith in religion; 2) escape from normal reality; 3) empathic involvement with creativity; 4) obscuring of generalized reality boundaries; 5) identification with or interest in creativity; 6) daydreaming. Davis, Dawson, and Seay (1978) did not report reliability data. In both contexts this scale was labeled "Inventory of Imaginative Experiences."

Tellegen's Absorption Scale. This 37-item, true-false paper and pencil questionnaire, a subscale of the Differential Personality Questionnaire (Tellegen, 1982), assesses the capacity of an individual to become absorbed or highly involved in sensory and imaginative experiences in non-hypnotic contexts. These items were selected by factor analysis from 71 original items. Alpha reliability coefficients for the factor scales ranged from .48 to .68 indicating acceptable internal consistencies. The TAS was found to correlate .27 with the Group Scales of Hypnotic Susceptibility (GSHS) a modified version of the HGSHS:A and .42 with the Field Depth Inventory a measure of subjective changes during hypnosis. Upon cross validation with a second sample alpha reliability coefficients ranged from .48 to .74 while the TAS correlated with the GSHS .43 (Tellegen & Atkinson, 1974). Following Council et al. (1986) it was labeled the "Personal Experiences Survey" in both contexts

and was described as an inventory of sensory and imaginative experiences.

Field's Depth Inventory. This 38-item, true-false pencil and paper questionnaire (Field, 1965), assesses the degree to which a subject experiences unsuggested alterations in cognition and perception during hypnosis. The FDI is completed by subjects after hypnosis is terminated.

Procedure

Subjects were given the opportunity to volunteer to participate in this research project through sign-up sheets posted in the psychology building and by experimenter solicitation of volunteers in undergraduate psychology classrooms.

Subjects utilized for the hypnotic context condition were recruited by advertising the experiment as "research investigating hypnotizability." It was explained that the experiment involved two individual sessions as scheduling permitted. Subjects were contacted by phone and scheduled for two appointments, one for an interview and a second for the assessment of hypnotic susceptibility. In the first session, the subject was met at the psychology clinic waiting area by a research assistant who escorted the subject to a room. When both were seated, a human subject informed consent form was obtained from the subject. The research assistant then told the subject,

You have signed up for an experiment in hypnosis and I want to explain to you why we are beginning with an interview. After this interview you will have an opportunity to experience hypnosis in a separate session. This research project is concerned with how people respond to hypnosis. We have become aware through our earlier studies that there are areas of hypnotizability that are related to the kinds of experiences a person has had in ordinary life, outside hypnosis. Hence we want to know about some of your interests, and some of your thinking about yourself. The interviewer shall be asking you some direct questions, but we hope that you will feel free to add anything that seems important to you, not waiting for specific questions from the interviewer. We appreciate your willingness to cooperate with us in this research. While this material is necessarily personal, your replies will be used in such a way that you will not be identifiable. (adapted from J. Hilgard, 1970, p. 269)

The research assistant then brought the interviewer into the room, made introductions, and left the room. The interviewer informed the subject that the interview would be audiotaped and started the tape recorder. The subject was then interviewed, using a format based on J. Hilgard (1970), concerning his or her imaginative involvements in the areas of aesthetic appreciation of nature, reading, and drama. At

the completion of the interview the subjects were asked by the interviewer to complete the Inventory of Imaginative Involvement and the TAS. The interviewer then left the room while the subject completed the forms. The research assistant entered the room and reminded the subject of their appointment for assessment of their hypnotic susceptibility (no more than one week from the time of the interview). In the second session, the subject was met at the psychology clinic waiting area by the hypnotist who escorted the subject to a room. Once both were comfortably seated, the hypnotist gave the subject a brief explanation of hypnosis (see Appendix G) and had the subject complete a consent form.

The hypnotist then began the standard induction and administered the SHSS:C. When the hypnotic procedure was complete, the subject was told that a debriefing session would be held when the experiment was complete. The subject was thanked for participating and asked not to talk to others about the research until after the debriefing session. Individuals scoring in the range of 0-4 or 8-12 on the SHSS:C were retained as subjects.

Subjects utilized for the non-hypnotic context condition were recruited by advertising the experiment as "research investigating imagination." Subjects were told that participation involved a single session. The subject was met at the psychology clinic waiting area by a research

assistant who followed a procedure identical to that used in session one with the hypnotic context subjects except that the subject in this case was told

You have signed up for an experiment concerning imagination and I want to explain to you why we are beginning with an interview.

This research project is concerned with how people use imagination. We have become aware through our earlier studies that there are areas of imagination that are related to the kinds of experiences a person has had in ordinary life. Hence we want to know about some of your interests and some of your thinking about yourself.

The interviewer shall be asking you some direct questions, but we hope that you will feel free to add anything that seems important to you, not waiting for specific questions from the interviewer. We appreciate your willingness to cooperate with us in this research. While this material is necessarily personal, your replies will be used in such a way that you will not be identifiable.

The procedure from this point forward was identical to that used with hypnotic context subjects in session one with the following exception. At the completion of the session, the subject was told that the experiment was complete, that a

debriefing session would be held when all subjects had participated, was thanked for his participation and asked not to talk to others about the experiment until after the debriefing session. Within seven days, these subjects were contacted by an experimenter not involved with them earlier who told them that their names had been drawn from lists of subjects who had indicated a willingness to participate in psychological experiments. They were asked to volunteer for an experiment involving hypnosis. No allusions were made to the prior interview session. Those who agreed were scheduled for assessment of their hypnotic susceptibility in individual sessions identical to those conducted for subjects in the hypnotic context condition. Those individuals scoring in the range of 0-4 or 8-12 on the SHSS:C were retained as subjects.

CHAPTER III

RESULTS

Bartlett's Test of Sphericity (Winer, 1971) was performed to verify that assumptions underlying the use of MANOVA were met. This test was significant (Bartlett's = 37.1787, $df = 3$, $p < .0005$). This indicates that an identity matrix did not exist and that the dependent variables were highly intercorrelated. Box's M test for homogeneity (Winer, 1971) was performed and was non-significant ($F = .98930$, $df = 18/12997$, $p < .468$), indicating that homogeneity assumptions were met. Based on these tests it appeared that Manova assumptions were met.

Tests for possible co-variates were then performed. A one-way analysis of variance (Winer, 1971) was done to determine whether differences existed between hypnotists. If such differences were found they would serve as co-variates in further analysis. No significant differences were found between hypnotists ($F = 1.808$, $df = 5/80$, $p < .121$). A one-way analysis of variance was also done to determine whether differences existed between interviewers. No significant differences were found ($F = 1.513$, $df = 2/83$, $p < .226$). As such, it appeared that any between-group differences which might occur would not be attributable to

differences between hypnotists or between interviewers. Further, co-variance did not appear necessary.

Interrater reliability was calculated by means of the Pearson Product Moment Correlation (Hays, 1973). The interrater reliability for reading involvement was .9207, for drama involvement was .9136, for nature involvement was .8911 and for total combined involvement ratings was .9150.

Given that MANOVA assumptions were met and co-variance was unnecessary, a 2 (hypnotic context versus non-hypnotic context) by 2 (high hypnotic susceptibility versus low hypnotic susceptibility) factorial MANOVA was done. The 2 x 2 MANOVA was to assess the reactive effects of imaginative involvement measures to the context in which they were administered and to the hypnotic susceptibility of the subjects to whom they were administered. Dependent measures consisted of the rated imaginative involvement interviews, scores on the TAS and scores on the II. Means and standard deviations for dependent measures appear in Table 1 (Appendix A). No significant interaction between context and hypnotic susceptibility ($F = .13685$, $df = 3/66$, $p < .938$) nor main effects (context $F = .43537$, $df = 3/66$, $p < .728$; hypnotic susceptibility $F = 1.7619$, $df = 3/66$, $p < .163$) were found using the Wilks Lambda criterion (Norusis, 1985). As such, the hypotheses that significant group differences on the imaginative involvement measures would exist for high versus low susceptibles due to the

context in which they were administered were not supported. Additionally no significant effects for hypnotic susceptibility nor context alone were found.

A correlation matrix by context condition was obtained to ascertain whether the interview ratings, TAS and II, correlated with hypnotic susceptibility differently when measured in a hypnotic as opposed to a non-hypnotic context (Hays, 1973). In the hypnotic context condition, correlations between the imaginative involvement measures (i.e., the interview ratings, TAS, and II) and hypnotic susceptibility were non-significant. Results appear in Table 2 (Appendix A). In the non-hypnotic context condition these correlations were also non-significant. Results appear in Table 3 (Appendix A).

The correlations between hypnotic susceptibility and imaginative involvement measures for both hypnotic and non-hypnotic context groups were not significantly different from each other and, as such, the data was pooled (interview $z = .044$, TAS $z = .533$, II $z = .287$). A correlation matrix was obtained. The correlations between hypnotic susceptibility and imaginative involvement measures were again non-significant. The results are displayed in Table 4 (Appendix A).

The Stanford Hypnotic Susceptibility Scale Form C and the Field Depth Inventory correlated significantly with one another in each context condition as well as when data were

pooled. Results are displayed in Tables 2, 3, and 4 respectively (Appendix A).

The rated interviews, TAS, and II correlated significantly with one another. Results are displayed in Table 4 (Appendix A).

CHAPTER IV

DISCUSSION

The relationship between hypnotic susceptibility and imaginative involvement was not mediated by context as predicted. No significant interaction between context and susceptibility was found in MANOVA analysis nor did imaginative involvement correlate differently with susceptibility in a hypnotic as opposed to a non-hypnotic context. This was somewhat surprising given Council et al.'s (1983, 1986) consistent findings in this area. Upon comparison of the present study to Council et al. (1986), however, it appears that methodological differences between the works may account for the current outcome. In the present study, even though context was quite carefully defined for the subjects, imaginative involvement measures administration was separated from the assessment of hypnotic susceptibility by 24 to 36 hours in the hypnotic context group (and by 2 to 3 times this long in the non-hypnotic context group). In Council et al.'s (1986) work, TAS administration in the hypnotic context group was followed immediately by assessment of hypnotic susceptibility. It may be that context-created expectancies are temporally mediated such that these context-created expectancies decay

rapidly (apparently in 24 to 36 hours). The time elapsed between administration of imaginative involvement measures and assessment of hypnotic susceptibility in the present study may have been sufficiently long to allow decay of context created expectancies. With hindsight, this is not a surprising occurrence and is well known in other circumstances. For example, recognition of the temporal mediation of the impact of contextual influences appears to be the genesis of the 72 hours "cooling off" period in many states in regards to a consumer's right to revoke his decision to make a major purchase. The "context created expectancies" employed by the salesperson are given an opportunity to decay before the sale becomes final. An additional explanation for this outcome can be found in social psychology's notion of primacy versus recency effect (Luchins, 1958; Rosenkrantz & Crockett, 1965). When information is presented and acted upon with no intervening activities, as in the Council et al. (1986) work, it is likely to have an impact on behavior. However, if after the initial information is provided, other activities intervene which provide different information, this new information will have the greater influence. In the current study the imaginative involvement measures were taken 24-36 hours before hypnotic susceptibility was assessed. In this intervening period, the subject may have had additional ordinary life experiences which could have provided much

different information about his or her imaginative involvements and reduced the salience of the context-created expectancies. According to recency theory this later information would have been more influential during the subsequent assessment of hypnotic susceptibility than would the information that had been provided earlier by the experimental context.

The current study lends partial support to Council et al. (1986) and to a context created expectancy explanation in that the TAS failed to correlate significantly with hypnotic susceptibility. If the TAS measures a personality variable related to hypnotic susceptibility, a significant correlation regardless of context of administration would be expected. The failure of the TAS to correlate with hypnotic susceptibility in a non-hypnotic context is a replication of Council et al.'s (1986) findings. The failure of the TAS to correlate with hypnotic susceptibility in a hypnotic context is a new finding and could be due to the time elapsed between administration of the two measures as discussed above. This is seen as an extension and elaboration of previous work in the area in that temporal proximity of administration appears to be a relevant but previously unnoted variable in this process.

The preceding discussion is strengthened in that the failure of the TAS to correlate with hypnotic susceptibility cannot be attributed to such factors as irregularities in

susceptibility assessment. The Stanford Form C correlated moderately ($r = .59$) with the FDI in the current study. This is comparable to typical correlations between the FDI and various measures of hypnotic susceptibility (Field, 1965). The mean for the Stanford Form C was 6.49 which is also comparable to normative data for this measure (Weitzenhoffer & Hilgard, 1962).

Further, the significant intercorrelations between the rated interviews, TAS, and II indicate that these measures tapped a similar dimension. Therefore, the failure of hypnotic susceptibility to correlate with involvement measures cannot be attributed to irregularities in the measurement of imaginative involvement.

The present study fails to support Hilgard's (1970, 1974, 1979) work in this area. If imaginative involvement is a personality variable associated with hypnotic susceptibility, a main effect for susceptibility should have been seen with the MANOVA (with high susceptibles demonstrating more imaginative involvement across contexts than low susceptibles) as well as a significant correlation between imaginative involvement and hypnotic susceptibility. Neither of these occurred. As this failure to replicate Hilgard could not be unequivocally accounted for by context-created expectancy effects in the current study, a careful review of Hilgard's (1970, 1974, 1979) works was undertaken in an attempt to account for her original findings.

In her 1970 work, Hilgard reported low but statistically significant correlations between seven involvement items and hypnotic susceptibility (on the order of $r = .15 - .22$). Examination of the interview forms used by Hilgard (1970) indicates that nearly 100 items were collected during interviews for subsequent correlation with hypnotic susceptibility. Using an alpha level of .05 would lead one to expect about five significant correlations by chance alone when performing 100 correlations. It does not seem unreasonable to posit that the seven significant correlations Hilgard found may have resulted from capitalizing on chance findings from multiple comparisons. Hilgard published additional data in 1974 and 1979 which could be seen as replications of the 1970 findings and as answer to the criticism of chance findings given above. However, in the 1974 and 1979 studies, Hilgard (1974, p. 139) stated that the precaution of conducting ". . . interviews prior to hypnosis to avoid causal interpretations contaminated through knowledge of outcome" no longer seemed essential because the relationships between imaginative involvement and hypnotic susceptibility were clearer. In these subsequent works, then, individuals of known hypnotic susceptibility were utilized. As the experimenters were apparently not blind, the possibility exists that the replication outcomes were influenced by experimenter expectancy. As interviewers were apparently aware of the

susceptibility of subjects during the interviews and knew what sorts of traits "correlated" with susceptibility (from Hilgard's 1970 findings) it is not surprising they "replicated" the original findings. While this line of argument is speculative, Hilgard's own results lend support. In Hilgard (1970), correlations of .15 - .22 with significance levels of $p < .01$ were found. In Hilgard (1974), however, significance levels had increased to $p < .0001$ to $p < .000005$. Had Hilgard discovered a relationship between a personality variable and hypnotic susceptibility which was uncontaminated by chance findings and experimenter expectancy it seems unlikely that that relationship would have changed so dramatically in the direction of greater significance by 1974. A more parsimonious explanation of her work is that it is based on chance correlations due to methodological difficulties compounded by experimenter expectancy effects upon replication.

The present study is remarkable due to its inconclusiveness. Obviously more research is needed to clarify the role of context-created expectancies in mediating proposed relationships between personality variables and hypnotic susceptibility. If we are to have confidence in such correlations, it may be important that subjects be blind to the fact that their responses on personality measures and their responses to hypnosis are part of the same experiment. One usable outcome of the

current study is that expectancies appear to be subject to time decay. Investigators interested in personality/susceptibility relationships may want to take the additional precaution of separating the testings of these variables in time.

More extensive replications of Hilgard's work must be done. In the 16 years since the publication of her book, the present study is the first attempt to replicate her work. Given the current wide acceptance of her work and the questions raised about her methodology in the present study further replication attempts are important. Researchers may have been reluctant to undertake replication due to the interview format she used. Utilizing an interview format to assess imaginative involvement is a difficult task. It is time-consuming, involving training interviewers and raters and maintaining experimenter blindness. Due to the difficulties inherent in the task, the present study suffers from the narrow range of topics utilized for interview assessment. Resource constraints mandated that only three areas be assessed by interview rather than the seven originally identified by Hilgard (1970). While it is believed that these three areas adequately represented each subject's imaginative involvements, it is important that additional, more wide-ranging replications be undertaken in an effort to further clarify Hilgard's work.

APPENDIX A

TABLES

Table 1

Means and Standard Deviations for Dependent Variables in
Each Experimental Condition

Variable	Hypnotic Context		Non-Hypnotic Context		Combined Group (n=72)
	Hi Susc. (n=21)	Lo Susc. (n=15)	Hi Susc. (n=21)	Lo Susc. (n=15)	
Interview Ratings					
M	9.29	10.33	8.19	9.60	9.25
SD	5.11	5.07	4.61	5.03	4.90
Imaginative Involvement Inventory					
M	86.00	78.33	79.38	76.93	80.58
SD	15.48	17.91	16.23	19.03	17.01
Tellegen Absorption Scale					
M	25.29	22.40	23.38	21.47	23.33
SD	6.64	6.10	7.18	7.00	6.78

Table 2

Correlations Between Hypnotic Susceptibility and Dependent Variables: Hypnotic Context (n = 43)

	Rated Interviews	TAS	II Inventory	FDI
Stanford Form C	-.0948	.1407	.1283	.4902***
Rated Interviews	--	.3259*	.4582**	-.0811
TAS		--	.5515***	-.0369
II Inventory			--	.1305

Note.

FDI is Field's Depth Inventory.

TAS is Tellegen's Absorption Scale.

II Inventory is the Imaginative Involvement Inventory.

*p < .01.

** p < .001.

*** p < .005.

Table 3

Correlations Between Hypnotic Susceptibility FDI and
Dependent Variables: Non-Hypnotic Context (n = 43)

	Rated Interviews	TAS	II Inventory	FDI
Stanford Form C	-.0854	.0215	.0640	.6639*
Rated Interviews	--	.2363	-.0458	-.0579
TAS		--	.5960*	.0332
II Inventory			--	-.0479

Note.

FDI is Field;s Depth Inventory.

TAS is the Tellegen Absorption Scale.

II Inventory is the Imaginative Involvement Inventory.

* $p < .005$.

Table 4

Correlations Between Hypnotic-Susceptibility, FDI and
Dependent Variables: Pooled Data (n = 86)

	Rated Interviews	TAS	II Inventory	FDI
Stanford Form C	-.0830	.0753	.0973	.5929***
Rated Interviews	--	.2836**	.2413*	-.0595
TAS		--	.5747***	.0057
II Inventory			--	.0291

Note.

FDI is Field's Depth Inventory.

TAS is the Tellegen Absorption Scale.

II Inventory is the Imaginative Involvement Inventory.

* $p < .05$. ** $p < .005$. *** $p < .0005$.

APPENDIX B

INTERVIEW CONSENT FORM

INFORMED CONSENT

NAME OF SUBJECT: _____

1. I hereby give consent to Michael Nash Ph.D. to perform or supervise the following investigational procedure or treatment:

Conduct an interview concerning imagination and administer paper and pencil questionnaires concerning imagination.

2. I have (seen, heard) a clear explanation and understand the nature and procedure or treatment; possible appropriate alternative procedures that would be advantageous to me (him, her); and the attendant discomforts or risks involved and the possibility of complications which might arise. I have (seen, heard) a clear explanation and understand the benefits to be expected. I understand that the procedure or treatment to be performed is investigational and that I may withdraw my consent for my (his, her) status. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to the procedure or treatment designated in Paragraph 1 above.

DATE

SIGNED _____
WITNESS

SIGNED _____
SUBJECT
or

SIGNED _____

SIGNED _____
PERSON RESPONSIBLE

RELATIONSHIP

Instructions to persons authorized to sign:

If the subject is not competent, the persons responsible shall be the legal appointed guardian or legally authorized representative.

Appendix B -- (cont.)

If the subject is a minor under 18 years of age, the person responsible is the mother or father or legally appointed guardian.

If the subject is unable to write his name, the following is legally acceptable:

John H. (His X Mark) Doe and two (2) witnesses.

APPENDIX C

HYPNOSIS CONSENT FORM

INFORMED CONSENT

NAME OF SUBJECT: _____

1. I hereby give consent to Michael Nash Ph.D. to perform or supervise the following investigational procedure or treatment:

Administer the Stanford Hypnotic Susceptibility Scale: Form C.

2. I have (seen, heard) a clear explanation and understand the nature and procedure or treatment; possible appropriate alternative procedures that would be advantageous to me (him, her); and the attendant discomforts or risks involved and the possibility of complications which might arise. I have (seen, heard) a clear explanation and understand the benefits to be expected. I understand that the procedure or treatment to be performed is investigational and that I may withdraw my consent for my (his, her) status. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to the procedure or treatment designated in Paragraph 1 above.

DATE

SIGNED _____
WITNESS

SIGNED _____
SUBJECT
or

SIGNED _____

SIGNED _____
PERSON RESPONSIBLE

RELATIONSHIP

Instructions to persons authorized to sign:

If the subject is not competent, the persons responsible shall be the legal appointed guardian or legally authorized representative.

Appendix C -- (cont.)

If the subject is a minor under 18 years of age, the person responsible is the mother or father or legally appointed guardian.

If the subject is unable to write his name, the following is legally acceptable:

John H. (His X Mark) Doe and two (2) witnesses.

APPENDIX D

HYPNOTIC CONTEXT INTERVIEW INTRODUCTION

You have signed up for an experiment in hypnosis and I want to explain to you why we are beginning with an interview. After this interview you will have an opportunity to experience hypnosis in a separate session.

This research project is concerned with how people respond to hypnosis. We have become aware through our earlier studies that there are areas of hypnotizability that are related to the kinds of experiences a person has had in ordinary life, outside hypnosis. Hence we want to know about some of your interests, and some of your thinking about yourself.

The interviewer shall be asking you some direct questions, but we hope that you will feel free to add anything that seems important to you, not waiting for specific questions from the interviewer. We appreciate your willingness to cooperate with us in the research. While this material is necessarily personal, your replies will be used in such a way that you will not be identifiable.

APPENDIX E

NON-HYPNOTIC CONTEXT INTERVIEW INTRODUCTION

You have signed up for an experiment concerning imagination and I want to explain to you why we are beginning with an interview.

This research project is concerned with how people use imagination. We have become aware through our earlier studies that there are areas of imagination that are related to the kinds of experiences a person has had in ordinary life. Hence we want to know about some of your interests and some of your thinking about yourself.

The interviewer shall be asking you some direct questions, but we hope that you will feel free to add anything that seems important to you, not waiting for specific questions from the interviewer. We appreciate your willingness to cooperate with us in this research. While this material is necessarily personal, your replies will be used in such a way that you will not be identifiable.

APPENDIX F

INTERVIEW GUIDE FORM

Now we are especially interested in the things that interest you.

1. What are your special interests and hobbies?

(If subject volunteers reading, drama, and/or nature, note type of interest (1.a), duration, and involvement (2.) If subject doesn't volunteer any of these three, question them specifically about their degree of interest in each one.)

a. Reading - adventure, fiction, science fiction, mysteries, biography, history

Drama - watching movies, theater, T.V., acting.

Nature interests - scientific, aesthetic

2. Involvement in reading, drama, and/or nature [Ask specifically about each area (reading, drama, and nature) if not already clear.] When you are _____ (reading; watching a movie, T.V., a play; enjoying nature -- watching a sunset, hiking, walking on the beach, etc.) how involved or absorbed would you say you become? (Alternate phrases: losing yourself, not hearing anyone call you, or finding yourself thinking of other things.)

APPENDIX G

INVOLVEMENT RATING SCALE

Interviewer_____ Subject's SSN_____

Date of Interview:_____ Name_____

Sex M F

Ratings of degree of Involvement in activities.

Involvement in reading:

Little 1 - 2 - 3 - 4 - 5 - 6 - 7 Much

Involvement in drama (Movies, theater, TV):

Little 1 - 2 - 3 - 4 - 5 - 6 - 7 Much

Aesthetic appreciation of nature:

Little 1 - 2 - 3 - 4 - 5 - 6 - 7 Much

Total Involvement score_____.

Rater:_____

APPENDIX H

INTRODUCTION TO THE HYPNOSIS SESSION

Hello, my name is _____. I'm a graduate student in the psychology program here at NTSU and I've been doing research on hypnosis for a few years. I'd like to tell you a little bit about hypnosis before we begin. Hypnosis is not something mysterious but rather is a quite natural experience. In fact, most people have hypnotic-like experiences at various times practically every day. If you've ever been so interested or caught-up in a movie you were watching that you didn't notice the noises that people around you were making, you've had a hypnotic-like experience. Another hypnotic-like experience happens when you're driving on a familiar highway and you realize that you've been so engrossed in our own thoughts that you haven't been aware of passing familiar landmarks along the road.

While hypnotized, you will be in complete control of yourself. You can become hypnotized only if you wish to. The procedure we're going to use today is a standard hypnotic procedure which has been used with thousands of people. Ill effects are very rare; once in a great while someone may feel a little sleepy or stiff after hypnosis. You may withdraw from the study at any time. Most people

Appendix H -- (cont.)

find hypnosis to be a pleasant, enjoyable experience and feel relaxed and comfortable afterwards.

You can be fully at your ease. Nothing will be done to embarrass you. There will be nothing personal in what you are asked to do or say. You will have a better opportunity to learn about hypnotism if you just let yourself go and do not try to watch and analyze what I am doing. Have you any questions?

ADMINISTER CONSENT FORM

BEGIN INDUCTION.

APPENDIX I

STANFORD HYPNOTIC SUSCEPTIBILITY SCALE: FORM C

O. INDUCTION BY EYE CLOSURE (Not to be Scored)

Note: This induction is optional. If another induction is used, it should end with the eyes closed. Then go to Instruction 1. HAND LOWERING.

A small bright object (button, metal thumb tack) is placed in such a way that a seated subject must turn his eyes upward to look at it. It may be placed on the ceiling, at least six feet from the eyes of the subject. A subject who wears glasses should keep them on. The subject is comfortably seated in an upright upholstered armchair, with the back high enough to support his head.

Do you see that small bright button (tack, etc.) above and in front of you? (If necessary, point to it.) Good. That is what I shall mean by the "target."

(1) Now please seat yourself comfortably just as you did last time, placing a hand on each arm of the chair. You may just look straight ahead. 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. Now turn your eyes upward and look at the target. You may tilt your head a little if you need to do so so that you won't strain your eyes too much. (If wearing glasses: Can you see the target all right through your glasses?) 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. You have already shown your willingness by coming here again today, and so 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 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 long 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. Most people find their second experience more interesting than the first.

If eyes close, go to Instruction 0'(2') and continue through 0'(7').

(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 comes 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.

If eyes close, go to 0'(2') and continue through 0'(7').

(3) 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.

If eyes close, go to 0'(3') and continue through 0'(7').

(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.

If eyes close, go to 0'(4') and continue through 0'(7').

(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.

If eyes close, go to 0'(5') and continue through 0'(7').

(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.

If eyes close, go to 0' (6') and continue through 0'(7').

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 . . .

If eyes have not yet closed:
Soon your eyes would close by themselves, but there is no need to strain them more. You have concentrated well upon the target, and have become very relaxed. Now we have come

to the time when you may just let your eyes close. (If no response: 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--half-way there--always deeper sleep . . . 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 speak, 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.

O'. INDUCTION BY EYE CLOSURE

For those who close their eyes early

As soon as eyes close, terminate sentence appropriately, then say:

You are comfortably relaxed, but you are going to relax much more, much more. Your eyes are now closed. Keep your eyes closed until I tell you to open them or to wake up.

Then pick up at the appropriate place and continue with the following suggestions, all of which assume that the eyes are already closed. If eyes should reopen, instruct subject to close them.

(2') Now take it easy and just let yourself relax. Don't be tense. Just listen carefully to my voice. If your thoughts wander away from it, that is all right, but bring your attention back to it. Sometimes my voice may seem to

change a little, or sound as if it were coming from far off. That is all right. If you begin to get sleepier, that will be fine, too. Whatever happens, accept it, and just keep listening to my voice as you become more and more relaxed. More and more relaxed. Just listen and relax. Whatever you feel is happening, just let it happen.

(3') 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.

(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. You are beginning to feel drowsy and sleepy, drowsy, sleepy. You are breathing freely and deeply, freely and deeply. You are getting more and more sleep and drowsy, and your whole body is becoming more and more tired and heavy.

(5') You are relaxed, very relaxed. By letting yourself go you can become even more relaxed. You can reach

a state of deeper, more complete relaxation. You are becoming increasingly drowsy and sleepy. There is a pleasant feeling of numbness and heaviness throughout your body. You begin to feel so relaxed, so sleepy. It is easier to bring back your thoughts from other things and to attend only to my voice. Soon you will just listen sleepily to my voice, as you become more and more deeply relaxed.

(6') You are relaxed, very relaxed. 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. Soon there will be nothing to think of but my voice and my words, while you relax more and more. There are no troubles, no cares to bother you now. Nothing seems important but what my voice is saying, nothing else is important now. You are interested only in what my voice is saying to you. Even my voice may sound a little strange, as though it comes to you in a dream, as you sink deeper into this numbness, this heaviness, of deep relaxation. Relax, relax . . . deeply relaxed. Deeper, deeper, deeper.

(7') 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 speak, 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 (RIGHT HAND)

Now hold your right arm out at shoulder height, with the palm of your hand 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 . . .

Unless all the way down, allow ten seconds;
note extent of movement, then continue:

(If not all the way down:) That's good . . . now let your hand go back to its original position on the arm of the chair, and relax. You probably experienced much more heaviness and tiredness in your arm that 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.

(If all the way down:) That good . . . now let your hand return to its original position. Just let it rest there, and relax. Your hand and arm are now as they were, not feeling tired or strained. All right . . . just relax.

Record score. Score (+) if hand has lowered at least six inches by end of ten-second wait. Go to Instruction 2. MOVING HANDS APART.

2. MOVING HAND APART

Now extend your arms ahead of you, with palms facing each other, hands close together but not touching. Let me show you.

Take hold of subject's hands and position them about two inches apart.

I want you to imagine a force acting on your hands to push them apart, as though one hand were repelling the other. You are thinking of your hands being forced apart

and they begin to move apart . . . separating . . .
 separating . . . moving apart . . . wider apart . . . more
 and more away from each other . . . more and more . . .

Allow ten seconds without further suggestions and
 note extent of motion.

(If hands have moved very little:) That's fine. You
 notice how closely thought and movement are related. I'll
 take hold of your hands and bring them together so that you
 can feel how much they have moved apart.

Take subject's hands and move them together fairly
 slowly.

(If hands have moved apart:) That's fine. Just put
 your hands back on the arms of the chair and relax.

Record score. Score (+) if hands are six or more
 inches apart at end of ten seconds. Go to
 Instruction 3. MOSQUITO HALLUCINATION.

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 tickling . . . 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 10")

It's gone . . . that's a relief . . . you are no longer bothered . . . the mosquito has disappeared. Now relax, relax completely.

Record score. Score (+) for any grimacing, any movement, any acknowledgment of effect. Go to Instruction 4. TASTE HALLUCINATION

4. TASTE HALLUCINATION

A. Sweet Taste

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 . . . How much of a sweet taste is there now in your mouth?

If the subject indicates that he tastes sweet, determine how strong the taste is. If moderately strong, go on to B. Sour Taste; if no taste or very weak, continue as follows:

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 . . . There . . . how it is it now? Stronger?

Note rely, and go on with B. Sour Taste, starting with a. or b., depending upon the experience with sweet.

B. Sour Taste

a. (If little or no perception of sweet taste)

That's all right. Some hypnotized persons can experience this sort of taste well and others can not . . . Let's see how you do with another taste. (Go on with c.)

b. (If subject reported distinct taste of sweet)

Now notice that something is happening to that taste, It is changing . . . (Go on with c.)

c 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 . . . Do you have that sour taste in your mouth now?

Note reply. If reply is "yes", ask "Is it strong? How does it compare in strength with the sweet you experienced earlier?"

d. (If sour not experienced) Not everyone can experience tastes like this when hypnotized. Your mouth feels quite normal . . . Just relax and don't think about tastes anymore . . . Just continue to relax . . .

e. (If sour experienced) That's fine . . . but note the sour taste is going away and your mouth feels just as it did before I mentioned any tastes at all . . . There, it's quite normal now . . . and you just continue to relax . . . more and more relaxed . . .

Record (+) if both tastes experienced, and either (a) one is accompanied by overt signs, such as lip

movements or grimacing, or (b) one is reported as strong. Go to Instruction 5. ARM RIGIDITY.

5. ARM RIGIDITY (RIGHT)

Please hold your right arm straight out, 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 10")

(If arm bends:) 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.

(If arm does not bend:) Relax . . . don't try to bend your arm any more . . . It is not stiff any longer . . . Let it relax back into position. Just relax.

Record score. Score (+) if there is less than two inches of arm bending in ten seconds. Go to Instruction 6. DREAM.

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 . . . I 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 . . . 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 2 minutes. 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 describe it to me from the beginning. Now tell me about your dream, right from the beginning.

(If subject has no dream:) That's all right--not everyone dreams. (If subject hesitates, or reports vaguely, probe for details. Then terminate:) That's all for the dream.

Record the dream as nearly verbatim as possible. Score (+) if subject dreams well (i.e., has an experience comparable to a dream--not just vague, fleeting experiences, or just thoughts or feelings without accompanying imagery). It is possible to obtain a plus score, even though the subject may insist it was not a real dream. Go to Instruction 7. AGE REGRESSION

7. AGE REGRESSION

Material needed: 8 1/2 x 11" pad of paper and #1 soft lead pencil.

Continue to go deeper and deeper into the hypnotic state. I am going to give you a pad and a pencil. Let's see, which hand do you write with? Good, here you can hold the pad in your (left, right) hand and the pencil in your (right, left) hand in such a way that you can easily write on the pad with the pencil. (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 boy (girl) 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 . . . 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 . . . presently you will be back in the fifth grade, on a very nice day. Three, getting younger and younger, smaller and smaller all the time. Soon 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 . . . In a few moments you will be right back there. Five! You are now a small boy (girl) in a classroom in school.

How old are you? . . .

Where are you? . . .

What are you doing? . . .

Who is your teacher? . . .

Continue, even if there is no evidence of regression.

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 . . . and now the date, if you can . . . and the day of the week . . .

Presently you will no longer be in the fifth grade, but you will be still younger, back 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 . . .

What is your name? . . .

And how old are you? . . .

Where are you? . . .

Who is your teacher? . . .

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 can you tell me what the date is today? . . . Or the day of the week? . . .

Regardless of what the responses have been:

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 boy (girl) but a grown up person (state age) sitting in a chair deeply hypnotized. How old are you? . . . And what is the date? . . . Where are you? . . . That's right . . . Today is (correct date) and you are (correct age) and this is (name place where subject is being tested). Fine, everything is back as it was. Now I'll take the pad and pencil you have been holding . . . (Remove pad and pencil) . . . Now just continue to be comfortably relaxed.

Score (+) if a clear change in handwriting between the present and one of the regressed ages. Go to Instruction 8. ARM IMMOBILIZATION.

8. ARM IMMOBILIZATION (LEFT ARM)

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 the arm of the chair. 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 10")

(If hand lifts:) 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 position on the arm of the chair and relax. Your hand and arm now feel normal again. They are no longer heavy. Just relax . . . relax all over.

(If hand does not lift:) That's fine . . . Stop trying . . . just relax. Your hand and arm now feel normal again. They are not heavy any more. Just relax . . . relax all over.

Record score. Score (+) if arm rises less than one inch in the ten second period. Go to Instruction 9. ANOSMIA TO AMMONIA

9. ANOSMIA TO AMMONIA

Material needed: A small screw-top bottle filled with undiluted household ammonia.

In a moment you are not going to be able to smell any odors . . . Even now you are becoming less and less able to smell odors . . . you can smell odors less and less . . . less and less . . . Very soon you will be unable to smell even the strongest of odors . . . Now you can no longer smell anything at all. You can no longer smell any odors. I am going to place a bottle of an odorous substance under your nose so that you can see for yourself that your sense of

smell is completely gone, and you can't smell anything . . .
 Your nose is completely insensitive . . . See for yourself
 that your nose is anesthetized, incapable of smelling any
 odors . . .

Bring the bottle of ammonia 3" away from the
 subject's nose and say:

Now take a good sniff . . .

Remove bottle after opportunity for sniffing has
 been given.

a. (If subject sniffs satisfactorily:) Did you smell
 anything just now? (If "yes") What did it smell like to
 you?

Note reply, and go to c. Termination.

b. (If subject fails to sniff satisfactorily:) You
 can take a better sniff than that . . . (Again place bottle
 under nose) Go ahead and take a good sniff and see that you
 really can't smell . . . (Remove bottle) Did you smell
 anything this time? What did it smell like to you?

c. Termination, for all subjects: That's fine . . .
 now your nose is returning to its normal state of smell . . .
 . In a moment you will be able to smell as you have always
 been able to do . . . Now you can smell fine, as well as
 ever. Here, take a good sniff of this.

Place opened bottle under subject's nose. After
 removing and closing bottle, inquire:

How does this compare with what you smelled a little while ago?

All right, everything is normal again. We are through with odors. Just sit back and relax.

Score (+) if odor of ammonia denied and overt signs were absent. Go to Instruction 10.
HALLUCINATED VOICE.

10. HALLUCINATED VOICE

I forgot to mention to you a while ago that there is someone in the office who wants to ask you some questions about yourself for our records, such as how old you are, where you were born, how many brothers and sisters you have, and a few other factual questions. I hope you won't mind answering these questions. The questions will be asked over a loud speaker microphone combination which is on the wall to your right. Please talk good and loud when you answer so that you can be heard clearly. The loudspeaker has just been turned on . . . There's the first question

. . .

Allow 10 seconds. If subject begins to answer, go to c. below; if no answer, say:

Didn't you hear the question?

a. (If subject says he hears nothing:) That's fine. Let's go on to something else. There is no voice asking questions.

Score (+1) and to to Instruction 11. NEGATIVE VISUAL HALLUCINATION

b. (If subject says he has heard the question, but has not answered aloud:) I could not hear what you said.

Please answer so that I can hear you, too. (An occasional subject may hallucinate his answers; if he appears to be hallucinating, repeat the request to speak more loudly).

c. (If subject hears and responds, allow him to give three or four answers, then terminate as follows:) That's fine. I think you have answered enough questions and we had better go on to something else. There is no longer any voice asking questions.

Score (+) if subject answers realistically at least once, or gives evidence of having hallucinated his answers. Go to Instruction 11.
NEGATIVE VISUAL HALLUCINATION

11. NEGATIVE VISUAL HALLUCINATION: THREE BOXES

Material needed: Small table to be placed before subject; a small folding TV table will do. Three small colored boxes (e.g., red, white, and blue), about 2" x 3" on a side and 1/2" deep. Line up boxes from left to right in front of the subject on the table.

While you sit there with your eyes closed, I am placing a small table in front of you.

Place table; arrange the three boxes.

In a little while I am going to ask you to open your eyes and look at the table in front of you, remaining as hypnotized as you now are. I have placed two boxes on the table. In fact, that is all there is on the table: just two boxes. Two small boxes and nothing else . . . All right,

open your eyes slowly, and look at the two boxes. Do you see them? . . . 'Do you see anything else on the table?

a. (If subject reports three boxes:) That's right . . . there really are three boxes: Now close your eyes and relax, as I take away the table and the boxes.

Score (+) and go to Instruction 12. POST-HYPNOTIC AMNESIA.

b. (If subject accepts fact of two boxes:) That's right. You see just the two boxes. Now I want you to tell me what these boxes look like. Are they large? . . . Are they alike? . . .

Record colors named by the subject.

That's right, they are (colors named by the subject). By the way, is the (color of one box) on the right or on the left of the other box? That's right.

Termination: But now look hard . . . Aren't there really three boxes? There really are three boxes . . . What is the color of third box? . . . That's right . . . Now close your eyes and relax as I take away the table and the boxes.

Score (+) if hallucination is present, whether or not sustained. Sometimes the third box is perceived vaguely as a colored spot or shadow. The score is still (+). Go to Instruction 12. POSTHYPNOTIC AMNESIA.

12. 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 tell you that you can remember. You will forget all that has happened 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! I want to ask you a few questions about your experience. Please tell me now in your own words everything that has happened since you began looking at the target.

Record items on scoring sheet in order of mention.
If blocked ask "Anything else?" and record answers
until subject reaches a further impasse.
Continue.

You have forgotten (all the, many, a few) things which
happened. Can you tell me a little what it feels like? (If
necessary, probe in order to ascertain nature of amnesia,
i.e., whether true, verbal inhibition, etc.)

Record comments, then continue:

Listen carefully to my words. Now you can remember
everything. Anything else now?

Record added items in order of mention. Remind
subject of any items not mentioned by him.
Continue:

About your inability to recall a while ago, how real was it
to you?

Record comments.

That's all now. Thank you for participating.

Score (+) if subject recalls 3 or fewer items
before being told "Now you can remember
everything." The recall should be specific enough
to identify the item; not e.g., "something with my
arms."

APPENDIX J

INVENTORY OF IMAGINATIVE EXPERIENCES

Listed below are eighteen statements made by college students. Please rate each statement according to how much it sounds like something you would say or think. After reading each statement please circle the number beneath the statement which most closely describes how much the statement sounds like something you would say or think.

1. Whenever I can I spend a lot of time outside, I like to walk around, sit by a stream or lake or on a hillside, not thinking of anything in particular, just drifting in my thoughts.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

2. I really love music. When I'm listening to music I'm not really thinking. It's mostly a feeling. I'm going along with the music, feeling it flow.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

3. I love watching movies. If I see a movie I really enjoy, I often go back to see it again. I forget my surroundings and become absorbed in the story. My emotions get stirred up, and I identify with the characters.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

4. I really enjoy repeating a good story I've heard and I get carried away acting it out. In fact, I exaggerate and embellish the original story so convincingly the elaborations seem as real to me as the first story.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

5. When I'm involved in a book I don't "read," I live the character. I become that character. I put myself in his place rather than putting him in my place.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

6. In reading you suspend yourself, your background; you don't have a personality of your own. You're not using your judgment of right and wrong and standards of value; you're dealing with the author on his own home ground. I become more involved with the authors than with the characters.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

7. When I was little, I had an older person read to me and they themselves were really involved in the stories they read me. They would often read the same stories to me over and over again. Every time I was so absorbed in them, I believed them completely and felt as if I were living them.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

8. I often daydreamed as a child, getting so caught up in my fantasies that they seemed real.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

9. When I am daydreaming I seem to actually experience the things that happen in the fantasy.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

10. I like to think about imaginary situations - sort of create a story and live it through in my imagination.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

11. In my life I've had serious interests in creative activities like painting, writing, designing, and things like that.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

12. I feel like I have found a sort of fulfillment of myself in creating something, like in crafts, writing, science, art, or music.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

13. I put complete trust in God. When I pray I'm under the will of God. I'll do my best wherever I am - things are going to get better, I have complete faith in God.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

14. Religion increased my respect for authority. God you can look up to, be confident in following. To a lesser degree I'd be willing to follow someone in authority on earth. Religious belief increases your readiness to accept things on faith that you might not otherwise accept, just on faith.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

15. I like to read science fiction or other fantastic adventure because it's uninhibited. For awhile you're completely free to let your logic be swept away. You're free and uninhibited. You don't have to think it through; for awhile you're illogical.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

16. I like science fiction because I can use my imagination, I can let things go. It's a way I can escape from the real world. I like every type of science fiction. Somehow I'm going along for the ride when I read it. Its main attraction is the use of imagination. Its played a big part in my life.

1	2	3	4	5	6	7
I would not say or think that	I doubt I would say or think that		I may or may not say or think that		I probably would say or think that	I would say or think that

17. Motorcycle riding appeals to me because of the power, the feeling of the wind whistling by and the freedom of feeling like you're flying.

1	2	3	4	5	6	7
I would not	I doubt		I may or		I probably	I would say
say or	I would		may not		would say	or think
think that	say or		say or		or think	that
	think		think		that	
	that		that			

18. I think I would really enjoy snow skiing because you defy gravity as you leap through the air.

1	2	3	4	5	6	7
I would not	I doubt		I may or		I probably	I would say
say or	I would		may not		would say	or think
think that	say or		say or		or think	that
	think		think		that	
	that		that			

APPENDIX K

PERSONAL EXPERIENCE QUESTIONNAIRE

Please read each statement and decide whether it is mostly true or mostly false as applied to you. If you decide a statement is true or mostly true, circle a "1". If a statement is false or mostly false, as applied to you circle a "2". (There are no right or wrong answers.)

- | T | F | |
|---|---|--|
| 1 | 2 | 1. Sometimes I feel and experience things as I did when I was a child. |
| 1 | 2 | 2. I can become deeply involved when reading or hearing about someone else's experiences. |
| 1 | 2 | 3. When I watch a boat on the lake, I can almost feel what it would be like to be on it. |
| 1 | 2 | 4. I can be greatly moved by eloquent or poetic language. |
| 1 | 2 | 5. While watching a movie, a T.V. show, or a play, I may become so involved that I forget about myself and my surroundings and experience the story as if it were real and as if I were taking part in it. |
| 1 | 2 | 6. If I stare at a picture and then look away from it, I can sometimes "see" an image of the picture, almost as if I were still looking at it. |
| 1 | 2 | 7. Sometimes I feel as if my mind could envelop the whole world. |
| 1 | 2 | 8. I like to watch cloud shapes change in the sky. |
| 1 | 2 | 9. If I wish, I can imagine (or daydream) some things so vividly that they hold my attention in the way a good movie or story does. |
| 1 | 2 | 10. I sometimes "step outside" my usual self and experience an entirely different state of being. |

- | T | F | |
|---|---|---|
| 1 | 2 | 11. I think I really know what some people mean when they talk about mystical experiences. |
| 1 | 2 | 12. Textures--such as wool, sand, wood--sometimes remind me of colors of music. |
| 1 | 2 | 13. Sometimes I experience things as if they were doubly real. |
| 1 | 2 | 14. When I listen to music, I can get so caught up in it that I don't notice anything else. |
| 1 | 2 | 15. If I wish, I can imagine that my body is so heavy that I could not move it if I wanted to. |
| 1 | 2 | 16. Often I can somehow sense the presences of another person before I actually see or hear him (her). |
| 1 | 2 | 17. The crackle and flames of a wood fire stimulate my imagination. |
| 1 | 2 | 18. It is sometimes possible for me to be completely immersed in a nature or in art and to feel as if my whole state of consciousness has somehow been temporarily altered. |
| 1 | 2 | 19. I can sometimes recollect certain past experiences in my life with such clarity and vividness that it is like living them again or almost so. |
| 1 | 2 | 20. I am able to wander off into my own thoughts while doing a routine task and actually forget that I am doing the task, and then find a few minutes later that I have completed it. |
| 1 | 2 | 21. I have attempted to write poetry or fiction. |
| 1 | 2 | 22. Different colors have distinctive and special meanings for me. |
| 1 | 2 | 23. Things that might seem meaningless to others often make sense to me. |

- | T | F | |
|---|---|---|
| 1 | 2 | 24. While acting in a play, I think I could really feel the emotions of the character and "become" him (her) for the time being, forgetting both myself and the audience. |
| 1 | 2 | 25. My thoughts often don't occur as words but as visual. |
| 1 | 2 | 26. I often take delight in small things (like the five-pointed star shape that appears when you cut an apple across the core or the colors in soap bubbles). |
| 1 | 2 | 27. When listening to organ music or other powerful music, I sometimes feel as if I am being lifted into the air. |
| 1 | 2 | 28. Sometimes I can change noise into music by the way I listen to it. |
| 1 | 2 | 29. Some of my most vivid memories are called up by scents and smells. |
| 1 | 2 | 30. Certain pieces of music reminding me of pictures or moving patterns of color. |
| 1 | 2 | 31. I often know what someone is going to say before he or she says it. |
| 1 | 2 | 32. I often have "physical memories"; for example, after I've been swimming I may still feel like I'm in the water. |
| 1 | 2 | 33. The sound of a voice can be so fascinating to me that I can just go on listening to it. |
| 1 | 2 | 34. At times I somehow feel the presence of someone who is not physically there. |
| 1 | 2 | 35. Sometimes thoughts and images come to me without the slightest effort on my part. |
| 1 | 2 | 36. I find that different odors have different colors. |
| 1 | 2 | 37. I can be deeply moved by a sunset. |

APPENDIX L

EXIT INSTRUCTIONS

This completes the experimental procedure. When the entire experiment is finished, a debriefing meeting will be held for everyone who participated. This meeting will be advertised on the bulletin board in the psychology department. At that time the experimental findings will be made available to you. Thank you very much for your participation. Please do not talk to others about your experience in this experiment until after the debriefing session has been held.

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