Empirisch onderzoek naar de relatie tussen sensation seeking en de persoonlijkheidsdimensies uit de NEO-PI-R, en de voorkeur voor vakantie-activiteiten

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Abstract

The aim of this study was to examine the correlations between the factor sensation seeking, the Big Five Personality dimensions and Holiday Preferences (four types as suggested by Eachus, 2004: Adventurous, Beach, Cultural, Indulgent) and also to investigate if Holiday Preferences can be predicted by any of the mentioned factors. The NEO-FFI, the BSSS and eight items of the Holiday Preferences Scale were administered to 104 Psychology students at the University of Twente. Concerning the correlations between sensation seeking and the Big Five, the existent literature was supported in so far, that significant positive correlations were found between sensation seeking and Extraversion and Openness, respectively, and a significant negative correlation was found between sensation seeking and Conscientiousness. Furthermore, several significant correlations between the sensation seeking subscales and the Big Five were determined (among which positive correlations between Experience Seeking and Adventurous and Cultural Preference and a negative correlation with Indulgent Preference), as well as significant correlations between the (dimensions of the) Big Five and Holiday Preferences (e.g. positive correlations between Openness and Cultural Preference and negative correlations between Openness and Beach and Indulgent Preference). Besides, the study revealed the factors age, gender, Openness, Experience Seeking and Disinhibition as being the most important predictors of the four holiday preference types.

1. Introduction

The purpose of this paper is to investigate the relationship between the construct sensation seeking and the five factor personality model, the 'Big Five'. Besides, it will be examined if these factors predict people's holiday preferences. First, the paper provides a brief overview of the construct sensation seeking, its theory and measurement. After that the 'Big Five' model and its measurement NEO-PI-R will be introduced, followed by Holiday Preferences and their measurement. The paper then reviews previous studies from the literature, concerning the correlation between sensation seeking, different personality dimensions and constructs, behaviour, biological factors and finally Holiday Preferences. After reviewing the literature and presenting the research questions, the present research will be introduced, and finally its results will be presented and discussed.

2. Literature Review

The construct sensation seeking

Zuckerman (1994, p.27) defined sensation seeking (SS) as 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 experiences." The citation indicates that people high in sensation seeking appear to be drawn to risk-taking behaviours. Following Leigh (1999) (in Lejuez et al., 2002) risk-taking behaviours are those that involve some potential for danger or harm while also providing an opportunity to obtain some form of reward. Sensation seeking has been shown to predict a variety of risky behaviours including risky driving, risky sex, smoking, alcohol and drug use, and gambling (for reviews, see Zuckerman, 1979, 1994 and examples later in this chapter).

According to Zuckerman (1994) the four major forms of sensation seeking include Boredom Susceptibility (BS), Disinhibition (DIS), Experience Seeking (ES) and Thrill and Adventure Seeking (TAS). BS is the aversion to repetitive and/or boring tasks and people, DIS stands for seeking release or disinhibited social behaviours via alcohol, partying, sex etc.,

ES means the pursuit of an unconventional lifestyle via unplanned activities and/or hallucinatory drugs and TAS represents seeking of unusual sensations via exciting and/or risky sporting activities.

Regarding the 'Big Five' personality model, the just mentioned forms of sensation seeking do not seem to belong to the same personality dimensions. For example, Thrill and Adventure Seeking could be seen as recklessness, the negative pool of conscientiousness, but if one sees the need for excitement and adventure in it, it could also be regarded as a part of Extraversion (E5). Further examples are Experience Seeking, which could be related to elements of Openness (O4) or Disinhibition, which could be related to Extraversion.

This poses the question in which way the construct sensation seeking is in fact related to the dimensions of the 'Big Five'. To answer this question, the existent literature on this issue was explored and an empirical research was conducted.

Sensation Seeking Theory

In the early 1960's Zuckerman was working in the area of sensory deprivation (SD). Volunteers in his experiments were isolated from the world of external stimulation in dark, soundproof rooms or water tanks for periods ranging from one hour to two weeks. Some of the effects of the situation, such as anxiety and hallucinations, were found to be due to variations in the experimental conditions and the sets produced by the instructions and conditions. But a wide variety of individual reactions could not be entirely explained by these factors. Personality tests were given to subjects in an attempt to identify traits that made some persons more vulnerable to the effects of SD. He formulated a theory that there were individual differences in what constituted an optimal level of stimulation (OLS) or arousal, and that these differences played an important role in determining responses to SD. Since there was no personality test specifically derived from the OLS construct, Zuckerman and his colleagues developed the Sensation Seeking Scale (SSS) which will be described below (Zuckerman et al., 1964).

While in Zuckerman's conception, sensation seeking is viewed as a need for novelty and *complexity* of stimulation, Arnett's (1994) conception of sensation seeking is characterized by the need for novelty and *intensity* of stimulation. Therefore, he reconceptualized sensation seeking. Also a theoretical difference emerged between Zuckerman's and Arnett's view, namely concerning the biological or genetic basis of sensation seeking. Zuckerman emphasized the biological basis of sensation seeking, paying little attention to the role of socialization, whereas sensation seeking as proposed by Arnett is conceived as being influenced by a biological predisposition which interacts with the social environment.

Measurement of Sensation Seeking

The sensation seeking construct is usually assessed with the Form V of the Sensation Seeking Scale (SSS-V) (Zuckerman, Eysenck & Eysenck, 1978) which is the standard measure of sensation seeking in adults. It consists of 40 items in forced-choice format. Through factor analysis four subscales were derived, which agree with the above mentioned four major forms of sensation seeking: Thrill and Adventure Seeking, Experience Seeking, Disinhibition and Boredom Susceptibility. Although the SSS-V is widely used and often helpful in research (e.g. Aluja et al., 2002; Joireman et al., 2003; Dahlen & White, 2006), it has some limitations. For example, its forced-choice format is troublesome and difficult for adolescent respondents. Besides, a subset of items refers directly to problem behaviours (i.e. alcohol and drug use) and must be excluded before scores can be used to predict those

behaviours. Another reason is that the colloquial words and phrases used in some items no longer hold meaning for young respondents (Hoyle et al., 2002).

Advances of the sensation seeking measure

To avoid the just mentioned shortcomings of the SSS-V Hoyle et al. (2002) developed a new measure of sensation seeking- the BSSS (Brief Sensation Seeking Scale). They retained the same basic content of the SSS-V, since it is used in virtually all research on sensation seeking with young adults (Hoyle et al, 2002), but changed the number of items, the response format and the phrasing of the items. Instead of 40 the BSSS only consists of eight items, two for each of the four dimensions of sensation seeking, and instead of forced-choice format a five-point Likert-scale is used, ranging from "strongly agree" to "strongly disagree". Furthermore, items including colloquialisms or references to activities likely to be unfamiliar to contemporary adolescents and young adults were avoided as well as items that referred to alcohol or drug use. Examples of BSSS items are "I get restless when I spend too much time at home" and "I like wild parties". To get a measure with similar and well-documented psychometric properties and performance across age, sex, and ethnic groups, the respondents of the BSSS additionally provide information about those topics. Hoyle et al. (2002) administered their scale to more than 7000 adolescents and their psychometric analyses of the resultant data revealed suitable item characteristics and internal consistency of responses to the items across age (13-17 years), sex and ethnic categories. They found no ceiling or floor effects, the standard deviations were relatively consistent across the items and the internal consistency of the eight item set was 0.76.

Arnett (1994) also developed a new measure of sensation seeking with the intention to avoid the limitations of the SSS-V. He constructed the Arnett Inventory of Sensation Seeking (AISS) which consists of 20 items, none of which are age related or concerned with physical strength, antisocial, or norm-breaking behaviour, ensuring the absence of criterion contamination when the scale is used to predict behaviour such as alcohol or drug use. It is a self-report scale consisting of two subscales, Intensity Seeking (the desire for intense sensory experiences) and Novelty Seeking (the quest for new, different, spontaneous experiences).

Arnett (1994) compared the predictive validity of the AISS and the SSS-V and reports that compared to the SSS-V the AISS is more strongly related to risk behaviour (e.g., driving while intoxicated, having sex with someone not known well, smoking marijuana).

Further, Roth & Herzberg (2004) found a comparably higher validity of the AISS, but the major limitation concerns low reliability. Arnett (1994) (in Roth & Herzberg, 2004) reported internal consistencies (Cronbach's α) to be .70 for the Total scale, and .64 and .50 for the Intensity and Novelty subscales, respectively. Similar coefficients have been reported by Zarevski et al. (1998) (in Roth & Herzberg, 2004) with .58 for the Intensity scale and .53 for the Novelty scale. Roth & Herzberg further state that the lowest coefficients were found by Andrew and Cronin (1997) who reported internal consistencies to be .50 for the Total score and .40 and .22, respectively, for the subscales Intensity and Novelty. The problem of low internal consistencies may be due to the strategy employed when developing the scale: Arnett (1994) did not select items on the basis of factor analysis or any other kind of psychometric analysis, but only on the basis of content validity.

The BSSS is seen as the most appropriate measure of the construct sensation seeking due to its above mentioned advantages, among which its reliability, validity and easiness to administer. Besides, in the study conducted by Eachus (2004) it has already proven utility in predicting holiday preferences.

2.4. The "Big Five"

A large amount of research has been conducted on personality and how it is structured. For many years, the field of personality structure, or the taxonomy of traits, was dominated by two models, H.J. Eysenck's three-factor model (1947, 1967) and Cattell's 16-factor model (1957). The three-factor model includes Neuroticism (N), Extraversion (E) and Psychoticism (P). Several decades after the three-factor model, the five factor model -the "Big Five"- emerged and evolved and to its present claims to be the best paradigm for personality structure (Costa & McCrae, 1991, 1992c; Goldberg, 1992 in Zuckerman et al, 1993). Through factor analysis, researchers have repeatedly attempted to find the minimum number of independent personality dimensions to describe the human personality. The same holds true for the "Big Five" where factor analysis resulted in the following five dimensions: Neuroticism, Extraversion, Conscientiousness, Agreeableness and Openness to Experience. The dimensions are bipolar, which means that attributes being similar to the name of the factor describe the upper pole and attributes being dissimilar to the factor describe the lower pole of the dimensions. Extraversion is inclined to express the degree to which a person tends to be sociable, leaderlike, and assertive, as opposed to withdrawn, quiet and reserved. Neuroticism is supposed to give an estimation of the degree to which a person is anxious and insecure, as opposed to calm and self-confident. Conscientiousness means to show the degree to which a person is persevering, responsible, and organized, as opposed to lazy, irresponsible, and impulsive. Agreeableness is inclined to express the degree to which a person tends to be warm and cooperative as opposed to unpleasant and disagreeable. Openness to Experience means to provide an illustration of the degree to which a person is imaginative and curious as opposed to concrete minded and narrow in thinking.

Many researchers have attempted to determine whether the five factors can be applied across cultures, and many have found evidence for this fact, leading some researchers to make the bold claim that the five factor model is a "biologically based human universal" (McCrae et al., 1998).

2.5. Measurements of the "Big Five"

One widely used personality inventory measuring personality on the basis of the five-factor model, or the "Big Five" is the NEO-PI-R (NEO Personality Inventory Revised). It consists of 240 items in 5 domains each made up of six facets. The original three personality dimensions by Costa & McCrae (1985), Neuroticism, Extraversion and Openness (NEO) which were measured by the original NEO-PI were later added by Conscientiousness and Agreeableness/Altruism. The facets of the Neuroticism domain are: Anxiety (N1), Hostility (N2), Depression (N3), Self-consciousness (N4), Impulsiveness (N5) and Vulnerability (N6). The other 24 facets concerning the four other domains are: Warmth (E1), Gregariousness (E2), Assertiveness (E3), Activity (E4), Excitement Seeking (E5), Positive Emotions (E6), Fantasy (O1), Aesthetics (O2), Feelings (O3), Actions (O4), Ideas (O5), Values (O6), Trust (A1), Straightforwardness (A2), Altruism (A3), Compliance (A4), Modesty (A5), Tender-mindedness (A6), Competence (C1), Order (C2), Dutifulness (C3), Achievement (C4), Self-discipline (C5), and Deliberation (C6). The NEO-PI-R is scored on a five-point Likert-type scale, ranging from "strongly agree" to "strongly disagree" and the assessment takes about 35-45 minutes.

There are two forms of the NEO-PI-R, form S for self-reports and R for observer ratings in which the items have been rephrased in the third person. Also a shortened form of the NEO-PI-R exists, the NEO-FFI (NEO-Five-Factor Inventory) consisting of 60 items. The assessment of this version takes about approximately 10-15 minutes.

Form S of the NEO-PI-R has been translated into over 30 languages (McCrae & Terracciano, 2005), for instance Dutch versions by Hoekstra, Ormel en de Fruyt (NEO-PI-R and NEO-FFI) and German versions by Borkenau & Ostendorf (NEO-FFI) and by Ostendorf & Angleitner (NEO-PI-R) are available.

Given its amenability to cross-cultural and international studies, along with the potential significance of biologically based universal human traits, the NEO-PI-R is likely to engender considerable research for some time. Moreover, the NEO-PI-R reflects modern trends in personality-test construction by its reliance on theory, logic, and the liberal use of factor analysis and statistical approaches in test construction. It appears to be exceptionally promising for measuring a wide range of characteristics in the world community (Kaplan & Saccuzzo, 2001, p.438). For these reasons, in the present research the NEO-PI-R was seen as an optimal measure for its purpose and was used to measure personality, respectively the "Big Five".

2.6. Holiday Preferences as personality types

Holiday Preferences is a topic which has not been researched very often so far, at least not in coherence with personality. There are only a few exceptions, for example, Plog (1974), who developed certain kinds of personality profiles to explain why destinations rise and fall in popularity and, because in his view tourists' personality characteristics determine their travel patterns and preferences. He distinguishes between two archetypes, the Dependable (Psychocentric) and the Venturer (Allocentric), which can be seen as the opposite ends of a distributive curve with Near-Dependables, Mid-Centrics and Near-Ventureres in between. Plog provides a complex description of the two types at the ends of the distribution and their travel behaviour. In summary one could say that the Dependable travels less frequently, stays for shorter periods, spends less, prefers to go by car (or camper, etc.) rather than by air, prefers highly touristy spots, like sun-and-fun spots (such as the beach or the pool), typically selects well-defined, escorted tours rather than make independent travel arrangements, purchases plenty of souvenirs and is likely to return to a destination again and again. Plog describes the Venturer as the complete opposite of the Dependable.

Researchers who also investigated the relationship between tourist behaviour and the allocentric-psychocentric dimension of personality found different and partly opposite outcomes, resulting in a rather ambiguous predictive validity of that dimension. For example, Leiper (1995) noted that Smith (1991) has argued persuasively that Plog's theory is defective, based on flawed research. Similarly, a study by Nickerson (1989) found that there was no support in the data for Plogs's conceptual travel model. Hoxter and Lester (1988) also tested Plog's theory. Their results were opposite to those predicted by Plog (in Frew & Shaw, 1999)

Jackson et al. (2001) also use the dimension Allocentrism/Psychoticism proposed by Plog for their tourist personality typology, but they add another dimension: Extraversion/Introversion. In total, their two dimensional model consists of four distinct personality types in terms of holiday preferences: the Explorer, the Adventurer, the Guided and the Groupie. The Explorer (introvert Allocentric) will involve in self travel, own organisation, getting to the culture and the people. He will tend to be secluded, away from crowds, will involve a degree of self-enrichment, excitement and challenge. The Adventurer (extravert Allocentric) is similar to the above, but his emphasis is on travelling with others, friends or other tourists. The Guided (introvert Psychocentric) prefers holidays in his home country, tends to go to the same place year after year. The Groupie (extravert Psychocentric) is about between 18-30 years old, and typically engages in a packaged holiday but with lots going on for young people, lots of activities, chance to meet other young people, lots of nightlife, sun, sand and sex. One of the difficulties in using the typology suggested by Jackson et al. (2001) is that there appears to be a great deal of overlap and ambiguity in terms of how

these typologies might translate into holiday preferences, for example the Explorer and the Adventurer typologies appear to be very similar, the only real difference being that the Explorer prefers to holiday alone whereas the Adventurer likes the company of others.

Some researchers investigated specific groups and behaviours to make statements about or find categories of personality in terms of holiday preferences. In their study McKercher et al. (2006) sought to identify different consumption styles among long-haul visitors to Hong Kong. Six different patterns were identified based on the analysis of 25 in-depth interviews, augmented by responses to arrival and departure surveys. The six different patterns were split up in two groups: Main destination visitors and Stop-over visitors. Wanderer, Tour Taker and Pre-Planner belong to the first group; Explorer, Uncommitted and Intimidated to the second. The Wanderer is described as the most flexible of all tourists, without any firm or pre-set plans. He is said to be adventuresome, outgoing and open to something new. To some degree this pattern is comparable to Jackson et al.'s typology of the Explorer and the Adventurer. The Pre-Planner is the antithesis of the Wanderer, because he prepares detailed plans prior to departure outlining what he or she intends to do over the whole trip. He wants to learn about the culture and the heritage of the destination, but is less adventuresome than the Wanderer. The Tour Taker is in between the two types. McKercher et al. describe the Explorer as preferring independent travel, doing little preplanning and seeking to do fewer things but more deeply. This typology can be found back to some extent in Jackson et al.'s description of their Explorer. By contrast, the Uncommitted and Intimidated tourist is much less adventuresome, more inactive and intolerant for new experiences which agrees more with Jackson et al.'s typology of the Guided.

2.7. Measurement of Holiday Preferences

Eachus (2004) was interested in predicting holiday preferences and therefore developed a scale to measure those, named the Holiday Preferences Scale. He based his work on the above described typology with personality as its basis, suggested by Jackson et al. (2001), but focused on a more objective measure of tourist choice rather than looking at tourist personality and created four distinct holiday preferences for his measure: Adventurous Preference; Beach Preference; Cultural Preference and Indulgent Preference. People with the Adventurous Preference are likely to be independent travellers, like to be doing active things when on holiday, don't mind roughing it, and prefer remote and unusual places to the more "touristy" destinations. People with Beach Preference are looking for a holiday in which they spend a great deal of time lying in the sun not doing very much at all. They like to be part of a crowd, want a holiday with lots of action and nightlife. Their holiday has probably been booked through a travel agent or tour operator. Culture Preference includes people who are likely to want to learn something new on their holiday. This might involve visits to museums or art galleries, but it might also be more "hands on", as in learning a new skill like painting or music. People with the Indulgent Preference want to be pampered in their holidays. They want the best they can afford in every respect, hotels, food, resort and almost certainly eat and drink too much while there, but see that as an integral part of the holiday experience. Eachus (2004) states that there is still a certain degree of overlap between the different preference typologies (which was the main problem with Jacksons's model), but argues that this is inevitable. The Holiday Preferences scale includes the four above described preferences as subscales containing 10 items for each. Examples hereof are "I would much prefer trekking to lying on the beach" for adventurous preference, "My ideal holiday involves spending a lot of time lying on a beach" for beach preference, "Whenever I go on holiday I always make an effort to visit a local museum or art gallery" for cultural preference and "My ideal holiday would be a luxury cruise" for indulgent preference.

In the present research, the eight items (two per subscale) from the Holiday Preferences Scale that were available in the literature were taken and used as a short form of the questionnaire.

2.8. Correlative studies

Several studies have been conducted on the factor sensation seeking, especially concerning the correlates with certain personality constructs and behaviours. In the present research the main interest lies in the direct relationship between sensation seeking and the "Big Five" measured by the NEO-PI-R as described above. These correlative studies will be mentioned in succession. Since many researches have been conducted on the factor "impulsiveness" or "impulsivity", personality profiles which seem to be related to sensation seeking, these will also be described. Furthermore correlative studies on sensation seeking and aggression, certain behaviour, biological factors and Holiday Preferences will be summarized.

2.8.1. Sensation Seeking and Neuroticism

Only few results were found in the literature on the direct relation between sensation seeking and Neuroticism.

In one of Zuckerman's studies (1979) Neuroticism (N) did not show any correlation with sensation seeking.

Glicksohn and Abulafia (1998) found a correlation between Neuroticism (N) and Disinhibition (Dis) for the males in their sample, but besides this no correlation between N and the SSS traits.

2.8.2. Sensation Seeking and Extraversion

Next, the studies on the relation between sensation seeking and Extraversion will be described. It should be prementioned here, that correlations between sensation seeking and Extraversion are not surprising, since one facet of Extraversion (E5, Excitement-Seeking) is explicitly intended to measure the SS construct (Costa & McCrae, 1992, in Aluja et al, 2003). Similarly to Costa & McCrae, Eysenck and Eysenck (1985 in Zuckerman et al. 1993) placed sensation seeking under E.

Consistent with this fact, several researchers found support. For instance, Zuckerman (1979) found correlations between Extraversion and SS in the range of 0.12 – 0.58.

Aluja et al. (2003) reviewed previous research with samples from different countries and cultures and report that those also show relations between sensation seeking and Extraversion. In their own study they found that NEO-E is related with the SSS-V, with the E5 facet showing the highest correlations with SSS-V (0.58), supporting the earlier mentioned fact again.

Glicksohn and Abulafia (1998) also found in their study that Extraversion correlates significantly with SSS traits, especially among females.

2.8.3. Sensation seeking and Openness

Similar to the domain Extraversion, one can expect to find strong correlations between the Openness scale and the Sensation Seeking scales, too, since both concepts are defined by the need for novel sensations and the search for exciting and unusual activities. This expectation has been confirmed by several researches. One example hereof are the findings by

Garcia et al. (2005) who found that (besides Extraversion) Sensation Seeking is consistently related to Openness and that the ES scale of the SSS-V is usually the best predictor for it.

Another example is the study by Zuckerman et al. (1993). Three of the four sensation seeking subscales of the SSS and a sensation seeking subscale of impulsivity on the EASI loaded most highly on the openness factor of the NEO. The Experience Seeking subscale of the SSS had the strongest relationship with the Openness factor,

Aluja et al. (2003) also found that Openness is related with SSS-V, the sub-scale most related with O is ES, yielding high correlations with O2 (0.32), O4 (0.42) and O5 (0.32).

2.8.4. Sensation seeking, Conscientiousness and Agreeableness

Concerning the relationship between sensation seeking and the Big Five, least research about the domains Conscientiousness and Agreeableness can be found.

Aluja et al. (2003), though, report that sensation seeking and its components have been negatively related with Agreeableness (NEO-A) and Conscientiousness (NEO-C). They do not mention any particular studies in their article, but state that this pattern is hardly surprising since Neo-A and Neo-C are both negatively correlated with Psychoticism, which, following Eysenck, is associated not only with the liability to have a psychotic episode (or break with reality), but also with aggression. Psychotic behaviour is rooted in the characteristics of tough-mindedness, non-conformity, inconsideration, recklessness, hostility, anger and impulsiveness, thus sharing many commonalities with the factor sensation seeking.

Besides, Zuckerman, Kuhlman, Joireman, Teta and Kraft (1993) developed an impulsive sensation seeking scale and determined that it measured a construct similar to the NEO conscientiousness factor (Costa & McCrae, 1992) and the EPQ psychoticism factor.

Similarly, Costa, McCrae & Dye (1990) found that Conscientiousness as well as Agreeableness show a distinctive negative correlation with SSS-V Disinhibition and Boredom Susceptibility.

Further, Zuckerman et al. (1993) found that two of the subscales of the EASI had equal or no-equal loadings (negative) on the Agreeableness factor. The disinhibition subscale of the SSS had its primary and substantial loading (negative) on the Agreeableness factor.

2.8.5. Sensation seeking and Impulsivity

Zuckerman (1983, 1984, 1991b in Zuckerman et al, 1993) states that traits such as Impulsivity and Sensation Seeking, which have important biological bases, are only represented as single scales within the larger factors of the Big Five and are listed under different major factors. Zuckerman, Kuhlman, Thornquist and Kiers (1991) identified a factor consisting of the four subscales from the Zuckerman's Sensation Seeking Scale and other measures of impulsivity which they have since labelled impulsive-sensation seeking. Zuckerman, Kuhlman, Joireman, Teta and Kraft (1993) described this scale as consisting of items that "involve a lack of planning and the tendency to act impulsively without thinking", as well as "experience seeking, or the willingness to take risks for the sake of excitement or novel experiences". The difference from the original SSS items is that it eliminates the specific interests and activities such as drinking or sex. They distinguish between the two factors by defining sensation seeking as a term used to describe a dispositional need for high levels of arousal, whereas impulsivity is characterized by a general tendency to act without planning or thinking ahead and to seek out immediate gratification and reward.

They determined that their impulsive sensation seeking scale measured a construct similar to the NEO conscientiousness factor (Costa & McCrae, 1992) and the EPQ

psychoticism factor. Zuckerman et al. (1993) found a high correlation of the original Sensation Seeking Scales (SSSV) and the Zuckerman-Kuhlmann ImpSS score.

In fact, "impulsiveness" is regarded as a facet of Neuroticism (Costa & McCrae, 1992b), namely N5 (see above). Hur and Bouchard (1997) summarize a range of findings and conclude that the direction of the correlation between sensation seeking traits and impulsivity is positive (i.e., high sensation-seekers tend to show fast, impulsive reactions and lack of behavioural control) and that the magnitude of correlations generally falls between .20 and .40, depending on the measures employed. They also ascertained that the findings are quite similar for both genders. For those replicable correlations between impulsivity and sensation seeking traits that have been found, different explanations have been proposed. Martin et al. (1979), for instance, hypothesized that it could be explained by their genetic relationships to the extraversion superfactor, but contrary to their initial hypothesis they found that only the DIS and the BS subscales loaded significantly on the genetic Extraversion factor (in Hur & Bouchard, 1997).

Whiteside & Lynam (2001) conducted a factor analytic approach to analyse the relations between impulsivity scales and all of the NEO-PI-R facets. They identified four personality facets related to impulsivity found on the NEO-PI-R. Besides urgency, which is associated with the impulsiveness facet of the NEO-PI-R, (lack of) premeditation, identified with the (low) deliberation facet of the NEO-PI-R, and lack of perseverance, associated with the self-discipline facet of the NEO-PI-R they identified sensation seeking, associated with the NEO-PI-R facet of excitement seeking (E5), similar to the result found by Hur & Bouchard's study (1997) just mentioned.

2.8.6. Sensation seeking and Aggression

By exploring different forms of aggression and incorporating sensation seeking into the GAM (General Aggression Model), the study by Joireman et al. (2003) provided evidence that sensation seeking may affect aggression via hostile cognition and anger or via attraction to aggression-eliciting situations. Contemporary definitions refer to aggression as a behaviour intended to cause immediate harm to another individual when it is understood that the target is motivated to avoid such harm (C.A. Anderson & Busman, 2002 in Joireman et al. 2003). The GAM is a mediational model of aggression that proposes that various inputs (individual differences and features of the situation) affect eventual outcomes (aggressive vs. constructive behaviour) via several interrelated routes (including negative affect, hostile cognition, arousal, and the resulting appraisal and decision making process). In the end, the resulting action influences the nature of the social encounter, which in turn can act to further shape both the person and the situation (Joireman et al., 2003). Joireman et al's results suggest that different forms of aggression may reflect a need for different types of sensation seeking. For example, disinhibition proved to be the best predictor of physical aggression in some studies whereas boredom susceptibility proved to be the best predictor of verbal aggression in all cases. They also found that sensation seekers are attracted to situations that are likely to elicit an aggressive response.

2.8.7. Sensation seeking and risky behaviour

In the next passage, studies that examine the relationship between sensation seeking and different (risky) behaviours and biological factors will be mentioned.

Lots of research has been conducted on the influence of sensation seeking on substance abuse. A long history of this kind of research has revealed a strong relation, that is high sensation seekers are more likely to begin using drugs at an earlier age and are more likely to become regular users than are low sensation seekers. For example, Kahler, Read,

Wood & Palfai (2003) found by research among college students that sensation seeking (besides male gender and white ethnicity) was uniquely associated with greater alcohol use. Their findings also suggest that White students and those high on sensation seeking may drink more heavily in college, in part because they select social environments in which alcohol use is encouraged.

Crawford et al. (2003) found that sensation seeking had strong predictive value for both concurrent and distal marijuana and alcohol use in adolescents.

Jones and Lejuez (2005) found a relation between sensation seeking and caffeine consumption and dependence similar to findings of studies for other drugs, with individuals who use drugs often scoring higher on sensation seeking scales than those who do not use drugs (Martin, Kelly & Rayens, 2002).

Kalichman, Tannebaum and Nachimson (1998) conducted a study about personality and cognitive factors influencing substance use and sexual risk for HIV infection among gay and bisexual men. They found that the association between substance use and risky sex was related to sensation seeking (as proposed by other studies, i.e. by Zuckerman, 1994 or Fisher & Misovich, 1990). In their study sensation seeking explained variance in sexual risk behaviour over and above the substance use variables, but also predicted substance use before sex through outcome expectancies. Furthermore their multiple regression analyses showed that drug use before sex, drug outcome expectancies and sensation seeking significantly predicted number of male sex partners.

Several studies have reported high levels of sensation seeking in adult pathological gamblers, among which is the study conducted by Nower, Derevensky and Gupta (2004). They found that both impulsivity and intensity seeking are highly predictive of problem gambling behaviour in male and female youth.

2.8.8. Sensation seeking and biological factors

As already mentioned, also some studies are based on biological factors. For example, Hutchinson, Wood and Swift (1999) examined the relationship between measures of novelty and sensation seeking and both psychophysiological and subjective measures of stimulation after a pharmacological challenge with an indirect dopamine agonist, d-amphetamine. They found that higher scores on novelty and sensation seeking correspond to heightened sensitivity to the effects of a stimulant medication.

Findings of one study by Furnham & Avison (1997) even demonstrate a link between personality and art preference, and indicate weak positive correlations between sensation seeking and preference for surreal art and negative correlations between sensation seeking and preference for representation art.

2.8.9. Sensation seeking personality and Holiday Preferences

The relation between sensation seeking and holiday preferences is a highly interesting but hardly researched topic.

Eachus (2004) used the Brief Sensation Seeking Scale (BSSS, described above) to predict holiday preferences. His study confirmed the psychometric properties of the BSSS and showed that it had utility in predicting holiday preferences. It was concluded that the sensation seeking personality, as measured by the BSSS scale, was predictive of holiday preferences. He concluded that the BSSS is successful in predicting Adventurous and Beach holiday preferences, but found little or no relationship with Cultural and Indulgent holiday preferences. It is important to note that age may have confounding influence on the correlations though. When Eachus controlled for age in his study, some of the outcomes were different. For example, the correlation between Boredom Susceptibility and preferences for

Beach holiday changed from a positive to a negative correlation. The correlations between Thrill and Adventure Seeking and preferences for Indulgent holidays changed from no significant correlation to modestly significant, indicating that those people who prefer Indulgence tend to avoid thrills and adventures.

Pomfret (2004) examined one particular kind of tourist: the mountaineer adventure tourist. In his article he reviews several studies of mountaineer personalities that reveal that they have sensation seeking traits (Breivik, 1996; Cronin, 1991; Goma` Freixanet, 1991; Jack & Ronan, 1998; Rossi & Cereatti, 1993 in Pomfret, 2004)). Pomfret concludes that sensation seeking is one of the main personality characteristics of mountaineers. He reports that several studies have established that experienced mountaineers score highly on the Sensation Seeking Scale (Breivik, 1996; Jack & Ronan, 1998; Magni et al., 1985; Rossi & Cereatti, 1993 in Pomfret, 2004). In particular, experienced mountaineers achieve a high-SSV Total score as well as high scores on the TAS and ES sub-scales (Cronin, 1991; Goma i Freixanet, 1991 in Pomfret, 2004). The high TAS score suggests that these mountaineers favour exciting, risky and adventurous activities, while the high ES score indicates that they enjoy sensations of the senses and mind.

Besides the just mentioned study, there is little research on the direct link between holiday preferences and sensation seeking. Some authors, though, have been engaged in research on holiday preferences and personality in general or specific types of tourism.

Hoxter and Lester (1988) related Plog's personality scale to the personality dimensions measured by the Eysenck Personality Inventory and found, for females, that psychocentrics (who are non-adventurous) were less neurotic, but more extraverted than allocentrics. The results are the opposite of those predicted by Plog who asserted that psychocentrics would be nervous and inhibited, whereas Hoxter and Lester's study found that psychocentric females may be more likely to be stable extraverts.

2.9. Relevance of the research

In conclusion, most research on sensation seeking has been conducted in coherence with different behaviours (like drug-use, risky driving, unsafe sex, etc.). Fewer studies are executed on the relationship between sensation seeking and personality, especially the Big Five. For a big part those research results show only few and ambiguous insights into the relationship between sensation seeking and the Big Five. The two exceptions are formed by the domains Extraversion and Openness. The correlation between sensation seeking and Extraversion seems to be relatively clear, since one facet of Extraversion (E5) is explicitly intended to measure the sensation seeking construct. Past research confirms this. Similarly, some information about the relationship between sensation seeking and Openness is known, since both concepts are defined by the need for novel sensations and the search for exciting and unusual activities. Several researchers found evidence for the correlation between the two factors.

Concerning the correlation between sensation seeking and the other three domains of the NEO-PI-R, the situation is different. To begin with, the correlation between sensation seeking and Neuroticism is unclear and has to be further researched. Least has been discovered about the domains Conscientiousness and Agreeableness so far. One researcher reports negative correlations between sensation seeking and both of the dimensions, but more has to be found out about this relationship.

Due to the fact that there is much left to find out about the relationship between sensation seeking and especially the less researched and more ambiguous dimensions of the Big Five, there is a great relevance for the present empirical research. Another argument for its relevance is the fact that research on holiday preferences, particularly in correlation with sensation seeking and the Big Five is also scarce. Only one researcher (Eachus, 2004)

attempted to predict Holiday Preferences on the basis of the construct sensation seeking (measured by the BSSS). Further, in the literature just one study on the relationship between holiday preferences and the Big Three was found, but regarding the Plog's personality scale (Psychocentrics and Allocentrics) and not the four types suggested by Eachus, respectively Jackson et al. Therefore, the research in this article aims at studying the correlation between sensation seeking and the Big Five and how these affect Holiday Preferences.

Based on the literature review and theory the following research questions were formulated:
1. Is there a correlation between the factor sensation seeking and the dimensions of the Big Five?
2. Is there a correlation between the factor sensation seeking and the four Holiday Preference types (as presented by Eachus, 2004)?
3. Can Holiday Preferences be predicted by the factor sensation seeking and/or the Big Five personality dimensions?

3. Method

3.1. Design

A cross-sectional research design was chosen, with the data being collected at one point in time. It is a survey-design without any manipulation of factors.

3.2. Participants

The sample used in this study consisted of 104 psychology students in their fourth terms from the University of Twente. The age range was 18-46 with a mean of 22.74 and a standard deviation of 4.73. The gender split was 33 males (31.7%) and 71 females (68.3%). The respondents were also differentiated by their country of origin, resulting in 55 people stemming from the Netherlands (52.9%), 43 from Germany (41.3%), 5 labelled as "others" (4.8%) and one person did not provide that information.

3.3. Instruments

Altogether, three different measures were used, which have all been described above, but will be summarized again below.

3.3.1. NEO-Five-Factor Inventory (NEO-FFI)

To get many and reliable responses, the short form of the NEO-PI-R (NEO-FFI) was used in the present research, since its administering takes only half as much time as the long form takes. Besides, the Dutch version of the NEO-FFI was used, since the investigation took place in the Netherlands.

The NEO-FFI measures the Big Five personality construct using the five subscales: Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness.

It is comprised of 12 items per scale and uses a five-point Likert format from strongly agree to strongly disagree for responses.

The reliability alpha coefficients found for the NEO-FFI subscales were 0.85 (Neuroticism), 0.80 (Extraversion), 0.64 (Openness), 0.75 (Agreeableness) and 0.84 (Conscientiousness).

3.3.2. Brief Sensation Seeking Scale (BSSS) (Hoyle et al., 2002)

        This scale measures sensation seeking on the basis of four subscales:
Experience Seeking, the need to seek out new experiences;
Boredom Susceptibility, the tendency to become restless and the need for the unpredictable;
Thrill and Adventure Seeking, the need for excitement and adventure;
Disinhibition, the tendency to ignore societal inhibitions.
        The BSSS includes two items per subscale and uses a five-point Likert format from strongly agree to strongly disagree for responses. A reliability alpha coefficient of 0.64 was found.

3.3.3. Eight items of the Holiday Preferences Scale (Eachus, 2004)

        The scale measures Holiday Preferences using four subscales. For each subscale, two of the original 10 items were used which are provided below:
Adventurous Preference:
I would much prefer trekking to lying on a beach.
Roughing it while on holiday doesn't bother me.
Beach Preference:
My ideal holiday involves spending a lot of time lying on a beach.
My favourite type of holiday includes lot of sun, sand and nightlife.
Cultural Preference:
Whenever I go on holiday I always make an effort to visit a local museum or art gallery.
Travel and holidays should be about enriching your own knowledge.
Indulgent Preference:
My ideal holiday would be a luxury cruise.
I think I would enjoy a holiday being pampered at a health spa.
        The items were presented in random order and assessed using a five-point Likert format as used for the NEO-FFI and the BSSS.
        The inter-item correlations of the four subscales are 0.21, 0.68, 0.43 and 0.25.

3.4. Procedure

        The NEO-FFI, the BSSS and the list consisting of the eight items from the Holiday Preferences Scale were all stapled together and handed out to the students within the scope of a psychology lecture. They were requested to participate in the research and were asked to voluntarily fill in the measures. As a matter of course, it was made clear that no names were required and all responses would remain confidential. The only personal details the respondents were asked to obtain were age, gender and country of origin. The questionnaires were filled in on the spot and immediately returned to the researcher after completion.
The BSSS and the short form of the Holiday Preferences Scale were administered in their original languages (English), because the linguistic level was seen as appropriate for the students. There were only two exceptions made, since the researchers assumed that the expressions could possibly be unknown to some of the students. The translations of these were given to the students orally and were additionally written on the board. The two expressions stemmed from the Holiday Preferences Scale and were 'Roughing it' and 'being pampered'.

4. Results

In Table 1 below an overview of the scores on the different scales is presented. To adjust the scores of the four elements of sensation seeking and the four Holiday Preference types, each time the mean score of the two items is used. So, a calibration for each with a minimum of 1 and a maximum of 5 is derived and comparisons between groups can be made. In Table 1, also the differences in the scores between males and females and Dutch and Germans, respectively, are presented.

To begin with, the most noticeable results will be summarized here in short. Regarding the total score of the BSSS it should be mentioned, that, on average, males scored higher than females (mean difference of 3.6, $p<0.01$).

Regarding the subscales of the BSSS, the highest scores were derived on Experience Seeking with a mean score of 3.9.

In respect of the holiday preferences this research indicates that the students prefer Cultural holidays the most with a mean score of 3.6. Their second favourite preference seems to be Adventure (mean score per item of 3.3) and it is implied that they like Indulgent holidays least (mean score per item of 2.7). It should be noted, though, that the phrasing of the items might play a role.

About the students' scores on the NEO-FFI can be said that, for the most part, they do not differ conspicuously from the NEO-FFI norms in research context for all groups (Hoekstra, Ormel, de Fruyt, 2003). The only noticeable difference can be found for the factor Openness, where the students' mean score is 4.9 higher than the norm and the males on average even score 5.4 higher than the norm for their gender in research context predicts (Hoekstra, Ormel, de Fruyt, 2003). This is not surprising, though, since it has been found in many of the researches conducted among Psychology students at the University of Twente. It seems like this group of students is more open than, for example, law-students. Besides, it is known that Openness correlates positively with intelligence, and therefore students in general mostly score higher on this dimension than the norm. The relatively high scores on the Openness scale are also in line with the fact that the students scored (as just mentioned above) most highly on the Experience Seeking subscale of the BSSS. The correlation between ES and Openness is quite high, since both concepts are defined by the need for novel sensations and the search for exciting and unusual activities.

Table 1
Overview of scores

	Total	Male n=33	Female n=71	Dutch n=55	German n=43	Difference p. item Male – Female	Difference p. item Dutch – German	
BSSS total	25.4	27.0	24.6	24.9	25.5			
Experience Seeking	**3.9**	4.0	3.8	3.9	3.7	+0.2	+0.2	
Boredom Susceptibility	3.1	3.1	3.1	2.9	3.2	0	-0.3	
Thrill and Adventure Seeking	2.8	3.0	2.7	2.8	2.8	+0.3	0	
Disinhibition	2.9	**3.4**	**2.7**	2.7	3.1	**+0.7****	-0.4	
Adventurous preferences	3.3	3.4	3.3	**3.5**	**3.2**	+0.1	+0.3	
Beach preferences	3.0	2.8	3.1	**2.6**	**3.5**	-0.3	**-0.9****	
Cultural preferences	**3.6**	**3.3**	**3.7**	3.6	3.5	**-0.4***	+0.1	
Indulgent preferences	**2.7**	**2.4**	**2.9**	**2.5**	**2.9**	**-0.5****	**-0.4****	
								Norms NEO-FFI in research context (all groups)
Neo-N	30.8	30.5	30.9	31.1	29.6			31.1
Neo-E	42.8	41.6	43.4	42.4	43.4			40.1
Neo-O	40.8	43.2	39.8	41.1	40.2			35.9
Neo-A	44.4	41.2	45.9	44.4	44.6			44.1
Neo-C	43.8	40.9	45.2	42.3	46.0			45.3

 * p<0.05
** p<0.01

4.1. Correlation

To get an overview of the entire correlation analysis with all its factors, a correlation matrix is provided below. Besides, in the next passage, the noticeable steps and results of the analysis will be outlined.

To test the first research question, first of all the correlations between the total sensation seeking score and (the dimensions of) the Big Five were examined. This offered three significant correlations, namely the correlations between sensation seeking and Extraversion (r=.317, p<0.01), Openness (r=.366, p<0.01) and Conscientiousness (r=-.211, p<0.05) respectively. It was also determined which aspects of sensation seeking correlate with each of the Big Five dimensions and the following significant results were revealed: Experience Seeking correlates positively with Openness (r=.437, p<0.01); Boredom Susceptibility correlates positively with Extraversion (r=.266, p<0.01); Thrill and Adventure Seeking correlates positively with Extraversion (r=.264, p<0.01) as well as Openness (r=.256, p<0.01); the same was found for Disinhibition with correlations of r=.255, p<0.01 and r=.242, p<0.05, respectively. But besides these two positive correlations, also two negative correlations were found for Disinhibition, namely with Agreeableness and Conscientiousness (r=-.209, p<0.05 and r=-.307, p<0.01).

To find an answer to the second research question, the correlations between the total sensation seeking score and the Holiday Preferences were determined, which gave no significant results. The correlation analyses between the four subscales of sensation seeking and the Holiday Preferences, though, did provide several significant results. To begin with, correlations between Experience Seeking and three of the Preferences were determined: a positive correlation with Adventurous Preference (r=.379, p<0.01), a positive correlation with Cultural Preference (r=.245, p<0.05) and a negative correlation with Indulgent Preference (r=-.309, p<0.01). Furthermore, the analyses revealed significant correlations between Beach

Preference and both Boredom Susceptibility (r=.251, p<0.05) and Disinhibition (r=.299, p<0.01).

The correlations between the (dimensions of the) Big Five and Holiday Preferences were then examined. Regarding the dimensions Neuroticism, Agreeableness and Conscientiousness, no significant results were found, but for Extraversion a significant correlation was found with Beach Preference (r=.302, p<0.01). Furthermore, three significant results were found concerning the dimension Openness, namely a correlation with Beach Preference (r=-.289, p<0.01), Cultural Preference (r=.381, p<0.01) and Indulgent Preference (r=-.255, p<0.05).

Finally, some annotations about the noticeable correlations within the several constructs will be made, starting with the Big Five. Keeping in mind the fact that the Big Five personality dimensions are claimed to be independent constructs, some remarkable findings result from the correlation analysis. For example, significant negative correlations were found between Neuroticism and Extraversion (r=-.408, p<0.01), Neuroticism and Agreeableness (r=-.218, p<0.05) Neuroticism and Conscientiousness (r=-.263, p<0.01), and Openness and Conscientiousness (r=-.202, p<0.05). Significant positive correlations were found between Extraversion and Agreeableness (r=.249, p<0.05), Extraversion and Conscientiousness (r=.336, p<0.01), Agreeableness and Conscientiousness (r=.282, p<0.01). These relations could be further analyzed in another study to discuss the independence of the Big Five personality constructs.

Similar remarks can be made about the subscales of the BSSS. Significant positive correlations were found between Experience Seeking and Boredom Susceptibility (r=.325, p<0.01), Experience Seeking and Disinhibition (r=.316, p<0.01), Boredom Susceptibility and Disinhibition (r=.231, p<0.05) and Thrill and Adventure Seeking and Disinhibition (r=.372, p<0.01).

There also seems to be some overlap between the four Holiday Preference types, because several significant correlations among the subscales were found here, as well. Significant positive correlations were found between Cultural and Adventurous Preference (r=.286, p<0.01), Indulgent and Beach Preference (r=.496. p<0.01) and significant negative correlations were found between Beach and Adventurous Preference (r=-.438. p<0.01), Indulgent and Adventurous Preference (r=-.514, p<0.01) and Cultural and Beach Preference (r=-.283, p<0.01).

Table 2
Correlation matrix

	N	E	O	A	C	BSSS	ES	BS	TAS	DIS	Adv	Bea	Cult	Ind	Age	Gen	CO
N	1.00	-.408**	.097	-.218*	-.263**	.005	.148	.093	-.120	-.079	.162	-.163	.073	.082	-.051	.025	-.100
E		1.00	-.066	.249*	.336**	317**	.051	.266**	.264**	.255**	-.086	.302**	.080	.156	-.042	.138	.083
O			1.00	-.170	-.202*	.366**	.437**	.043	.256**	.242*	.195	-.289**	.381**	-.255*	.172	-.300**	-.090
A				1.00	.282**	-.083	.089	.028	-.107	-.209*	.080	-.040	.089	.061	-.062	.355**	.023
C					1.00	-.211*	-.187	.028	-.092	-.307**	-.145	.144	.086	.097	-.059	312**	.290**
BSSS						1.00	.650**	.623**	.669**	.728**	.119	.162	.069	-.082	.011	-.250*	.070
ES							1.00	.325**	.159	.316**	.379**	-.161	.245*	-.309**	.118	-.154	-.130
BS								1.00	.168	.231*	-.030	.251*	-.076	.000	.007	.002	.146
TAS									1.00	.372**	.031	.043	.024	.011	-.011	-.155	-.034
DIS										1.00	-.039	.299**	.002	.055	-.073	-348**	.200*
Adv											1.00	-.438**	.286**	-.514**	.193	-.068	-.237**
Beach												1.00	-.283**	.496**	-.334**	.141	.467**
Cult													1.00	-.091	.211*	.227*	-.087
Ind														1.00	-.244*	270**	.255*
Age															1.00	-.002	-.210*
Gen																1.00	.089
CO																	1.00

 * p<0.05
** p<0.01

4.2. Regression

After having determined the significant correlations between all factors of the study, it was investigated if and how the construct sensation seeking (as measured by the BSSS) and the Big Five (as measured by the NEO-FFI) can predict Holiday Preferences. To examine this, regression analyses were executed. For an overview of the results, Table 3 is presented below and the significant results are described in the next passage.

Since the background variables are expected to have some influence on the outcomes, the factors age, gender and country of origin were included in the regression analyses. Besides, the previous correlation analysis revealed several significant correlations between age and some of the Holiday Preferences which strengthen the assumption: correlations between age and Beach Preference (r=-.334, p<0.01), age and Cultural Preference (r=.211, p<0.05) and age and Indulgent Preference (r=-.244, p<0.05). It should also be mentioned that, because the group of respondents from "other" countries (N=5) form less than 5% of all of the respondents, and thus a too small group to make any prominent statements, only two of the three categories concerning country of origin were regarded in the correlation analysis, as well as in the regression analyses: Dutch students and German students, which form an approximately equal group (53% and 42% respectively).

At first, based on the results of the correlation analyses, a regression analysis was performed four times to test the third research question. Each time the scores on the background variables age, gender and country of origin, each of the dimensions of the Big Five and the total score on the BSSS were used as independent variables. The four Holiday Preference types were successively used as dependent variables. Since the score on the BSSS did not show to be a significant predictor in any of the cases, the regression analyses were performed again. The variables basically stayed the same, only this time the total score of the BSSS was replaced by the scores on each of its four subscales. The four analyses with its significant results are described below in succession.

First, Adventurous Preference was used as the dependent variable. In this analysis the factor age (β=.223, p<0.05) and the sensation seeking elements Experience Seeking (ES) (β=.465, p<0.01) and Boredom Susceptibility (β=-.220, p<0.05) were revealed as significant predictors for Adventurous Preference, together explaining 30.0% of the variance.

Second, Beach Preference was used as dependent variable. This time the regression model revealed the factors country of origin (β=.341, p<0.01), Extraversion (β=.202, p<0.05), Openness (β=-.281, p<0.01) and the sensation seeking subscale Disinhibition (β=.227, p<0.05) as significant predictors of Beach Preference, together explaining 42.5 % of the variance.

Third, Cultural Preference was used as dependent variable. The regression analysis unfolded the variables gender (β=.380, p<0.01) and Openness (β=.467, p<0.01) as significant predictors, explaining 24.8% of the variance.

Fourth, Indulgent Preference was used as dependent variable. In this case, the model offered the factors age (β=-.203, p<0.05), gender (β=.285, p<0.01), Experience Seeking (β=-.374, p<0.01) and Disinihibition (β=.208, p<0.05) as significant predictors for Indulgent Preference, together explaining 32.6 % of the variance.
The results showed that Germans score significantly higher on this preference than Dutch with a mean difference of .833 (p<0.05).

The analyses show that Beach Preference can be predicted best (42.5% explained variance), namely by country of origin, Openness, Boredom Susceptibility and Disinhibition. Also Indulgent Preference can be predicted relatively well, because the factors age, gender, Experience Seeking and Disinhibition explain 32.6% of the variance.

On the basis of the regression analyses one could also say that age, gender, Openness, Experience Seeking and Disinhibition are the most important predictors of the four holiday preference types.

Table 3
Results of the Regression Analyses

n=98

	Adventure (R²=30.0%)*		Beach (R²=42.5%)*		Cultural (R²=24.8%)*		Indulgent (R²=32.6%)*	
	β	sign. β	β	sign. β	β	sign. β	β	sign. β
Age	.223	p<0.05	-.161	-	.130	-	-.203	p<0.05
Gender	-.034	-	.117	-	.380	p<0.01	.285	p<0.01
Country of Origin	-.016	-	.341	p<0.01	-.072	-	.107	-
ES	.465	p<0.01	-.097	-	.161	-	-.374	p<0.01
BS	-.220	p<0.05	.118	-	-.105	-	.036	-
TAS	.118	-	-.056	-	-.054	-	.007	-
DIS	-.093	-	.227	p<0.05	.059	-	.208	p<0.05
Neuroticism	.171	-	-.118	-	.069	-	.185	-
Extraversion	.047	-	.202	p<0.05	.057	-	.178	-
Conscientiousness	-.080	-	.002	-	.115	-	-.075	-
Agreeableness	.084	-	-.123	-	-.011	-	.072	-
Openness	-.001	-	-.281	p<0.01	.467	p<0.01	-.084	-

*R²: all the significant predictor variables in the equation

5. Conclusion & Discussion

To begin with, the expectations on the basis of the literature review and theory concerning the relation between sensation seeking and Extraversion and sensation seeking and Openness were confirmed. Positive correlations between sensation seeking and Extraversion are not surprising, since one facet of Extraversion (E5, Excitement-Seeking) is explicitly intended to measure the SS construct (Costa & McCrae, 1992, in Aluja et al, 2003). Similarly, one can expect to find strong correlations between the Openness scale and the Sensation Seeking scales, too, since both concepts are defined by the need for novel sensations and the search for exciting and unusual activities. The correlation analysis of the present research revealed positive correlations of .317 and .366, respectively (p<0.01). Findings from studies by Zuckerman (1979), Aluja et al. (2003) and Glicksohn & Abulafia (1998) who also determined significant correlations between the construct sensation seeking and these two personality dimensions thus were supported.

There was no correlation found between sensation seeking and the dimension Neuroticism. This is not too surprising, though, since the literature hardly provides any information about this relationship and the few studies who did investigate this relation did not find very convincing evidence. For example, Zuckerman's study (1979) did not show any correlation between sensation seeking and Neuroticism and Glicksohn and Abulafia (1998) only found a correlation between Neuroticism and Disinhibition for the males in their sample, but besides this no correlation between N and the SSS traits.

No significant correlation was found between sensation seeking and Agreeableness. Even though not significant, the negative direction of the correlation found agrees with some theorists' belief that Agreeableness is negatively correlated with sensation seeking, since it is also negatively correlated to Psychoticism which, in turn, is similar to sensation seeking, respectively shares several commonalities. And if one looks at the correlations between Agreeableness and the sensation seeking subscales instead of the sensation seeking total score,

a significant result does emerge; namely a negative correlation between Disinhibition and Agreeableness (r=-.209, p<0.05) which is consistent with the findings by Costa, McCrae & Dye (1990) and Zuckerman et al. (1993).

Furthermore, the research revealed a significant negative correlation between sensation seeking and Conscientiousness (r=-.211, p<0.05). This makes sense, because one would expect somebody who is very dutiful, (self-)disciplined, ordered/structured etc. not to be a person who likes to take any risks or to seek adventures, for example. A significant negative correlation was also found between Conscientiousness and the sensation seeking subscale Disinhibition (r=-.307, p<0.01) which also seems to be quite logical and expected. These results also support Costa, McCrae & Dye's findings (1990) that Conscientiousness shows a distinctive negative correlation with SSS-V Disinhibition and Boredom Susceptibility.

The present study also aimed at finding out if any of the factors (sensation seeking, the Big Five, background variables) can predict Holiday Preferences. The existent literature hardly offered any information about this topic. Plog's (1974) suggested personality profile distinguishing between two archetypes, the Dependable (Psychocentric) and the Venturer (Allocentric), which can be seen as the opposite ends of a distributive curve with Near-Dependables, Mid-Centrics and Near-Ventureres in between has later been extended to a two dimensional model by Jackson et al. (2001). They added the dimension Extraversion/Introversion and their model resulted in four distinct personality types: the Explorer, the Adventurer, the Guided and the Groupie. Eachus (2004) based his work on the above described typology with personality as its basis, suggested by Jackson et al. (2001), but focused on a more objective measure of tourist choice rather than looking at tourist personality, tried to minimize the immense overlap between the categories that he criticized about Jackson et al.'s work, and created four distinct holiday preferences for his measure (Holiday Preference Scale): Adventurous preference; Beach preference; Cultural preference and Indulgent preference. These four Holiday Preferences types suggested by Eachus (2004) were seen as an appropriate measure and used as dependent variables in the present regression analyses. This research revealed the BSSS, respectively the factor sensation seeking, as being no significant predictor of any of the Holiday Preferences. This finding is not consistent with the results Eachus (2004) found, since his study showed that the BSSS is successful in predicting Adventurous Preference as well as Beach Preference. Only when in the analyses the total BSSS score was replaced by the scores on the four subscales, some significant results were found. In fact, Experience Seeking and Boredom Susceptibility were in this study revealed as predictors of Adventurous Preference. Further, Disinhibition seems to be a predictor of Beach Preference as well as of Indulgent Preference. Experience Seeking was also determined to be one of the predictors of Indulgent Preference. Differences between the results of the present study and results found by Eachus' study could in first place be due to the different forms of the Holiday Preferences Scale that were used. Eachus had access to the long form of the scale, but for the presented research only the short form, or the eight example items, were available. If one uses five times as many items, the reliability of the scale rises and it is also probable that the pattern of the holiday preferences might change somehow and therefore provide different results.

Concerning the correlations, though, the results partly supported Eachus's findings. Both studies revealed positive correlations between Experience Seeking and Adventurous Preference and Cultural Preference, respectively, and a negative correlation between Experience Seeking and Indulgent Preference. They also both found positive correlations between Disinhibition and Beach Preference.

This study also revealed two of the Big Five dimensions as being (among others) significant predictors of Holiday Preferences: Extraversion and Openness. In contrast to the expectations, no evidence was found for Conscientiousness being a predictor of any of the

Holiday Preferences. The study showed, though, that Extraversion seems to be a significant predictor for Beach Preference and Openness for Beach and Cultural Preference.

What is also important to mention is that the background variables seem to be quite important in this kind of study. As already mentioned, when Eachus (2004) tried to predict Holiday Preferences on the basis of the BSSS he made the observation that age may have confounding influence on the correlations. When he controlled for age in his study, some of the outcomes changed. In the present study age does not seem to play such an important role concerning the regression analysis, but that seems quite clear, since in Eachus' research the age range of the participants was 17-75 years with a mean of 36.13 and a SD of 13.80. In the present research, in contrast, the age range is narrower (18-46 with a mean of 22.74 and a SD of 4.73). Even if no important results were found concerning age and sensation seeking or the Big Five, if one looks at the correlations, it becomes clear that age does play some role, at least regarding the Holiday Preferences, since significant correlations were found between age and Beach Preference, Cultural Preference and Indulgent Preference. The positive correlations between age and Beach Preference and age and Cultural Preference seem quite clear, but the negative correlation found between age and Indulgent Preference is unexpected. One would assume the opposite, that is, a positive correlation as with Beach Preference. A possible explanation for this outcome could be that the "older" students in this research differ from the younger in their motivation for studying, which might be related to a dislike for "doing nothing". These people are apparently also interested in intellectual accomplishments, since they decided to go (back) to university at an age much higher than the mean. For the future, it would be interesting to do similar research among "non-students" and compare the results to see if the correlation will turn from negative to positive.

Gender also seems to have some influence in this research. In fact, it was found to be a significant predictor of Cultural Preference, with females scoring higher than men on that scale. This is what most people probably would assume. Women also scored significantly higher on Indulgent Preference than men, which is even less surprising, since it is obvious that men commonly share a dislike for health spa's, luxury cruises and/or being pampered.

The third background variable, country of origin, also seems to play a role in this research. It was found that this variable is one possible predictor of Beach Preference and Indulgent Preference. The German respondents scored significantly higher on these two Preferences than the Dutch respondents (mean differences 1.893 and .833 respectively). There might be different possible explanations for this finding. For example, cultural differences could play a role. Or the fact that the Netherlands is a country which is surrounded by water for a big part and the beach and the sea are much more common or ordinary to Dutch people than to Germans. The seashore is, wherever one is in the Netherlands, at an outside estimate of a two-hour ride away, so the distance is very short. Many Dutch people grow up with the beach, or at least going there many times, maybe on regular weekend-trips, and therefore, they might not have a real "holiday feeling" when they go there. To them it might be only holiday if they experience or see something that is not so common to them, like mountains, for example. It is well-known that many Germans visit the Netherlands to spend their holidays every year and vice versa. This might be due to the different kind of landscapes. Another possible explanation, not only for the German students scoring higher on Beach Preference but also on Indulgent Preference, could be the differences in how they experience their study. One study conducted at the University of Twente about the performances of its Dutch and German students revealed that the German students not only suffer more from stress during their study, but also have to invest more effort and face more problems, for instance, due to the (at least in the beginning) problems with the language. This might be a reason why the German students prefer relaxing and doing nothing during their holidays more than their Dutch fellow students, to compensate the experienced stress. It would be interesting to study

the cultural differences in more detail and also people from different ethnic groups could be compared in terms of sensation seeking and holiday preferences.

This study was definitely successful in supporting several findings from the literature, especially concerning the correlations between sensation seeking and the dimensions of the Big Five. The same holds true for correlations between the sensation seeking subscales and the four holiday preference types, where most of Eachus' findings (2004), the only research results on this topic so far that were found in the literature, were supported. It also added some interesting findings to the literature, among which revealing three of the four subscales of the BSSS (Experience Seeking, Boredom Susceptibility and Disinhibition), as well as two of the Big Five dimensions (Extraversion and Openness) as significant predictors of Holiday Preferences.

Besides, this combination of the relations between sensation seeking and the Big Five with holiday preferences and the revelation of at least two significant predictors for each of the four preferences, could be relevant for travel agencies, for instance, who could, on the basis of those findings, develop a scale to identify different holiday preferences in people and so be able to better help them plan their holidays. For example, with items measuring Extraversion, Openness, Conscientiousness and Experience Seeking, Boredom Susceptibility, Thrill and Adventure Seeking, Disinhibition and also the background variables age, gender and country of origin should be regarded. Identifying customers as certain Holiday Preference types maybe could provide better consultancy and services and therefore be beneficial for the travel agencies, since the customers will probably be content and recommend them. Especially for indecisive or undetermined people who come to a travel agency, the results of filling in some questionnaires could be very helpful for planning their holidays.

But there are also some limitations to the conducted research. First of all, the findings cannot be generalized, since the group of respondents exists only of Psychology students. It is probable that these students differ concerning their characters and Holiday Preferences from Maths or Physics students, for example, and the study could reveal different correlations and/or regressions. Therefore, similar research among different groups of students is recommended. Besides, other people in general can differ a lot from students, not only concerning their age. If one used another target group, different results could be found. It probably makes sense to everybody that a 20-year-old student probably prefers an adventurous holiday, an exciting bus tour, lots of nightlife etc. more than a 70-year-old retired person. Thus, this research should be replicated also with non-student samples.

Another aspect of this study that deserves attention is the small number of items in the BSSS as well as the shortened Holiday Preferences Scale. Both scales only exist of eight items, which means that each of the four subscales only consists of two items. It would be better to use a larger number of items to measure the mentioned constructs, but unfortunately, the literature did not provide any more than the mentioned scales and items respectively.

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