

THE EFFECTS OF GENDER, COGNITIVE
STYLE, AND MODELING ON
LEVELS OF SENSATION
SEEKING

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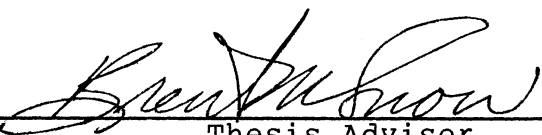
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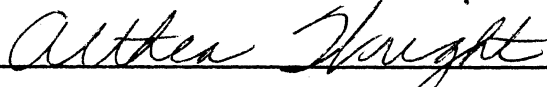
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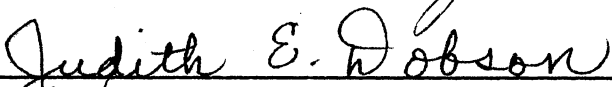
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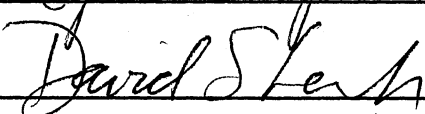


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Dean of the Graduate College

This study is dedicated

to

My loving wife Jennifer
and my wonderful children

Todd and Robin

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CHAPTER I

INTRODUCTION

It has been argued persuasively that the psychological trait sensation seeking is a biologically determined behavioral disposition (Zuckerman, 1979b, 1984). In other words, differences seen in sensation seeking behavior are related to individual physiological differences in people. Behaviorally, sensation seeking has been defined as a propensity to seek novel situations that offer a person an opportunity to experience new or unusual bodily sensations. There is correlational data that suggests that sensation seeking is related to a variety of physiological measures. While correlational data is not proof, its persuasiveness is compelling. Evidence has been presented with regard to the levels of neuroregulators and hormones (e.g. monoamine oxidase, catecholamines, and testosterone levels), the sensitivity to arousal, the startle and orienting reflexes, as well as the evoked potential of neurons, all which suggest that a person's level of sensation seeking is related to differences in physiology (Zuckerman, 1984).

Besides the correlational studies that have been conducted in the area of physiology, there have been studies suggesting a relationship between sensation seeking and a variety of personality and individual variables. For example, there have been numerous studies that have pointed to the relationship between sensation seeking levels and drug and alcohol use (Grossman & Goldstein, 1980; Kern, Kenkel, Templer, & Newell, 1986; Ratliff & Burkhart, 1984). In addition, Zaleski (1984) found that individuals who chose risky professions typically scored higher on sensation seeking. Domangue (1984) found that high sensation seekers had a higher need for cognitive complexity. Moreover, Zuckerman and Litle (1986) found a correlation between a high level of sensation seeking and curiosity with morbid events.

There have been studies that have demonstrated a consistent difference in sensation seeking with regard to gender (Zuckerman, 1979b). Using form V of the Sensation Seeking Scale, Zuckerman, Eysenck, and Eysenck, (1978) found that males scored significantly higher than females on all the subscales except Experience Seeking (ES). The greatest differences between males and females were found on the Disinhibition subscale.

Using Eysenck's personality schemes, Zuckerman (1979b) has proposed that sensation seeking can be plotted on a graph between psychoticism and extraversion. From within Eysenck's primary dimension of extraversion,

sensation seeking has loaded more on the sub-trait impulsivity than on sociability which may account for the observation that high sensation seekers have been described as tending to be rebellious loners. Using factors from Cattell's 16 PF, Birenbaum and Montag (1986) found that the general trait of sensation seeking loaded primarily on the factor which they labeled independence. The authors suggested that sensation seeking may represent, "...a tendency to free oneself of social constraints" (p. 369).

With much of this research focused on physiological and personality differences, there has been very little research attention given the environmental influence upon sensation seeking. Even Zuckerman (1984) had to "...confess to a neglect of research on social determinants of the trait. It is difficult to advance on two fronts simultaneously" (p. 433). With regard to social determinants, one area that has surprisingly received little attention has been the effects of modeling. In 1969, Zuckerman proposed optimal levels of stimulation (and thereby sensation seeking needs) could be set or changed by exposure to environmental stimulation. Hirschman (1984) found that high sensation seekers came from families that were stimulating, and Hirschman suspected that parents were role models for a stimulating environment. More recently, Zuckerman (1984) proposed that the home environment of the sensation seeker may well

encourage the expression of the sensation seeking need. In particular, parents who provide a more stimulating and interesting environment might produce children with higher sensation seeking needs. Therefore, it would seem to be a logical extension to consider social influence theory when examining social determinants for modeling as the key learning involved in that theory.

Despite the lack of experimental research, there is some logic that would connect sensation seeking with modeling. In previous research, low sensation seekers have been characterized as being similar to phobic prone people (Zuckerman, 1979b). Modeling has demonstrated its effectiveness in the deconditioning of fears (Bandura, 1977). With the possible similarities between phobias and low sensation seeking, one could see extending the logic to include modeling as effecting sensation seeking. If through observation, people can be brought to attempt behavior to which they have previously reacted with fear, then it might be logical to conclude that one could induce people to risk engaging in sensation seeking behavior by having them observe others joyfully engaged in such activities. It seems that there are many common sense observations which might suggest that sensation seeking can be modeled. As an example, it was judged to be thrilling for a person to drive an automobile 60 miles per hour in the early part of the 20th century, whereas people quite commonly engage in this activity now. The general

popularity of commercial flying also would be another example of a thrilling activity which has become more common today. One could conclude the increase in the number of people engaging in these thrilling activities has been aided by modeling.

Another area in the literature that remains unclear is the relationship between sensation seeking and cognitive style. Zuckerman (1979b, 1984) proposed that there are perceptual differences between high and low sensation seekers. He proposed that people who are high sensation seekers (having underlying neural differences) are perceptually more sensitive to reinforcing types of stimuli and less sensitive to punishing types of stimuli. This would account for the observation that high sensation seekers typically assess lower risks in situations than do low sensation seekers.

If there are some perceptual differences between high and low sensation seekers, one might wonder what investigations have been done relating sensation seeking to a person's perceptual-cognitive style? Investigations into cognitive styles began in the late 1940's with the loose confederation that was called the "New Look Movement" (Witkin, 1978 p. 2). Much of the cognitive style research has focused upon the concept of field dependence/independence which is defined as the reliance upon either others or self (and bodily cues) to resolve ambiguous stimuli (Witkin, 1978).

Witkin & Goodenough (1977) reported differences between people judged to be field dependent and people judged to be field independent. Relevant to sensation seeking, field dependent people tend to be more socially adept and tend to gravitate towards social situations. Whereas, field independent people are not as attentive to social cues and tend to distance themselves from people as well as showing a preference for impersonal situations.

In one of the earliest studies of cognitive style and sensation seeking, Zuckerman, Kolin, Price, and Zoob (1964) predicted that high sensation seeking would be associated with field independence. The authors reasoned that field independent people were more likely to rely upon bodily cues in ambiguous situations, and sensation seekers are drawn to experiencing new bodily sensations. The authors did find confirmation for this hypothesis. However, subsequent results have failed to replicate the earlier findings. Zuckerman (1979b) has interpreted the inconsistency of these subsequent results by suggesting that sensation seeking "...contains some traits characteristic of both field independence and dependence." (p. 226). Put another way, both field dependent and field independent people can be sensation seekers, though this has not been experimentally demonstrated. Considering the differences between field dependent and field independent people, it might be logical to predict that field dependent people might exhibit their sensation seeking in

group settings, whereas field independent people might prefer settings that were more solitary or less social. There has been no subsequent research that has demonstrated this possible difference in sensation seeking for field dependence and field independence.

Statement of the Problem

Much of the literature on sensation seeking has focused upon correlating sensation seeking with a variety of physiological and personality measures. One of the current theories suggests that differences in sensation seeking are related to physiological differences found in the limbic system that results in a person having either a heightened or diminished sensitivity to perceiving rewarding stimuli. With the focus having been upon building a physiological theory, there has been a seeming lack of literature on environmental influences. Despite some obvious ties with modeling, its influence upon sensation seeking has never been investigated.

Research also has noted that sensation seeking may be related to a cognitive/perceptual sensitivity to rewarding stimuli, but the literature has remained unclear as to the relationship between a person's cognitive style and his/her sensation seeking behavior. Therefore, this study will be designed to answer the following questions: Can it be demonstrated that modeling has an effect upon sensation seeking? Is there a relationship between a

person's cognitive style and the pattern of his/her sensation seeking?

Definition of Terms

The following are definitions of terms used in this study.

Cognitive Style. Cognitive style generally refers to the regular manner in which an individual orders or processes perceptual information. In this study, cognitive style refers to the construct of field dependence/independence, and was measured using the Group Embedded Figures Test (GEFT) (Witkin, Oltman, Raskin, & Karp, 1971).

Field Dependence. Field dependence is defined as a perceptual and cognitive style used by people. The primary perceptual feature of field dependence is the person's reliance upon visual and social/interpersonal cues to aid the solution of ambiguous situations. According to the theory proposed by Witkin, Dyk, Faterson, Goodenough, & Karp (1962), field dependence implies that the person has a less defined self-nonsel self differentiation when compared the self-nonsel self differentiation achieved by people judged to be field independent. Field dependence was operationally defined in this study by the subject's score on the Group Embedded Figures Test. If a subject's score fell within the first two quartiles (0 to 12 for males and 0 to 11 for females) they were classified as field dependent.

Field Independence. Field independence is defined as a perceptual and cognitive style used by people. The primary perceptual feature of field independence is a person's use of the self as a referent to aid the solution of ambiguous stimulus situations. According to the theory proposed by Witkin et al. (1962), field independence implies that the person has developed a greater self-nonsel self differentiation than a field dependent person. Field independence was defined in this study by the subject's score on the Group Embedded Figures Test. If a subject's score fell within the last two quartiles (13 to 18 for males and 12 to 18 for females) they were classified as field independent.

Modeling. Similar to the social influence notions proposed by Bandura (1977), modeling will be defined as the promotion of learning through observation. The primary contention of modeling theory is that people can learn certain behaviors by observing others demonstrate these behaviors. In this study, modeling involved people watching other people engaging in thrilling activities.

Sensation Seeking. Similar to Zuckerman's (1979b) definition, sensation seeking is a behavioral trait whose nature is defined by the need for varied and novel complex stimulations and experiences. Sensation seeking also can be defined with a willingness to take physical and social risks for the sake of such experiences. Sensation seeking was measured using the subscales (Boredom Susceptibility,

Disinhibition, Experience Seeking, and Thrill and Adventure Seeking, each with scores ranging from 0 to 10) from the Sensation Seeking Scale form V (Zuckerman, Eysenck, & Eysenck, 1978).

Thrilling Activity. Thrilling activity is a term that will be used to describe the experimental treatment effect. In this study, a thrilling activity was the video depiction of people engaged in activities that are risky and exciting.

Significance of the Study

A strong case has been made for sensation seeking being a physiological disposition, but this does not answer questions of how malleable this psychological trait can be. As Baldwin (1984) has noted, even the presence of moderate to high levels of inheritability of a trait does not preclude how environmental forces might shape the trait. Given the dearth of studies that have focused on the social-environmental influences upon sensation seeking, this study will contribute information that will lead to a better understanding of how environmental influences relate to the trait of sensation seeking.

In practical terms, knowledge of whether or not sensation seeking is subject to modeling could help determine appropriate strategies for planning a variety of activities as part of therapy or in preparing lesson plans in the classroom. For example, a counselor's knowledge

that sensation seeking can be influenced, may assist in determining an appropriate course of action in therapy, (e.g. trying to enhance a client's level of sensation seeking in order to gain compliance in some prescription or directive). One element of counseling involves the promotion of risk taking on the client's part. If sensation seeking was subject to environmental influence, then one avenue might be to heighten sensation seeking in clients that need to take a risk. Also, knowledge of the influence of modeling upon sensation seeking could have implications for parenting. Depending upon the circumstances, parents may decide to promote or inhibit their children's sensation seeking activities.

Attempts have been made to establish the relationship between sensation seeking and field dependence/independence, but these attempts have yielded mixed results. This study contributed to a better understanding of how a person's sensation seeking interacts with a person's cognitive style thereby contributing information about the exact relationship between sensation seeking and field dependence/independence. In practical terms, if cognitive style influences sensation seeking it would be important for a counselor to consider a person's cognitive style when prescribing a new activity for a client.

Limitations of the Study

The following are the limitations of this study.

1. The subjects used in this study will be volunteers from colleges in the south-central part of the United States. Generalization of the results to other groups may have limitations.

2. This study will rely upon the self-reports of subjects' sensation seeking behavior which can reduce the generalizability of the results.

3. Since the literature indicates that sensation seeking peaks for people in their 20's, the subjects for this study will be confined to young students in their 20's. This delimitation may reduce the generalizability to older and/or younger populations.

4. Due to limitations in time and funding, the thrilling activities were chosen because of their availability. The types of thrilling activities were narrowed to include people at parties and people engaging in solitary thrill seeking (e.g. mountain climbing, skiing, hang gliding).

Hypotheses

Based upon the review of related literature, the following hypotheses were formulated:

1. The groups viewing a thrilling activity will express higher levels of sensation seeking than the control group which viewed tape of a weather broadcast.

2. Females who view thrilling activities of a social event will express higher levels of sensation seeking than females viewing control tapes and those viewing thrilling activities of a solitary nature.

3. Males who view thrilling activities of a solitary nature will express higher levels of sensation seeking than males viewing control tapes and those viewing thrilling activities of a social nature.

4. Field dependent people who view thrilling social activities will express higher levels of Sensation Seeking than field independent people who view the same thrilling social activities.

5. Field independent people who view thrilling activities of a solitary nature will express higher levels of sensation seeking than will field dependent people viewing the same thrilling activities.

Organization of the Study

This study is organized into five sections or chapters. This first chapter served as an introduction to the research problem. A problem statement was given, the conceptual terms were defined, the significance of the problem was discussed, and the hypotheses were stated. Chapter II will contain a review of relevant literature of

the various constructs that are being investigated in this study. In Chapter III, the methods used in this study are presented. Among the elements covered are descriptions of the subjects, instruments, procedures, and research design. In Chapter IV the results from the statistical analyses are reported. In Chapter V, the study is summarized, and conclusions and recommendations are drawn from the statistical analyses.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter contains a review of the literature pertinent to this study. This chapter examines the literature on sensation seeking including the development of the concept and the related findings. This chapter also examines the literature on modeling and on field dependence/independence cognitive style.

Sensation Seeking

Development of a Theory

The concept of sensation seeking was articulated as a process of the research by Zuckerman (1979b). His curiosity about the variety of responses observed in sensory deprivation experiments set into motion the subsequent investigation of sensation seeking. The investigation of sensory deprivation research which began in the early 1950's, opened areas of research including cortical arousal, and it inspired the investigation of a physiological basis of behavior. In the sensory deprivation settings, Zuckerman (1979b) noticed that some

subjects were better able to endure the deprivation than other subjects. He proposed the idea that adaptation levels of the subject's reticular activating system (RAS) accounted for the behavioral differences noted. This early work led to the development of the Sensation Seeking Scale (SSS) (Zuckerman, Kolin, Price, & Zoob, 1964). For Zuckerman, sensation seeking fit into a notion of optimal level of stimulation and arousal which represented the basis of his earliest proposed theory of sensation seeking.

In his early theory of sensation seeking, Zuckerman (1969) proposed that individuals seek to have and then keep an optimal level of arousal (OLA). He proposed that there were individual differences with regard to this OLA. The foundation for these notions could be traced to Wundt's experimentation in the 19th century. Wundt (1893) proposed the famous curve that represented the optimal level of stimulation (OLS) at which, just noticeable differences in stimulation could be detected.

The notion of optimal level of arousal became modified with the discovery of the reticular activating system (RAS). Researchers believed that the RAS was the pathway of cerebral arousal, and this fit into the notions about sensation seeking, for arousal was maintained at certain levels by the organism. The manner in which arousal was maintained was through the activity of peripheral muscle groups such as the legs and arms.

In the theory Zuckerman (1969) proposed, individual differences represented differing levels or needs for stimulation in order to maintain an OLA. People scoring high on sensation seeking were predicted to have higher need for stimulation, and therefore sought added stimulation. This need was believed to have a physiological basis, but subsequent research failed to yield consistent results that differentiated high from low sensation seekers in physiological measures. This cast doubt upon the notion of optimal level of arousal as maintained by the RAS.

However, subsequent physiological discoveries of other cerebral arousal systems led to further revisions of Zuckerman's theory (1979b) about OLA. In the next theory, Zuckerman proposed that there are individual differences with regard to the limbic system. In the limbic arousal system, there are the mechanisms of pleasure, pain, and approach/avoidance. In particular, Zuckerman proposed that sensation seeking is related to the pleasure portion of the limbic system. Zuckerman (1979b) proposed that sensation seekers were more sensitive to the rewarding aspects of the perceptual field. Support for this proposal can be inferred through the results of experiments in which sensation seekers typically underestimate risk factors in favor of the rewarding aspects of situations (Zuckerman, 1979b).

The most recent revision of Zuckerman's (1984) research represents a synthesis of the two previous theories on sensation seeking. Sensation seeking is now proposed as a reaction to a possible deficit in the norepinephrine system of the brain. The norepinephrine system in the limbic area of the brain is the reward area of the brain. With evidence that high sensation seekers have a deficit in these systems, it is believed that the person attempts to maintain an adequate level of arousal in this area by seeking stimulation (Zuckerman, 1984). It is suggested that perceptual differences may account for the seeking of stimulation.

To summarize these findings, the first theory proposed that an individual sought stimulation to maintain an optimal level of arousal through the RAS. Based upon new information about the RAS and limbic areas of the brain, the second theory proposed differences in the limbic region which perceptually sensitized people to the rewards of a situation, while minimizing the risks. This accounted for people being drawn towards stimulation. In the third revision, it was proposed that there are deficits that perceptually sensitize individuals to both the rewarding aspects of situations, but the individual also is seen as seeking stimulation in order to maintain an arousal level in the limbic region, rather than the RAS as accounted for in the first theory.

Sensation Seeking and Personality

It is readily apparent that this evolving theory has a degree of sophistication in trying to relate complex behavior to physiological differences in the brain and the neurotransmitters. Zuckerman (1984) himself has readily admitted that much of the research on sensation seeking has focused upon physiological findings. Other areas that the sensation seeking people have focused upon, have been correlates of behavior and personality with sensation seeking scores. From these results, we are able to gain a reasonably clear picture of what sensation seeking relates to, and how it may be expressed in human personality.

With regard to demographic factors, sensation seeking has been primarily related to age and gender. In his original theory, Zuckerman (1969) proposed that sensation seeking would decline with age. Though, his theory predicted that that sensation seeking would have its peak in adolescence and then decline, the evidence has suggested that the decline is more evident in the late 20's (Jacobs & Koeppel, 1975; Zuckerman, 1979b; Zuckerman, Eysenck, & Eysenck, 1978). In particular one of the studies (Zuckerman, Eysenck, & Eysenck, 1978) demonstrated clearly the difference across age groups. When comparing the age findings to the subtests of the Sensation Seeking Scale (SSS), females showed a significant decline in all four scales whereas males demonstrated significance for age on only the Thrill and Adventure Seeking (TAS) and Disinhibition (Dis) subscales. For both males and

females, most of the variance in the age findings were located on TAS and Dis subscales. An environmental explanation offered to account for these age findings is that decreasing risk taking is shaped through environmental reinforcement. Though Zuckerman (1979b) noted that cortical reactivity (a biological correlate of sensation seeking) has also been shown to decline with age, which might suggest a biological explanation.

Findings have generally supported the notion that sensation seeking is more predominant in males than females. In a variety of studies including some cross cultural studies (Zuckerman, 1979b), males have scored significantly higher than females. The significant differences are generally reflected in all scales except Experience Seeking (ES). The Dis subscale has typically reflected most of the variance found in the gender differences.

The Zuckerman test (SSS) has been translated into several languages and administered cross-culturally, but Zuckerman (1979b) believes that when there has been a translation from English to a foreign language that there are probably too many confounding variables to interpret the results. Despite this limitation there have been other cross cultural testing among English speaking people and there have been some differences as well as similarities noted. In one study (Zuckerman, Eysenck, & Eysenck, 1978), the samples included British, Scottish,

and American subjects. The similarities found across groups for males, included scores on the General factor and the Dis subscale. Americans scored higher on the TAS subscale, whereas the Scots scored higher on the the ES and Boredom Susceptibility (BS) subscales. Scottish women generally scored higher than the British or Americans with the exception of the TAS subscale. In general, the authors (Zuckerman, Eysenck, & Eysenck, 1978) concluded that the males of the three countries more closely resembled each other on the sensation seeking scores than they did not, though the picture was not as clear for the females.

With regard to race, there have been findings that suggest that Blacks scored significantly lower than whites on the General, TAS, and BS scales (Kurtz & Zuckerman, 1978). The Dis scale showed no significant difference, and this scale of the SSS has emerged as the scale that typically will differentiate males from females. Zuckerman (1979b) stated that more than any of the subscales of the SSS form V, Dis scores are linked to the biological aspect of sensation seeking.

With regard to vocational values and choices, sensation seeking has been shown to be related to vocational choices (Zuckerman, 1979b). Among females of college age, those that score high on sensation seeking are considered non-traditional. Among the professionals tested, counselors and therapists are attracted to areas of the

field that seem to offer more exciting activity such as emergency care or crisis intervention (Best & Kilpatrick, 1977; Irey, cited in Zuckerman, 1979b). Zaleski (1984) found that men who had chosen risky professions had higher sensation seeking scores than matched controls.

Attempts have been made to determine if sensation seeking, as measured by the SSS, is similar to a variety of other psychological concepts. The TAS subscale has been shown to be related to a variety of measures such as the Change Seeker Index, The External Sensation Scale of the Novelty Experiencing Scale, the Harmavoidance Scale, and the Risk subscale of the Eysenck Impulsivity Scale. The relationship is significant in part, because each of these tests have items that are quite similar to the items on the TAS scale.

Regarding the relationship between the SSS and Eysenck's personality measure, SSS scores have been shown to be related to the Extraversion and Psychoticism dimensions. In particular, sensation seeking seems to load on the impulsivity subfactor of Extraversion and not the socialization subfactor. A general description derived from a variety of other data would suggest that sensation seekers could be described as nonconforming risk takers, who may be somewhat asocial in that they focus upon their own needs.

With regard to psychopathology, a clear relationship has yet to be established. There is some association of

sensation seeking with sociopathy. Mania has also shown a positive relationship with sensation seeking. On the other hand, schizophrenia in general and anxious neurotics have shown a low correlation with sensation seeking.

Sensation Seeking and Risk Taking

Sensation seeking has also been found to be related to risk taking activities. The SSS has been correlated with a variety of other risk taking tests, and typically there have been moderately high correlations found (Zuckerman, 1979b). Also supporting the notion that sensation seeking is related to risk taking, it has been found that sensation seekers are more likely to volunteer for unusual and risky experiments. As an example, Zuckerman (1974) found that high sensation seekers were more likely to volunteer for experiments that involved extra sensory perception (ESP), hypnosis, and the use of drugs than low sensation seekers. Stanton (1976) also supported these findings. He found that volunteers for encounter groups had significantly higher scores on the SSS than did the non-volunteers.

Zuckerman (1979b) has suggested that sensation seekers volunteer for these unusual experiments because of the possibility of having new experiences. In fact, Watson (1985) suggests that if one is screening or using sensation seeking as a control variable, that caution should be used, because high sensation seeking groups tend

to be more homogeneous than those subjects in the moderate or low range.

In experiments that simulate risk taking, high sensation seekers tend to have a lower risk appraisal than do low sensation seekers (Zuckerman, 1979a). In simulated gambling experiments, sensation seeking is associated with betting and preference for higher odds (riskier situation). Sensation seeking is also related to readiness to change locales, and high sensation seekers are also more willing to travel to exotic places than low sensation seekers (Zuckerman, 1979a). High sensation seekers expect to experience less anxiety in a novel situation than do low sensation seekers (Zuckerman, 1979a). Finally negative life stresses impact low sensation seekers more than high sensation seekers (Smith, Johnson, & Sarason, 1978). These findings suggest that being high in the sensation seeking trait helps one to better fight stress. One could also wonder if engaging in the acts of sensation seeking might aid a person's fight against stress.

One could point out that simulations are not equivalent to actual risk taking behavior, but there is data that supports that sensation seekers do engage in actual risky behaviors. High sensation seekers will engage in riskier sports like parachuting and scuba diving (Hymbaugh & Garrett, 1974). Also, Mellstrom, Jr., Cicala, & Zuckerman, (1976) found that high sensation seekers were

more willing to engage in activities to which low sensation seekers would respond in phobic manner. In this experiment, the authors found that high sensation seekers perform tasks like picking up snakes more readily than low sensation seekers. High sensation seekers report a wider variety of sexual experiences (Zuckerman, 1973). Drug and alcohol usage has been linked with high sensation seeking (Grossman & Goldstein, 1980; Kern, Kenkel, Templer, & Newell, 1986; Ratliff & Burkhart, 1984). Interestingly, Galizio, Gerstenhaber, & Friedensen (1985) found that sensation seeking among alcoholics was associated with being younger and having social reasons for drinking. They also found that older alcoholics scored lower on sensation seeking and their drinking was more associated with avoidance responses than the seeking of new stimuli.

Sensation Seeking and Perception

From the data, it seems apparent that sensation seeking is related to people engaging in risk taking behavior. One might wonder if sensation seekers perceive less risk and/or more reward in a situation. There have been studies showing some perceptual differences between high and low sensation seekers.

There have been a number of studies that have consistently shown that high sensation seekers prefer more complex visual figures (Looft & Baranowski, 1971; Zuckerman, 1979b; Zuckerman, Bone, Neary, Mangelsdorff, &

Brustman, 1972). Domangue (1984) found a correlation in females between sensation seeking and cognitive complexity. One study has indicated that high sensation seekers satiate perceptually quicker than low sensation seekers (Neary & Zuckerman, 1976). Nelson, Pelech, and Foster (1984) found that high sensation seekers preferred the color red whereas the low sensation seekers preferred the color blue. There has been a study in which high sensation seekers demonstrated better visual acuity (Palmer, 1970). Martin (1985) found that sensation seekers performed better at tasks that required focused attention.

Despite these differences between high and low sensation seekers on some perceptual task, the evidence with regard to sensitivity to sensory stimuli has been equivocal (Zuckerman, 1979b), for there is no evidence that the nervous system of either the low or high sensation seeker is more sensitive to stimuli. In his own words, Zuckerman (1979b) concluded that there is not evidence of "...the existence of a central, cross-modality threshold mechanism" (p.220). Therefore no demonstrable differences have been found in general nervous system reactivity between high and low sensation seekers. Zuckerman (1979b) has reported that sensation seeking is not the same as cognitive inquisitiveness. Sensation seekers move towards stimuli in searching for novel sensations.

Social Influences on Sensation Seeking

There has been a large amount of data accumulated on sensation seeking. The research has focused in two directions. One avenue has pursued the finding of the physiological correlates of sensation seeking. The other focused area of research has worked on defining the sensation seeking trait in the context of personality and behavioral correlates. Even Zuckerman (1984) has noted that the environmental influences have not received much attention. Baldwin (1984) expressed similar concern, and he went further to note that there can be a wide range of trait expression shaped by the environment, even in cases in which a trait has been shown to have high indices of inheritability.

Farley (1986) has proposed that the environment shapes how the sensation seeking trait is expressed. In particular, Farley (1986) proposed that socioeconomic class can strongly determine how sensation seeking is expressed. Farley (1986) noted that for lower socioeconomic classes, sensation seeking correlated with delinquent behavior. In the middle class, sensation seeking also correlated with delinquent behavior, but to a lesser degree. Farley (1986) believes that middle and upper class children have better access to more socially acceptable expressions of sensation seeking. Barratt (1984) feels that sensation seeking as outlined by

Zuckerman is too simplistic. He proposed a systems model in which the sensation seeking trait interacts with other constitutional as well as environmental factors. Barratt (1984) felt there was a need for research in the area of influences on sensation seeking.

In earlier theorizing, Zuckerman (1969) proposed that optimal levels of arousal might be set by exposure to environmental stimulation during childhood. In later theorizing, Zuckerman (1984) expressed his belief that only controlled studies of adopted twins could help distinguish environmental from constitutional influences on sensation seeking. Other theories concerning the environmental influences of sensation seeking have proposed that in combination with heredity, parental fearfulness and reinforcement patterns would go into shaping explorative types of behavior (Kish, 1973; Bone, Montgomery, & McAllister, 1973; cited in Zuckerman, 1979b). Obviously, parental modeling of sensation seeking behavior would be influential too. Unfortunately, none of these theories has been well tested.

There has been evidence offered that suggests the early environmental experiences can shape the social and curiosity behaviors of primates (Suomi & Harlow, 1976). Their findings suggested that early deprivation of rhesus monkeys resulted in the monkeys being excessively fearful at the introduction of anything new or novel into their environment. Hirschman (1984) has provided evidence from

the self reports of adults that high sensation seekers remembered having childhoods that were full of stimulation and activities. So the logic of previous evidence, would support a notion that sensation seeking can be influenced through some environmental factors.

Modeling

Bandura (1971, 1977) has persuasively argued that reinforcement contingencies do not account for all of human learning. Beyond behavioral responses that are conditioned, it has been proposed that modeling is one of the main methods that human beings use to acquire new behavior (Bandura, 1977). Despite some initial controversy, modeling has become well accepted as one of the primary forms of human learning. Initially, the operant learning theorist contended that modeling represented generalized imitating or learning to learn, but Bandura (1971) argued that operant theory just cannot account for the variety of complex behaviors that emerge without reinforcement.

Modeling itself represents one of the components of Bandura's (1977) theory of social learning. Bandura (1971, 1977) has delineated on several occasions the various components that go into making modeling effective. These include attentional processes, retention processes, motor reproduction, and motivational processes.

With regard to attentional processes, Bandura (1977) notes that, "...people cannot learn much by observation unless they attend to, and perceive accurately, the significant features of the modeled behavior" (p. 24). Essentially this means that the perceived model, must be distinctive enough or in some way valued by the observer for the observer to take note of the target behavior. Bandura (1977) has noted that some the determinants that increase the likelihood that modeling might take place are patterns of association, social desirability of the model, general novelty of modeling, and complexity of the modeled behavior.

With regard to the retention processes, Bandura (1977) noted that in order for the observer to exhibit the modeled behavior, the target behavior has to be remembered. For modeled behavior to be remembered it must be encoded either through images or through cognitive/verbal representation. Bandura (1977) has noted that in particular, the modeling of sensory activities and stimulation are usually retained through imagery. It is these visual images (and/or cognitive/verbal information) that serve as guides to the performance of the modeled behavior. Several studies have noted that symbolic rehearsal (rehearsing through imaging the modeled behavior) and symbolic coding result in better reproduction rates of the observed behavior (Bandura & Jeffery, 1973; Gerst, 1971).

Motor reproduction involves literally having the observer exhibit the modeled behavior. Initially, there can be errors in the reproductions, depending upon how difficult the modeled performance, and depending upon the degree of skill the observer brings to a task. Bandura (1977) pointed out "...that skills are not perfected through observation alone." (p.28). It is an initial approximation that an observer can bring from the modeling, which serves as a basic behavioral unit to be refined.

Motivational processes refer to the responses that the newly modeled motor reproduction receives from the environment. In a general sense, reinforcement will strengthen the response and punishment will inhibit the response. A variety of factors help determine or constrain the appearance of modeled behavior including, observing the correct behavior, having remembered the behavior accurately, the ability to perform the actual behavior, and perception of environmental incentives.

With regard to the role that observational learning plays in societies, modeling can act like a conduit for the introduction of innovative behavior. When the advantages of the innovative behaviors are clearly demonstrated or at least clear to the observer(s), then the diffusion of this behavior has begun in the group. How well the behavior becomes adopted is in part determined by subsequent consequences engendered by the

modeled behavior. In general Bandura (1977) notes that prosocial types of innovations spread faster through society than do prohibitive types of innovations.

Modeling and Phobias

As noted earlier, sensation seeking might be thought of as the opposite of anxious or phobic behavior in that a negative correlation has been demonstrated between the two (Mellstrom, Jr., Cicala, & Zuckerman, 1976). With regard to modeling, there have been several studies that suggest that modeling can be quite effective when it comes to reducing fearful and anxious responses (Bandura, 1971; 1977; Decker & Nathan, 1985; Rachman, 1972). Bandura (1977) proposed that the simple observation of models engaging in activities that are threatening without adverse consequences can result in reduced inhibitions. Kazdin (1973) has demonstrated that just having subjects imagine a model confronting a feared activity can result in dramatic decrease in inhibition responses.

Field Dependence/Independence

The construct of field dependence/independence was articulated as a result of the experimental work done by Asch and Witkin in the 1940's (Goodenough, 1986; Witkin, 1978). In their early work, Asch and Witkin were trying to determine the importance of visual cues in the

perception of vertical space. In attempting to measure this, Asch and Witkin (1948) devised several physical devices which enabled them to present their subjects conflicting visual and gravitational cues. They discovered that there were relatively consistent differences between groups of subjects concerning how they solved the perceptual dilemma. One group showed a preference to rely upon the visual field to make adjustments to verticality, and the other group relied more upon gravitational cues to make the adjustment to verticality. Thus, the construct of (visual) field dependence was coined to describe the group of subjects that relied upon the visual field to make these adjustments to verticality. The construct of (visual) field independence was coined to refer to the group of subjects that made adjustments to verticality using the bodily cues of gravity (Ash & Witkin, 1948).

The early researchers of field dependence/independence, were interested in putting the person back into perceptual research (Goodenough, 1986). From this early period of research, Witkin (1978) became curious about the psychological functioning of the subjects as it related to the field dependence measure. This curiosity led the researchers to note that just in casual conversation, they could rather accurately distinguish between field dependent and field independent subjects. So armed with the beliefs that perceptual styles affected

personality, and that field dependence/independence was a rather enduring perceptual style, there came to be developed, a personality and cognitive theory that had at its core, the specific perceptual style of field dependence/independence (Goodenough, 1986).

Initially field dependence/independence was correlated with a variety of psychological measures. It became increasingly clear that field dependence/independence had some cognitive elements. In a broader sense, the construct of "articulated versus global" field approach was offered as an explanation for cognitively organizing abilities seen across the field dependence/independence range (Goodenough, 1986). It was noted that field independent people are better able to cognitively restructure or articulate the perceptual field into more basic elements than field dependent people (Witkin, 1978). Witkin (Goodenough, 1986) proposed that the construct of field dependence/independence represented a cognitive ability to disembed or break down perceptual elements from the perceptual field. This proposal followed after it was discovered that field independence was correlated with the ability to discover embedded or camouflaged figures. Along with furthering the knowledge about field dependence/independence, this discovery led to a dramatic increase in the research on field dependence/independence, because it allowed for easier testing for the construct

using the Embedded Figures Test and later the Group Embedded Figures Test (Goodenough, 1986).

Building upon the idea that field dependence/independence represented both a perceptual ability to perceive verticality, and a cognitive ability to restructure the elements of a perceptual field, the next step in the theory building was to place field dependence/independence within a theory of personality (Goodenough, 1986). Witkin and Goodenough (1981) noted that as a person moves towards field independence, he/she begins to achieve differentiation of the self. Essentially, it was noted that field independent people had what was labeled as differentiation of the self. In other words, differentiation of self follows the cognitive perceptual ability of restructuring which had been observed in field independent people (Witkin, 1978; Witkin, et al., 1962).

The theory proposed that differentiation represented a developmental process, in which the person beginning in infancy, proceeds from a global field type of perceptual style (in which there is very little differentiation), to perceptual style that is more articulated, in which the person shows greater ability to differentiate elements of the perceptual field (Witkin et al., 1962). In the personality domain, this developmental process yields an increasing ability to differentiate the self from non-self (or the social field). The research indicated that the

field independent person had a clearer distinction between self and what was called non-self, when compared with the field dependent person, and that the field independent person (more differentiated) tended to use more specific types of defenses (e.g. isolation, projection, & intellectualization) as opposed to nonspecific types of defenses (e.g. repression & denial) (Witkin, et al., 1962; Witkin & Goodenough, 1981). In summing this up, initially the construct of field dependence/independence was articulated as a perceptual style that helped people in distinguishing verticality. It later became the basis for a theory of cognitive and personality differentiation.

Lest it appear from this theory that field independence is the desirable characteristic, and field dependence is the undesirable characteristic, it should be made clear that a key element of this evolving theory, was the notion that field dependence/independence construct is value neutral (Witkin & Goodenough, 1981). It became apparent over time that each element of the construct had its adaptive value depending upon the task the person faced. In some of the early experiments, when a task required the use of gravity to make adjustments to verticality, field independent subjects were more accurate in their judgements. If the experimental task primarily relied upon visual cues to make the adjustment, then it was found that field dependent subjects were more accurate in their judgements (Witkin & Goodenough, 1981). So in

some instances being field dependent will provide a more adaptive response, whereas in other situations being field independent will provide a more adaptive response.

So keeping the framework of this theory in mind, the important findings regarding field dependence/independence have been numerous and many. As noted, initially field dependence/independence represented just a perceptual style with which to determine verticality. Subsequent research began to reveal that field dependence/independence was related to other behaviors. To begin with, it has been noted that field dependent people will more readily look to other people for clarifying information in ambiguous situations than will field independent people (Witkin & Goodenough, 1977). Fitting this with the theory on differentiation, the field dependent person is less differentiated and in search for information relies less upon the self and more upon the social field. Ambiguity and information are the key elements when it comes to the effect of field dependence/independence. Generally, it is the seeking of information in ambiguous situations, which provides distinction between field dependence and independence. Without this context, field dependence/independence generally becomes an equivocal factor (Witkin & Goodenough, 1977; 1981).

Due to the confusion of terms, it should be noted that field dependence does not indicate that a person is psychologically dependent. In investigation of this

question, it was observed that there were no differences between field dependent and field independent people on measures of psychological dependence (Witkin & Goodenough, 1977; 1981). The difference seems to be primarily a reflection of seeking information during an ambiguous stimulus situation.

Another sharp distinction found across the dimension of field dependence/independence, is the general orientation towards other people. Research has demonstrated that field dependent people have an general orientation that moves them towards people, which contrasts with the general orientation of field independent people that has been characterized as impersonal (Witkin & Goodenough, 1977). Generally, field dependent people show interest in people, are emotionally open, and prefer to be physically close to people. On the other hand field independent people show less interest in people, prefer more physical and psychological distancing from others, and generally favor impersonal situations (Witkin & Goodenough, 1977, 1981).

Given these findings, it is no surprise to note that studies have demonstrated that field dependent people are much more attentive to social cues. It has been demonstrated several times that people who tend to be field dependent in cognitive style, are much more likely to look at the person with whom they are in conversation (Witkin & Goodenough, 1977). Descriptions given of group

leaders by group members have yielded a picture of field independent leaders as cold, aloof, analytical, and primarily concerned with ideas not people. This is distinct from the description about field dependent leaders which have been described as warm, friendly, accomodating, and nonevaluative (Witkin & Goodenough, 1977).

There have been gender differences noted in field dependence/independence (Witkin & Goodenough, 1981). Typically what has been found is that males score higher on measures of field independence than do females (Witkin, 1978). It has been proposed that this difference represents the effects of culture rather than biology. In some of the cross-cultural studies of subsistence level people, there were little differences between male and female scores found in the cultural groups that generally scored higher on field independence (Witkin & Goodenough, 1981).

Finally, a person's field dependence/independence style has shown a tendency to remain consistent over time (Witkin & Goodenough, 1977; 1981). Witkin (1978) proposed that this represented fixity of the cognitive style. On the other hand, Witkin (1978) has noted that with training, one can improve a person's ability to cognitively restructure, and there is clinical evidence that suggests that one can improve interpersonal competency through training. This would lead one to

conclude that individuals could be trained to have the best skills from both field dependence and independence (Witkin, 1978). The concept of mobility has been used to describe the person who might be able to demonstrate strengths in both ends of the field dependence/ independence dimension (Witkin, 1978; Witkin & Goodenough, 1981).

Cognitive Style and Sensation Seeking

There has been a limited amount of research published on the relationship between sensation seeking and field dependence and most of it is unpublished, but cited by Zuckerman (1979b). In earlier work, Zuckerman et al. (1964) predicted that sensation seeking would be related to field independence. This was based upon the notion that field independent people relied upon bodily cues in handling ambiguous stimuli. The authors believed that it was logical to predict that sensation seekers would be curious and drawn to bodily sensations, and therefore sensation seekers would naturally focus upon bodily sensations during ambiguous situations not unlike the description given field independent people. Zuckerman et al. (1964) did find that field independence was correlated to sensation seeking with males but not females. In another study, Zuckerman and Link (1968) found that the General score of the SSS had modest correlations ($-.33$ with Embedded Figures Test and $-.43$ with the Rod and Frame Test) with field independence.

These initial studies suggested that sensation seeking was related to field independence. Subsequent research has not been as consistent. Fisher (cited in Zuckerman, 1979b) found a correlation between sensation seeking and field independence along the lines of the first two studies (-.34). Buchsbaum and Murphy (cited in Zuckerman, 1979b) found a significant correlation between the Rod and Frame test and sensation seeking, though it was quite modest (.19). Bone, Montgomery and Cowling (cited in Zuckerman, 1979b) correlated field dependence/independence with sensation seeking, but only found significant correlations for females. Farley (1973) using an alternative measure of field dependence/independence (Hidden Figures Test), did not find any significant relationship between field dependence/independence and sensation seeking. In other mixed results, Baker, Cuny, Mishara, and Kosting (cited in Zuckerman, 1979b) found that sensation seeking correlated with only one of three measures of field dependence/independence. Zuckerman (1979b) in trying to draw conclusions from these results noted, "It may be that sensation seeking contains some trait characteristic of both field independents and field dependents." (p.226).

Summary

Sensation Seeking. The initial theoretical work in sensation seeking proposed that it reflected an attempt to

maintain an optimal level of arousal. More current theorizing proposed that sensation seeking not only reflects an attempt to maintain an arousal level, but that there are perceptual differences between high and low sensation seekers that sensitizes high sensation seekers to the rewarding elements of the world.

As a trait, sensation seeking peaks for people in their 20's. Males score higher than females and there may be some ethnic differences as measured by the SSS. High sensation seekers have shown a preference for exciting jobs and recreation. Sensation seeking is correlated with risk taking, and there have been demonstrable perceptual differences shown, but despite the perceptual differences noted, underlying nervous system differences have yet to be shown. Regarding other personality variables, sensation seeking has been positively associated with mania and negatively associated with schizophrenia, but despite this it has not been significantly linked with psychopathology. Much of the writing regarding social influences of sensation seeking has been theoretical. There has been some work that suggests that early deprivation in monkeys reduces the curiosity and adventurousness exhibited, and some self reports of adults that suggest environmental influences shaped sensation seeking. Several writers have expressed the opinion that environmental factors on sensation seeking have not been thoroughly investigated.

Modeling. Modeling and sensation seeking have not been investigated though there do seem to be some logical links. Modeling has been demonstrated to be quite useful in helping people with phobic reactions. Anxious and phobic behaviors are correlated with low sensation seeking. Modeling itself represents a major construct in the theory of social learning. It has been proposed that for humans, modeling can act as a conduit for the introduction of innovative behaviors into society.

Field Dependence/Independence Field dependence/independence is a concept that was proposed to explain perceptual behavior. It has since been associated with cognitive and personality factors as well as a theory of personality. The theory in brief, proposes that as a person moves in the direction of field independence he/she has a greater ability to make self/non-self differentiations. Personality wise, field dependent people have been demonstrated to be more drawn to people whereas field independent people show more interest in mechanical and physical elements. Males tend to score more towards field independence than females do. Field dependence/independence is believed to be stable for people, but it has been shown to be affected by training. Early work relating field dependence/independence to sensation seeking showed that sensation seeking was related to field independence, but later studies have not been so conclusive. There may be elements of sensation

seeking found in both field dependence and field independence.

CHAPTER III

METHODS

Contained in this chapter is a description of how this study explored the effects of gender, cognitive style, and modeling upon sensation seeking. The sample of subjects, the research instruments, the procedure, and statistical design are discussed.

Subjects

The sample for this study consisted of 299 volunteers from undergraduate classes of a large, comprehensive, state university in the south central portion of the United States. The demographic information was obtained from a demographics form that was filled out by each subject (See Appendix A). The sample for this study was young adults whose ages ranged from 17 to 29 years. The mean age for the sample was 19.85 with a standard deviation of 2.3 years. The median age for the sample was 19 years. Since research has shown that sensation seeking generally peaks for people in their twenties, subjects used in the data analysis were all less than 30 years in age (Zuckerman, 1979b). There were 299 subjects that were

under the age of 30. The final n of 240 was arrived at based upon needing 20 subjects per cell to insure robustness of the statistical procedure (Tabachnick & Fidell, 1983). Of the 12 cells, 2 had exactly 20. The other 10 cells had totals in excess of 20 subjects. For those ten cells the final 20 subjects used in the statistical analysis were determined through random selection.

Regarding the communities in which the sample was raised, approximately 70 percent of the subjects reported that they were raised in communities of 75,000 or less. The classes used in the study were required general education classes which provided a broad variety of majors. See Appendix B for a percentage breakdown of the various majors.

Instruments

There were two instruments used in this study. The first instrument used was the Sensation Seeking Scale form V (SSS). The subscales of the Sensation Seeking Scale were the dependent variables measured when determining the effects of modeling upon sensation seeking. Also, scores on the Group Embedded Figures Test helped determine one of the independent variables.

Sensation Seeking Scale (SSS)

The dependent variable (amount of sensation seeking) was measured using the Sensation Seeking Scale Form V (SSS) (Zuckerman, Eysenck, & Eysenck, 1978) (See Appendix C). The SSS is a 40 item forced choice test in which a person is asked to choose between two descriptive sentences. The Sensation Seeking Scale was developed initially by Zuckerman, Albright, Marks, and Miller in 1962. It has been revised four times since then. For the first version of the SSS, the items were chosen in a manner that made intuitive sense. Since that time, the SSS has been factor analyzed and the last revision was in 1978 (Zuckerman, Eysenck, & Eysenck, 1978). In that latest revision, the SSS form IV was administered to 947 English subjects from a twins registry and 330 American subjects primarily taken from undergraduate classes at Temple University. The items were intercorrelated and then factor analyzed using the principal components method. The authors were able to confirm the findings of a four factor structure, and for form V of the SSS each subscale had ten items that loaded on it. The four factors first identified on SSS form III and subsequently found on form IV and V of the SSS are as follows; Thrill and Adventure Seeking (TAS), Experience Seeking (ES), Boredom Susceptibility (BS), Disinhibition (Dis).

Reliability. Zuckerman, Eysenck, and Eysenck, (1978) reported factor reliability coefficients averaged .65 for

the four factors identified on form V. Factor reliability coefficients represented the correlation between previously identified factor constructs (from Forms III and IV of SSS) and the current factors found on Form V of SSS. The authors reported that the reliability coefficients were strong for TAS, ES, and Dis. The BS reliability coefficients were weaker but the authors noted that the BS scale "...was not well defined in the American females" (p.142). The lowest coefficient was for the BS subscale compared between U.S. males and U.S. females.

With regard to reliability of Form V, Zuckerman, Eysenck, and Eysenck (1978) found that internal consistency ranged from .56 for American females on BS subscale to .86 for the Total score for English females. With regard to stability, Zuckerman, (1979b) found that form V had test-retest reliability of .94 for the Total score and the subtests ranging from .70 (on BS) to .94 (on TAS). Zuckerman (1979b) has noted that the intercorrelations ranged from .10 between TAS & BS to .48 between Dis & BS. The average intercorrelation was approximately .30. Ridgeway and Russell (1980) had similar findings regarding low intercorrelations among the subtests of Form V.

Validity. With regard to validity, Goldsmith (1985) found that the SSS correlated positively (.59) with the Intuition scale of the The Myers-Briggs Type Indicator (Myers, 1962), and SSS was negatively correlated with the

Sensing scale of the Myers-Briggs (.67). As noted by the author, "...intuitive people like solving new problems, dislike doing the same over and over again, and enjoy learning a new skill..., and sensing types like an established routine, are patient with routine details, and tend to be good at precise work." (p. 581). These descriptions could also represent high and low sensation seekers respectively. In addition, Olson and Camp (1984) developed a six factor model of curiosity, and found that the SSS loaded on the factor which they labeled as experience seeking. Generally they noted the "...factor appears to be measuring the seeking of a diverse range of experiences" (p. 494).

Group Embedded Figures Test (GEFT)

The Group Embedded Figures Test (Witkin, Oltman, Raskin, & Karp, 1971) was used to measure field dependence/independence, which was one of the independent variables in the study. The GEFT is the adaptation of the Embedded Figures Test (EFT) for administration with groups. GEFT is a test of perception, in which the person is asked to identify or discover the presence of a simple figure within a larger more complex figure. Witkin (1978) found that the disembedding task that the GEFT requires, is a measure of the cognitive style of field independence.

Reliability and Validity. The reliability of the GEFT was measured using the split-half method and the

Spearman-Brown prophecy formula yielding a coefficient of .82 (Witkin, Oltman, Raskin, & Karp, 1971). The validity of the GEFT has been established through criterion variables of other measures of field dependence/independence and through correlation of the GEFT with the EFT. Since the GEFT is essentially a group form of the EFT, the GEFT has been correlated with the EFT. The correlations found were .82 for males and .63 for females. Regarding criterion measures, GEFT performance was correlated with the Portable Rod and Frame Test (PRFT) (Witkin, 1978) and human figures drawings scored using Articulation of Body Concept Scale (ABC) (Witkin, Oltman, Raskin, & Karp, 1971). In this one study, the correlation between GEFT and PRFT were .39 and .34 respectively for males and females. This represents a low correlation, but the evidence of the ABC scale on the human figure drawings was more substantial. The drawings correlated .71 and .55 (males and females respectively) with the GEFT. Witkin, Oltman, Raskin, & Karp, (1971) have noted that "...the combined evidence suggests that the GEFT may prove to be a useful substitute for the EFT when individual testing is impractical." (p. 29).

Procedure

Students from twelve classrooms of a large comprehensive state university in the south central United States were given the opportunity to volunteer for this

experiment. The treatments were administered to classrooms as a whole and arrangements were made with several professors to utilize a class period for the study. The number of classrooms were secured in multiples of three so as to insure ease at random assignments of treatment conditions. The treatment tapes were randomly assigned to entire classrooms.

Once in the classroom, the procedure began with the experimenter clarifying that participation in the experiment was completely voluntary. The subjects were then told that they would view a video tape lasting approximately five minutes and afterwards complete two tests. The instructions for each test were explained and then the informed consent for each subject was obtained. (See Appendix D for a copy of the informed consent). Prior to administration of the treatment tape, the examiner answered any questions.

Depending upon tape assignment, a class either viewed a video tape of people (a) engaging in a sensation seeking activity which was solitary in nature (motorcycle hillclimb), (b) engaging in sensation seeking which was primarily focused in a social context (night clubbing), or (c) doing a weather broadcast. (See Appendix E for a more detailed description of the tapes used.)

The particular experimental tapes used in the study were determined from the results of a pilot study in which subjects chose the most exciting tape from several video

offerings. The original group of tapes (five tapes each for solitary and social context thrilling activities) were presented to the pilot subjects, and from these ten tapes one from the solitary group and one from the social context group were chosen for presentation.

The ten tapes selected for the pilot study were determined through availability of tapes from video rental stores and from access and awareness of television programming. All of the tapes were clips taken from theatrical movies or from taped television presentations. Included in the solitary thrilling activities tapes were a tape of individuals snow skiing, a tape of various motorcycle riders in road and dirt track races, a tape of motorcyclists in a hill climb, a tape of people kayaking down a treacherous river, and a tape of a mountain climber ascending a steep cliff. The tapes of social context thrilling activities all included various people engaged in partying activities. All of the social context tapes came from recent theatrical movies.

After the video was viewed by the classroom, the subjects were given the Sensation Seeking Scale to complete. Before completing the Sensation Seeking Scale, instructions were reviewed and any questions were answered. After all the subjects had completed the Sensation Seeking Scale, the Group Embedded Figures Test was distributed, and the instructions of the test were again reviewed and any remaining questions were answered.

Upon completion of the Group Embedded Figures Test, the subjects clipped the two tests together and left them in a box provided by the experimenter.

Research Design

This study used a post-test only control group quasi-experimental design to test the effects of modeling, cognitive style, and gender upon sensation seeking. Randomization was achieved by having the treatment videos randomly assigned to classrooms. This post-test only control group design controlled for the major threats to internal validity, as well as protected against the external threat of treatment-testing interaction. The use of a pre-test could have sensitized the subjects to the nature of the experiment.

R X₁ O

R X₂ O

R X₃ O

Statistical Design

The study was designed to examine the effects of modeling, cognitive style, and gender upon sensation seeking. In this study, sensation seeking was defined as the scores on the four subtests of the SSS. To test the effects of modeling, cognitive style and gender upon sensation seeking, the dependent variables were compared

across groups. Therefore, a 3X2X2 between subjects Multivariate Analysis of Variance (MANOVA) was used because of the following advantages: (a) All four of the subtests can be compared using one statistic and thereby reducing the chance of a Type I error, (b) the use of MANOVA can lend more power to the comparison for it can reveal differences not shown in separate ANOVA's, and (c) MANOVA also takes into account that most variables in the social sciences are interrelated. By doing so, it makes between group comparisons more sensible.

The independent variables were the subject's gender, the subject's cognitive style, and treatment condition to which the subject was assigned. Before the data was analyzed, it was checked for any violations of the multivariate assumptions (the presence of outliers, the absence normality and homoscedasticity). After the data was run, the omnibus F (Wilk's Lambda) was checked for each treatment effect and interaction. For each of the significant effects found, further analysis of the dependent variables was pursued to help determine their importance in the construct. This further analysis included examination of the univariate F's, Roy-Bargman Stepdown analysis, and in the case of the main effect for cognitive style a discriminant analysis was performed to determine discriminant loadings.

CHAPTER IV

RESULTS OF THE STUDY

Introduction

The purpose of this study was to examine the effects that modeling, cognitive style, and gender had upon sensation seeking. The data consisted of the subjects' scores on the four subscales of the Sensation Seeking Scale form V (SSS), and scores on the Group Embedded Figures Test (GEFT). In the procedures, subjects were shown one of three video tapes and then given the SSS and the GEFT. The scale scores from the SSS provided the dependent variables for statistical analysis. The scores from the GEFT provided information for one of the independent variables. In this chapter, the hypotheses were reviewed and the summarization of the findings of the statistical analysis were reported.

Research Hypotheses

The research hypotheses stated: 1. The groups viewing a thrilling activity will express higher levels of

sensation seeking than the control group which viewed tape of a weather broadcast. 2. Females who view thrilling activities of a social event will express higher levels of sensation seeking than females viewing control tapes and those viewing thrilling activities of a solitary nature. 3. Males who view thrilling activities of a solitary nature will express higher levels of sensation seeking than males viewing control tapes and those viewing thrilling activities of a social nature. 4. Field dependent people who view thrilling social activities will express higher levels of Sensation Seeking than field independent people who view the same thrilling social activities. 5. Field independent people who view thrilling activities of a solitary nature will express higher levels of sensation seeking than will field dependent people viewing the same thrilling activities. In general terms, the hypotheses could be phrased as such: 1. That there would be a main effect found with regard to the variable treatment tape (modeling), and that there would be two significant interactions found. The significant interactions predicted were (modeling) treatment tape by gender and (modeling) treatment tape by cognitive style.

A 3X2X2 between subjects multivariate analysis of variance was performed on the four dependent variables Boredom Susceptibility (BS), Disinhibition (Dis), Experience Seeking (ES), and Thrill and Adventure Seeking

(TAS). The independent variables were gender (male and female), cognitive style (field independence or field dependence), and treatment tape (solitary sensation seeking, social sensation seeking, or control).

SPSS MANOVA was used for the analysis of the data. The order of entry of the independent variables was gender, cognitive style, and treatment tape. Evaluating the data for the presence of outliers and violations of the statistical assumptions of normality, homogeneity of variance-covariance, linearity, and multicollinearity, revealed that no major assumptions were violated.

Results

Using Wilk's criterion in the analysis of the combined dependent variables, none of the research hypotheses achieved significant multivariate F 's (See Table 1). Given these findings the research hypotheses were not accepted.

Significant multivariate F 's were obtained for the main effects of gender ($F(4, 225) = 7.13, p < .05$) and cognitive style ($F(4, 225) = 2.87, p < .05$) though these were not under investigation. Results of all multivariate F 's are reported in Table 1. The results reflected a small strength of association between gender and the combined dependent variables $\eta^2 = .11$. The strength of association for cognitive style and combined dependent

Table 1

Multivariate F's for Boredom Susceptibility, Disinhibition,
Experience Seeking, and Thrill and Adventure Seeking

Source	df	F Value (Wilks Lambda)
Treatment Tape (Modeling)	8	1.11
Cognitive Style by Treatment Tape	8	1.16
Gender by Treatment Tape	8	0.54
Gender	4	7.13*
Cognitive Style	4	2.87*

*p < .05

variables also was small $\eta^2 = .05$.

Regarding the main effects for which significance was obtained, an analysis of the univariate results showed that for the main effect of gender, Disinhibition ($F(1,228) = 17.46, p < .05$) and Thrill and Adventure Seeking ($F(1,228) = 8.86, p < .05$) were the probable significant contributors to the construct. The univariate results do give a preliminary indication of which dependent variables have some importance, but due to the intercorrelations of the variables a more statistically honest reflection of importance will be gained through a stepdown analysis.

Regarding the main effect of cognitive style, univariate analysis revealed that none of the dependent variables reached statistical significance (See Table 2). A stepdown analysis was performed in hopes to further clarify the importance of the dependent variables as they related to cognitive style.

In order to gain a more statistically clear appraisal of the importance of dependent variables in relation to each main effect, a Roy-Bargman stepdown analysis was performed. These results are summarized in Table 3. Homogeneity of regression was achieved for all components of the stepdown analysis, and therefore each dependent variable was sufficiently reliable to be used in the stepdown procedure. An alpha level of .05 was maintained through apportionment.

Regarding the main effect of gender, the Roy-Bargman Stepdown F showed that Disinhibition was the only significant contributor to the construct that differentiated males from female scores ($F(1,227) = 13.75$, $p < .05$ $\eta^2 = .05$). Males scored higher on Disinhibition (adjusted mean for disinhibition = 5.32) than did females (adjusted mean for disinhibition = 4.08). Although univariate comparisons also showed that Thrill and Adventure Seeking was significant for gender, the difference was statistically accounted for by the presence of Disinhibition in the stepdown analysis.

Regarding the main effect of cognitive style, the Roy-Bargman Stepdown F showed that none of the variables entered into the construct. This discovery meant that any further analysis of the dependent variables required less reliable methods than the stepdown analysis.

When stepdown analysis does not reveal clear results, one method is to look at univariate results. In the univariate analysis the variable Experience Seeking achieved the highest univariate F (1,228) = 3.17. The univariate results indicated that field independent people scored higher on Experience Seeking (observed row mean = 4.58) than did field dependent people (observed row mean = 4.11). Disinhibition

Table 2

Univariate F's for Boredom Susceptibility (BS), Disinhibition (Dis), Experience Seeking (ES), and Thrill and Adventure Seeking (TAS) for the Main Effects of Gender and Cognitive Style

Source	SS	SSE	MS	MSe	F
Univariate F's for Gender with (1,228 df)					
BS	12.15	775.3	12.15	3.4	3.57

(table continues)

Source	SS	SSe	MS	MSe	F
Univariate F's for Gender with (1,228 df)					
Dis	135.0	1762.5	135.00	7.73	17.46*
ES	1.35	1007.3	1.35	4.42	0.31
TAS	51.34	1321.1	51.34	5.79	8.86*
Univariate F's for Cognitive Style with (1,228 df)					
BS	3.75	775.3	3.75	3.4	1.10
Dis	21.60	1762.5	21.60	7.73	2.79
ES	14.02	1007.3	14.02	4.42	3.17
TAS	4.00	1321.1	4.00	5.79	0.69

*p < .05

df = degrees of freedom

MS = Mean Square

SS = Sums of Squares

MSe = Mean Square error

SSe = Sums of Squares error

F = Wilks Lambda F value

achieved the next highest univariate $F(1,228) = 2.79$.

With regard to Disinhibition, field dependent subjects scored higher (observed row mean = 5.0) than did field independent subjects (observed row mean = 4.4). Results for observed means are reported in Table 4.

Another method used to analyze the importance of dependent variables is to look at the loading matrix in a

discriminant analysis involving the variable for cognitive style. This was done, and a loading matrix of correlations between predictor variables and the discriminant function, suggested that the primary variable in distinguishing between field dependent and field independent subjects is Experience Seeking. Experience

Table 3

Stepdown F's and Univariate F's for Boredom Susceptibility (BS), Disinhibition (Dis), Experience Seeking (ES), and Thrill and Adventure Seeking (TAS)

Source	Univariate F	df	Stepdown F	df	Alpha	η^2
Effect: Gender						
BS	3.57	1,228	3.57	1,228	.01	N/A
Dis	17.46	1,228	13.75*	1,227	.01	.05
ES	0.31	1,228	4.91	1,226	.01	N/A
TAS	8.86	1,228	5.35	1,225	.01	N/A
Effect: Cognitive Style						
BS	1.10	1,228	1.10	1,228	.01	N/A

(table continues)

Source	Univariate F	df	Stepdown F	df	Alpha	η^2
Effect: Cognitive Style						
Dis	2.79	1,228	4.88	1,227	.01	N/A
ES	3.17	1,228	4.96	1,226	.01	N/A
TAS	0.69	1,228	0.43	1,225	.01	N/A

*p < .05

N/A = Not Applicable, non-significant

Seeking had the highest loading at .53. In examining the other variables for the presence of any primary predictors (loadings > .45), it was noted Disinhibition also qualified for consideration with its loading of -.48. These findings are consistent with results found in the univariate analysis. The results of the discriminant function are reported in Table 5.

Table 4

Table of the Observed Row Means of Disinhibition (Dis) and Experience Seeking (ES) for the Significant Effects With Adjusted Means in Parentheses

	Dis	ES
Males	5.45 (5.32)	N/A
Females	3.95 (4.08)	N/A
	Dis	ES
FD	5.00	4.11
FI	4.40	4.58

FI = Field Independence

FD = Field Dependence

N/A = Not Applicable, No Significance Found

Loading matrixes are the correlations between the dependent variables and the discriminant functions (which represent pooled within-group correlation). These loadings (or correlations) are not statistically independent, which can make their exact interpretation

difficult. These loadings do not clarify the extent that there is any shared variance between Experience Seeking and Disinhibition, which makes interpretation difficult.

Table 5

Results of Discriminant Function Analysis of the Boredom Suseptibility, Disinhibition, Experience Seeking, & Thrill & Adventure Seeking

Predictor Variable	Correlation of the Predictor Variables with the Discriminant Function
Experience Seeking	.53
Disinhibition	-.48
Boredom Suseptibility	.31
Thrill & Adventure Seeking	.24

Summary

The purpose of this study was to examine the effects of modeling, cognitive style, and gender upon sensation seeking. A multivariate analysis of variance revealed that none of the research hypotheses achieved significant results. There were two significant main effects discovered for gender and cognitive style. Gender was found to have significance on the dimension of disinhibition. The subsequent analysis of cognitive style did not yield results that were as statistically clear, but showed some association with experience seeking and disinhibition.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to examine the effect of modeling, cognitive style, and gender upon sensation seeking. The following questions guided the study: Can it be demonstrated that modeling has an effect upon sensation seeking? Is there a relationship between a person's cognitive style and the pattern of his/her sensation seeking?

The subjects were 240 undergraduate students from a large comprehensive state university in the midwest. One hundred twenty subjects were males, and one hundred twenty subjects were females. All subjects were volunteers from twelve general education classes.

The data collected consisted of the four subtest scores from the Sensation Seeking Scale (SSS) and scores from the Group Embedded Figures Tests (GEFT). The scores from the SSS represented the dependent variables. The scores from the GEFT provided information to categorize subjects for an independent variable.

In brief the hypotheses stated that there would be a significant main effect found for modeling (treatment tape), and that there would be two significant interactions found, modeling by gender and modeling by cognitive style. Multivariate analysis of variance was the statistical procedure used in the study. There was no statistical support found for the research hypotheses. Significant differences were found for the main effects of gender and cognitive style.

The findings of the univariate analysis revealed that for gender, males scored higher on the dependent variables Disinhibition and Thrill and Adventure Seeking. Univariate analysis of cognitive style revealed that none of the dependent variables statistically distinguished field dependent from field independent subjects.

Further analysis using the Roy-Bargman stepdown F technique helped clarify the univariate results. Regarding the main effect of gender, the variable Disinhibition was the only one of the four dependent variables that made significant contributions to the composite dependent variable. The stepdown analysis proved non-productive for the main effect of cognitive style. Similar to the univariate results, none of the dependent variables achieved significance. Additional analysis of cognitive style was pursued through the analysis of a discriminant analysis. Disinhibition and

Experience Seeking were found to have the highest discriminant loadings respectively.

In analyzing scores for cognitive style, it was discovered that field dependent subjects scored higher than field independent subjects on Disinhibition. Field independent subjects scored higher than did field dependent subjects on Experience Seeking. It should be noted that these observed differences were not found to be statistically significant and possibly confounded. As recommended by Tabachnick and Fidell (1983), the high univariate F's and high discriminant loadings were reported in the place of statistically significant results.

Conclusions

The results of this study suggest that modeling via video tapes does not have an effect upon the sensation seeking scores found in this sample of college students in their late teens to late twenties (young adults). It had been proposed that groups witnessing video tapes of thrilling activities would be influenced, but there were no significant differences found in sensation seeking scores between treatment and control groups.

With regard to the other research hypotheses, the results suggest that neither the interaction of gender and the type of modeling or the interaction of cognitive style and the type of modeling have an effect upon the sensation

seeking scores of young adults. It had been predicted that the type of modeled behavior would differentially impact both gender and cognitive style. Significant differences were not found for these interactions which does not lend support for the research hypotheses that modeling differentially affects gender and cognitive style. The results of this study suggest that modeling does not have an impact upon sensation seeking. Since modeling is an environmental influence, the results of this study would not support the contention that sensation seeking has environmental determinants.

Given that the results of this investigation do not support the notion that modeling influences sensation seeking, one might conclude that modeling has no effect on sensation seeking. This possibly is premature because modeling has a variety of components and many of them were not controlled in this experiment. For instance, one element that could have been controlled would be attentional processes. How valued were the models in the various tapes? Knowing to what degree the subjects valued the models would have been a valuable covariate to have had in this design.

Selection of the video tapes was a major limitation of this study. The original pool of tapes were selected primarily on the basis of availability. The variety of stimulating activities which young adults find attractive has not been well documented. One wonders what difference

presenting tapes that had been more scientifically selected might have had upon sensation seeking scores.

Another element related to attentional processes would be the manner the tapes were presented. The use of a television presentation represented a limitation, and the author would have preferred having access to a large screen sense-around type of presentation. These type of facilities are usually only available at amusement parks or other types of commercial ventures. Would a larger more compelling presentation have aided the attentional processes? This was not addressed.

An element not related to modeling may have affected the findings. The GEFT scores were dichotomized to provide one of the independent variables. When a variable is reduced to a dichotomy some of the natural variance is lost. One might wonder what difference it would have made if the design would have taken the more continuous nature of GEFT scores into account.

Regarding the findings for gender, this study's data was consistent with previous research. Zuckerman (1979b) has noted that most studies have found that men score higher than women in the general factor of sensation seeking. In the norming of form V of the Sensation Seeking Scale, gender differences were most pronounced on the Disinhibition scale. Zuckerman (1979b) also found significant gender differences for Thrill and Adventure Seeking and Boredom Susceptibility. On each of these

scales, males scored higher than females. The only scale that did not differentiate on the basis of gender was Experience Seeking. These findings are consistent with what was discovered in the univariate results of this study. Disinhibition and Thrill and Adventure Seeking scales achieved significance and Boredom Susceptibility scores were found to approach significance at $p = .06$. The Experience Seeking scale neither achieved nor approached significance.

So this study clarified that most of the gender difference is reflected in the Disinhibition scale. Regarding the Disinhibition scale, Zuckerman (1979b) has noted that it is the scale that is least "...affected by social racial, and cross-cultural differences than the other factors." (p. 103). He has proposed that it is related to biological traits. The findings of this study represent confirmation of gender differences for sensation seeking, but they do not clarify whether these differences represent biological or environmental determinants. At this point it has been assumed that gender differences reflect biological determinants. The environmental influences of gender differences in sensation seeking have yet to be investigated.

The findings regarding cognitive style present some difficulties for interpretation. There were significant differences found in the multivariate analysis, but the subsequent analysis into the importance of the various

dependent variables did not yield clear results. Field independent subjects scored higher on the Experience Seeking scale which reflects the area of sensation seeking described by Zuckerman (1979b) as a factor involved in "...the seeking of arousal through the mind and senses through a nonconforming life-style, ...the basic idea seemed to be a desire to have a variety of experiences." (p. 102). Field dependent subjects were distinguished by their higher scores on Disinhibition which as Zuckerman (1979b) noted is the subtest most correlated with overall sensation seeking. He also noted that Disinhibition "...seems to describe a more traditional type of sensation seeking, which seeks release and social disinhibition through drinking, partying, gambling, and sex." (p.103).

This seems to support the idea that both field dependence and field independence share elements of sensation seeking, and find different manners of expressing sensation seeking. It does seem interesting that field independent subjects scored higher on Experience Seeking which seems to reflect social elements of non-conforming lifestyle, whereas field dependent subjects scored higher on Disinhibition which reflects the more traditional style of sensation seeking. One might have predicted just the opposite given the previous descriptions of cognitive style.

Finally, it might be more conservative to defer the interpretation considering variance was lost when treating cognitive style as a variable with a bivariate distribution. Another consideration to deferring the interpretation would be the unclear nature of the dependent variables. It was not clear to what degree overlapping variance existed. Finally, one can say that if the reported means do reflect true differences, then more than likely the effect size would be quite small.

Recommendations for Professionals

1. Counselors might be cognizant that some of their clients will be less likely to take risks than other clients, and should therefore plan to account for clients who are more hesitant in doing new things. Even if sensation seeking is eventually found to be subject to modeling, the results of this study suggest that the influence of modeling might be small.

2. Given that sensation seeking levels might not be so influenced by environmental factors, therapists in consultation with parents might be more cognizant of individual differences among children, and if one child in the family is less prone to taking risks than other kids, then these individual differences need to be respected.

3. In the classroom there can be a wide variance among their students regarding the need for stimulation. This study suggests that this need for stimulation may not

be greatly changed through environmental contingencies. Classroom structure should take into account differences in the need for stimulation that might be seen across students.

4. Counselors might need to be aware that cognitive style can influence the type of sensation seeking one might see in clients. This study suggests that field dependent clients might be more prone to seeking their stimulation through the release of social inhibitions. On the other hand, field independent clients may be more likely to express their sensation seeking through the living of alternative lifestyles.

Recommendations for Research

1. One of the limitations of this study has helped to point out that there may be a need for some descriptive research activities that are judged as thrilling by college students. This information could help determine the most likely tape content that could model sensation seeking.

2. Since identifying with a model is a key ingredient in effective modeling, it is recommended that future research on the effects of modeling upon sensation seeking, be designed so as to take into account the differences among subjects in their willingness to identify with the models in the tapes.

3. Along the lines of increasing identification with the model, future research might consider using live demonstrations, and/or more dramatic visual presentations as means of modeling sensation seeking.

4. Regarding the findings of gender differences, future research might examine the environmental determinants that account for gender differences.

5. Regarding the relationship between sensation seeking and cognitive style, a replication study is recommended. The purpose would be to gain further clarity on the observed differences between field dependence and field independence. It is recommended that the design include a way for the measures of cognitive style to freely vary so as to gain the most unencumbered picture of this relationship.

Summary

This study began as an attempt to increase knowledge relative to the environmental impact on sensation seeking. It is the hope of the author that this study has contributed if ever so slightly in making this issue clearer. The results were not definitive, but they have suggested other realms to investigate. If this study serves as a stimulus for future research in the area of environmental influence on sensation seeking, then it has provided a service.

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APPENDIXES

APPENDIX A
DEMOGRAPHIC DATA SHEET

Demographic Data

Sex _____ Male _____ Female

Age _____

College Major _____

Community Size in which you were raised

_____ Less than 10,000 _____ 10,001 to 75,000

_____ 75,001 to 200,000 _____ More than 200,000

APPENDIX B
PERCENTAGE OF MAJORS IN THE SAMPLE

<u>Major</u>	<u>Percentage</u>
Business Related	23.25%
Education	14.50%
Undecided	11.47%
Engineering/Architecture	10.79%
Accounting/Finance	07.76%
Social Science	07.43%
Arts & Humanities	06.08%
Hard Science	04.40%
Health Science	03.09%
Broadcast Media/Performing Arts	03.06%
Math/Computer	02.38%
Pre-Vet	01.70%
Pre-Med	01.70%
Pre-Law	01.37%

APPENDIX C
SENSATION SEEKING SCALE FORM V

Directions: Each of the items below contains two choices, A and B. Please indicate on your answer sheet which of the choices most describes your likes or the way you feel. In some cases you may find items in which both describes your likes or the way you feel. Please choose the one which better describes your likes or feelings. In some cases you may find items in which you do not like either choice. In these cases mark the choice you dislike least.

It is important you respond to all items with only one choice, A or B. We are interested only in your likes or feelings, not in how others feel about these things or how one is supposed to feel. There are no right or wrong answers as in other kinds of tests. Be frank and give your honest appraisal of yourself.

1. A. I like "wild" uninhibited parties.
B. I prefer quiet parties with good conversation
2. A. There are some movies I enjoy seeing a second or even third time.
B. I can't stand watching a movie that I've seen before.
3. A. I often wish I could be a mountain climber.
B. I can't understand people who risk their necks climbing mountains.
4. A. I dislike all body odors.
B. I like some of the earthy body smells.
5. A. I get bored seeing the same old faces.
B. I like the comfortable familiarity of everyday friends.
6. A. I like to explore a strange city or section of town by myself, even if it means getting lost.
B. I prefer a guide when I am in a place I don't know well.
7. A. I dislike people who do or say things just to shock or upset others.
B. When you can predict almost everything a person will do and say he or she must be a bore.
8. A. I usually don't enjoy a movie or play where I can predict what will happen in advance.
B. I don't mind watching a movie or play where I can predict what will happen in advance.
9. A. I have tried marijuana or would like to.
B. I would never smoke marijuana.
10. A. I would not like to try any drug that would produce strange and dangerous effects upon me.
B. I would like to try some of the new drugs that produce hallucinations.
11. A. A sensible person avoids activities that are dangerous.

- B. I sometimes like to do things that are a little frightening.
12. A. I dislike "swingers".
B. I enjoy the company of "swingers".
13. A. I find that stimulants make me uncomfortable.
B. I often like to get high (drinking liquor or smoking marijuana).
14. A. I like to try new foods that I have never tasted before.
B. I order the dishes with which I am familiar, so as to avoid disappointment and unpleasantness.
15. A. I enjoy looking at home movies or travel slides.
B. Looking at someone's home movies or travel slides bores me tremendously.
16. A. I would like to take up the sport of water-skiing.
B. I would not like to up water-skiing.
17. A. I would like to try surf-board riding.
B. I would not like to try surf-board riding.
18. A. I would like to take off on a trip with no pre-planned or definite routes, or timetable.
B. When I go on a trip I like to plan my route and timetable fairly carefully.
19. A. I prefer the "down-to-earth" kind of friends.
B. I would like to make friends in some of the "far-out" groups like artist or "hippies".
20. A. I would not like to learn to fly an airplane.
B. I would like to learn to fly an airplane.
21. A. I prefer the surface of the water to the depths.
B. I would like to go scuba diving.
22. A. I would like to meet some persons who are homosexual (men or women).
B. I stay away from anyone I suspect of being "queer".
23. A. I would like to try parachute jumping.
B. I would never want to try jumping out of a plane with or without a parachute.
24. A. I prefer friends who are excitingly unpredictable.
B. I prefer friends who are reliable and predictable.
25. A. I am not interested in experience for its own sake.
B. I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional, or illegal.

26. A. The essence of good art is in its clarity, symmetry of form and harmony of colors.
B. I often find beauty in the "clashing" colors and irregular forms of modern painting.
27. A. I enjoy spending time in the familiar surroundings of home.
B. I get very restless if I have to stay around home for any length of time.
28. A. I like to dive off the high board.
B. I don't like the feeling I get standing on the high board (or I don't go near it all).
29. A. I like to date members of the opposite sex who are physically exciting.
B. I like to date members of the opposite sex who share my values.
30. A. Heavy drinking usually ruins a party because some people get loud and boisterous.
B. Keeping the drinks full is the key to a good party.
31. A. The worst social sin is to be rude.
B. The worst social sin is to be a bore.
32. A. A person should have considerable sexual experience before marriage.
B. It's better if two married persons begin their sexual experience with each other.
33. A. Even if I had the money I would not care to associate with flighty person like those in the "jet set".
B. I could conceive of myself seeking pleasure around the world with the "jet set".
34. A. I like people who are sharp and witty even if they do sometimes insult others.
B. I dislike people who have their fun at the expense of hurting the feelings of others.
35. A. There is altogether too much portrayal of sex in movies.
B. I enjoy watching many of the "sexy" scenes in the movies.
36. A. I feel best after taking a couple of drinks.
B. Something is wrong with people who need liquor to feel good.
37. A. People should dress according to some standards of taste, neatness, and style.
B. People should dress in individual ways even if the effects are sometimes strange.
38. A. Sailing long distances in small sailing crafts is foolhardy.
B. I would like to sail a long distance in a small but seaworthy sailing craft.

39. A. I have no patience with dull or boring persons.
B. I find something interesting in almost every person I talk with.
40. A. Skiing fast down a high mountain slope is a good way to end up on crutches.
B. I think I would enjoy the sensations of skiing very fast down a high mountain slope.

APPENDIX D
THE INFORMED CONSENT

INFORMED CONSENT

I voluntarily agree to participate in this study sponsored by Tom Dafforn. In this study I understand I will view a video tape and then be asked to fill out two tests. Whereas the risks of this study are minimal, I understand that due to the voluntary nature of this study I may withdraw from participation at any time without penalty. The records and test material of this study will be kept confidential making it impossible to identify any participants individually. By signing this consent form, I acknowledge my participation in this study is voluntary. This does not waive any of my legal rights or release this institution from liability for negligence.

If I have any questions or need to report any adverse effects about the research procedures, I will contact the principal sponsor Tom Dafforn (home: 918-687-1897; work: 918-683-0321) or the sponsor's department, Applied Behavioral Studies in Education (624-6036). If I have any questions concerning my rights as a research subject, I may contact the Office of University Research Services, Oklahoma State University.

I have read this informed consent document, and I understand its content and I freely consent to participate in this study.

_____	_____
Signature of the Research Subject	Date
_____	_____
Signature of the Witness	Date
_____	_____
Signature of the Investigator	Date

APPENDIX E
TAPE DESCRIPTION

Tape Descriptions

Control Tape

The control tape consisted of a weather broadcast taped from the morning weather show broadcast on PBS station. In the initial section of the video the current precipitation patterns across the nation were discussed. Next the weather forecast for temperatures and precipitation over the next several days and for the next month are discussed. Finally, the report gave information about the (then) current flying conditions across the nation which included discussions about turbulence, low clouding, and icing conditions. There were two announcers (a man and a woman) each of whom shared equally the announcing chores. The specific broadcast was taken from January 1988. The elapsed time of the tape was 5 minutes 32 seconds.

Experimental Tapes

Solo Thrill Seeking. The solo thrill seeking tape showed individual contestants of a motorcycle hill climb. The scenes were taken from the movie On any Sunday. The video begins with an announcer telling viewers that the setting is near Salt Lake City, Utah. The focus of the competition was a steep hill called Widowmaker which is described as 600 foot high with an angle of 45 degrees which has not been fully climbed in seven years of competition. The viewers were treated to a sweeping visual display of the hill that includes perspective of people and cars. The video then proceeds to focus upon a variety of riders attempting to climb the hill. In all, 14 riders were featured to a variety of degrees. Some of the riders were humorously featured and some were featured

for their skill. Frequently, on successful runs up the hill, the camera action was in slow motion. The final three riders featured all had good runs. The last rider in the video turned out to be the winner of the contest. His ride was also the first time the hill had completely been climbed. After this accomplishment the camera focused upon the celebrating that occurred including the winning rider. The video runs 5 minutes 25 seconds.

Group Thrill Seeking. The group thrill seeking video tape featured portions of the movie Where the Boys Are. The the initial setting was a disco. People were being seated. The place was crowded and a band was playing noisily. The scenes focus upon the activities of four young women and their desire to have a wild time. The women move through the disco and one of them encounters a friend. She follows him and gets involved in a drinking contest at a table with other people. The other women observed her enjoying herself. The other girls then pursued their fun out on the dance floor. The video focused upon one of the girls who has been a bit hesitant about letting go. She ended up dancing and putting on a show of sorts for much of the disco. The video lasted 5 minutes and 35 seconds

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VITA

Thomas Alan Dafforn

Candidate for the Degree of

Doctor of Philosophy

THESIS: THE EFFECTS OF GENDER, COGNITIVE STYLE,
AND MODELING ON LEVELS OF SENSATION
SEEKING

MAJOR FIELD: Applied Behavioral Studies
Area of Specialty: Counseling Psychology

BIOGRAPHICAL:

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