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Artificial Tanning Salon Behaviors,
Intentions, and Attitudes in Terms of Sensuousness
and Sensation Seeking

A thesis
presented to
the faculty of the Department of Psychology
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Master of Arts in Clinical Psychology

by
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December 2002

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ABSTRACT

Artificial Tanning Salon Behaviors, Intentions, and Attitudes in Terms of Sensuousness and Sensation Seeking

by

Christopher Jonathan Armes

Using the Theory of Alternative Behavior (Jaccard, 1981), we examined the relationship of warmth sensuousness, physical sensuousness, and sensation seeking, to individuals' tanning salon behaviors, intentions, and attitudes among undergraduates at a Southeastern university

Females, high sensation seekers, those high in warmth sensuousness, and those with darker skin types were more likely to tan. Females were more likely to intend to tan in the next year. Those higher in warmth sensuousness were more likely to intend to tan more than 10 times in the next year. Females and subjects higher in warmth sensuousness had more positive attitudes toward tanning. Significant interactions were found between warmth sensuousness and sensation seeking in the predictions of intention of tanning within the next year, and intentions of tanning more than 10 times within the next year. For both interactions, as sensation seeking increased, the relationship between warmth sensuousness and intentions strengthened.

CONTENTS

	Page
ABSTRACT	2
LIST OF TABLES	5
Chapter	
1. INTRODUCTION	6
Sunbathing Research.....	11
Psychosocial Factors Associated with Sunbathing.....	11
Adult Population	11
Young Adult Population	13
College Population.....	15
Relaxation Factors Associated with Sunbathing	18
Sensuousness Research.....	20
Psychobiological Factors Associated with Sensuousness	20
Optimal Level of Arousal Theory.....	20
Trait Theories.....	22
Sensation Seeking Theory	24
Demographic Factors Associated with Sensation Seeking	26
Lifestyle Factors Associated with Sensation Seeking	26
Psychopathological Factors Associated with Sensation Seeking	27
Pleasure Construct Measures	28
Positive States of Mind	31
Statement of the Problem	31
2. METHODS	33
Subjects.....	33
Measures	33
Tanning / Sensuousness Questionnaire 1	33
Demographic Variables	33

Artificial Tanning Behavior and Behavioral Intentions	33
Artificial Tanning Attitudes and Perceptions	34
Sensuousness / Feeling Questionnaire	35
Zuckerman's Sensation Seeking Scale	35
Procedure	36
3. RESULTS	38
Demographics	38
Examination of Gender and Skin Type Differences	38
Regression Analyses	40
4. DISCUSSION	47
Limitations	51
Future Research	51
REFERENCES	53
APPENDICES	66
Appendix A: Demographic Variables	66
Appendix B: Artificial Tanning Salon Behaviors Scale	67
Appendix C: Artificial Tanning Salon Behavioral Intentions Scale	68
Appendix D: Artificial Tanning Salon Attitudes and Perceptions Scale	69
Appendix E: Physical Sensuousness Scale	70
Appendix F: Warmth Sensuousness Scale	71
Appendix G: Zuckerman's (1978) Sensation Seeking Scale – Form V	72
VITA	77

LIST OF TABLES

Table	Page
1. Descriptive Statistics for the Independent Variables Tanning Salon Behavior, Sensation Seeking, Tanning Attitudes, Physical Sensuousness, Warmth Sensuousness, Tanning Salon Behavioral Intentions, and Age	42
2. Mean Scores of Variables by Skin Type	43
3. Results of Regression Analysis Testing of Sensuousness and Sensation Seeking and Tanning Salon Use	43
4. Results of Regression Analysis Testing of Sensuousness and Sensation Seeking and Intentions of Tanning in the Next 12 Months.....	44
5. Results of Regression Analysis Testing of Sensuousness and Sensation Seeking and Intentions of Tanning More Than 10 Times in the Next 12 Months.....	44
6. Results of Regression Analysis Testing of Sensuousness and Sensation Seeking And Tanning Salon Attitudes.....	45
7. Simple Main Effects of Sensuousness X Sensation Seeking and Intentions of Tanning in the Next 12 Months	45
8. Simple Main Effects of Sensuousness X Sensation Seeking and Intentions of Tanning More Than 10 Times in the Next 12 Months.....	46

CHAPTER 1

INTRODUCTION

Skin cancer is a menacing problem that adversely affects millions of individuals worldwide. This most common of all cancers (MacKie, 1992) comprises half of all new cancers. Three of the most prevalent types are basal cell carcinoma, squamous cell carcinoma, and malignant melanoma (Vail-Smith & Felts, 1993). Actinic keratosis is also of interest to many scientists, physicians, and researchers due to its precancerous nature. The incidence of skin cancer has continued to rise throughout the years (ACS, 1996; Fears & Scotto, 1982; Miller & Weinstock, 1994; Pathak, 1991; Robinson, Rigel, & Amonette, 1997). One million or more individuals in the U.S. will be diagnosed with some form of skin cancer this year alone (American Cancer Society (ACS), 2001). Incidences of skin cancer in Australia are the highest in the world, with 2 out of 3 individuals expected to develop some type of skin cancer during their lifetimes (Arthey & Clarke, 1995; Giles, Marks, & Foles, 1988).

The least common yet most severe type of skin cancer is malignant melanoma. In 1996, an estimated 7,300 people died from malignant melanoma in the U.S. (ACS, 1996). Malignant melanoma is marked by the unregulated growth of pigment-producing tanning cells in the skin (American Academy of Dermatology (AAD), 1989; AAD, 1996). Although malignant melanoma makes up only 20 % of all skin cancers, it is responsible for approximately 80 % of all skin cancer deaths. Seventy-four percent of all U.S. skin cancer deaths are due to malignant melanoma.

Although melanoma is the least common type of skin cancer overall, it is growing the fastest in the population, with U.S. incidences of invasive melanoma having risen dramatically throughout the past 70 years (ACS, 1996; Robinson et al., 1997). It has been projected that by the year 2000, the lifetime probability of developing malignant melanoma could reach to 1 in 75 Americans (AAD, 1996), with the incidence of melanoma increasing at the rate of 4 % a year in the U.S., and the mortality rate for malignant melanoma increasing at a faster rate than any other cancer type excluding lung cancer (Kopf, Rigel, & Friedman, 1982; Vail-Smith & Felts, 1993; Weinstock, 1995).

Melanoma is most commonly found on the upper backs of men and women and on the legs of women (AAD, 1996; MacKie, 1992). Melanomas often appear in non-uniform hues of

brown, black, red, blue, or white in color and have irregular borders. They sometimes crust on the skin surface, bleed, ooze in the later stages of the disease, and are usually larger than ¼ inch in diameter (AAD, 1996; MacKie, 1992). Caucasians have a much greater risk than other races of developing this specific disease (AAD, 1996; MacKie, 1992). Other risk factors include number of moles, freckling tendency, having excessive sun exposure during adolescent development, the presence of atypical moles, having red/blonde hair, blue eyes, and the presence of a previous melanoma in one's history and/or the history of an immediate family member (ACS, 1996; AAD, 1996; Greeley, 1993; MacKie & Aitchison, 1982; MacKie, Freudenberger, & Aitchison, 1989; Strange, 1995; Vail-Smith & Felts, 1993). This specific type of cancer is particularly insidious considering its mortality rate combined with the fact that the early melanomas are not typically painful and are very often overlooked (MacKie, 1992).

Non-melanoma skin cancer encompasses both the basal cell carcinoma and squamous cell carcinoma types and accounts for from 700,000 to 900,000 new skin cancers diagnoses each year in the U.S. (ACS, 1996; Farmer, Goller, & Lippman, 1997). The ACS (1996) also estimated that 2,130 individuals died of non-melanoma skin cancers in the U.S. in 1996.

Basal cell carcinoma is the most common type of skin cancer, affecting some 550,000 Americans a year, thus accounting for around 90 % of all U.S. skin cancers (AAD, 1996; National Cancer Institute, 1995; Weinstock, 1995;). This disease strikes individuals over the age of 15. It typically appears on sun-exposed areas of the body such as the head (especially the nose) and neck in the form of small papules/nodules that expand slowly, and are apt to ulcerate and bleed in their later stages (AAD, 1989; AAD, 1996; MacKie, 1992). Basal cell carcinoma characteristically grows slowly and is less likely than other malignancies to metastasize to other body areas; however, the disease can and does cause serious health problems if left untreated (AAD, 1989; AAD, 1996; MacKie, 1992). Fortunately, despite the large number of people who develop basal cell carcinoma, the cure rate for the disease is often 95 % or higher (AAD, 1996).

Squamous cell carcinoma is the second most common type of skin cancer, affecting around 130,000 individuals a year in the U.S. This disease also often develops on chronically sun-exposed parts of the body such as the head, neck, back, arms, and the backs of hands, and appears as raised crusty ulcerating non-healing lesions or mushroom-shaped growths/tumors (AAD, 1989; AAD, 1996; MacKie, 1992). Squamous cell carcinoma is more aggressive than basal cell carcinoma and more commonly results in death (Greeley, 1993; Strange, 1995;

Weinstock, 1995). Typically, squamous cell metastases moves toward local draining lymph nodes initially and then on to other additional body areas (MacKie, 1992). Incidences of developing this specific disease are greater for men than women and increase significantly with age for both genders (AAD, 1989; AAD, 1996). Fortunately, the cure rate for this disease is often 95 % or higher if detected and treated early (AAD, 1996).

Actinic keratosis is also a major health problem worldwide. This precancerous condition affects in excess of 5,000,000 individuals in the U.S. alone and is also commonly called “senile keratosis” because it is seen more often in older people than younger (AAD, 1989; AAD, 1996; Strange, 1995). Not unlike the two non-melanomas, this condition often develops on chronically sun-exposed parts of the body such as the head, bald scalp, lips, neck, back, forearms, and the backs of hands. However, it often appears as a scaly-dry raised tan that is brown, gray, or red in color (AAD, 1989; AAD, 1996). This condition originates in the epidermis and can develop into squamous cell carcinoma if untreated (AAD, 1989; AAD, 1996; Strange, 1995).

Unna (1894) was the first to note the possible link between skin cancer and sunlight exposure. Since then a vast amount of research has indicated that all three major types of skin cancer are caused by exposure to ultraviolet radiation (UV), and specifically to prolonged and/or intermittent exposure to the sun (AAD, 1996; ACS, 1996; Clore, 1995; Glass & Hoover, 1989; National Cancer Institute, 1995; Pathak, 1991; Strange, 1995). Non-melanoma skin cancers have been found to be closely linked to cumulative UV exposure, while melanoma appears to be significantly related to more intermittent, intense exposure (Gies, Roy, & Elliot, 1986; MacKie, 1992; Spencer & Amonette, 1995; Weinstock, 1995).

Aside from malignancy concerns, UV exposure has also been significantly related to various other health problems including: atypical fibroxanthoma, other dermatoses, ocular disease, cataracts, collagen damage, immune system dysfunction, acute epidermal sunburn, wrinkling, skin elasticity loss, thickening/thinning of the skin, adverse reactions to specific lotions, fragrances, and moisturizers, and photoaging (AAD, 1989; AAD, 1996; Baadsgaard, 1991; Clore, 1995; Council on Scientific Affairs, 1989; Cruickshanks, Klein, & Klein, 1993; Dei Tos et al. 1994; Greeley, 1993; Hiller, Giacometti, & Yuen, 1977; Hollows, 1981; Spencer & Amonette, 1995; Strange, 1995; Taylor, 1989; Taylor, Stern, Leyden, & Gilchrist 1990).

UV radiation damages the skin by the processes of scattering, refraction, transmission, absorption, and/or reflection into the skin layers of the epidermis, dermis, or subcutaneous level. UV radiation depth penetration into the skin depends upon its wavelength. The upper layer of the epidermis mainly absorbs shorter wavelength UVB radiation; and longer wavelength UVA radiation may penetrate deeper into the dermis and weaken the skin's inner connective tissue (AAD, 1989; AAD, 1996; Gies, Roy, & Elliot, 1986;).

According to Clore (1995), tanning (darkening of skin) is the process by which the human body reacts/responds to UV radiation exposure and skin injury and subsequently occurs in two distinct phases. The initial phase of tanning involves darkening of skin pigment in response to UVA exposure. Tanning due to UVA exposure is immediate and is apt to fade significantly over 1 to 3 days. The second phase is actually related to new melanin production, can last for weeks after initial tanning and can be caused by both UVA and UVB radiation exposure (Clore, 1995).

Because no significant medical benefits are gained from tanning, there appears to be no safe way to tan, and the substantial risks of tanning are evident, why do individuals continue to tan? In order to attempt to answer such a multifaceted complex question, a look into the history of tanning and its perceived benefits may prove beneficial. For centuries, the sun and good health have been linked. In ancient times, many diseases were associated with darkness and a lack of adequate sunlight (Randle, 1997). Worship of the sun and of the sun gods has existed for centuries, and the sun has long been viewed as a source of pureness, goodness, and health and was the center of religion and culture in various ancient societies including Egyptian, Persian, Peruvian, Greek, and even Pawnee Indian Americans.

Throughout the past century, tanning has been connected to the concept of good health. In 1870, Niels Finsen (as cited in Randle, 1997) was among the first to use light radiation to treat disease. Later in 1890, Theobald Palm (as cited in Randle, 1997) concluded that sunlight was essential for living animals and that sunlight deficiency was related to disease. In 1903, Rollier (as cited in Randle, 1997) began treating tuberculosis patients with "heliotherapy" consisting of sunbaths at high altitudes in Switzerland clinics. Even into the 1930s and 1940s, leading medical researchers such as Bundesen and Teller (as cited in Randle, 1997) were praising the benefits of sunlight in relation to health benefits and cancer prevention.

Fashion trends have also contributed to tanning behavior (Randle, 1997). In 18th century New World and European society, skin paleness was revered and highly sought after. Females

often wore long flowing dress garments, carried parasols, and wore hats (Randle, 1997; Swerdlow & Weinstock, 1998). Trends started to shift in the fast times of the roaring 1920s, as slimness and suntanning quickly became the craze, and continuing into the 40s with the invention of the first bikini. Post Industrial Revolution trends further reversed earlier stereotypical perceptions of tanning, as tanned individuals were often seen as wealthy, youthful, attractive, adventuresome, and having the leisure time to sunbathe (Keesling & Friedman, 1987; Randle, 1997; Swerdlow & Weinstock, 1998). Tanning continued to grow into the very fabric of American culture by the 1960s and 70s, and is still a very popular activity today. Swerdlow and Weinstock now estimate that some 25 million individuals in North America use tanning beds each year, the newest trend in obtaining and maintaining tans.

Besides the health concerns, the economic impact of tanning is staggering, in relation to both the tanning promotion industry profits and the costs of treating the health problems tanning inevitably causes. Spencer and Amonette (1995) estimate that annual profits for the indoor tanning industry alone in the United States is more than \$1 billion, so the economic profitability of tanning is evident. Conversely, treating the damage contributed to by tanning has significant costs. The total cost of skin cancer (medical costs, lost productivity, and mortality) may approach several billion dollars in the years to come.

Although it is clear that some factors in skin cancer development are genetically influenced, it is felt that the disease is to a large extent preventable and behaviorally determined (Fiala, Kopp, & Gunther, 1997; Stern, Weinstock, & Baker, 1986). In fact, 75 to 90 % or more of diagnosed cases of skin cancer are thought to be preventable through limited exposure to UV radiation sources and the consistent use of sunscreen with a high skin protection factor (+15 SPF) (ACS, 1996; Stern et al., 1986; Thompson, Jolley, & Marks, 1993). Despite all of the statistics, why do people put their health at risk to engage in tanning? Much research suggests individuals tan in order to enhance self-image through improvement of physical appearance (Keesling & Friedman, 1987; Wichstrom, 1994). Based on the history of tanning and its current positive appeal in society, it is not at all surprising that evidence has shown that tanning is significantly correlated with measures of attractiveness and good health (Broadstock, Borland, & Gason, 1992; Fiala, Kopp, & Gunther, 1997; Leary & Jones, 1993; Miller et al., 1990; Randle, 1997; Robinson, Rigel, & Amonette, 1997; Vail-Smith & Felts, 1993). Therefore, it is logical then to assume that many individuals who tan are more concerned about the appearance of their

health, rather than their actual health. In fact, in a study by Mawn and Fleischer (1993), 10 % of the subjects reported that they would continue tanning even if tanning was proven to cause skin cancer.

Sunbathing Research

Psychosocial Factors Associated with Sunbathing

Adult Population. Hill and Rassaby (1984) studied skin cancer precautionary behavior among 150 subjects in an Australian educational program. The intent of the study was to see what beliefs were significantly connected with subjects' sun exposure precautionary behavior. Precautionary behavior was influenced by the perceived effectiveness of sunscreens towards skin cancer prevention. Female subjects also reported more subjective norms, positive attitudes, and positive intentions regarding future sunscreen use than the male subjects.

In a similar study by Hill et al. (1992) among 1,600 Australians, in excess of 75 % of the subjects reported that they spent 15 or more minutes sunbathing during high-risk UV exposure times, less than 25 % reported sunscreen use, and only 45 % of the sunscreen using subjects actually used sunscreen with the recommended sun protection factor of 15+.

Campbell and Birdsell (1994) studied over 3000 Canadian adults in regards to their sun related knowledge, occupational and recreational sun exposure, current sun protective behavior, sun related beliefs, demographics, sun reaction information, and complexion information. Males were more likely to wear hats and cover themselves, while females were more likely to wear sunscreen and avoid mid-day sun exposure. Additionally, more females indicated sun exposure affected risk for cancer, and that avoiding UV was essential for reducing cancer risk.

Eiser et al. (1995) studied a cross-national group of subjects from southwest Britain (132 total) and northwest Italy (142 total) in regards to environmental issues, sun exposure, and skin cancer attitudes. Subscales were devised that measured attitudes toward environmental issues, attitudes of playing down skin cancer risk while focusing on the pleasures of sunbathing, and vigilance about risk information and need for precautionary behaviors. Females and the British scored higher on the vigilance subscale. Overall, females scored higher on sunscreen usage. The British group appeared more informed about skin cancer risk and environmental issues, and were more positive towards sun protection behaviors. Subjects who played down environmental issues

also played down skin cancer risks and were less vigilant towards sun-protective behaviors.

Melia and Bulman (1995) studied sunburn, tanning, skin type, age, gender, social class, geographic region, and associated attitudes among 2025 adults in Scotland, England, and Wales. Results indicated that young adults had a general lack of sunburn concern, high occurrences of sunburns, large desires for tan, and favorable attitudes toward tanning. Females scored higher in their attempts to tan, while more males reported burning in the pursuit of a tan. Males were also less likely to report sun sensitive skin than women. Thirty-seven percent of the subjects reported sunburn during the previous year, with sunbathing serving as the reason for both mild and the most severe sunburn. Thirty-three percent of subjects reported attempting to tan during the previous year, with age (younger) and gender (female) being the best predictors for these attempts to tan. Twenty percent of the subjects said that light-skinned people needed to tan in order to look their best. Sunburn appeared to be more accepted by male and younger subjects.

Clarke, Williams, and Arthey (1997) studied beliefs and skin types in relation to sunbathing and sun protection behavior, and perceived skin cancer risk for both the self and for the average person. Results indicated that 41 % of subjects tanned a little, 26 % altogether avoided tanning, 24 % tanned until they achieved their desired tan level, and 9 % tried to tan as dark as possible. In regards to sun protective behavior, 12 % reported using protection every time they were exposed to the sun, 55 % reported using protection most of the time, 25 % reported using protection sometimes, and 8 % rarely or never used protection. Overall, skin cancer risk beliefs were poor correlates of suntanning and sun protective behaviors. Skin type was the strongest correlate of both suntanning and sun protection behavior.

Robinson, Rigel, and Amonette (1997) looked at trends in sun exposure knowledge, behaviors, and attitudes from 1986 to 1996 among a total of 2012 subjects (1012 in 1986 and 1000 in 1996). Results indicated that general knowledge of the perceived risks and benefits of sun exposure on the skin rose significantly during the decade. Positive attitudes with regards to tans appearing healthy significantly declined to 56 % in 1996 from 66 % in 1986. However, subjects reporting tanning as a benefit of sun exposure increased from 3 to 12 % over the decade. Subjects experiencing at least one sunburn increased from 30 (1986) % to 39 % (1996); and regular use of tanning salons increased from 2 (1986) to 6 (1996) % of the subjects. Use of sunscreen also increased from 35 % to 54 % of the subjects over the decade. Media messages regarding tanning subsequently recalled by the subjects rose from 48 % in 1986 to 74 % in 1996,

which highlights the importance of the media influence in tanning behavior. Sixty-eight percent of the subjects in 1996 felt that people looked better with tans, and 93 % reported spending more than 1 hour exposed to the sun on summer weekends. Additionally, 83 % reported weekday sun exposure in excess of one hour. They also found that females were 1.5 times as likely to intentionally tan than males and were more likely than males to be aware of skin cancer information. Younger subjects and subjects residing in regions with fewer sunny days were both more likely to intentionally tan, while men from the South were more likely to suffer sunburn from exposure.

Young Adult Population. In a study by Cockburn et al. (1989) among 3,002 teenagers, only 30 % were taking adequate precautionary measures against sun exposure. Additionally, males, those who spent more time in the sun, those who were likely to sustain a sunburn, those who perceived skin cancer as a severe health threat, and those who believed in the benefits of sun protection took protective precautionary measures more often.

In a similar study of 220 Virginia teenagers by Banks et al. (1992), only 26 % used sunscreen more than half of the time they spent in the sun. More than 80 % of the subjects reported spending most of their weekends exposed to the sun, and 1/3 of the female subjects reported tanning salon use. Only 9 % of the subjects acknowledged consistent sunscreen use, and a significant 33 % reported never using sunscreen protection. Subjects who were considered high risk in relation to developing skin cancer were no more likely to take precautionary behaviors than other subjects. The reported lack of precautionary behavior coupled with the amount of time these subjects spent in the sun is indicative of an apparent disregard for skin cancer risks. Findings also showed significant positive relationships between current sunscreen use, being female, the presence of a close companion that used sunscreen protection, early life sunscreen protection due to parental instruction, and maximum sun exposure knowledge.

Similar results were found in a large-scale study by Mermelstein and Riesenberg (1992) of 1700 Chicago high school students' knowledge, behaviors, and attitudes related to skin cancer, sunscreen usage, tanning salon usage, and sun exposure. Findings showed that during the summer subjects spent close to five hours a day in the sun, and 13 % reported using tanning salons. Subjects that had high-risk skin types, were females, had sun self-protection intentions, had a high-perceived susceptibility to skin sensitivity and skin damage, and were older were

significantly more likely to take precautions against sun exposure and used sunscreens more often. Sunscreen usage was most significantly related to sun protection intentions. However, subjects' sun protection behaviors were still rather low considering 44 % of the males and 30 % of the females reported never using sunscreens.

Broadstock, Borland, and Gason (1992) studied 191 secondary school students from five Australian schools about their perceptions of attractiveness and health in regards to levels of tan. Subjects were shown slides of models and questioned about which of the two was more attractive and healthy. The gender of the models, gender of the subjects, tan levels (no tan, light, medium, dark tan), and attire (casual and swimwear) served as independent variables in the study. Results indicated that "medium" tan was considered the most attractive and most healthy condition, and "no tan" was ranked as the least attractive and least healthy condition. Subjects who wanted a dark tan ranked darker tans as more healthy and attractive for male models, swimwear models, and themselves. Male subjects viewed dark tans as being more attractive.

Wichstrom (1994) conducted a study that assessed 15,000 Norwegian high school students about their physical self-concepts, tanning behaviors, attitudes, beliefs, and values. Findings indicated that subjects were each spending around 3 hours a day during the summer exposed to the sun, while 90 % reported some sunscreen use. However, only 25 % of the subjects used an adequate sun-protection factor, and half applied the sunscreen incorrectly. Females reported more positive attitudes toward tanning, more time of sun exposure, more tanning salon exposure (35 % of the males in the past year as opposed to 75 % of the females), and more sunscreen use than did the males. Sunscreen use was predicted by skin sensitivity, perceived risk of personal skin cancer development, friends' sunscreen use, and sunbathing opportunities. Sunbathing behaviors were predicted by valuing physical appearance, friends' sunscreen use (females), lowered perceived risk of personal skin cancer development, positive attitudes toward tanning, friends' tanning salon use, friends' sunbathing, opportunity to sunbathe, skin sensitivity, smoking, and having a positive physical concept.

Pratt and Borland (1994) examined factors affecting sun protection precautionary behavior among young people at the beach. Subjects were asked about their attitudes and beliefs in regards to sunbathing and skin cancer risk. Findings indicated that skin protective measures did not correspond to the subjects skin cancer degree of risk. Less sun protection behaviors were predicted by level of tan (dark meant less protection), number of summer days exposed,

sunbathing preference, and subjects' desire to sunbathe.

College Population. Miller et al. (1990) looked at risk factors and stereotypes in regards to sunbathing. In their first experiment, 205 subjects were asked to record their opinions regarding a person's personality based on viewing a vignette. One of the targets was portrayed as having a "dark tan," while the other target was a control. The targets with the dark tan were rated as being more sexy, popular, attractive, athletic, and concerned about health than the control target. However, attractiveness ratings were lowered and vanity ratings were heightened when the target had intentionally tanned. Additionally, a well-developed tan was also ranked high on the list of subjects' major goals for having a successful vacation. In the second study, the goal was to identify subjects' (227 females and 128 males) attitudes and beliefs regarding sunbathing both before and after viewing a vignette about the risks associated with sunbathing. Results indicated that the tape influenced subjects' perceived attractiveness of tanning opinions (lower) and increased their concern about the risks associated with sunbathing. Subjects who reported higher tan levels were more likely to feel as though tanning increased attractiveness levels. Also, high tan level subjects appeared to be less concerned about skin cancer risks, as their responses suggested denial/resistance. Females were generally more aware and concerned of the risks than males.

Leary and Jones (1993) looked at undergraduate students' attitudes, knowledge of sun exposure threats, behaviors, and personality factors that were related to skin cancer risk. Findings indicated that 70 % of the 266 subjects spent more than one hour per week sunbathing, while only 7 % reported consistent sunscreen use and 44 % reported seldom or never using sunscreen. More than 25 % of the subjects also reported tanning salon use. Subjects actually knowing someone who had cancer best predicted sunscreen use. Sunscreen use was also predicted by skin sensitivity (fair complexion/skin type), personal identity orientation, and the belief that one has control over one's own personal health. Exposure to UV was predicted by body self-consciousness, lowered perceived risk of cancer, fears of others' negative evaluations, and a belief that tanning improved appearance.

Vail-Smith and Felts (1993) studied 296 Caucasian college students in relation to their attitudes, knowledge, and behaviors towards sunbathing. They developed a 47-item multiple choice instrument called the Sun and Skin Inventory with questions designed to assess

demographics, skin cancer risk assessment, sun related knowledge, attitude regarding tanning, and two items for sunbathing and sunscreen usage assessment. Frequent sunbathers were more likely to be female, to report fewer personally perceived risk factors, to believe they looked better tanned, that tanned skin was attractive, that tans appeared healthy, and were significantly less likely to use sunscreen protection. Only 9 % of subjects reported use of sunscreen with every UV exposure of 30 or more minutes, and 43 % of the females and 61 % of the males rarely or never used sunscreen. Females reported they were more at risk in the sun, were more likely to burn, and had more moles. More females also reported having a family history of cancer and having fairer skin. Skin knowledge scores were relatively high overall. Results were indicative of attractiveness factors and social desirability factors both playing a major role in sunbathing.

Eiser, Eiser, and Pauwels (1993) also measured skin risk and sun exposure attitudes among 176 university students. A 45-item questionnaire assessing skin cancer knowledge, sunscreen use, sunbathing behavior, and demographic information was administered to all subjects. Results indicated that females felt more positively about sunbathing, were more aware of the skin cancer risks associated with sunbathing, and were more likely to use sunscreen than males. Additionally, subjects' hair (light or dark) and skin color did not factor into their perceived skin cancer risks.

Jones and Leary (1994) studied the effectiveness of health-based versus appearance-based messages against sun exposure on 69 male and 65 female Caucasian undergraduates' (age 17-23) sunbathing intentions. Subjects were presented with a measure of appearance motivation (the degree to which subjects were concerned about maintaining an attractive personal appearance), and then responded to one of three essays about the effects of sun exposure on the human body. The health-based essay discussed health risks associated with sunbathing, described differing types of skin cancer, and suggested that individuals wear sunscreen. The appearance-based essay described the risks of sun exposure on subjects' appearance and urged them to use sunscreen. The control essay described the tanning process, did not mention skin cancer risks, but did urge the use of sunscreen. Results indicated that the appearance-based essay was the most effective among subjects in promoting intentions to participate in sun-protective behaviors. However, it is important to note that the appearance-based essay was most effective for subjects who were low rather than high on their measures of appearance motivation.

Hanley, Pierce, and Gayton (1996) also studied the scores of 62 undergraduate women from the University of Southern Maine on the Attitudes Towards Tanning Survey. Subjects subsequently reported behaviors that would elevate their skin cancer risk by estimating the following: number of sunburns suffered the previous summer; number of times per week they would use a tanning salon at school if there was no charge; number of hours a day they would voluntarily tan if given a seven-day Caribbean vacation free of charge; and their response to the statement, “The pleasures and advantages of a well-developed suntan are worth the possible risks.” Higher scores meant more positive attitudes towards tanning. Correlations between the attitude scale and risky lifestyle related behaviors was .38 for the previous summer’s sunburns, .45 for estimated time in the tanning salon, .59 for amount of time devoted to tanning on vacation, and .43 for agreeing with the “suntanning is worth the risk” statement. These significant findings suggest that positive attitudes towards tanning were correlated with the elevation of sun-risky behavior endorsement. Also suggested was the idea that sun-seeking behavior was motivated by people’s perceptions of attractiveness and health.

Hillhouse et al. (1997) used Ajzen’s (1988) theory of planned behavior (TOPB) to look at psychological predictors of high-risk UV exposure in regards to sunscreen usage, tanning salon usage, and sunbathing among 131 subjects (43 male, 88 female) at a mid-size University. Subjects completed questionnaires designed to assess demographics, attitudes, social norms, perceived personal behavioral control, intention, and actual behavior relating to sunbathing, tanning salon use, and sunscreen use. Results were consistent with the TOPB and showed that subjective norms, attitudes, and perceived behavioral control were all significantly correlated with subjects’ intentions across the differing behaviors. As subjects’ feelings about high-risk UV exposure became more negative, they were less likely to actually engage in high-risk UV exposure behaviors. Attitudes toward sunscreen use were generally positive, while sunbathing and tanning salon use attitudes were relatively pessimistic. Tanning salon intentions were predicted by perceived behavioral control and attitudes. Sunscreen use intentions were significantly affected by subjective norms, perceived behavioral control, and attitudes. Sunbathing intentions were significantly influenced by subjective norms, attitudes, and perceived control. A significant interaction was found between attitudes and perceived control for both tanning salon use and sunbathing; the intention-attitude association was subsequently strengthened as personal perceived control over behavior elevated.

Relaxation Factors Associated with Sunbathing

Keesling and Friedman (1987) were the first to study various psychosocial factors in relation to tanning and sunscreen use among California beach-goers. These researchers asked 120 subjects about their knowledge of skin cancer, health practices, sunbathing activities, relaxation, need for achievement, and risk taking behaviors. Findings in relation to subjects' voluntary sun exposure was subsequently predicted by four psychosocial dimensions: Mood (sunbathers showed a lower need for achievement and a greater need to relax); Skin cancer knowledge (decreased sun exposure was predicted by increased knowledge); Risk-taking (low in need to avoid harm and high in need for aggression); Social networks (subjects who exercised regularly, belonged to health clubs, and had friends who sunbathed). Use of sunscreen was significantly positively related to gender (women reported more use), cancer contact (knowing other people who have had cancer), affect (anxious people reported more use), and personal knowledge of skin cancer.

Malouff, Schutte, and Tokarz (1992) found that undergraduates used sunscreen less than 50 % of the time they were exposed to UV, while spending an average of 25 times per year exposed. Sunscreen usage was predicted by beliefs in sunscreen protection from UV exposure. Sunbathing was predicted by a perceived low risk of skin harm, positive attitudes toward tanning, and feeling as though sunbathing was relaxing.

Mawn and Fleischer (1993) studied 477 subjects in North Carolina in regards to their assessment of the acute and chronic effects of UV light exposure and their personal UV exposure. Although 33 % of the subjects reported sunbathing at least once a week, 42 % never or seldom used sunscreen protection. Female subjects were more likely to use tanning beds and to sunbathe, more likely to believe one hour in the sun each day causes skin damage, more likely to use sunscreen, and more knowledgeable of the long term effects of unprotected UV exposure. Tanning bed users were also more knowledgeable about UV light risks than non-tanning bed users. Of particular significance to the present study of sensuousness were results that indicated 58 % of tanning bed users had achieved a feeling of relaxation while tanning, while 20 % reported feelings of self-confidence, and 14 % reported happiness feelings.

Hillhouse, Stair, and Adler (1996) studied sunscreen use, sunbathing, intentions, beliefs, knowledge, and attitudes among 90 (40 male, 50 female) undergraduate and graduate students. A large majority reported sunbathing activities (75.5 %), and half (54.4 %) advocated tanning bed

use. One fourth of the subjects (n=23) reported sunlamp exposure during the week prior to the study, and 60 % (n=54) reported sunbathing more than one hour per week. Subjects also reported 15.2 average hours per summer week exposed to the sun, 1.6 hours per week exposed to tanning beds, and 4.2 hours per week sunbathing. Subjects reported using some sun protection 47.3 % of the time they spent outdoors, and 54.4 % reported using sunscreen some of the time. Females showed greater knowledge of sunscreen and sun protection use, reported being more at risk for skin harm, had more positive attitudes toward sun protection and sunscreen use, and rated skin harm more negatively than did males. Subjects who had intentions to tan spent more time sunbathing and using tanning salons. Conversely, subjects who reported intentions to protect themselves from the sun spent less time sunbathing and possessed lighter tans.

Sunscreen use was predicted by less negative sunscreen attitudes and more positive sun-protection attitudes. Having positive attitudes toward suntans was the best predictor for sunlamp use. However, results indicated that relaxation played a larger role than positive suntan attitudes in subjects' engaging in outdoor sunbathing. The authors propose that this difference between UV exposure predictors is due to sunbathing being more associated with social dynamics, while tanning lamp use is more private and more closely associated with appearance motivations for tanning. These results are directly relevant to the present study's look into sensuousness, in that the best predictor for sunbathing behavior in this study was relaxation.

Fiala, Kopp, and Gunther (1997) studied the differences between 31 females who consistently used tanning beds and a control group of 34 female non-tanning users in relation to their self concepts (all 20-35 years of age), attitudes towards tanning, knowledge of UV exposure risks, social assertiveness measures, generalized self-efficacy, and narcissistic regulatory measures. Findings indicated that sunbed users often displayed high measures of object devaluation, or considering others as not worthy of affection and devaluing them. Among sunbed users, 93 % reported consistently tanning for appearance related reasons. Additionally, sunbed users had higher measures of personal and interpersonal anxiety. Almost all of the subjects had high measures of skin risk-UV exposure knowledge, although most still reported that they lived healthy lives. Especially relevant to the present study was that 60 % of the subjects also reported feelings of relaxation and an increased sense of physical and mental well-being as motives for their tanning bed visits.

Sensuousness Research

Psychobiological Factors Associated with Sensuousness

Parallel to the concept relaxation, as well as being the central focus of the present study, is the notion of sensuousness. Sensuousness refers to an individual's pursuit or lack of pursuit of sensual pleasures as measured by sensation. Sensations are information gathered by one's senses, and one's cognitive processes interpret these sensations. Sensuousness seems to be composed of: physical comfort gathered by one's senses (sensation) and a cognitive component that actively assesses consciousness, mental awareness, and meaning from present and past sensations (perception and cognition). First, physical comfort is a requisite part of sensuousness and is determined by the effect produced physiologically on a sense organ by an external stimulus. For example, a warm bath may be very pleasing and comfortable due to the sensation of warm water on one's skin, or the mere thought of a warm bath for some individuals may itself be sensual. The warm water itself is not present, but the thought of a warm bath may be relaxing.

In regards to sensuousness, the physical comfort component is obviously interpreted by the cognitive component. For example, a warm bath may be a pleasing sensation on one's skin, but how pleasing is interpreted by one's cognitive processes. The cognitive component recalls past sensations, interprets present sensations, and can assess possible future sensations. These components weave together to form an idea that is central to the concept on sensuousness; how humans sense and perceive. Additionally, the reciprocity between the psychological and physiological aspects of sensation and perception form a comprehensive biopsychological theory based on each individual's unique optimal level of arousal.

Optimal Level of Arousal Theory

Closely related to the research topic in the present study on sensuousness is the concept of sensation seeking, and the roots of the study of the sensation seeking trait lie in research done by individuals such as Hebb and Thompson (1954), Leuba (1955), Berlyne (1960), and Fiske and Maddi (1961) concerning the idea of "optimal levels of stimulation, excitation, and/or activation." These researchers proposed the theory as a rebuttal to the concept of drive reduction theory, which stated that the goal of most all motivation is to thwart stimulation. They maintained that too little stimulation leads one to increase one's stimulation, while too much stimulation leads to stimulus reduction. According to Farley (1976), this homeostatic theory of

“...individual differences in sensation seeking and preference for varied stimulation rests on the notion that persons differ in characteristic arousal levels” (p.703). Therefore, the basic premise of this theory is that individuals strive to maintain an optimal level of stimulation or arousal.

Some of the first contributors to the research focusing on Optimal Level of Arousal Theory (OLA) were McClelland, Atkinson, Clark, and Lowell (1953). The first roots of modern day OLA theory and its hedonistic characteristics were clearly evident in the appearance of their hypothesis regarding what they termed “antecedent conditions for affective arousal.” Their conceptualization of measuring the extent of departures from a set adaptation level is closely related to later concepts in regards to OLA theory. The hypothesis reads as follows:

Affective arousal is the innate consequence of certain sensory or perceptual events. It is probable (though not necessary) that the basic mechanism which gives rise to sensory pleasantness (e.g., sweetness) and unpleasantness (e.g., bitterness) is similar to that which gives rise to pleasantness-unpleasantness at a more complex perceptual level (pleasant music vs. dissonant music). Positive affect is the result of smaller discrepancies of a sensory or perceptual event from the adaptation level of the organism; negative affect is the result of larger discrepancies. (p.43)

According to Berlyne (1960), arousal was the representation of environmental stimulation and his work expanded the body of research focusing on optimal levels. He considered arousal variations in intensity, affective variables, novelty, collative variables, (degree and suddenness of change from previous stimulation and complexity), and conflict/uncertainty as stimulus determinants. Berlyne also proposed a curvilinear model of optimal stimulation based on physiological measurements of the previously noted environmental stimulation determinants. Skin resistance, muscle tension, electroencephalogram, and cardiovascular response were his preferred methods of arousal measurement. Berlyne referred to what he termed “hedonic tone” in relation to an optimal level of arousal, and believed in an alternative to drive theory based on what he termed, “the quest for intermediate arousal potential” (p.200). He went on to offer evidence supporting his theory and stated that, “human beings and higher animals will normally strive to maintain an intermediate amount of arousal potential” (p.200). However, he wrote that optimal arousal was indeed unique to the individual.

Fiske and Maddi (1961) were also contributing pioneers involved in the early research focusing on OLA theory. They surmised that behavior was internally determined by comparing

an individual's present level of activation (later termed arousal) to his/her applicable optimal level of activation, depending on the tasks or conditions the individual is currently experiencing. Fiske and Maddi suggested each person determines his/her own level of activation by an internal homeostatic process known as optimization.

Later, Zentall and Zentall (1983) looked further at the specific processes involved in the OLA theory and normal responses to extreme levels of stimulation stimulus avoidance and stimulus seeking. They proposed evidence that individuals that are experiencing sensory overload tend to avoid stimuli. Sensory overload had been shown to decrease task performance and emotional adjustment and to subsequently increase social alienation, various withdrawal tendencies, disorganization of behavior, and certain types of repetitive activities such as tics, hand movements, and speech (Duffy, 1962; Gottschalk et al., 1972; Lipowski, 1975; Ludwig & Stark, 1973; Weinstein, 1979; Zentall, 1980). The researchers also looked at sensory deprivation studies (which provided the basis for Zuckerman's Sensation Seeking Scales) and the processes of stimulation seeking behaviors. Sensory deprivation studies have shown that when no stimulation is possible, significant behavioral disorganization subsequently occurs. Studies suggest that sensory deprivation significantly correlates with reduced intellectual ability, increased galvanic skin response, disorganized cognition, motor deficits, and handwriting irregularities (Bexton et al., 1954; Doane et al., 1959; Ruff, 1966; Zubek et al., 1962;). Considering the negative correlates of operating at the extremes of arousal seeking/avoidance, these researchers again validated the usefulness, the efficacy, and the study of the OLA theory in scientific research.

Therefore, for example, an individual in social isolation may seek stimulation, while an executive working 50 hours a week may seek relaxation. This comprehensive theory of the constant adjustment of sensation levels focuses on the optimal level of stimulation for each individual. While the theory proposes that there is an optimal level of stimulation, it is important to note that the levels will differ according to each individual. Therefore, stimulation seeking, or reduction varies on a continuum according to each individual's optimal level.

Trait Theories

Zuckerman (1990) used the term "trait" to describe sensation/stimulation seeking behavior, thus understanding sensation seeking in terms of its trait processes is imperative. Additionally,

understanding the theoretical aspects of trait theory is central to developing a sensuousness scale for specific sensuousness trait measurement for the present study. In fact, Jackson (1971) states that “personality measures will have broad import and substantial construct validity to the extent, and only to the extent, that they are derived from an explicitly formulated, theoretically based definition of a trait” (p. 232). Jackson based his statement on the assumption that every behavior and every trait scale performance was indicative of a deeper level of underlying trait processes. Like Jackson, most personality theorists attribute differences in human behavior to the traits individuals or groups of people possess, and the amount of each trait possessed. The fundamental concept central to most trait theories is that traits are life-long and relatively consistent.

According to Allport, traits (sensation seeking, achievement seeking, sensuousness, etc.) are “neuropsychic structures having the capacity to render many stimuli functionally equivalent, and do initiate and guide equivalent forms of adaptive and expressive behavior” (1961, p. 347.) Traits therefore account for consistency in human behavior patterns. For example, a person possessing a strong trait of sensuousness may react differently to a warm bubble bath than a person possessing a strong trait of stoicism. Individuals’ traits categorize experiences because individuals interact with their environment through their trait processes. For example, if an individual is highly sensuous, he/she will more than likely be sensuous in a wide range of situations. According to Allport, traits could not be observed directly, and that their existence must be inferred. Allport considered individual traits as those possessed by a specific person, and common traits as those shared by groups of people. Allport wrote that all individuals possess most all traits, but that each individual has his/her own unique pattern of trait strengths. This trait theory couples very well with optimal level of arousal theory in that each individual has his/her own amount of a trait; and each trait has its own strength.

Cattell (1950) considered traits as the building blocks of human personality, and much of his work examined the concept of traits. The central component to Cattell’s theory is the difference between surface and source traits. Surface traits are simply groups of observations that are correlated. For example, individuals with more financial resources may go to the tanning bed more than individuals with less resources. Source traits are the actual causes of behavior, they make up the core structure of personality, and are responsible for consistent behavior, and Cattell proposed that they are the core of personality, and they influence all behavior. Behavioral manifestations of source traits are observed as surface traits.

Murphy (1947) and Guilford (1959) studied the trait construct and were also proponents of the theory. According to Murphy, traits were an indispensable component of each individual's personality, and proposed that the "self" is in large part made up of one's conceptual trait system. Guilford primarily focused on the long-term consistency of traits.

Finally, Stagner (1977) argues that traits are a useful construct because they are relevant and are good long-term predictors of behavior. He proposed that evidence for the relevance of traits could be found by comparing individuals' scores on empirically measured trait scales with their responses in a controlled lab environment. In other words, relevance was proven by comparing scores on the trait measure to scores recorded in the lab that involved more situational attributes (behavior). He cited a study by Shemberg et al. (1968) in which subjects were assessed on the aggressiveness trait and subsequently were exposed to what he termed the aggression machine," by which the participants were pressured to administer electric shocks to a presumed victim. Subjects that scored above the median on the aggressiveness trait scale were significantly more likely to administer more shocks than those who scored below the median on the trait scale. Additionally, the shocks administered by the aggressive individuals were significantly more severe than those given by the less aggressive individuals. According to Stagner (1977), literally hundreds of studies throughout the various disciplines of psychology adequately established the existence and usefulness of the trait construct.

Sensation Seeking Theory

As illustrated by previous sections devoted to physiological attributes, and supplemented later by optimal level of arousal and trait theories, it is clear that the sensuousness trait, as well as the sensation seeking trait involve complex psychobiological processes. Zuckerman et al. (1964) proposed a theory of sensation seeking based on individuals' "optimal level of stimulation." Zuckerman (1990) stated, "sensation seeking is a human trait characterized by the need for varied, novel, and complex sensations and experience and the willingness to take physical and social risks for the sake of such experience." Based on optimal level of stimulation theory and trait theory, Zuckerman et al. (1964) developed his initial General Sensation Seeking Scale (S.S.S.) to assess individual differences in optimal levels of stimulation. The scale was intended to measure likely expressions of high or low optimal levels of stimulation in preferences, activities, and interests. In initially developing his Sensation Seeking Scale, Zuckerman et al.

(1964) first selected 54 items that were designed in a forced choice format. Eight of the items focused on preferences for the new and unfamiliar as opposed to the usual and familiar; 12 items focused on enjoying danger and thrills; 2 items dealt with a need for general excitement; 6 items were related to values of stimulation from others instead of reliability and predictability; 8 items looked at preferences for irregularity as opposed to routine; 4 items focused on preferences for adventure as opposed to security concerns; and 14 items related directly to preferences for sensation extremes.

After his original General scale was formed, it was administered to 268 male and 277 female undergraduates, and 4 items were dropped from the scale. Later the revised scale consisting of the remaining 50 items was administered to 98 male and 100 female undergraduate students, and the reliabilities were determined to be .68 for the males, and .74 for the females. Results were indicative of a significant correlation between the S.S.S. and measures of sensitivity to internal sensations as determined by the Embedded Figures Test, which assesses field independence. Furthermore, the S.S.S. scores had a significant negative correlation with measures of anxiety. Zuckerman maintained that there were four specific factors or subscales that were part of his sensation seeking trait scale: Thrill and Adventure Seeking, Experience Seeking, Disinhibition, and Boredom Susceptibility. The Thrill and Adventure Seeking factor consists of items that express a desire to participate in outdoor sports and activities that are considered risky and/or dangerous or physical risk-taking activities, such as speeding, parachuting, and skiing. The next two factors, the Experience Seeking and Disinhibition factors of Zuckerman's scale seem to contribute directly to the present study of sensuousness. Items in the Experience Seeking factor reflected the desire for new experiences through the senses and thought. Pleasing sensations were sought in music, art, drugs, as well as a desire for a dynamic life-style. The central focus of the Experience Seeking factor is simply experience for experience sake. Items are associated with exhibitionism in dress and behavior, the use of hallucinatory drugs and marijuana, associating with unusual and unconventional persons, a liking of modern music and art, and a distaste for authority. The Disinhibition factor looks at the hedonistic pursuit of pleasure through activities such as social drinking, partying, having sex with a variety of sexual partners, a loss of social inhibitions, and gambling. Finally, the Boredom Susceptibility factor contains items which assess a dislike for routine work, predictable and dull individuals, repetition of experience, and a desire to be associated with various and exciting individuals and

situations/activities. This factor assessed a want for the dynamic, and an aversion to the routine.

Demographic Factors Associated with Sensation Seeking. No gender differences were apparent on the original Sensation Seeking Scale. However, in a later study, females scored significantly lower than males on all of the S.S.S. subscales of S.S.S. Form IV, with the largest gap being on the Disinhibition subscale (Zuckerman, 1974). Kurtz and Zuckerman (1978) also reported more evidence that supported a significant gender difference with males scoring higher on the S.S.S. on all but the General and Experience Seeking subscales on Form IV. Finally, Ball, Farnhill, and Wangeman (1984) found that among 335 female and 363 male Australians, males showed significantly more high sensation seeking scores than did the females. The Australian data supported other gender difference data completed in the United States, Canada, and England and added more evidence that suggests males generally score higher on the S.S.S..

Sensation seeking has also been found to correlate negatively with age, with the largest differences showing on the Disinhibition subscale on S.S.S. Form IV (Blackburn, 1969; Brownfield, 1966; Kish & Busse, 1968; LeBlanc & Tolor, 1972). Another study indicated that scores of sensation seeking were found to decline from the ages of 16 to 70 in 254 male and 693 female English subjects on Form V of the S.S.S. total score, the Thrill and Adventure Seeking subscale, and the Disinhibition subscale (Zuckerman et al., 1978).

Lifestyle Factors Associated with Sensation Seeking. Individuals who scored high on the S.S.S. among college students have been determined to have significantly more sexual partners and to have participated in a greater variety of sexual activities than do those who score low on the S.S.S. (Zuckerman et al., 1972; Zuckerman, Neary, & Brustman, 1970; Zuckerman, Tushup, & Finner, 1976). Sensation seeking in young married women correlates significantly with sexual responsiveness, masturbation, preferred frequency of intercourse, multiple orgasms, arousability, and vaginal lubrication (Fisher, 1973).

Alcohol usage tends to be highly correlated with the Disinhibition subscale and has shown lesser correlations with other scales (Zuckerman et al., 1972). S.S.S. scores have also been shown to significantly correlate with drug use including marijuana, hashish, amphetamines, LSD, and other psychedelic/hallucinatory drugs (Brill, Crumpton, & Grayson, 1971; Carroll & Zuckerman, 1977; Feij et al., 1979; Kaestner, Rosen, & Appel, 1977; Khavari, Humes, & Mabry,

1977; Kilpatrick, Sutker, & Smith, 1976; Murtaugh, 1971; Segal, 1976; Zuckerman, 1972; Zuckerman, Bone, Neary, Mangelsdorf, & Brustman, 1972). Platt (1975) also discovered that heroin abusers scored higher on the S.S.S. than non-heroin users at a youth correctional center. Cigarette smoking by both men and women has also been found to significantly correlate with S.S.S. scores (Feij et al., 1979; Zuckerman, 1972; Zuckerman, Ball, & Black, 1990; Zuckerman & Neeb, 1980). Zuckerman, Ball, and Black (1990) also found that of 1071 male (422) and female (649) undergraduates, high sensation seekers inhaled significantly more smoke, and smoked more in social situations than low sensation seekers.

High sensation seekers also tend to be more interested in gambling activities, especially those who score highly on the Disinhibition subscale of the S.S.S. (Zuckerman, 1974). Sensation seekers have additionally been found to bet more in gambling games such as blackjack and prefer higher odds in betting (Waters & Kirk, 1968). Sensation seekers have also been found to significantly prefer spicy and crunchy foods to soft and sweet foods (Kish & Donnenwerth, 1972). Finally, Zuckerman & Neeb (1980) found that there was a significant relationship between subjects' S.S.S. scores and speeds at which they reported driving on highways with a 55 M.P.H. speed limit.

In non-college populations, high score sensation seekers are more likely to participate in risky physical activities such as parachuting, motorcycle riding, scuba diving, and fire fighting (Brown, Ruder, Ruder, & Young, 1974; Hymbaugh & Garrett, 1974; Zuckerman, 1978). In stark contrast to high sensation seekers, low sensation seekers tend to exhibit high avoidance to even mildly risky situations and activities like heights, and the dark (Mellstrom, Cicala, & Zuckerman, 1976). High sensation seekers are also more likely to volunteer for unusual types of experiments such as hypnosis, drug effects, and sensory deprivation (Zuckerman, 1978).

Psychopathological Factors Associated with Sensation Seeking. Findings have consistently shown that manic tendencies and various other psychopathic disorders positively correlate with high scores on the S.S.S.. Several studies of criminal offenders, undergraduate college students, and psychiatric patients have all consistently found that the General S.S.S. has positively correlated (.40 to .47) with the Hypomania scale on the Minnesota Multiphasic personality Inventory (MMPI) (Blackburn, 1979; Thorne, 1971; Zuckerman et al., 1972;). Zuckerman et al. (1972) determined that the S.S.S. has also been found to positively correlate with the

Psychopathic Deviate scale of the MMPI, mostly in college students. Among drug abusers in clinical groups sensation seeking measures have been found to be significantly high (Kilpatrick et al., 1976; Platt, 1975). Zuckerman and Neeb (1979) found that manic-depressives scored significantly higher on the S.S.S. than controls, while neurotics and unipolar depressives did not score significantly lower. In studies by Brownfield (1966) and Kish (1970), schizophrenics were found to score lower on the S.S.S. than control groups. Kish (1970) also found that active schizophrenics scored higher on the S.S.S. than schizophrenics determined to be less active.

Finally, it is important to mention that throughout the past decades, a rather large body of literature has confirmed the reliability (factor, internal, and retest) of Zuckerman's Sensation Seeking Scale (4 versions since the original) as a measure of the sensation seeking construct in which retest reliabilities have often ranged from .87 to .94, and internal reliabilities have often ranged from .83 to .86 (Farley, 1967; Zuckerman, 1971; Zuckerman, Ball, & Black, 1990; Zuckerman, Bone, Neary, Mangelsdorf, & Brustman, 1972; Zuckerman & Link, 1968).

Pleasure Construct Measures

A similar concept to that of sensuousness is the pleasure construct. Pleasure-seeking behavior must be predicated by an individual being able to experience pleasure itself. Anhedonia, or the inability to experience pleasure has been identified as a common symptom in psychopathological research focusing on schizophrenia, thus some studies have looked into developing measures of the pleasure construct. Watson, Klett, and Lorei (1970) attempted to operationally define and measure anhedonia with clinical rating items that were primarily assessing apathy, fun-seeking, motivational level, responsibility, motor retardation, drive, energy level, interests, environmental withdrawal, and affectual flatness. Unfortunately, the results were not indicative of anhedonia being defined as a single trait, but rather as an eclectic mix of related traits. In later studies, it was found that there was no significant correlation between anhedonia and deficiencies in response to reinforcement or reactivity to physiological stress (Watson, 1972a; Watson, 1972b).

Cautela and Kastenbaum (1967) were also among the first to look at the pleasure construct in terms of their Reinforcement Survey Schedule, which they administered to 111 male and 54 female undergraduates. The scale was divided into four main sections, and the first three sections required the subjects to subsequently rate items on a five-point scale representing the extent to

which the items elicited feelings of joy, happiness, and/or other pleasurable feelings. MacPhillamy and Lewinsohn (1974) later added to pleasure construct research with their Pleasant Events Schedule, which consisted of 320 items that a diverse group of individuals had previously reported as being pleasurable. The scale was subsequently administered to 120 subjects. The results showed a significant positive correlation between anhedonia, depression, lowered activity level, and perceived potential for reinforcement.

Chapman, Chapman, and Raulin (1976) also developed the Physical Anhedonia Scale and the Social Anhedonia Scale in an effort to measure the pleasure construct. They maintained that both Cautela and Kastenbaum's Reinforcement survey Schedule (1967) and MacPhillamy and Lewinsohn's Pleasant Events Schedule (1974) could not be used as accurate measures of individual differences in anhedonia due to the fact that both scales' items/experiences were not available to everyone. Chapman et al. (1976) wrote that pleasures could generally be grouped into three categories; physical pleasures, interpersonal pleasures, and other pleasures. The category most applicable to the present sensuousness study is physical pleasures which included activities such as touching, eating, temperature, movement, smell, taste, sound, sight, feeling, sex, etc. Interpersonal pleasures were defined as activities such as non-physical pleasures involving others, loving, participating in activities with others, conversing, playing games, competing, etc. Other pleasures were neither physical nor interpersonal, such as achievement seeking pleasure. Items were confined to activities that everyone could possibly experience, unlike earlier pleasure scales. The final overall scale consisted of 40 Physical Anhedonia and 48 Social Anhedonia items, and was administered to 241 males and 263 females from the general population, and 123 males and 18 females who were diagnosed with schizophrenia. Results indicated that females scored higher on overall pleasure ratings than did males in all groupings. The male schizophrenic group was also more anhedonic than the normal male group. Finally, around a third of the schizophrenics in the sample proved anhedonic as measured by the Physical Anhedonia Scale. Reliabilities ranged from .66 to .85 for both scales.

Fawcett, Clark, Scheftner, and Gibbons (1983) developed a Pleasure Scale that may contribute even further to the present study's look into sensuousness. These individuals also constructed this scale in order to assess anhedonia in psychiatric populations. The goal was to develop a scale that would reliably determine anhedonic states among subjects, they termed it the Fawcett-Clark Pleasure Scale. The Fawcett-Clark Pleasure Scale was then administered to 104

control subjects, 101 subjects with major depression, 20 subjects diagnosed with manic disorder, 14 subjects diagnosed as schizophrenic, and 8 subjects classified as having an unspecified functional psychosis. Along with the proposed Pleasure Scale, the subjects were administered the Beck Hopelessness Scale, Eysenck's Improved Brief Scale for Extraversion and Neuroticism, the Rosenberg Self-Esteem Scale, the Weissman Social Adjustment Scale Self-Report, the Beck Depression Inventory, the Maudsley Personality Inventory for Extraversion and Neuroticism, the Chapman Anhedonia Scale, the Endicott Global Assessment Scale, and the Shipley Institute of Living Scale. Positive correlations between the Fawcett-Clark, the Weissman Social Impairment Scale, and Beck Hopelessness Scale were apparent among depressed patients in Study 1; and between the Fawcett-Clark, the Beck's Depression Inventory, the Weissman's Social Impairment Scale, the Chapman Anhedonia Scale, the Beck Hopelessness Scale, and Eysenck's Extraversion and Neuroticism Scales in Study 2. Additionally, scores from both initial studies also suggested that the control groups showed significantly higher pleasure ratings than did depressed groups, which was expected. However, pleasure scores were not found to correlate with measures of neuroticism, age, I.Q., or global psychological impairment. Reliabilities on the initial scale of pleasure were fairly high also, with a split-half reliability of .94.

Snaith et al.(1995) also worked towards developing a scale that assessed for pleasure. They set out to develop an accurate pleasure scale that was simple and easy to understand, inclusive of a wider range of pleasure components, and less likely to be affected by age, gender, nationality, social class, etc. than the previous pleasure scales, which they termed the Snaith-Hamilton Pleasure Scale (SHAPS). The scale was then administered to a control population as well as a psychiatric population. The control (general public) population was made up of 102 subjects from hospital staff, students, and hospital visitors. For the psychiatric population, clinicians were asked to submit names of patients who clearly suffered from a lack of hedonic tone (ability to experience pleasure), and 46 subjects voluntarily participated. The patient subjects were also rated by pairs of researchers by the Montgomery-Asberg or MADRS (1979) because the test includes an "inability to feel" item. MADRS and SHAPS scores significantly correlated on the factors of hedonic tone (+.36) and suicidal preoccupation (+.38), no other correlations were significant. The authors attribute the suicidal preoccupation factor correlation to some patients' overall severity of illness. There was no significant correlation between hedonic tone and depressed mood, which in an indication that these are indeed different

constructs. Additionally, the SHAPS was shown to have satisfactory validity and reliabilities.

Although the previous pleasure scales dealt generally with developing assessment criteria for psychopathological research, their focus on the pleasure construct is still beneficial to the present study. The vital component in an individual being sensuous lies in being able to experience pleasure, and how much pleasure an individual is comfortable experiencing (optimal level) is determinative of how sensuous he/she is.

Positive States of Mind

Horowitz et al. (1988) developed a scale that measured positive states of mind (PSOM). The scale administered to 187 undergraduates focused on assessing traits including Focused Attention, Productivity, Responsible Caregiving, Restful Repose, Sharing, and Sensuous Non-sexual Pleasure. Focused Attention was defined as feeling able to attend to a task one wants or needs to do, without many distractions from within. Productivity was the feeling of being able to stay at work until a task is finished, do something new to solve problems, or express creatively. Responsible Caregiving involved self-care or taking care of someone else. Sharing was being able to relate with others in an empathetic manner. The final two scales of Sensuous Pleasure and Restful Repose relate directly to the present study. Restful Repose assessed feeling relaxed without excessive distractions or tension. Sensuous Non-sexual Pleasure was defined as being able to enjoy bodily senses, intellectual activity, and things one usually likes. For the study, subjects rated each positive state of mind category across the criteria experiences, ranging from having the experience to being unable to have the experience in the past week. All of the six criteria correlated well (.48 to .58) with the overall Positive State of Mind score, the scale also exhibited a fairly high degree of internal consistency, and the scale had good convergent and discriminant validity when compared to other scales.

Statement of the Problem

Given that there is extensive evidence that much of non-melanoma and melanoma skin cancer is etiologically due to UV light exposure through unprotected sunbathing behaviors and tanning salon use, and that the incidences of these behaviors continue to rise dramatically, there exists a need to increase our overall understanding of the psychological factors involved in these dangerous behaviors. While much work has been completed on the demographic and

psychosocial aspects of tanning behaviors, there is a need to explore both sensuousness and sensation seeking as concepts in regards to tanning behaviors. Nearly all of the studies that have looked at relaxation as a variable of tanning behavior have found a positive relationship. Therefore this study aims at further examining what part relaxation plays in young people's decisions to tan. This study proposes that many young individuals tan for relaxation reasons (i.e. sensuousness). Furthermore, decades of research have been devoted to Zuckerman's Sensation Seeking Theory, and numerous studies have confirmed its validity and usefulness. It is also felt that sensation seeking also may play a role in many individual's decisions to tan, and that concept will also be explored. We also expect that sensuousness and sensation seeking will interact in regards to tanning decisions. By examining how these concepts interact and affect tanning decisions, we may be more effective at designing interventions that decrease this dangerous health damaging behavior.

Based on the literature review, this study proposes the following hypotheses:

- (1) There will be a positive relationship between sensuousness scores and tanning salon behavior.
- (2) There will be a negative relationship between sensation seeking scores and tanning salon behavior.
- (3) Sensuousness and sensation seeking will interact such that low sensation seekers will demonstrate a stronger positive relationship between sensuousness and tanning salon behavior than high sensation seekers.

CHAPTER 2 METHODS

Subjects

Subjects for this study were recruited on a voluntary basis from undergraduate courses at East Tennessee State University. Given that tanning behavior has been found to significantly decrease with age, only subjects under the age of 30 were included in the present study's data analysis (Johnson & Lookingbill, 1984; Melia & Bulman, 1995). Also, subjects who report dark skin types (V and VI) were excluded from data analysis due to evidence that suggests skin cancer is primarily found among Caucasians (AAD, 1996), and due to a general lack of indoor tanning behaviors commonly exhibited by individuals with these darker skin types (Hillhouse et al., 1996).

Measures

Tanning/Sensuousness Questionnaire 1

All subjects were administered a questionnaire developed for this study that assessed subjects' demographics, artificial tanning behaviors, tanning behavioral intentions, artificial tanning attitudes, and sensuousness factors (see Appendices A through F).

Demographic Variables. Subjects reported their gender, skin color, age, race, marital status, major, grade point average, and skin type using Fitzpatrick's (1975) 6-point skin type scale (see Appendix A).

Artificial Tanning Behaviors and Behavioral Intentions. Artificial tanning behavioral tendencies were assessed by four questions on tanning behavior frequency drawn from previous literature (Hillhouse et al., 1996; Hillhouse et al., 1997) (e.g. "In general, how often do you go to a tanning salon?"; "Please indicate approximately how many days in the past year you have used a sunlamp?"; "Please indicate approximately how many days in the past 3 months (approximately 90 days) you have used a sunlamp?"; and "Please indicate approximately how many days in the past one month you have used a sunlamp?"). An overall tanning salon behavior

score was obtained by standardizing and summing these four responses, with scores ranging from 4 to 32. The higher an individual scored on this artificial tanning behavioral tendency scale, the more likely the subject's tendency to engage in artificial tanning behavior. Coefficient alpha for this scale was .94, and test-retest reliability has been found to be .95 in an earlier study (Hillhouse et al., 1997). Nappier, Tompkins, and Hillhouse (1995) also found this tanning behavior tendency scale to be significantly correlated with subjects' personal daily diary measures of engaging in tanning salon behavior, providing additional convergent validity for the scale (see Appendix B).

In order to assess intentions to engage in tanning behaviors throughout the next year, subjects responded to ten possible future artificial tanning salon behaviors on a 7-point Likert-type scale anchored by a "No, definitely do not intend" (1) to "Yes, definitely do intend" (7) response format. Overall score calculation of the tanning intention measure was assessed by summing the 10 responses, with possible scores ranging from 10 to 70. The higher an individual scored on this artificial tanning intention scale, the more the subject intends to engage in tanning salon behaviors in the future. Ajzen and Madden (1986) have found this type of intention scale to have a coefficient alpha of .69 (see Appendix C).

Artificial Tanning Attitudes and Perceptions. All of the scale items measuring artificial tanning attitudes were based on previous research and pretests (Hillhouse et al., 1996; Hillhouse et al., 1997; Jones and Leary, 1994; Turrisi et al., 1998; Wichstrom, 1994). Attitudes that subjects had toward acquiring a tan at a tanning salon were assessed by asking subjects to rate 9 items on 5-point Likert-type scales (e.g., strongly disagree, moderately disagree, neither agree or disagree, moderately agree, strongly agree) drawn from previous literature (Hillhouse et al., 1997): (e.g. "I feel favorable about going to a tanning salon"; "I feel favorable about going to a tanning salon to get a base tan before I spend time in the sun"). Overall score calculation of the tanning attitudes measure was assessed by summing the 9 responses, with possible scores ranging from 9 to 45. The higher an individual scored on this artificial tanning attitude scale, the more favorably the subject felt towards tanning salon use. Test-retest reliabilities were strong for this specific scale ($r = .92$), as were coefficient alpha reliabilities ($r = .91$) (see Appendix D).

Sensuousness/Feelings Questionnaire. In order to assess sensuousness, subjects responded to 15 comfort-oriented statements designed to measure feelings regarding physical pleasure on 5-point Likert-type scales. This scale was subdivided into two subscales of sensuousness based upon factor analysis: physical sensuousness and warmth sensuousness. Physical sensuousness refers to ratings of subjects in regards to physical pleasure in general and is made up of 12 questions (e.g. “The thought of a professional massage is very appealing to me”; “The thought of going to a spa is appealing to me”; “I enjoy having soothing and relaxing experiences”). Warmth sensuousness refers to attraction to the specific sensation of warmth, and is measured by 3 scale items (e.g. “ I really enjoy the warmth of summer”; “I really dislike the cold of winter”; “I prefer warm weather to cool weather”) (see Appendices E & F).

Zuckerman’s Sensation Seeking Scale

Zuckerman’s (1978) Sensation Seeking Scale (S.S.S.-V) Form V (see Appendix G) was used to calculate subjects overall sensation seeking scores. S.S.S.-V Scores were calculated from subjects’ responses to 40 items that are designed to assess sensation seeking through 4 separate subscales (consisting of 10 questions each); Thrill and Adventure Seeking, Experience Seeking, Disinhibition, and Boredom Susceptibility.

The Thrill and Adventure Seeking (TAS) subscale is made up of items that assess desires to be involved in physically risky/dangerous behaviors such as sky diving, climbing mountains, speeding, bungee jumping, etc. The TAS subscale has been shown to have an internal consistency coefficient of .77 for both males and females, and a 3-week retest reliability of .94 for both genders. The alpha coefficient for this scale among an English sample of subjects was found to be .81 for males and .82 for females.

The Experience Seeking (ES) subscale assesses desires for new cognitive and sensual experiences, living an unconventional life, participating in unconventional friendships, and traveling. The ES subscale has been shown to have an internal consistency coefficient of .61, and a 3-week retest reliability of .89 for both genders. The alpha coefficient for this scale among an English sample of subjects was found to be .65 for males and .67 for females.

The Disinhibition (Dis) subscale assesses the desire to be socially uninhibited through partying, drinking, and seeking variety in sexual partners. The Dis subscale has been shown to have an internal consistency coefficient of .74 for males and .76 for females, and a 3-week retest

reliability of .91 for both genders. The alpha coefficient for this scale among an English sample of subjects was found to be .78 for males and .77 for females.

Finally, the Boredom susceptibility (B5) subscale assesses avoidance of repetitious experiences (routine work responsibilities), an aversion to dull/predictable individuals, and restless reactions to unchanging circumstances. The BS subscale has been shown to have an internal consistency coefficient of .57 for males and .56 for females, and a 3-week retest reliability of .70 for both genders. The alpha coefficient for this scale among an English sample of subjects was found to be .65 for males and .59 for females.

Additionally, unlike earlier versions of the S.S.S., this version of the S.S.S. does not contain a General Scale, but uses a Total Score based on the sum of the 4 distinct factors (subscales) as a measure of overall sensation seeking. The Total Score scale has been shown to have an internal consistency coefficient of .84 for males and .85 for females, and a 3-week retest reliability of .94 for both genders. The alpha coefficient for this scale among an English sample of subjects was found to be .83 for males and .86 for females.

Procedure

This study was filed with and approved by the East Tennessee State University Institutional Review Board on April 13th, 1999 (IRB No.: 98-122e). Subjects were subsequently recruited from undergraduate classes on a voluntary basis. Subjects were instructed that all information supplied to the study will remain totally anonymous, that their participation was voluntary, and they were fully instructed in regards to their rights as research participants. Subjects were made aware that their consent in the use of information for research purposes was implied after questionnaire completion, and that study results will be available from Dr. Joel Hillhouse or Christopher Armes after study completion. Subjects were informed that they could discontinue study participation at any time without penalty and were instructed to be honest and fill out the questionnaires in their entirety. Additionally, some subjects were given extra credit in their specific undergraduate course for study participation.

All subjects were presented with a series of self-administered paper-and-pencil assessments (Zuckerman's (1978) Sensation Seeking Scale Form V; Tanning Questionnaire1). Subjects were told to read the instructions of both tests carefully, to complete both assessments, and to ask for help from the investigator if needed during the test. Subjects were allowed

adequate time to complete both tests. Subjects were debriefed by the primary researcher after questionnaire completion in the following manner: “This study is being conducted in order to assess tanning salon use, some activities you may like, your preferences and interests, and some of your pleasure seeking and sensation seeking behaviors. In general we are trying to figure out why people tan”.

CHAPTER 3

RESULTS

The results are organized into three sections. First, demographic information is discussed. Next we examined gender and skin type differences in artificial tanning salon behaviors, tanning behavioral intentions, artificial tanning attitudes, sensation seeking behavior, physical sensuousness, and warmth sensuousness. Then we regressed four measures of artificial tanning salon behaviors and behavioral intentions onto gender, age, skin type, physical sensuousness (ratings of subjects in regards to physical pleasure), warmth sensuousness (ratings in regards to the sensation of warmth), and sensation seeking with (intention on using a tanning salon in the next year, intention of using a tanning salon more than ten times in the next year, tanning salon use behavior, and tanning salon attitudes). Finally we examined the interaction effects between sensation seeking and each of the two sensuousness scales using the methods of Jaccard, Turrisi, and Wan (1990a, 1990b).

Demographics

The one hundred thirty-two participants in this study ranged from 17-30 years ($M = 22.86$, $SD = 5.81$) and were primarily Caucasian (84.2 %) Skin types were distributed as follows: Skin Type I = 23 (17.3 %), II = 28 (21.1 %), III = 37 (27.8%), and IV = 27 (20.3 %). Among our subjects, 55 (41.4 %) were male, and 77 (57.9 %) were female. Thirty-three percent of the subjects reported being single, 48 % were single but involved in a relationship, and 18 % were married, divorced, or separated. All of the subjects reported GPA's over 2.0, with 55 % reporting GPA's over 3.0. Thirty-six percent of our subjects were Psychology majors, with another 29 % being Undeclared, Social Work, Criminal Justice, Education, and Nursing majors (see Appendix A).

Examination of Gender and Skin Type Differences

We examined gender and skin type difference in artificial tanning salon behaviors, tanning behavioral intentions, artificial tanning attitudes, sensation seeking behavior, physical

sensuousness, and warmth sensuousness using multivariate analyses of variance (MANOVA). MANOVA was used in order to compare all variables while maintaining a constant alpha level, $\leq .05$. MANOVA was used with artificial tanning salon behaviors, tanning behavioral intentions, artificial tanning attitudes, sensation seeking behavior, physical sensuousness, and warmth sensuousness serving as dependent variables. The first MANOVA results indicated an overall significant effect for gender (Pillais = .33, $F[6, 98] = 8.20$, $p < .001$). The significant MANOVA was followed by a series of independent samples t – tests, using artificial tanning salon behaviors, tanning behavioral intentions, artificial tanning attitudes, sensation seeking behavior, physical sensuousness, and warmth sensuousness serving as dependent variables. Subsequent analysis revealed that females were more likely to engage in tanning salon behaviors ($t(104) = 3.85$, $p < .001$, male $M = 5.15$, $SD = 2.30$; female $M = 7.51$, $SD = 4.64$); more likely to intend to tan ($t(104) = 3.26$, $p < .01$, male $M = 21.63$, $SD = 14.86$; female $M = 30.90$, $SD = 14.96$); had more positive tanning salon attitudes ($t(104) = 3.09$, $p < .01$, male $M = 20.04$, $SD = 9.04$; female $M = 25.38$, $SD = 10.40$); and scored higher on physical sensuousness than males ($t(104) = 2.52$, $p < .05$, male $M = 45.54$, $SD = 8.12$; female $M = 49.17$, $SD = 8.07$). Conversely, men scored higher on sensation seeking than the females ($t(104) = 3.38$, $p < .001$, male $M = 21.28$, $SD = 7.09$; female $M = 16.96$, $SD = 7.20$). No significant gender differences were found with the dependent variable warmth sensuousness.

The second MANOVA results indicated an overall significant effect for skin type (Pillais = .46, $F[30, 480] = 1.63$, $p < .05$). This was subsequently followed by a series of one-way-analyses of variance (ANOVA), with Tukey HSD post hoc follow-up tests for all significant F 's. ANOVAS were used with tanning salon behavior, tanning salon behavioral intentions, tanning salon attitudes, sensation seeking, warmth sensuousness, and physical sensuousness serving as dependent variables. Subsequent results indicated a significant skin type difference in tanning salon behaviors, with darker skin subjects being more likely to tan. A significant skin type difference was also found for intentions to tan, with the darkest skin (IV) subjects being the most

likely to intend to tan, followed by Skin Type II, Skin Type III, and finally Skin Type I. A significant skin type difference was also found for tanning salon attitudes, with darker skin subjects having more positive attitudes towards tanning. No significant skin type differences were found for sensation seeking, physical sensuousness, or warmth sensuousness (see Table 2).

Regression Analyses

Initially, we regressed tanning salon use onto the two sensuousness scales, and the sensation seeking scale after controlling for the effects of gender, age, and skin type. The results of this analysis can be found in Table 3. Together these variables accounted for 19 % of the variance regarding tanning salon use ($R^2 = .19$, $F(4,122) = 6.69$, $p < .01$). Examination of the unique effects revealed significant relationships of tanning salon use to gender, sensation seeking, warmth sensuousness, and skin type. These findings suggest that individuals who are higher sensation seekers, higher in warmth sensuousness, are female, and have darker skin types are more likely to use tanning salons.

We then regressed intentions of going to tanning salons in the next year onto the two sensuousness scales, and the sensation seeking scale, after controlling for the effects of gender, age, and skin type. The results of this analysis can be found in Table 4. Together these variables accounted for 6 % of the variance regarding intentions of going to the tanning salon in the next year ($R^2 = .06$, $F(1,100) = 6.8$, $p < .05$). Examination of the unique effects revealed a significant relationship of intentions of tanning within the next year to gender. These findings suggest that individuals who are female are more likely to intend to use tanning salons in the next year.

Next we regressed intentions of going to tanning salons more than 10 times in the next year onto the two sensuousness scales, and the sensation seeking scale, after controlling for the effects of gender, age, and skin type. The results of this analysis can be found in Table 5. Together these variables accounted for 4 % of the variance regarding intentions of going to the tanning salon more than 10 times in the next year ($R^2 = .04$, $F(1,104) = 4.4$, $p < .05$). Examination of the unique effects revealed a significant relationship of intentions of tanning more than 10 times within the next year to warmth sensuousness. These findings suggest that individuals who are higher in warmth sensuousness are more likely to intend to use tanning salons more than 10

times within the next year.

We then regressed tanning salon attitudes onto the two sensuousness scales, and the sensation seeking scale, after controlling for the effects of gender, age, and skin type. The results of this analysis can be found in Table 6. Together these variables accounted for 9 % of the variance regarding tanning salon attitudes ($R^2 = .09$, $F(2,116) = 5.9$, $p < .01$). Examination of the unique effects revealed significant relationships of tanning salon attitudes, gender, and warmth sensuousness. These findings suggest that individuals who are female and higher in warmth sensuousness are more likely to have more positive attitudes in regards to tanning salons.

Further examination revealed a significant interaction between warmth sensuousness and sensation seeking in the prediction of intentions of using tanning salons in the next year ($b = 1.16$, $t = 2.74$, $p < .01$, semipart $r = .099$). Follow - up examination of the simple main effects showed that as sensation seeking increased, the relationship between warmth sensuousness and intentions of tanning salon use in the next year strengthened (regression coefficients and t 's shown in Table 7).

Further examination revealed a significant interaction between warmth sensuousness and sensation seeking in the prediction of intentions of using tanning salons more than 10 times in the next year ($b = .94$, $t = 2.25$, $p < .05$, semipart $r = .094$). Follow - up examination of the simple main effects showed that as sensation seeking increased, the relationship between warmth sensuousness and intentions of tanning salon use more than 10 times in the next year strengthened (regression coefficients and t 's shown in Table 8).

TABLE 1
Descriptive Statistics for the Independent Variables Tanning Salon
Behavior, Sensation Seeking, Tanning Attitudes, Physical Sensuousness,
Warmth Sensuousness, Tanning Salon Behavioral Intentions, and Age

Variables	Sample Size	Mean	SD	Range
Tanning Salon Behavior	132	6.52	4.01	4-22
Sensation Seeking	129	18.76	7.42	2-37
Tanning Attitudes	128	23.22	10.20	9-44
Physical Sensuousness	130	47.60	8.25	19-60
Warmth Sensuousness	133	11.53	3.01	3-15
Tanning Behavioral Intentions	115	27.49	15.87	10-65
Age	132	22.86	5.81	17-30

TABLE 2
Mean Scores of Variables by Skin Type

Variables	I	II	III	IV
Behaviors	5.36	5.49	6.46	8.63
Intentions	22.50	30.52	27.50	33.54
Attitudes	19.72	21.09	22.69	29.18
Sensation Seeking	18.68	18.00	19.38	19.81
Physical Sensuousness	46.55	50.17	44.30	51.18
Warmth Sensuousness	12.18	11.74	10.58	11.45

TABLE 3
Results of Regression Analysis Testing of Sensuousness and Sensation Seeking and Tanning Salon Use

Predictors	b	t	p
Age	-0.01	1.18	ns
Gender	2.60	3.60	< .01
Skin Type	0.55	2.08	< .05
Physical Sensuousness	0.70	0.78	ns
Warmth Sensuousness	0.26	2.36	< .05
Sensation Seeking	0.11	2.24	< .05

$R^2 = .19$; Overall $F(4,122) = 6.69$; $p < .001$

TABLE 4

Results of Regression Analysis Testing of Sensuousness and Sensation Seeking and Intentions of Tanning in the Next 12 Months

Predictors	b	t	p
Age	0.63	0.65	ns
Gender	1.17	2.60	< .05
Skin Type	-0.001	0.04	ns
Physical Sensuousness	0.07	0.73	ns
Warmth Sensuousness	0.11	1.16	ns
Sensation Seeking	0.01	0.97	ns

$R^2 = .06$; Overall $F(1,101) = 6.78$; $p < .05$

TABLE 5

Results of Regression Analysis Testing of Sensuousness and Sensation Seeking and Intentions of Tanning More Than 10 Times in the Next 12 Months

Predictors	b	t	p
Age	0.11	1.11	ns
Gender	0.14	1.45	ns
Skin Type	0.80	0.81	ns
Physical Sensuousness	0.04	0.36	ns
Warmth Sensuousness	0.14	2.10	< .05
Sensation Seeking	0.08	0.78	ns

$R^2 = .04$; Overall $F(1,105) = 4.4$; $p < .05$

TABLE 6
Results of Regression Analysis Testing of Sensuousness and
Sensation Seeking And Tanning Salon Attitudes

Predictors	b	t	p
Age	0.04	0.38	ns
Gender	4.30	2.34	< .05
Skin Type	0.12	1.40	ns
Physical Sensuousness	0.13	1.44	ns
Warmth Sensuousness	0.62	2.02	< .05
Sensation Seeking	0.13	1.33	ns

$R^2 = .09$; Overall F (2,118) = 5.86; $p < .01$

TABLE 7
Simple Main Effects of Sensuousness X Sensation Seeking and Intentions of Tanning
in the Next 12 Months

Predictors	b	t	p
Sensation Seeking Low	-.12	0.84	.41
Sensation Seeking High	.47	3.92	< .001

$r = .009$; Overall F (3,106) = 3.77; $p < .01$

* Note: Sensation Seeking Low and High refer to one standard deviation below the mean and then one standard deviation above the mean of Sensation Seeking, respectively.

TABLE 8

Simple Main Effects of Sensuousness X Sensation Seeking and Intentions of Tanning
More Than 10 Times in the Next 12 Months

Predictors	b	t	p
Sensation Seeking Low	.004	.03	.98
Sensation Seeking High	.40	3.21	< .01

$r = .094$; Overall $F(3,109) = 3.65$; $p < .05$

* Note: Sensation Seeking Low and High refer to one standard deviation below the mean and then one standard deviation above the mean of Sensation Seeking, respectively.

CHAPTER 4

DISCUSSION

Despite the numerous studies indicating tanning salon use is dangerous to one's health, approximately 40 % of this sample of college undergraduates report recent tanning salon use. Given the relationship of tanning salon use to both malignant melanoma and nonmelanoma skin cancers, such usage rates in young people are troubling.

Numerous studies have demonstrated the strong relationship between the belief that tanning enhances attractiveness and tanning salon use. However, this alone does not account for all the variance in indoor tanning. Other factors must also relate to young people's tendencies to use tanning salons. Two of those factors could be sensuousness and sensation seeking, which this study has explored.

This study supported and confirmed earlier mentioned research that indicated positive relationships existed between tanning behavior and relaxation (Fiala, Kopp, & Gunther, 1997; Hillhouse, Stair, & Adler, 1996; Keesling & Friedman, 1987; Malouff, Schutte, & Tokarz, 1992; Mawn & Fleischer, 1993.) and The present study further examined in greater detail what part relaxation plays in young people's decisions to tan and looked more thoroughly at these interwoven relationships than did previous work.

Interestingly, tanning salon behavioral tendencies were significantly predicted by warmth sensuousness but not by physical sensuousness. Therefore, it appears that it is the attraction to the sensuousness of warmth, or alternatively the desire to avoid the uncomfortableness of being cold which drives some tanning salon users. Warmth sensuousness seems to be related to the construct of relaxation, while physical sensuousness appears more focused on active physical pleasure such as that found in sex. Perhaps an important factor driving tanning salon use in some young people is the desire to achieve relaxation, both physical and mental, as well as the desire to escape the cold. This could provide an alternative explanation for why tanning salon use is more popular during the winter months.

One possibility this finding suggests is that alternatives to tanning salon use might be found for individuals who are tanning for these reasons. Thus, such individuals might be drawn toward and desire pleasure and relaxation from saunas, Jacuzzis, hot baths, warm massage, etc. However, one possible flaw in this is the fact that indoor tanning does differ significantly from

these other warmth-related activities in one critical way. Indoor tanning also gives the user exposure to UVA/UVB radiation. Interestingly, exposure to UVA/UVB radiation is one treatment for Seasonal Affective Disorder (SADS). SADS is a mood disorder that tends to begin in the fall and remit in the spring. It is believed to relate to fluctuations in sunlight exposure in various seasons. Thus it is possible that some individuals might be using indoor tanning as an informal mood enhancer or treatment for a clinical or subclinical mood disorder.

Unexpectedly, high sensation seeking scores predicted increased tanning salon behavioral tendencies. It was predicted that high-sensation seekers would be less likely to engage in a relatively passive behavior such as indoor tanning. Interestingly, sensation seeking interacted with warmth sensuousness to predict tanning salon behavioral tendencies such that those high in warmth sensuousness exhibited a stronger positive relationship between sensation seeking and indoor tanning. One possible explanation could be that while indoor tanning in general could be seen as low in sensation seeking, it is more flashy than other means of seeking warmth and relaxation such as saunas or warm baths. Additionally, high-sensation seekers may view tanning salons as places where they can meet attractive people while working on improving their own attractiveness.

If these results can be replicated, they might suggest some alternative educational methods to deter tanning salon use in young people. The Theory of Alternative Behavior (TAB) (Jaccard, 1981; Jaccard & Becker, 1985; Turrissi & Jaccard, 1992) is a germane model that predicts behavior based on behavioral alternatives. This theoretical model is dependent on two functions: 1) the overall attitude one has in regards to performance of a specific behavior, and 2) the attitude one has in regards to performance of behavioral alternatives to the initial specific behavior. The theory poses one can either perform a behavior, or choose one of multiple behavioral alternatives. Jaccard (1981) maintained that people have attitudes in relation to each of the behaviors and behavioral alternatives. For example, on a hot summer day a person may have four behavioral alternatives to sunbathing: 1) a hot bath, 2) exercise, 3) reading, 4) no behavior at all. The model poses that one will perform the behavior he/she feels most positively about. Multiple studies have indeed confirmed the utility and validity of this model in predicting behavior, and that individuals do indeed perform the behaviors they feel most positively about (Jaccard, 1981; Jaccard & Becker, 1985; Turrissi & Jaccard, 1992; Turrissi et al., 1998). Multiple studies also have also confirmed the utility and validity of this model in predicting artificial

tanning behavior (Ambrose, 1997; Hillhouse et al., 1997; Hillhouse, Stair, & Adler, 1996; Kastner, 1998; Murray, 2001).

Using the Theory of Alternative Behavior (TAB) as a multivariate framework, for individuals high in warmth sensuousness, instead of tanning, this model could emphasize other ways to meet these desires and provide stress relief, such as taking warm baths, visiting warm climates while using adequate sunscreen, getting facial massages, Jacuzzi baths, saunas, the application of warmed stones or warm moist towels to the skin, etc. Cordeiro (1972) used systematic relaxation procedures in substance abuse treatment in order for patients to discover the similarity between their sensual experiences of relaxation, and the feelings they previously felt only while taking drugs (e.g., whole-body warmth sensations, floating sensation, etc). Building on Cordeiro's work, perhaps relaxation intervention techniques designed for tanning prevention could be employed as behavioral alternatives to potential tanners, as they are body-centered, and can provide immediate gratification for tension and stress relief. Teaching potential tanners how to achieve warmth gratification through relaxation, rather than tanning, may increase overall intervention effectiveness.

For those individuals using indoor tanning as a mood enhancer, based on Theory of Alternative Behavior, this model could emphasize alternative safer means of mood enhancement, such as exercise, diet, herbal remedies, and/or self-help groups. Providing locations where subjects could be exposed to bright visible spectrum light augmented by heat from a non-UVA/UVB bulbs is another alternative, as bright visible spectrum light (2500 LUX), usually given in the morning, is often used in effectively treating this SAD (Maxmen & Ward, 1995; Oren et al., 1991). Of course those who appear high on SAD measures should be seen by a mental health professional for proper diagnosis and treatment. If so, psychotherapy and/or psychotropic medication may be optimal.

Interestingly, designing possible interventions for high sensation seekers is especially difficult, given that the perceived risk of tanning may be a factor in motivating the dangerous tanning behavior. Highlighting the negatives of tanning salon use, such as skin burning, skin damage, skin cancer, and skin cancer treatment, may prove counterproductive in this population. However, based on TAB, interventions that stress the sedentary nature of lying in a tanning bed, as well as how much energy/time is wasted while engaging in such non-sensational activity may increase intervention effectiveness. For example, a campaign could be organized to generate ads

for popular internet sites that focus on what a boring activity tanning salon use is, (e.g. “Tanning---What a Bore!”)

This TAB-based model could also emphasize the “flashiness” of safer alternatives to indoor tanning that encourage individuals to go to popular public saunas or visit well-known popular beaches with adequate sunscreen. Campaigns could focus on these events as being “flashy,” “cool,” and “the thing to do!” Another approach may be to use non-tan models dressed in “flashy” clothing, jewelry, and make-up to discourage indoor tanning use. These advertising campaigns could also emphasize safer outlets for meeting attractive people such as visiting warm climates as part of a social group while using adequate sunscreen, going to a public spa, etc. Given that socializing seems important for high sensation seekers, peer-led educational campaigns may prove especially effective in tanning prevention, as these individuals may be more receptive to members of their own peer group.

Another tactic rooted in Theory of Alternative Behavior would be to emphasize alternative sensation seeking activities such as parachuting, mountain climbing, four-wheeling, etc. Such a strategy could involve using respected non-tanned celebrities/role-models who are generally perceived as risk-takers to promote safer alternatives to tanning. For example, show a T.V. spot with a well-known skydiving personality streaking toward the earth after he/she has jumped out of a plane thousands of feet in the air, then simply show text across the screen that reads “Tanning, now that’s a risk even I wouldn’t take!” One could also design intervention strategies that attempt to re-frame the inevitable risks associated with tanning, and make the risks of tanning seem like a major barrier to living a sensation filled lifestyle. For example, make brochures with colorfully loud pictures of individuals enjoying perceived “risky” activities throughout the pages (parachuting, mountain-climbing etc.), and then have a picture of an individual with melanoma lying in a hospital bed on the last page with text that reads “Tanning, will you let it keep you from living life your way?”

It would also be important to consider different modes of delivering interventions (T.V., radio, internet, etc.). Interventions will be more effective if targeted correctly to address each tanning group. For example, for those tanners who are high in warmth sensuousness, perhaps interventions that address each subject individually may prove beneficial (consultation / evaluation by mental health professional, instruction in relaxation techniques, internet, renting movies, etc.), as the construct of relaxation is one that seems quite “personal” in nature.

Alternatively, those who are high in sensation seeking, and those who are high in both sensation and warmth sensuousness may be impacted more by mainstream media interventions (T.V., radio, going to the movies) as these modes involve altering societal as well as personal perceptions of what is considered “flashy”, “risky,” and “attractive.”

Using these intervention suggestions in combination with already established intervention techniques may improve skin cancer prevention. Prevention efforts should always be based on solid predictors of tanning behavior itself. Multi-factorial approaches to intervention/prevention which include warmth sensuousness, sensation seeking, and attractiveness issues, promise to offer behavioral alternatives to tanning that very well may effectively reduce dangerous tanning behaviors. These prediction factors and their subsequent interactions are likely quite superior to prevention approaches limited to individual restricted variables in isolation, and allow for focused and targeted alternatives that may increase intervention effectiveness substantially.

Limitations

Limitations do exist in the present study. Our sample consisted mostly of younger adults and may not be applicable to other populations. In addition, because our sample of subjects was drawn from a university environment, they will generally be of higher socioeconomic status and a higher educational level than the general public. Also, our sample was drawn from a specific geographical region and may not generalize to other geographical regions. The validity and reliability of self-report measures also deserve attention. It is possible that subjects did not accurately self-report on the various scales of the questionnaires. Additionally, because the questions on the questionnaires were rather direct and dealt with relatively sensitive materials (i.e. skin cancer, drug use, sex, alcohol use, homosexuality), it is possible that demand characteristics may have biased the manner in which individuals responded. The use of other methods of data collection may also have been advantageous.

Future Research

Most tanning behavior interventions focus on tanning behavior reduction through health messages, for example, urging individuals to prevent skin cancer development through sunscreen use, extra layers of clothing, etc. The results of this study represent a further step toward effective intervention in tanning prevention. Specifically, a model that emphasizes warmth

sensuousness and sensation seeking as parts of an overall intervention for tanning salon use behavior may prove itself more effective in tanning prevention than do current interventions. An intervention that addresses these concepts may provide for safer alternatives, and might be the next step in the development of a more effective intervention for the purposes of reducing tanning salon behavior, skin damage, and skin cancer. However, additional research is needed to determine more accurately how the interwoven processes of differing types of sensuousness and sensation seeking impact on tanning salon behavioral decisions.

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APPENDICES

APPENDIX A

Demographic Variables

In this section, we want to get some basic background information from you.

- 1) What is your gender? _____ Male _____ Female
- 2) How old are you? _____ years
- 3) What is your marital status? Single (not in a relationship) _____ Single (in a relationship) _____
Married Divorced Separated Widowed
- 4) What is your race? Caucasian African-American Asian Hispanic Native American
- 5) What is your skin color? White Black Olive Brown
- 6) If you were to lie in the sun for one hour UNPROTECTED (no sunscreen, no protective clothing, etc) in the early summer when you had NO tan, your skin would...
 - 1 = always burn, never tan in the week following
 - 2 = usually burn, tan (with difficulty) less than average
 - 3 = sometimes mild burn, tan about average
 - 4 = Rarely burn, tan (with ease) more than average
 - 5 = Rarely or never burn, my skin is brown
 - 6 = Rarely or never burn, my skin is black
- 7) Grade Point Average _____
- 8) Major _____

APPENDIX B

Artificial Tanning Salon Behaviors Scale

In this section, you will be asked to answer questions dealing with your tanning salon and sunlamp experiences. Each person is different; there are no right or wrong answers. Again, all your responses are confidential and anonymous. Your honest responses are very important to us.

1. In general, how often do you go to a tanning salon?

<input type="checkbox"/> I never go to a tanning salon	<input type="checkbox"/> once per week
<input type="checkbox"/> less than once a month	<input type="checkbox"/> more than once per week
<input type="checkbox"/> 1 to 2 times per month	<input type="checkbox"/> nearly every day
2. Please indicate approximately how many days in the past year you have used a sunlamp.

<input type="checkbox"/> Never	<input type="checkbox"/> 26 to 50 times
<input type="checkbox"/> less than 10 times	<input type="checkbox"/> 50 to 200 times
<input type="checkbox"/> 10 to 25 times	<input type="checkbox"/> more than 200 times
3. Please indicate approximately how many days in the past 3 months (approximately 90 days) you have used a sunlamp.

<input type="checkbox"/> Never	<input type="checkbox"/> 7 to 12 times
<input type="checkbox"/> less than 3 times	<input type="checkbox"/> 13 to 50 times
<input type="checkbox"/> 3 to 6 times	<input type="checkbox"/> more than 50 times
4. Please indicate approximately how many days in the past 1 month you have used a sunlamp.

<input type="checkbox"/> Never	<input type="checkbox"/> 4 to 5 times
<input type="checkbox"/> 1 time	<input type="checkbox"/> 6 to 12 times
<input type="checkbox"/> 2 to 3 times	<input type="checkbox"/> more than 12 times
<input type="checkbox"/> Sometimes	<input type="checkbox"/> All the time

APPENDIX C

Artificial Tanning Behavioral Intentions Scale

Indicate how often you intend to do each of the following in the next year using the following scale.

Over the next 12 months, I intend to:

	No, Definitely Do Not Intend				Yes, Definitely Do Intend		
	1	2	3	4	5	6	7
Sunbathe in the summer.	1	2	3	4	5	6	7
Use a tanning salon in the next year.	1	2	3	4	5	6	7
Use a tanning salon all year to maintain my tan.	1	2	3	4	5	6	7
Use a tanning salon more than 10 times in the next year.	1	2	3	4	5	6	7
Use a tanning salon after already getting a tan in the sun.	1	2	3	4	5	6	7
Use a tanning salon to obtain a tan to protect myself from sunburning when going in the sun later (base tan).	1	2	3	4	5	6	7
Use a tanning salon in the nude or minimal clothing.	1	2	3	4	5	6	7
Use a tanning salon to obtain a tan to look more attractive.	1	2	3	4	5	6	7
Use a sunless tanning lotion to obtain a tan to look more attractive.	1	2	3	4	5	6	7
Use protective goggles if I decide to use a tanning salon.	1	2	3	4	5	6	7

APPENDIX D

Artificial Tanning Salon Attitudes and Perceptions Scale

For each item below, please indicate how much you agree or disagree with each statement by circling the corresponding number to the right. Please use the following scale.

1 = Strongly Disagree

2 = Moderately Disagree

3 = Neither Agree or Disagree

4 = Moderately Agree

5 = Strongly Agree

I feel favorable about going to a tanning salon.	1	2	3	4	5
I feel favorable about going to a tanning salon to get a base tan before I spend time in the sun.	1	2	3	4	5
I feel favorable about going to a tanning salon because it's convenient.	1	2	3	4	5
I feel favorable about going to a tanning salon because I think it's a good way to relax.	1	2	3	4	5
It feels physically good to lie under a sunlamp.	1	2	3	4	5
I feel favorable about going to a tanning salon because I think it is safer than the sun.	1	2	3	4	5
I feel favorable about going to a tanning salon because I think it is not as hot as the sun.	1	2	3	4	5
All things considered I have a negative attitude toward going to a tanning salon at this time in my life.	1	2	3	4	5
Overall, I feel unfavorable about me going to a tanning salon at this time in my life.	1	2	3	4	5

APPENDIX E

Physical Sensuousness Scale

INSTRUCTIONS: In this questionnaire you will be asked about your feelings and opinions on a number of topics. In general, we will be asking you to indicate how much you agree or disagree with different statements and ideas. For example:

1 = Strongly Disagree

2 = Moderately Disagree

3 = Neither

4 = Moderately Agree

5 = Strongly Agree

The thought of a professional massage is very appealing to me.	1	2	3	4	5
I am a sensuous person.	1	2	3	4	5
The thought of going to a spa is appealing to me.	1	2	3	4	5
A dating partner would probably describe me as sensuous.	1	2	3	4	5
A light touch can be very pleasurable to me.	1	2	3	4	5
I would enjoy a foot massage.	1	2	3	4	5
I enjoy the feeling of soft, supple clothing on my skin.	1	2	3	4	5
I enjoy having soothing and relaxing experiences.	1	2	3	4	5
I easily enjoy bodily sensations that are pleasurable.	1	2	3	4	5
If it feels good I am likely to do it.	1	2	3	4	5
The thought of receiving a back/neck massage is very appealing to me.	1	2	3	4	5
A warm bubble bath, and lots of cuddling with a partner sounds very appealing to me.	1	2	3	4	5

APPENDIX F

Warmth Sensuousness Scale

INSTRUCTIONS: In this questionnaire you will be asked about your feelings and opinions on a number of topics. In general, we will be asking you to indicate how much you agree or disagree with different statements and ideas. For example:

1 = Strongly Disagree

2 = Moderately Disagree

3 = Neither

4 = Moderately Agree

5 = Strongly Agree

I really dislike the cold of winter.	1	2	3	4	5
I really enjoy the warmth of summer.	1	2	3	4	5
I prefer warm to cool weather.	1	2	3	4	5

APPENDIX G

Zuckerman's (1978) Sensation Seeking Scale – Form V

Interest and Preference Test

(SSS 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 choices describe your likes or feelings. 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. Do not leave any items blank.

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 a 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 which might produce strange and dangerous effects on 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" (people who are uninhibited and free about sex).
B. I enjoy the company of real "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 take up water skiing.
17. A. I would like to try surfboard riding.
B. I would not like to try surfboard riding.
18. A. I would like to take off on a trip with no preplanned 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" kinds of people as friends.
B. I would like to make friends in some of the "far out" groups like artists or "punks".
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 "gay or lesbian".

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 paintings.
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 hoard (or I don't go near it at 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 rich persons like those in the "jet set".
B. I could conceive of myself seeking pleasures 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 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 standard 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 to.
40. A. Skiing 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.

VITA

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