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Sensation seeking and tourism: Tourist role, perception of risk and destination choice

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Abstract

Sensation seeking (SS) is a personality trait associated with the need for novelty and stimulation and has been linked to tourist behavior. Tourist role, perceptions of risk associated with travel to particular regions of the world, and international travel experience were investigated in relation to SS and gender. Survey data were collected from 290 US young adults. Although males were higher in overall SS, gender was not a significant predictor of tourist role or international travel experience. However, SS was related to tourist role, with those higher in SS choosing explorer and drifter roles. SS was not related to perceptions of risk. Both high and low sensation seekers perceived risk similarly. However, those higher in SS were more likely to have traveled internationally and to have traveled to regions of the world rated as riskier. The findings provide empirical support for the proposition that personality traits may influence travel styles and destination choices.

Keywords: Psychographics; Sensation seeking; Tourist behavior; Tourist role; Destination choice

1. Introduction

One of the underdeveloped approaches to understanding tourist behavior is the use of personality theories (Jackson, White, & White, 2001). Previous attempts to understand why people choose different tourist roles and styles have offered "hints" that personality traits might be more influential than credited (Frew & Shaw, 1999; Hoxter & Lester, 1987, 1988; Jackson, Schmierer, & White, 1999; Jackson et al., 2001; Madrigal, 1995; Nickerson, 1989; Nickerson & Ellis, 1991; Plog, 1974, 1990, 1991, 2002). This is particularly evident in the idea that some tourists prefer a higher level of stimulation than others (Wahlers & Etzel, 1985). Certainly, the idea that individuals vary in their preferred optimal level of stimulation has long been postulated as a factor in explaining a variety of leisure behaviors (Ball, Farnill, & Wangeman, 1984; Galloway & Lopez, 1999; Goma-i-Freixanet, 1991; Iso-Ahola, 1980; Robinson, 1992; Rowland, Franken, & Harrison, 1986). Discussions around the idea of an optimal level of stimulation date back to the 19th century (e.g., Breuer & Freud, 1937). Out of this tradition, Hebb (1949) developed an optimal level of stimulation theory in relation to pain, which he later refined into a behavioral-motivation theory and postulated that individuals have a preferred level of stimulation in their lives (Hebb & Thompson, 1954). These ideas were further developed by Berlyne (1960) who suggested that when people find themselves out of balance, meaning either above or below their optimal level of stimulation, they will seek out situations to bring themselves back into balance. It was then postulated that there might be stable individual differences in preferred levels of stimulation (Berlyne, 1967; Fiske & Maddi, 1961).

These premises—that individuals differ in optimal level of stimulation and that this preference shows stability over time—have yielded a long tradition of research led by Marvin Zuckerman on what he calls sensation seeking (SS). Zuckerman defined SS as "a trait defined by the need for varied, novel and complex sensations and experiences

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and the willingness to take physical and social risks for the sake of such experience'' (Zuckerman, 1979a, p. 10). In tourism studies, there is a small but growing body of enquiry that has used the concept of SS to understand tourist preferences and behaviors (Eachus, 2004; Gilchrist, Povey, Dickinson, & Povey, 1995; Griffith & Albanese, 1996; Pizam, Reichel, & Uriely, 2002; Pizam et al., 2004; Zuckerman, 1979b). It is suggested here that this line of enquiry might be particularly pertinent considering the perception of risk associated with tourism in this increasingly turbulent world (Lepp & Gibson, 2003). Certainly, Griffith and Albanese suggest that the magnitude of the correlation they found between allocentric tourists (i.e. risk seekers) and SS warrants more investigation. Indeed, as more economies center on tourism, it is increasingly important to understand who will travel and who will not. In other words, it is important to identify the risk seekers and the risk averse during times of perceived risk. One way of differentiating these types of tourist might be to employ the concept of SS. The research reported here investigated the utility of the SS personality trait in predicting tourist role, perception of risk and destination choice.

2. Literature review

SS has been measured for over 40 years (Zuckerman, Kolin, Price, & Zoob, 1964). Among the insights gained is that there are different types of SS, identified by four subscales: thrill and adventure seeking, experience seeking, boredom susceptibility, and disinhibition, although many researchers use the total SS scale score. Over the years a number of consistent patterns have emerged. For example, SS scores tend to be higher in males (Farley, 1986; Rowland et al., 1986; Zuckerman, Eysenck, & Eysenck, 1978), peak in late adolescence or the early 20s and decrease thereafter (Ball et al., 1984; Zuckerman et al., 1978), and may vary across cultures (Zuckerman et al., 1978). Those higher in SS have also been found to have a higher propensity for engaging in risky activities such as high-risk sports (Robinson, 1992; Rowland et al., 1986), high-risk occupations (Musolino & Hershenson, 1977), illegal drug use, and fast driving (Zuckerman & Neeb, 1980).

Despite the preference for high-risk activities, sensation seekers are not reckless. As Trimpop, Kerr, and Kirkcaldy (1999) found, sensation seekers are likely to plan ahead before participating in a risky activity thus increasing their control over the situation. Therefore, the risk is calculated. In order to explain this finding, they invoke Apter's (1982) proposition that risk takers use ''protective frames'' so that they can enjoy the emotional highs associated with danger without putting themselves in truly harmful situations. Trimpop et al.'s findings are consistent with other studies indicating that sensation seekers do not necessarily have a ''death wish'' (Farley, 1986; Groves, 1987; Heyman & Rose, 1980; Rossi & Cereatti, 1993).

Social norms can also influence sensation seekers' calculations of risk. Simply stated, high-risk behavior approaching recklessness is generally not acceptable and this may constrain high sensation seekers. Goma-i-Freixanet (1991) found that sensation seekers participating in high-risk sports tended to be extraverted, emotionally stable and conformist. Thus, the SS sub-traits of thrill and adventure and experience seeking rather than disinhibition may explain the propensity to take part in socially acceptable high-risk activities. This finding is supported by Levenson (1990) who found that rock climbers tended to be low on anti-social behavioral traits compared to other risk takers such as drug unit patients. However, Levenson did note that high-risk sports participants were high on anti-structural traits suggesting that they might push the boundaries of social convention in pursuit of emotional highs.

Farley (1986) and Blenner (1993) suggest that socialization and opportunity influence the propensity to choose socially acceptable SS activities. Likewise, Arnett (1994) found that, among high SS adolescents, the desire for novel and intense experiences leads to a range of pro-social to anti-social behaviors. He suggested that the key to understanding such behavioral choices is socialization. Consistent with other studies, Arnett found that boys were higher on SS than girls and that adolescents were higher on the trait than adults. General support for the supposition that socialization practices and social expectations influence these trends can be found in the literature. For example, in the sport sociology literature a consistent finding is that girls are not encouraged to take part in high-risk sports (Hargreaves, 1994). Invoking a life span developmental perspective, social expectations and responsibilities increase with age and may therefore explain decreases in SS associated with age (Gibson, 1996). In psychology, two concepts, heritability and environmentality, are used to explain the extent to which individual differences might be accounted for by genetic variance in a population (i.e. nature) and differences in the environment (i.e. nurture). It seems that from the literature outlined above, that the distribution of the SS trait in a population is a result of both heritability and environmentality and any investigation should take into account these two influences.

Integral to Arnett's (1994) understanding of SS is novelty. Likewise, Rowland et al. (1986) argued that the search for novelty might be the primary motivation for SS rather than risk. Indeed, Levenson (1990) identified the need for novelty as an integral component of risk taking behavior. In an attempt to further understand the role of novelty in SS, McCourt, Gurrea and Cutter (1993) investigated Cloninger's (1987) personality model in relation to SS. They found that SS is positively correlated with novelty seeking and negatively associated with harm avoidance.

Thus, the importance of novelty, intensity and the social acceptability of risks have been debated in the SS research and are recognized in Zuckerman's (1994) current

definition: "SS is a trait defined by the seeking of varied, *novel*, complex, and *intense* sensations and experiences, and the willingness to take physical, social, *legal*, and financial risks for the sake of such experience" (Zuckerman, 1994, p. 27). Thus, the interconnectedness of novelty seeking, risk taking and SS provide a strong conceptual base from which to examine tourism behavior, particularly since novelty is a primary reason for travel (Cohen, 1972; Crompton, 1979), destination selection (Lee & Crompton, 1992), explaining how tourists travel (Cohen, 1972), and variation in the perception of risk related to travel (Lepp & Gibson, 2003).

2.1. Tourism behavior as novelty seeking, sensation seeking and risk taking

The concept of novelty is a consistent theme throughout much of the social-behavioral tourism research. However, work grounded in the optimal level of stimulation tradition is less prevalent. Bello and Etzel (1985) examined the novelty motive in relation to tourist preferences and characteristics. They did not find any socio-demographic differences between tourists who preferred novel travel and those who preferred familiar travel, although there were behavioral differences. For example, novelty tourists rarely returned to the same destinations, they also tended to take slightly longer and more expensive vacations, and placed more importance on taking a vacation. The authors suggest that personality traits might help to understand the differences between these two types of tourists. Indeed, Wahlers and Etzel (1985) examined vacation preferences in relation to an individual's preferred optimal level of stimulation. They found that stimulus seekers liked adventurous, exciting and novel vacations and expressed a dislike of structured, enriching vacations. Stimulus avoiders were attracted to structure and enrichment and preferred packaged, educationally oriented vacations. In a related effort, Lee and Crompton (1992) examined novelty in relation to destination choice. They developed the Tourist Novelty Scale which contains four dimensions: thrill, change from routine, boredom alleviation and surprise. They found that while destination choice is moderated by lifestyle variables such as time, money and health, the degree of novelty associated with a particular destination is also influential in the decision-making process. This suggests that the novelty motive is an important part of the decision-making process. Thus, in terms of behavioral and destination preferences, it appears that the optimal level of stimulation theories might be quite useful in distinguishing and understanding tourist differences. Concordantly, there is a small but growing body of work investigating the relationship between SS and tourism.

Gilchrist et al. (1995) found that adventure tourists were high sensation seekers. Also, male adventure tourists tended to be higher sensation seekers than females. Eachus (2004), using the eight item Brief Sensation Seeking Scale (BSSS) developed by Hoyle, Stephenson, Palmgreen, Lorch, and Donohew (2002), examined the role of SS and other personality traits in distinguishing among four vacation preferences: adventurous, beach, cultural and indulgent. In support of Gilchrist et al., he found that high sensation seekers preferred vacations with the potential for high stimulation, particularly adventure and beach vacations. In contrast, tourists who scored moderately on the BSSS preferred vacations characterized by luxury and self-indulgence. These conclusions appear to be borne out by Galloway's work with the concept of SS in relation to National Park visitors. Galloway and Lopez (1999) found that sensation seekers tended to prefer more remote parks where they had the chance to take part in challenging activities, meet interesting people and potentially encounter dangerous wildlife. Galloway (2002) also found that high sensation seekers prefer camping and a range of activities in the park. He also recommended a need to investigate further the relationship between perceived risk and SS, which he suggested had implications for risk management in parks.

Zuckerman (1979b) briefly considered the relationship between SS, perceived risk and travel. He found that in hypothetical travel situations involving perceived risk, low sensation seekers reported greater levels of anxiety than high sensation seekers. In contrast, high sensation seekers associated positive arousal with the perception of risk. Similarly, Roehl and Fesenmaier (1992) classified tourists into three groups based on their perception of risk: risk neutral, place risk and functional risk. While the perception of risk was a potential deterrent for the place risk and functional risk groups, the authors suggested that the perception of risk might actually add to the excitement of tourism for the risk neutral group. Although the authors did not draw a connection with SS, perhaps tourists high in this trait would be more likely to frame risk in terms of excitement and therefore as a motivation for travel. In an earlier paper, we add further insight to these relationships (Lepp & Gibson, 2003). Classifying respondents by Cohen's (1972) tourist typology, we compared how novelty seeking tourists (explorers and drifters) perceive the risks associated with international tourism to how familiarity seeking tourists (organized and independent mass tourists) perceive the same risks. Results showed that novelty-seeking tourists perceived international tourism to be less risky than familiarity seeking tourists. We suggested that some perceived risks associated with tourism, such as strange food and cultural difference, might actually attract the novelty seeker.

While Cohen's tourist role typology was developed from a sociological perspective, a similar classic line stems from Plog's (1974) work of classifying and explaining tourists from a psychological perspective. Through a number of different studies, Plog identified different personality types on a continuum from psychocentrics or dependables (who tend to be more nervous, non adventurous and traveled less frequently) to allocentrics or venturers (who travel extensively and tend to be adventurous and more

spontaneous in their tourism choices) (Plog, 1995). Over the years, many studies have used Plog's model to investigate differences in tourist preferences (e.g., Griffith & Albanese, 1996; Nickerson, 1989; Smith, 1990). Plog (1990) found that psychocentrics are more likely to travel as part of a tour group as they feel that being with others gives them a sense of safety and security. Allocentrics on the other hand prefer traveling with one or two other people and are much more spontaneous in their travel styles. Part of Plog's original work suggested that it was possible to predict destination choice based on his continuum. It was suggested that allocentrics would prefer to visit places that few tourists had yet discovered, while psychocentrics would prefer destinations with well-developed amenities. There has been some debate in the literature about this supposition with Smith (1990) finding that Plog's model failed to support the relationship between personality and destination choice, a finding contested by Plog (1990, 1991). In more recent work, Griffith and Albanese, (1996) examined Plog's model in relation to several other personality scales including Rotter's (1966) Locus of Control Scale, Zuckerman's (1979a) SSS form V and Leary's (1983) Interaction Anxiousness Scale. Their results supported the expected relationships. Plog's model correlated positively with each scale substantiating the idea that allocentrics are more likely to be sensation seekers, have an internal locus of control and be less anxious than psychocentrics.

Plog himself has been using his allocentrism/psychocentrism continuum in applied research for over 30 years. In 1995, he renamed allocentrics venturers and psychocentrics dependables and in doing so coined the psychographic concept venturesomeness to explain tourist behavior. In spite of the change in concept names, the basic premise remains the same: that venturers are more adventurous, novelty seeking tourists who tend to travel for leisure more frequently and engage in a wider range of activities while traveling than dependables (Plog, 2002). Indeed, Plog maintains that over time the relative distribution of these different tourist types has also remained the same with between 2.5% and 4% of the population classified as venturers or dependables, about 16% as near venturers or near dependables, and around 62% as equally divided between centric dependables and centric venturers. He suggests that "knowing where people fit on this [normal] curve explains much of their travel behavior, including types of travel products they prefer, places they like to visit, travel experiences they select at destinations, and advertising that appeals to them" (Plog, 2002, p. 245). Thus, this line of work suggests that there may be different types of tourists who can be distinguished based on personality characteristics. And like the work based on Cohen's (1972) tourist role typology, this suggests that some tourists may be risk seekers while others may be risk averse.

Concerning risk as a motivation for travel, research by Sönmez and Graefe (1998a, 1998b) suggests it is more likely to be a deterrent. In their survey of international tourists, the perception of risk was a stronger predictor for avoiding a destination than visiting a destination. However, this relationship was influenced by travel experience with experienced travelers perceiving less risk. Likewise, we found significant differences between experienced and inexperienced international travelers in their perception of risk (Lepp & Gibson, 2003). Specifically, we found that experienced travelers perceived less risk in relation to health and well-being, terrorism and strange food. Reisinger and Mavondo (2005) also examined perceptions of risk related to a range of risk factors including terrorism, health, finance, and socio-cultural differences. They found that national culture (i.e. values associated with different nationalities), personality, and motivation to travel were significantly related to anxiety, safety and perceptions of risk associated with travel. Thus, there is evidence to support the idea that perceived risk might influence tourist behavior and destination choice.

Two recent studies used SS and risk taking to investigate tourists' preferences in terms of activities and travel styles. Pizam et al. (2002) found that among a sample of Israeli students those with higher SS tendencies were more likely to be independent travelers and showed a higher propensity to engage in risky vacation activities. Males were also found to have higher SS scores. In a cross-cultural study of SS and risk taking related to tourism, Pizam et al. (2004) found that risk taking as measured by the Jenkins Risk Behavior Scale (Jackson, Hourany, & Vidmar, 1972) has a moderate correlation with the SSS. This suggests that while SS and risk taking are related, they are not identical constructs. Thus, the authors hypothesize that not all risk taking is motivated by SS and that not all SS involves risks. Using a combined SS and risk score (RSS), Pizam et al. (2004) found that those with high RSS preferred more active, spontaneous vacations and were more likely to travel independently of organized tours or packages. This not only supports previous studies, but it may also support the idea that sensation seekers do not seek risk for risk's sake, but they may perceive risk differently from low sensation seekers (Zuckerman, 1979b). Pizam et al. also found that RSS was higher among males, although nationality seemed to mediate scores with Israelis, Irish and Americans reporting higher RSS scores than individuals from South Africa, Slovakia, Sicily, and Gabon. The authors suggested that SS and risk taking were not only related to travel style and activity choice but also destination preference.

The research reported here builds upon these previous studies by investigating the following questions: (1a) Is SS related to an individual's preference for novel tourism activities and travel styles as measured by Cohen's (1972) tourist role typology and if so what is the nature of the relationship? (1b) If such a relationship exists, is it influenced by gender? (2a) Is SS related to previous international travel experience and if so what is the nature of the relationship? (2b) If such a relationship exists, is it

influenced by gender? (3) Is SS related to the perception of risk associated with travel to various regions of the world? (4) Is SS related to travel to regions of the world perceived as risky?

3. Method

Spatial locational sampling procedures were used to survey young adults over a 3-week period in the Fall 2000. As noted in the literature review, gender, age and nationality may interact with SS and influence its relationship with other variables (Ball et al., 1984; Pizam et al., 2004; Zuckerman et al., 1978). Thus, in this study, respondents were delimited by age (17–30 years) and by nationality (US born and bred). Gender remained an important variable for consideration. Sampling occurred at five high foot traffic areas on the campus of a large US University. The university is largely restricted to pedestrian access. While using a student based sample limits the generalizability of these results, it was helpful in controlling for the influence of variables known to impact SS and risk perception such as nationality and age. Rather than limiting the external validity further by using intact classes to distribute the questionnaires, sampling occurred at locations most students visit in an ordinary week—the student union, the quad in front of the main library, the recreation center, a plaza surrounded by academic buildings and the bookstore. Data were collected at each area on several different days of the week, including weekends, and at different times of the day to increase the likelihood that a more diverse group of students were surveyed. This was done to maximize the likelihood of obtaining a representative sample. Research participants were selected using a sampling interval of five with a random entry point. Every potential respondent was asked if they were a citizen and also born within the United States. Those answering "no" did not participate in the study. A total of 300 questionnaires were distributed, however seven questionnaires were not returned and three were eliminated because respondents were well beyond the target age group. Consequently, the final sample consisted of 290 college students born and raised within the United States.

The survey instrument was a self-administered fixed choice questionnaire which contained five sections and required approximately 10 min to complete. For this study, only sections two through five were used. Section two listed 15 distinct regions of the world, for example: Western Europe, Eastern Europe, the Russian Federation, Far East Asia, the Middle East, Africa and so on. Respondents were asked to assess the risk they associated with travel to each of these regions using a five point Likert scale (1 = Very Safe, 5 = Very Risky). Two regions were not considered in the analysis: Antarctica and North America. Antarctica was dropped because the risks it presents are conceptually different than the other regions (extreme cold and isolation as opposed to political instability, cross-cultural differences, etc.). North America was dropped in favor of USA because it was felt USA provided a better baseline since all respondents were US citizens. The decision to focus on broad geographic regions stems from Enders, Sandler, and Parise's (1992) concept of the generalization effect which describes the tendency for individuals to attach the risk first identified within a small geographic area to a much larger one. For example, Teye (1986) reported how a crisis in one country affects tourist arrivals in neighboring countries. In fact, Carter (1998) found that entire continents can be generalized as either risky or safe.

Section three was a 12-item sensation seeking scale (SSS) comprised of items from Zuckerman's (1979a) 72 item SSS form IV. The 12-item scale used in this study included at least two items from each of the SS subscales (thrill and adventure seeking; experience seeking, boredom susceptibility, and disinhibition). Madsen, Das, Bogen, and Grossman (1987) tested a 10-item SSS comprised of items from Zuckerman's original scale including at least two items from each subscale. Their results showed that a short form of Zuckerman's SSS can be a reliable, accurate and valid measure of SS. Likewise, Hoyle et al. (2002) found an eight item SSS, which also represented each of the subscales, to be reliable and valid for use with adolescents and young adults. In the study at hand, SS was measured as a summated score of the responses to the 12 items. The total score ranged from 0 to 12 with higher scores indicating higher SS. The internal consistency of the SSS was tested using Cronbach's alpha ($\acute{\alpha}$ 0.61, $n = 290$). While this reliability coefficient is slightly lower than the 0.70 recommended by Nunnally (1978), it compares favorably with Madsen et al. ($\acute{\alpha}$ 0.43, $n = 130$) and Hoyle et al. ($\acute{\alpha}$ 0.76, $n = 1263$). Furthermore, it conforms to Peterson's (1994) suggestion that an alpha of 0.60 could be considered an indication of reliability. A plausible explanation for the low alpha might be that these short scales are multidimensional, containing items from each of the four SS subscales. As such, the internal consistency of the scale may be affected.

Section four was comprised of four statements which described each of Cohen's (1972) four tourist roles [Organized Mass Tourist (OMT), Independent Mass Tourist (IMT), Explorer (EXP) and Drifter (DTR)]. Respondents were asked to choose the one statement which best described their travel characteristics. Although Gibson and Yiannakis (2002) suggest that people may enact different types of tourist roles at different times and even on the same trip, it is important to note that the underlying preference for degree of novelty is relatively stable. This preference for degree of novelty is at the heart of Cohen's typology. Thus, in order to parsimoniously categorize the participants' travel characteristics based on their preference for novelty, it was felt that Cohen's original typology was appropriate. Section five consisted of demographic items including gender, previous travel history and age.

A logistic regression was used to model the impact of SS and gender on tourist role and international travel. Logistic

regressions are commonly used to model categorical response variables as is the case here (Agresti, 1996). Frequencies, *t*-tests, and bivariate correlations were also used to identify significant relationships among the data. Of the 290 respondents, 154 were female (53%) and 136 were male (47%). This was comparable to the university's student body which was 52% female at the time of the study. Age ranged from 17 to 31 with 92% of the sample aged between 18 and 22. SS scores ranged from 1 to 12 with a mean of 7.3 (SD = 2.45). Sixty percent of respondents had international travel experience. According to Cohen's tourist role typology 9% classified themselves as DTR (12 female and 15 male), 47% as EXP (69 female and 67 male), 34% as IMT (57 female and 42 male) and 9% as OMT (16 female and 11 male).

4. Results

Frequencies show that the mean SS scores differed among respondents who classified themselves according to Cohen's (1972) tourist roles. Organized Mass Tourists reported the lowest mean SS scores ($M = 5.5$, SD = 2.5), followed by Independent Mass Tourists ($M = 7.0$, SD = 2.5), then the Explorers ($M = 7.8$, SD = 2.1), and finally the Drifters who reported the highest mean SS scores ($M = 8.4$, SD = 2.6). This suggests a positive relationship; namely, as the propensity for SS increases the preference for tourist roles characterized by novelty also increases. However, the literature suggests a potential interaction between SS and gender (Zuckerman et al., 1978). In this study, males reported higher mean SS scores ($M = 7.9$, SD = 2.4) than females ($M = 6.8$, SD = 2.4). The results of an independent *t*-test revealed that a statistically significant gender difference existed in SS scores ($t = 3.88$, $p < .01$). This is consistent with the literature in that males are higher in the propensity for SS than females. Therefore, further analyses examining the relationship between SS and an individual's preference for novelty in travel considered the effects of gender.

An individual's preference for novelty in travel was modeled with a logistic regression using Cohen's (1972) tourist role typology as the dependent variable. SS, gender, and an interaction term combining gender and SS were the explanatory variables. In building the model, the likelihood ratio test was used to assess the importance of each independent variable (Agresti, 1996). This test compares the strength of the model with the variable of interest to the strength of the model without the variable of interest. Gender did not contribute to the model ($\chi^2 = 1.55$, df = 3, $p = .67$), although SS ($\chi^2 = 26.97$, df = 3, $p = 0.00$) and the interaction term ($\chi^2 = 27.06$, df = 3, $p = 0.00$) did. Thus, the final model estimated the impact of SS and the interaction of SS and gender on a respondent's preference for one of Cohen's four tourist roles. This final regression model revealed the effects of the interaction term (gender with SS) were not significant, while SS alone was highly significant (Table 1).

Logistic regression estimates are best interpreted as a comparison of odds (Agresti, 1996). In this study, Cohen's DTR was the baseline category for comparison. Therefore, results estimate the odds a respondent is categorized as OMT, IMT or EXP compared to the odds of being categorized as a DTR given an one unit increase in SS. Results show that for a one unit increase in SS, the odds a respondent is categorized as OMT instead of DTR are reduced by a factor of 0.57; the odds that a respondent is categorized as IMT instead of DTR are reduced by a factor of 0.77; and the odds that a respondent is categorized EXP instead of DTR are reduced by a factor of 0.88. It is important to note that the greatest reduction in the odds comes from pairing tourist roles from opposite ends of the continuum (OMT and DTR). The reduction in odds is not as great when the tourist role compared with DTR is more of a novelty seeker. These results demonstrate that high sensation seekers are more likely to prefer tourist roles characterized by a greater preference for novelty while low sensation seekers are more likely to prefer tourist roles characterized by a preference for familiarity. Thus, in answer to research questions 1a and b, SS is higher among individuals who prefer novel tourism activities and travel styles. The influence of gender on this relationship was not significant.

Table 1
Tourist role and sensation seeking (drifter is baseline category)

Categorical variable	Explanatory variables	Results					
		B	Std. error	Wald	df	Sig.	Exp(*B*)
Organized mass tourist	Intercept	3.76	0.978	14.82	1	0.000**	
	SS	−0.549	0.145	14.39	1	0.000**	0.577
	SS*Gender	0.013	0.084	0.022	1	0.881	1.013
Independent mass tourist	Intercept	3.309	0.855	14.98	1	0.000**	
	SS	−0.260	0.111	5.51	1	0.019*	0.771
	SS*Gender	0.003	0.055	0.002	1	0.963	1.003
Explorer	Intercept	2.594	0.842	9.48	1	0.002**	
	SS	−0.129	0.107	1.45	1	0.228	0.879
	SS*Gender	0.011	0.051	0.048	1	0.827	1.01

*$p < 0.05$; **$p < 0.01$.

Table 2
Previous international travel and sensation seeking

Categorical variable	Explanatory variables	Results					
		B	Std. error	Wald	df	Sig.	Exp(*B*)
International travel	Intercept	−0.755	0.402	3.521	1	0.061	
	SS	0.162	0.059	7.590	1	0.006**	1.176
	SS*Gender	−0.008	0.034	0.064	1	0.801	0.992

**$p<0.01$.

Participants were asked whether or not they had traveled internationally. Sixty percent of respondents had. Frequencies show that the mean SS score for respondents with international travel experience ($M = 7.7$, SD = 2.34) is higher than for those with no international travel experience ($M = 6.8$, SD = 2.48). However, the literature suggests this relationship could be influenced by gender due to differences between males and females in the SS trait (Zuckerman et al., 1978). As discussed above, males and females in this sample are statistically different in their levels of SS. Therefore, in examining the relationship between SS and previous international travel experience the effects of gender were considered.

In a procedure identical to the one described above, a logistic regression was used to model previous international travel experience with SS, gender and an interaction term (gender with SS) (Agresti, 1996). As above, the likelihood ratio test showed that gender did not contribute to the model ($\chi^2 = .057$, df = 2, $p = .812$) but SS ($\chi^2 = 9.226$, df = 2, $p = .002$) and the interaction term ($\chi^2 = 9.29$, df = 2, $p = .01$) did. Thus, the final model estimated the significance of SS and the interaction of SS and gender as predictors of international travel experience. Running this final regression model revealed the effects of the interaction term (gender and SS) were not significant while SS alone was highly significant (Table 2). Again, Agresti suggests logistic regression estimates are best interpreted as a comparison of odds. In this case, the odds that a respondent has traveled internationally are compared to the odds a respondent has not traveled internationally given a one unit increase in SS. Results show that for a one unit increase in SS, the odds that a respondent has traveled internationally increase by a factor of 1.18. Therefore, in answer to research questions 2a and b, SS is likely to be higher among those with previous international travel experience. Of course, the research design cannot establish the causal nature of this relationship. However, Zuckerman (1979a) describes the SS trait as relatively stable over time and across experiences which supports the idea that the SS trait influences international travel rather than the reverse. Again, the influence of gender was not significant.

Perception of risk as a function of SS was investigated next. A five point Likert-type scale was used (1 = very safe to 5 = very risky) to evaluate 13 regions of the world in terms of the perceived risk that respondents associated with travel to that particular region. Descriptive statistics revealed that participants perceived different levels of risk associated with travel to different parts of the world (Table 3). As logic would dictate, travel within the US was perceived as having the least amount of risk ($M = 1.63$, SD = .85). Regions of the world similar to the US in terms of culture and level of economic development were also perceived as safe travel destinations (Australasia/Oceania: $M = 1.78$, SD = .83; Western Europe: $N = 1.90$, SD = .81). In contrast, regions that were perceived as more culturally different such as Africa ($M = 3.28$, SD = .98) and the Middle East ($M = 4.13$, SD = .85) were perceived as highly risky for travel. These regions are culturally dissimilar to the US in that they are characterized by lower levels of economic development and include areas where war and political instability are present.

Table 3
Perceived risk by region and correlation with SS

Region	Perceived risk			Correlation with sensation seeking		
	N	Mean	Std. dev	*N*	Pearson	Sig.
USA	289	1.63	0.85	278	0.083	0.168
Australasia/Oceania	290	1.78	0.83	279	−0.137	0.022*
Western Europe	289	1.90	0.81	278	−0.049	0.418
Caribbean	288	2.17	0.78	277	−0.022	0.719
Eastern Europe	290	2.49	0.89	279	0.085	0.157
Far East Asia	287	2.81	0.91	276	0.067	0.270
South America	289	2.98	0.86	278	0.061	0.310
Central America	289	3.01	0.87	278	0.082	0.172
South East Asia	285	3.04	0.90	275	0.065	0.281
Indian Subcontinent	289	3.12	0.85	278	−0.030	0.617
Russian federation	287	3.14	0.90	276	−0.048	0.426
Africa	290	3.28	0.98	279	−0.001	0.986
Middle East	290	4.13	0.85	279	−0.032	0.595

*$p<0.05$.

Pearson's correlation coefficient was used to determine if a relationship existed between the perception of risk individuals associated with each region of the world and SS. Interestingly, there were no significant correlations between SS and perception of risk for any region except Australasia/Oceania ($r = -.137$, $p = .022$) (Table 3). In this case, the negative correlation indicates that as SS increased the perception of risk decreased. Although this

region was perceived as very safe by all respondents, those low in SS perceived it as slightly less safe than others. Thus in answer to research question 3, and with the exception of Australasia/Oceania, the perception of risk associated with travel to various regions of the world did not vary significantly by SS.

Finally, previous international travel to risky locations as a function of SS was investigated. Each participant provided a list of the countries they had traveled to outside of the US. Using this information, each participant was assigned a score equal to the mean perceived risk of the riskiest region of the world they had traveled to. For example, if a person had traveled to Western Europe and Africa they were assigned a score of 3.28, which is the mean perceived risk for Africa (Table 3). If a person had never traveled beyond the US they were assigned a score equal to the mean perceived risk of travel within the US ($M = 1.63$). In this way, the degree of risk associated with previous international travel was estimated. Using Pearson's correlation, this variable was found to be positively correlated with SS ($r = .13$, $p = .04$). Thus, in answer to research question 4, previous travel to risky locations was related to SS, with those higher in SS having traveled previously to riskier destinations.

5. Discussion

The results of this study confirm those of Pizam et al. (2002, 2004) in that travel style and tourist activities appear to be related to SS with sensation seekers preferring more independent styles of travel and more novel activities than those lower in the SS trait. Furthermore, these findings empirically connect Zuckerman's (1994) psychologically based description of tourist behavior and travel style with Cohen's (1972) sociological description of tourist behavior and travel style. Zuckerman's SS trait appears to be a significant predictor of tourist role as described by Cohen's typology. Specifically, Cohen's novelty seeking tourists, explorers and drifters, appear to be higher in Zuckerman's SS trait than tourists in need of familiarity such as organized or independent mass tourists. Therefore, high sensation seekers are likely to: make their own travel arrangements; travel freely without a well defined itinerary; get off the beaten path; meet local people; engage in a host country's culture; and forgo comfort in favor of a more "authentic" experience. On the other hand, individuals low in SS are likely to: travel with packaged tours, use travel agents and pre-plan much of their trip; employ guides; visit the famous sites; maintain a barrier between themselves and the host culture; and insist on familiar comforts. In a recent study, Alvarez and Asugman (2006) further confirm these findings in a sample of Turkish tourists. They identified two types of tourists: explorers who are more spontaneous in their vacation style, shun packages and are less concerned with risk and the planners who are more risk averse, more likely to be female, and are attracted to packaged vacations. These results also compare well to Plog's (2002) concept of venturesomeness. Results suggest that Cohen's drifter is akin to Plog's allocentric/venturer and the organized mass tourist is akin to Plog's psychocentric/dependable. Hence, similarities between the concepts of venturesomeness and Zuckerman's SS trait are likely and therefore it should not be surprising if the findings of this study concur with those of Plog through the years (Plog, 1974, 1990, 1991, 2002)

This study also expanded upon the hypotheses of various researchers that destination choice is likely to be associated with SS (Lee & Crompton, 1992; Pizam et al., 2002, 2004). In this sample of US citizens, those respondents higher in the SS trait were more likely to have traveled internationally and to have traveled to countries perceived as risky. Certainly, as Pizam et al. (2004) suggested, while SS and propensity to take risks are related they are not exactly the same. It is conceivable that a person may be a sensation seeker, but not take unnecessary risks, in fact SS does not equate with a "death wish" (Zuckerman, 1983). There has to be some reward in the form of novel experiences to rationalize the risk (Ewert & Hollenhorst, 1989; Farley, 1986; Groves, 1987; Heyman & Rose, 1980; Rossi & Cereatti, 1993; Trimpop et al., 1999). Additionally, sensation seekers' calculations of risk may also be influenced by what is socially acceptable (Goma-i-Freixanet, 1991; Levenson, 1990). There is a need to not appear reckless in the pursuit of satisfying experiences. Certainly tourism provides a socially acceptable venue for the pursuit of novel, thrilling and adventurous experiences. Thus, tourism to destinations perceived as risky may provide the additional reward of social acceptance and prestige (Dann, 1977). This is certainly consistent with the outdoor recreation literature whereby Robinson (1992) suggested in his model of enduring risk recreation involvement that perceived risk, competence in the activity and anticipated outcomes would be part of the decision-making associated with participation in a particular experience. The same logic may be applied to tourism related behaviors and decisions.

Interestingly, there was no difference in the way that high sensation seekers and low sensation seekers perceived the risk associated with travel to a particular region of the world. Perhaps this can be explained by the impact of the media on the construction of perceived risk. Researchers have shown that the images in news stories in the media and popular travelogues are likely to influence the perceptions of travelers and non-travelers alike (Carter, 1998; Hawk, 1992; Keim, 1999). High and low sensation seekers' perception of risk may be influenced similarly by the popular images society attaches to these regions of the world. Yet despite similar perceptions of risk, high sensation seekers are more likely to travel to those regions perceived as risky. This finding is consistent with Zuckerman's SS theory in that countries perceived as risky are likely to be perceived as more novel and exciting than countries perceived as similar to and therefore familiar to US citizens. This idea was also proffered in our earlier

paper (Lepp & Gibson, 2003). We identified seven specific factors which tourists associate with risk: health and well-being, war and political instability, terrorism, strange food, political and religious dogma, cross cultural differences, and petty crime. Results of this current study support our earlier suggestion that some of these risk factors such as strange food, cross cultural differences and even war and political unrest may attract some tourists and simultaneously repel others, findings also supported by Reisinger and Mavondo (2005). Similarly, Galloway and Lopez (1999) found risk factors like wild animals and remoteness attract sensation seekers to the backcountry areas of national parks while being likely to repel those low in SS.

As more economies around the world become tourism dependent, it will become increasingly important to understand which variables are likely to impact tourist flows, particularly in a negative way. Certainly, Reisinger and Mavondo found that intent to travel abroad is related to lower levels of anxiety and higher levels of perceived safety. Misunderstanding or overlooking important variables can lead to empty beds, or more directly, lost revenue, unfulfilled expectations and debt. For example, developing nations which stake their hopes for increased foreign exchange through tourism on high-end resorts, which cater to organized and independent mass tourists may be setting themselves up for failure. They are targeting those tourists least likely to travel to those areas of the world, especially when an event occurs which heightens the risk associated with international travel. Often times, high-end mass tourists are favored by developing nations because of the perception that they spend more money, when in fact there is a growing realization that may be the budget tourists are more economically beneficial to a country (Scheyvens, 2002). Perhaps, developing nations in regions of the world perceived as risky, for example in Africa (Carter, 1998), would be wise to also target tourists like Cohen's (1972) explorer and drifter. These are the high SS tourists more likely to visit such regions. Therefore, it might be advisable to feature more novel elements of the tourism landscape like locally owned, small-scale hostels in promotional literature as well as high-end resorts. In addition to improving marketing, this strategy of targeting novelty seekers, or what some are beginning to call variety seekers (Alvarez & Asugman, 2006), is also likely to be more beneficial for community development, as they tend to patronize more of the locally owned businesses (Hampton, 1998; Scheyvens, 2002).

The findings of this study suggest that marketers need to better understand that the images used in promotional media for a destination may either attract or repel different types of tourists (Reisinger & Mavondo, 2005). For example, promotional literature indicating safety, security and familiarity may attract low sensation seekers but discourage travelers higher in the SS trait. Likewise, promotional literature indicating novelty, adventure and highlighting cultural differences may attract high sensation seekers but discourage low sensation seekers. This research suggests SS would be an useful segmentation tool. It might be best, when feasible, to design separate promotional messages for high sensation seekers and low sensation seekers. Significant attributes of a destination can be marketed in different ways. For example, highlighting cultural differences would be likely to increase the perception of risk thus attracting high sensation seekers and discouraging low sensation seekers. However, if cultural differences were promoted as opportunities to learn about other cultures, individuals low in SS might become interested. Likewise, the primitiveness and adventure often marketed as part of an ecotourism package may attract sensation seekers while discouraging those low in SS. In an effort to appeal to some lower in SS, the same package could be presented as an opportunity to participate in the conservation of an ecologically valuable area. Humanitarian messages may also be effective for attracting low sensation seekers to less developed regions of the world which are generally perceived as higher in risk. Such messages could emphasize a tourist's contribution to local development, altruistic endeavors like volunteerism and even global peace.

Since these data were collected in 2000, many would argue that the risks associated with travel in the post 9/11 era have been heightened. Certainly, a combination of heightened risk with a succession of terrorist, war and health related risks in addition to an economic downturn contributed to the first decrease in international travel since the 1950s (WTO, 2005b). Since 2004 however, travelers seem to have adjusted and international travel has been growing once again. Thus, while a limitation of our study is that our data were collected before 9/11, if SS is a relatively stable personality trait as Zuckerman (1979a) contends, then the patterns associated with SS and tourist role and destination choice should be similar to a replication of this study today. Certainly it could be argued that in the post 9/11 era is it more crucial to understand who is likely to travel in times of uncertainty and how those who are more risk averse might be tempted to travel by having the tourism industry ameliorate the levels of novelty and risk associated with a particular destination (Cohen, 1972). For example, for many Westerners there is increasing interest in China as a place they would like to visit (WTO, 2005a). However, China may be perceived by many westerners as unfamiliar in terms of food, language, customs, and potential health and political problems, all of which have been shown to be potential risk factors for tourists (Lepp & Gibson, 2003). Thus, one strategy the tourism industry has been using to alleviate these concerns has been to use various levels of packaging and guided tours, practices first theorized by Cohen over 30 years ago.

Thus, the results of this study have both academic and practical implications. For the body of knowledge, this study provides further support for the proposition that tourism preferences may be influenced by both personality traits and socio-cultural factors and that future studies

should adopt a multivariate approach to increase their ability to both explain and predict. Indeed, as Reisinger and Mavondo (2005) suggest, perhaps we also should start looking at factors such as social class, race and stage in the life course. One of the delimitations of this study as with many of the other studies that have addressed tourism, risk and SS is the age of the sample, with most studies including college students. While the generalizability of our results is limited to populations with similar characteristics, that is under age 30, middle class and US born and bred, delimiting the sample in this way is also a strength as we attempted to control for the extraneous effects of nationality, life stage and class that have been linked to differences in SS and risk perception. Perhaps now, however, it is time to start addressing people in other life stages. Particularly as a growing number of American baby boomers report an interest in international travel (Davies, 2005). This is a trend that is likely to be mirrored in many other nations experiencing population ageing.

In terms of practice, these findings lend themselves to market segmentation (Snepenger, 1987), marketing strategies, and a better understanding of who is likely to travel in this increasingly turbulent world. Indeed, Plog's (2002) work using the similar concept of venturesomeness shows that when this psychographic is combined with income, which is commonly used by the travel industry to segment markets, that the ability to predict propensity to travel is enhanced. However, Plog also suggests that "the psychology of an individual plays a more important role in determining interest in leisure travel than household income" (p. 247) and that venturesomeness is more valuable in understanding the types of activities that individuals prefer when traveling. As such, perhaps the "psychology of the tourist" as explored in this study and by others is an avenue of research that needs more attention from both academe and the industry.

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