Exploring the relationship between experiential consumption and SWB: The moderating role of personality

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Abstract

This study extends on the research by Matz et al. (2016) who examined the Big Five personality traits (i.e. extraversion, agreeableness, conscientiousness, openness to experience and neuroticism) as a possible personality moderator on the relationship between consumption and life satisfaction. In their study, they found that individuals who consume goods that suit their personality tend to report higher life satisfaction. The goal of this study is to examine whether a similar relationship is observed with regards to experiential consumption, which is money spent with the goal of obtaining a life experience. Experiential consumption is measured by the amount of experiential expenditure and the frequency of the following seven experiential activities: cultural activities, holiday activities, sport activities, photography activities, going out, dancing activities and music activities. By studying data for more than 4,800 individuals, this study found that experiential consumption is positively related with subjective well-being (SWB) of individuals, which is measured in this study by happiness and life satisfaction. Furthermore, the Big Five personality traits moderated the relationship between the number of holidays and SWB. However, for the other experiential activities there were almost no significant moderations found. The results suggest that going on holidays provides different levels of happiness and life satisfaction for individuals with certain personality traits.

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1. Introduction

People often pursue happiness in their life, which is associated with various positive outcomes both for themselves and the society as a whole (Diener, 2016). For instance, happy people are generally in better health (Urry et al, 2004; Diener and Chan 2010; Cohen et al, 2003); have stronger social relationships (Diener, 2016); are more productive at work (Freeman, 1978; Diener, Nickerson, Lucas, & Sandvik, 2002; Lyubomirsky, King, & Diener, 2005); and tend to be better citizens (e.g; more trust in the government and community involvement; Diener & Tov, 2007; Tov & Diener, 2008). Happiness refers to the affective evaluations people make about their life's, which are based on people's moods and emotions (Stone & Mackie, 2013). In general, people are happy when they experience more positive emotions and moods than negative emotions and moods (Diener, 1984). Although the term is often used interchangeably with subjective well-being (SWB), they have not the same meaning [1] (Veenhoven, 2000). However, for the ease of reading and in line with other studies the terms happiness and SWB will be used interchangeably in this study.

In economics, the relationship between happiness and income [2] has received considerable attention. It has been established that income (i.e. consumption) is positively correlated with happiness (Easterlin, 1974; Royo, 2007). This positive relationship is especially strong among poor people and countries where income is insufficient to satisfy people's basic needs such as food and shelter (Diener et. al. 1999; Diener & Lucas, 1999; Diener & Biswas-Diener, 2002; Veenhoven, 1991). Once basic needs are met this relationship weakens [3] (Simms, Johnson, & Chowla, 2010).

People can use their discretionary income [4] for hedonic consumption (Diener & Biswas-Diener, 2002), which is spending by individuals to increase their joy and happiness in life, such as going on holiday or buying a car (Guevarra & Howell, 2015). There are two categories of hedonic consumption, namely experiential purchases (i.e. purchases made to obtain a life experience; Van Boven & Gilovich, 2003) and material purchases (i.e. purchases made to obtain a material good; Van Boven & Gilovich, 2003). In their study, Van Boven & Gilovich (2003) showed that experiential purchases provide more happiness than material purchases through three different channels. They suggested that experiential purchases "are more open to positive reinterpretations; are closer aligned to one's identity and foster social relationships" (Van Boven & Gilovich, 2003, p. 1193). This finding has consistently been replicated by follow up studies (Caprariello & Reis, 2013; Carter & Gilovich, 2010, 2012; Gilovich, Kumar, & Jampol, 2015; Guevarra & Howell, 2015; Kumar & Gilovich, 2013; Nicolao, Irwin, & Goodman, 2009; Van Boven & Gilovich, 2003). However, the goal of this study is not to test whether experiential consumption leads to more happiness through one of these channels. The goal of this study is to examine whether spending money on experiences makes people happier. Based on the reviewed, this study expects that *experiential consumption (i.e. experiential expenditure and experiential activities) has a positive impact on the SWB of individuals (Hypothesis 1).*

[1] In addition to affective evaluations, SWB also refers to the cognitive evaluations people make regarding their life's. These cognitive evaluations refer to life satisfaction which can be either with life as a whole or in specific domains, such as income or marriage (Diener, 1984).
[2] Income is often used as a proxy for consumption (Dutt, 2006; Royo, 2007).
[3] Discretionary income may fail to translate into higher levels of SWB because people adapt to their new level of income (Easterlin, 2003) and their aspirations rise as a consequence of increased income (Stutzer, 2004).
[4] The income that is left over after the basic needs have been paid for.

In view of the positive relationship between experiential consumption and happiness, researchers have recommended experiential consumption as a beneficial consumer strategy to increase people's happiness (Van Boven & Gilovich, 2003). However, an important question is whether this strategy is efficient for everyone. In other words: does experiential consumption provide the same level of happiness for everyone or is this effect moderated by the personality of individuals?

Prior studies have focused on how personality predisposes individuals to have a preference for experiential activities (Mehmetoglu, 2012). Especially the Big Five personality traits (i.e. extraversion, conscientiousness, agreeableness, openness to experience and neuroticism) have received much research attention. For instance, Warren & Fred (2013) found that these personality traits influence whether individuals engage in skydiving, scuba diving and skiing. In another study, it was found that people who are open to new experiences have a strong preference for traditional nature (e.g. fishing and hunting) and entertainment activities (e.g. circus and theme parks; Mehmetoglu, 2012). Additionally, Howell et al (2010) examined whether one's personality influences their propensity to engage in experiential consumption. They concluded that individuals who are highly extraverted, agreeable and open to new experiences tend to engage more in experiential consumption than individuals who are introverted, disagreeable and not open to new experiences (Howell, Pchelin, & Iyer, 2012). These and other studies confirm that the Big Five personality traits predispose individuals to have a preference for experiential consumption. However, limited studies have examined whether individuals experience higher levels of SWB when they engage in consumption that is in line with their personality.

To my knowledge, only the recent study by Matz et al. (2016) has examined this topic. In their study, it was found that the Big FIve personality traits moderated the relationship between consumption and life satisfaction: individuals who spend money on purchases that are more similar to their personality reported more life satisfaction (Matz, Gladstone, & Stillwell, 2016). Also, some other studies have examined the moderating role of materialism, as a possible personality moderator in the relationship between experiential consumption and happiness (Zhang, Howell, Caprariello, & Guevarra, 2014). Generally, it is found that materialistic values negatively moderate the relationship between experiential consumption and happiness (Millar & Thomas, 2009). For instance, Zhang et al. (2014) reported that experiential purchases do not lead to greater happiness for materialistic buyers, while it does for experiential buyers.

These studies suggest that individuals have an experiential buying tendency and a preference for specific experiential activities based on their personality. Furthermore one's personality moderates the relationship between consumption and SWB (Matz, Gladstone, & Stillwell, 2016). Therefore, this study expects that *personality will have a moderating effect on the relationship between experiential consumption (i.e. experiential expenditure and experiential activities) and SWB (Hypothesis 2).*

The goal of this study is to explore the moderating role of personality in the relationship between experiential consumption and happiness. Only the recent study by Matz et al. (2016) conducted a comparable research. Similar to their study personality will be assessed by the Big Five personality traits: extraversion, conscientiousness, agreeableness, openness to experience (i.e. also referred to as openness) and neuroticism (Costa & McCrae, 1980).

However, the present investigation differs in various respects from theirs. First, the goal of this paper is to examine the relationship between experiential consumption and happiness by focusing on a broader set of experiential consumption categories. Data is collected both on the amount of expenditure and the frequency of experiential consumption (i.e. experiential activities). This study distinguishes between seven types of experiential activities: sport activities, dancing activities, going out, photography, music activities, cultural activities and the number of holidays. Second, the focus is both on happiness (i.e. overall affective life appraisal) and life satisfaction (i.e. overall cognitive life evaluation) whereas the study by Matz et al. (2016) only focused on life satisfaction. Since these types of SWB vary in their nature the relationship between experiential consumption may be different. Finally, data from the LISS Panel (Longitudinal Internet Studies for the Social Sciences) will be used for the Netherlands for the years 2009 and 2010.

The findings from this study contribute to the existing literature in various ways. It may be found that experiential consumption results in higher levels of SWB (hypothesis 1). This supports the experiential recommendation, which suggests that if individuals want to become happier they should spend money on experiential purchases (Van Boven & Gilovich, 2003; Howell & Hill, 2009). Second, studying the moderating role of personality in the relationship between experiential consumption and SWB has not been addressed before and may extend the findings by Matz et al. (2016) that individuals become happier when spending is in line with their personality. Prior studies have argued that the experiential recommendation is beneficial for everyone but this may not be the case (Van Boven & Gilovich, 2003). For instance, it may be that extraverts derive more happiness from going to a rock concert than introverts. Also, if this study finds that personality moderates the relationship between experiential consumption and happiness, this would offer support for the identity expression channel, which was first identified by Van Boven & Gilovich (2003). They found that experiential consumption leads to more happiness because it is a bigger part of one's identity.

Since increased happiness is associated with positive outcomes for the society such as trust in the government and pro-social behaviour (Diener & Tov, 2007), the findings from this study can be useful for public policy. If experiential consumption improves happiness, it is in the interest of communities to cater these experiences to its citizens. Therefore, this study can influence how communities allocate their resources (Van Boven & Gilovich, 2003). For instance, it may be that certain activities provide the highest level of happiness for everyone. Based on this, communities may decide to allocate more resources to fund infrastructure to make these activities more abundant.

The structure of this thesis will be as follows: I first provide a literature overview in which the different types of SWB and how these can be measured will be discussed. This includes a review of the commonly used measures in economics. The next section reviews the determinants of SWB, where especially the importance of experiential consumption and the Big Five personality traits is discussed. Next, the research model, the variables and the research method are explained. Finally, I describe the empirical results and provide a discussion with suggestions for future research.

2. Literature review

2.1. Defining subjective-well being

Subjective well-being (SWB) refers to the cognitive and affective evaluations people make about their lives (Diener, 2000). It is subjective because these evaluations are experienced by individuals themselves (Veenhoven, 2000). There are several types of SWB: life and domain satisfaction; positive and negative affect; and happiness, which differ along cognitive and affective dimensions (Diener, 2006).

Cognitive well-being refers to the evaluations individuals make about their entire life (i.e. life satisfaction) or in specific domains (i.e. domain satisfaction) such as marriage or income (Diener, 2006). In general, individuals report high life and domain satisfaction when their ideal life's are close to the actual life they are living (Veenhoven, 2000). Affect refers to the feelings, moods and emotions of individuals which can be either positive or negative (Diener, Suh, Lucas, & Smith, 1999). For instance, affect is evaluated negative when an individual is distressed or hurt and evaluated positive when an individual is excited or is having fun (Diener, 2000). Another type of SWB, which is also affective in nature is happiness (Diener, 1984). A happy person experiences more positive feelings than negative ones (Diener, 1984). Happiness refers both to the long and short term evaluations individuals make about their life's (Stone & Mackie, 2013). Consequently, the term has been used in many different ways in the literature (for a review see Veenhoven, 1984). This paper studies happiness as "the overall appreciation of one's life-as-a-whole" (Veenhoven R., 1984, p. 12). In this way, happiness refers to the affective evaluations people make about their entire life (Diener, 1984).

2.1.1. Measuring SWB

The different components of SWB are independent and should be measured and studied individually (Andrew & Whitney, 1976). People can report their SWB since it is something they have in mind (Veenhoven, 2000). Generally, it is assessed by a questionnaire. Over the years, many (single-item and multi-item) scales have been developed to measure the different types of SWB (see Diener, 1984 for a review).

Life satisfaction (i.e. also referred to as life evaluations) can be measured by single-item satisfaction with life questions, global happiness questions, the Cantril ladder or the Satisfaction with Life Scale (Helliwell, Layard, & Sachs, 2012). A typical satisfaction with life question is: "All things considered, how satisfied are you with life as a whole these days?" (Helliwell & Barrington-Leigh, 2010, p. 22). With a response scale from zero (completely dissatisfied) to ten (completely satisfied; Helliwell & Barrington-Leigh, 2010). Similarly, the European Social Survey assesses the happiness of individuals by asking them: "Taking all things together, how happy would you say you are?" (European Social Survey, 2013, p. 25), with a response scale from zero (extremely unhappy) to ten (extremely happy). Life satisfaction can also be assessed by the Cantril's "Ladder of Life" scale (Cantril, 1965). Respondents are asked to imagine a ladder with steps numbered from zero (the worst possible life) at the bottom to ten (the perfect life) at the top and they have to mark where they place their life on the ladder (Gallup, 2016).

Although single-item scales are easy to answer they have been criticised for various reasons: they are influenced by the wording of the question (Diener, 1984); they are more volatile than multi-item scales (Schimmack & Oishi, 2005); and most scores fall in the happy categories (Andrews & Withey, 1976). Therefore, Diener et al. (1985) developed the Satisfaction with

Life Scale (SWLS) which consists of five statements to which respondents may agree or disagree on a scale from one (strongly disagree) to seven (strongly agree).

Affective measures evaluate whether individuals have experienced positive and negative emotions to a specific point in time (e.g. last week or today; Diener, 1984). This is generally done by determining people's temporary happiness, their positive and negative affect or their affect balance (Helliwell & Barrington-Leigh, 2010). People's temporary happiness can be measured by asking respondents "Overall, how happy were you yesterday?" or "How happy are you now" (Helliwell, Layard, & Sachs, 2012, p. 11). Affect can also be measured by positive and negative affect questionnaires, such as the PANAS schedule (Watson, Clark & Tellegan, 1988). This questionnaire consists of twenty words, ten to describe positive affect and ten to describe negative affect (see Watson, Clark & Tellegan, 1988, page 1067 for the descriptors), to which subjects can indicate whether they have felt these emotions with a reference to a specific point in time (Watson, Clark, & Tellegen, 1988). Another common measure is the affect balance, such as Bradburn's Affect Balance Scale (Bradburn, 1969). This scale consists of ten questions: five to measure positive affect and five to measure negative affect. People can answer 'Yes' or 'No' to the questions and consequently the 'No' score is deducted from the 'Yes' score to create an index that represents the balance between positive and negative affect (Bradburn, 1969).

2.1.2. Concerns about SWB scales

The different SWB measures have been criticised by economists for various reasons. Prior research has showed that life satisfaction scores are affected by people's memory and judgements (Kahneman & Krueger, 2006). For example, people's judgement is affected by the peak/end rule, which "states that a person's evaluation of an event is based largely on the most intense (peak) emotion experienced during the event and by the last (end) emotion experienced, rather than the average or integral of emotional experiences over time" (OECD, 2013, p. 32). In addition, responses to SWB measures are affected by the circumstances and people's mood at the time of the questionnaire (Kahneman & Krueger, 2006). One study showed that subjects who found a dime on the copy machine before completing the questionnaire were in a better mood and as a result reported higher levels of life satisfaction (Schwarz, 1987). Moreover, people report higher life satisfaction when they see a handicapped person while completing the questionnaire (Strack, Schwarz, Chassein, Kern, & Wagner, 1990). Another study showed that the wording and order of the questions influences the responses of individuals (Krueger & Schkade, 2008). These findings show that life satisfaction scores are influenced by external factors. This finding and the fact that life satisfaction does not reflect changes in life circumstances such as more income has caused economist to doubt the reliability and validity of the SWB measures (Kahneman & Krueger, 2006).

2.1.3. Reliability and validity SWB scales

SWB scores change over time under consistent circumstances (Diener, Inglehart & Tay, 2013). This has led critics to suggest that SWB scales are not reliable. Although this phenomenon has been observed, researchers suggest that SWB scores are reliable because most of the variance is explained by consistent long-term factors (Diener, Inglehart, & Tay, 2013). In one study Diener et al. (2013) showed that the variance in life satisfaction is for 60-80% associated with relatively stable factors such as personality while the other 20-40% is the result of circumstantial factors and people's temporary mood (Diener, Inglehart, & Tay, 2013). This finding is in line with the study by Schimmack & Oishi (2005) who showed that life satisfaction relies more on chronically accessible information (e.g. personality) than temporarily available information (e.g. circumstancial factors; Schimmack and Oishi, 2005).

Additionally, some economists have argued that people do not make correct evaluations about their life's and therefore the SWB scores are not valid (Kahneman & Krueger, 2006). It is hard to figure out whether this is the case because the concept is subjective and only the respondent can provide the correct answer (OECD, 2013). However, prior studies have found that SWB scores correspond with objective measures. For instance, Pavor and Diener (1993) showed that SWB scores are strongly correlated with reports of other informants, such as friends and families. Also, SWB scores are reflected in the behaviour of respondents (e.g. happy people tend to smile more; Frey & Stutzer, 2002). Moreover, life satisfaction scores are associated with the number of good and bad life events people can recall (Pavot et al, 1991). Furthermore, they are related to civil and political rights (Diener, 1995), political freedom (Veenhoven, 2005); corruption (Oishi, 2012) and income (Diener, Horwitz, & Emmons, 1985).

These studies show that SWB scores are reliable and valid. Some economists have even proposed that individuals rely on the same construct when they report on their well-being as when they make a judgement that one choice is preferred to another (Kahneman, Diener, & Schwarz, 1999). In this case, SWB scores is comparable to economic utility (Frey & Stutzer, 2002).

2.1.4. SWB measures in economics

SWB measures are useful when applied to specific policy questions, such as evaluating the impact of sports on well-being (Stone & Mackie, 2013). However, the measures have a different set of correlates, which means that certain measures may be more useful depending on the topic of interest (OECD, 2013). One study found that self-reported health; care giving; loneliness; and smoking are more strongly related to people's emotions while income and education are more correlated to life satisfaction (Kahneman & Deaton, 2010). In addition, income has more impact on the life satisfaction of individuals than on their happiness (Helliwell & Putnam, 2004). Furthermore, The World Happiness Report (2013) examined how various life circumstances (i.e. GDP per capita, social support, health life expectancy, freedom to make choices, generosity and freedom from corruption) correlate to affective and cognitive well-being. This report concluded that the life circumstances explained up to 74% of the variation in life satisfaction compared to 48% of the variation in positive affect and 23% of the variation in negative affect (Helliwell, Layard, & Sachs, 2013). These studies suggest that life evaluations are more appropriate to examine the relationship between life circumstances and SWB. Consequently, life evaluations are commonly used in economic studies.

However, which life evaluation (happiness, satisfaction with life, the Cantril ladder and SWLS) is most appropriate to use? Diener et al. (2010) concluded that questions including the word 'happiness' rely less on income than life satisfaction questions or the Cantril ladder (Diener, Helliwell, & Kahneman, 2010). Yet, other studies have found that the different life evaluations are explained by similar factors. In one study, the Cantril ladder and the single-item satisfaction with life question produced identical coefficients for the same model (Diener, Helliwell, & Kahneman, 2010). Especially income and social context variables (e.g. friends and freedom to choose) were important factors for explaining differences in life satisfaction (Diener, Helliwell, & Kahneman, 2010). In another study, Helliwell and Putnam (2004) compared happiness and life satisfaction and found that these concepts were explained by similar determinants. This finding was also replicated in the study by Helliwell et al. (2015) by comparing happiness and life satisfaction scores by using data from the European Social Survey. In their study, Helliwell et al. (2015) found that income and other key

variables had similar effects on both measures. Based on these findings the World Happiness Report (2015) states that "life evaluations tell structurally almost identical stories about the nature and relative importance of the various factors influencing subjective well-being" (Helliwell, Layard, & Sachs, 2015, p. 16).

2.2. Determinants of SWB

Researchers have identified various factors, which explain differences in happiness (Diener, Suh, Lucas, & Smith, 1999; Lyubomirsky & Layous, 2013; Warner, 1967). This paper is interested in the differences in happiness between individuals and therefore the focus is on the happiness model developed by Lyubomirsky et al. (2005). This model distinguishes between three determinant categories: life circumstances (e.g. income and religiosity); internal conditions (e.g. personality); and intentional behaviours which are happiness increasing strategies (e.g. counting blessings: Lyubomirsky, Scheldon, & Schkade, 2005). Prior research has found that life circumstances explain approximately 10% of the variance in happiness; internal conditions explain up to 50% of the variance and intentional behaviours explain up to 40% of individuals differences in happiness (Lyubomirsky, Scheldon, & Schkade, 2005)

In the following sections, I first review how life circumstances relate to SWB, with a focus on experiential consumption. Then, I discuss how genetics and personality traits correlate to SWB. Lastly, I discuss how the Big Five personality traits relate to experiential consumption.

2.2.1. Life circumstances

The life circumstances are the consistent external conditions in which individuals live (Lyubomirsky, Sheldon & Schkade, 2005). According to Lyubomirsky et al (2005) important life conditions are the country and cultural area in which individuals live; demographic variables; and life experiences (Lyubomirsky, Sheldon & Schkade, 2005).

Life circumstances explain both differences in happiness across countries and among individuals. For instance, Diener & Diener (1995) showed that in poor countries, with low levels of freedom and human rights the average happiness is low. Additionally, Veenhoven (2007) concluded that in wealthy countries; with a high level of security and harmony between it's citizens the average happiness is generally high (Veenhoven, 2007). On the contrary, Wilson (1976) reported that demographic factors such as age, health, education, income, religion and marriage are factors that explain differences in happiness between individuals. This finding has been replicated by a follow-up study by Diener, Suh, Lucas, & Smith(1999). Other studies have identified social capital (i.e. social relationships and social connectedness) as important factors for happiness (Carter , 2008; Diener, 2016; Eid & Larsen, 2008; Lyubomirsky, Sheldon & Schkade, 2005). In general, people who are satisfied with their social relationships are happier than people who are dissatisfied with their social relationships (Diener, 2016). Also, life experiences can affect the happiness of individuals. For instance, people who become disabled report lower levels of happiness (Oswald & Powdthavee, 2008).

There has been much research on the life circumstances (i.e. external determinants) that affect SWB. However, evidence shows that these factors only explain around 10% of the variance in happiness between individuals. In one study, Boyce, Wood & Powdthavee (2013) found that demographic factors, such as age and marital status, only explained 6.5% of the variance in happiness between individuals. Similarly, Diener et al. (1999) found that these factors accounted for approximately 10% of the variance in happiness.

2.2.2. Income and SWB

One of the first economists to study the relationship between income and happiness was Easterlin. He showed that within nations, rich people are happier than poor people (Easterlin, 1974). This finding has been replicated by various follow up studies. Income was positively correlated with life satisfaction in East Germany after the reunification (Shields, & Haisken-DeNew, 2004). Similarly, DeNeve & Cooper (1999) reported a positive mean coefficient of 0.17 between income and subjective well-being. Especially at the lower income levels, the relationship between income and SWB is high (Veenhoven, 1991; Diener et. al. 1999; Howell, Howell, & Schwabe, 2006; Diener & Lucas, 2000). For instance, Biswas-Diener & Diener (2001) found a positive correlation of 0.45 between income and life satisfaction among people living in the slums of Calcutta.

So within nations rich people are generally happier than poor people. Surprisingly, Easterlin (1974) also reported that within nations the average happiness has remained constant even though there were large increases in income (Clark, Frijters, & Schields, 2008). This phenomenon is known as the Easterlin paradox. In one study, it was found that between 1958 and 1987 the average happiness in Japan remained the same while the income in this period had been five folded (Easterlin, 1995). Similarly, the average happiness in the United States remained stable while GDP per capita had doubled (Maddison, 1991). This finding was also observed for nine European countries in the study by Inglehart & Karlheinz (1992).

Three common explanations for the Easterlin paradox are that people's income satisfaction depends on the income of others (i.e. social comparison; Clark, Frijters, & Schields, 2008); on the income they are used to (i.e. hedonic treadmill Clark, Frijters, & Schields, 2008); and on their income aspirations (i.e. aspirational treadmill; Frey & Stutzer, 2007). According to the social comparison explanation, the average income did not increase as a consequence of increased income because the income of all citizens has increased (Easterlin, 1995). In other words: you do earn more but the other people in your country also earn more. The hedonic treadmill explanation proposes that increased income only results in a small and temporary effect on life satisfaction because people get used to their new level of income (Easterlin, 2003). This model also holds for other life domains. For instance, once people get disabled (i.e. however not severely) their average life satisfaction drops, but after two years their satisfaction with life has already returned to its initial level (Oswald & Powdthavee, 2008). Lastly, the aspirational treadmill suggests that individuals adjust their aspirations due to changes in life circumstances (Frey & Stutzer, 2007). In one study, Stutzer (2004) showed that after a year following an income increase the positive effect had already been half depleted due to higher income aspirations (Stutzer, 2004)

2.2.3. Consumption and SWB

In the consumer behaviour literature income is often used as a proxy for consumption (see Dutt, 2006; Royo, 2007). Economic theory takes "utility to be a positive function of the level of goods and services consumed" (Dutt, 2006, p. 1). In this view, consuming more is always beneficial for one's SWB. However, prior research has shown that the relationship between income and SWB depends on how money is spend (Howell & Hill, 2009). For instance, DeLeire & Kalil (2010) analysed the correlations between nine types of consumption expenditure and happiness and found that only leisure consumption was significantly correlated with happiness. In another study, it was found that the relationship between life satisfaction and consumption depends on the level of economic development within a country (Dumludag, 2015). In developed countries, especially status goods were strongly correlated (0.84) with life satisfaction, while the consumption of utilities was more important transition

countries (Dumludag, 2015). In line with this, Noll & Weick (2015) found that the consumption of luxury goods (i.e. clothing and leisure) is strongly correlated with life satisfaction in Germany. These findings support the belief by Layard (2005) that in developed countries especially luxury consumption is strongly correlated with SWB.

2.2.4. Experiential consumption and SWB

Once people have used their income to satisfy their basic needs, they can use their disposable income on purchases that aim to increase their fun and happiness in life (Guevarra & Howell, 2015). This is called hedonic consumption, which consists of two types of purchases: material purchases (i.e. "purchases made to obtain a tangible good"; Van Boven & Gilovich, 2003, p. 1994) and experiential purchases (i.e. "purchases made to obtain a life experience"; Van Boven & Gilovich, 2003, p. 1994). Examples of material purchases are clothing and furniture while having dinner with friends and going on holiday are examples of experiential purchases.

Prior research has found that experiential purchases as compared to material purchases provide more SWB through three different channels: they foster more successful social relationships (Howell & Hill, 2009; Caprariello & Reis, 2013; Kumar, Mann, & Gilovich, 2014; Kumar & Gilovich, 2014; Van Boven, Campbell, & Gilovich, 2010); form a more meaningful part of one's identity (Carter & Gilovich, 2012; Pchelin & Howell, 2014); and are less open to social comparison (Gilovich, Kumar & Jampol, 2014; Howell & Hill, 2009; Kumar, Killingsworth, & Gilovich, 2014; Van Boven & Gilovich, 2003). However, whether experiential consumption leads to more SWB through one of these channels is not the focus of this paper. The goal of this paper is to examine whether spending money on experiential consumption has a positive effect on the SWB of individuals.

First, experiential consumption is found to improve SWB through satisfying the psychosocial need of relatedness, resulting in better social relationships, which in turn results in higher SWB (Howell & Hill, 2009). For instance, life experiences are more likely to be shared with others (Caprariello & Reis, 2013; Kumar & Gilovich, 2015) and these conversations are more enjoyed than conversations about material items (Van Boven, Campbell, & Gilovich, 2010). Furthermore people who engage in experiential consumption behave more socially and feel more social connection with others (Kumar, Mann, & Gilovich, 2015).

Second, prior research has found that experiential purchases are more similar to one's identity than material purchases (Van Boven & Gilovich, 2003). One study showed that experiential buyers (i.e. people who prefer experiential purchases over material purchases) derive more happiness from these purchases because they are more reflective of their identity (Zhang, Howell, Caprariello, & Guevarra, 2014). Furthermore, people are more likely to use memories of life experiences when telling their life story and hypothetically deleting the memory of a life experience resulted in a bigger change to the participant's identity than deleting the memory of a material purchase (Carter & Gilovich, 2012).

Third, experiential purchases lead to more SWB than material purchases because the former are generally intrinsically motivated whereas the latter are often extrinsically motivated (Mehmetoglu, 2012). Intrinsically motivated purchases satisfy the higher psychosocial need of autonomy (i.e. people feel that they spend money for themselves and not for others; Howell & Hill, 2009). As a consequence, experiential purchases are less open to social comparison, which is negatively related to SWB (Gilovich, Kumar, & Jampol, 2015). On the contrary, material purchases are often extrinsically motivated, which has been found to have a negative impact on SWB (Carter & Gilovich, 2010; Ryan & Deci, 2000).

Additionally, studies have found that people experience more regret of inaction for experiential purchases (Gilovich, Kumar, & Jampol, 2015); they become more valuable over time (Nicolao, Irwin, & Goodman, 2009); and anticipating these purchases are evaluated as more exciting and enjoyable compared to material purchases (Kumar, Killingsworth, & Gilovich, 2014).

Previous work has consistently shown that people become happier from experiential purchases compared to material purchases. Therefore, this study expects that experiential consumption *(i.e. experiential expenditure and experiential activities)* has a positive effect on the SWB of individuals *(Hypothesis 1)*.

2.2.5. Personality and SWB

Prior research showed that individuals are predisposed to standard levels of SWB based on their genetics (Diener, Oishi, & Lucas, 2003). For instance, one study, found a correlation of r=0.52 between the life satisfaction scores of identical twins who were raised apart (Lykken &Tellegen, 1996). In line with this, Headey & Wearing (1989) proposed the dynamic equilibrium model. According to this model, individuals engage in certain events based on their personality, which determines their baseline levels of SWB. However, due to uncommon events the level of SWB can fluctuate above or below the baseline level, but this effect is only temporary and the level of SWB will eventually converge back to the baseline level (Headey & Wearing, 1989).

Besides genetics, personality has consistently been found to be one of the most important determinants of subjective well-being (Diener & Lucas, 1999). In general, the Big Five factor model is used to measure personality (DeNeve & Cooper, 1998), which proposes that individuals possess the following five personality traits [5] : extraversion, agreeableness, conscientiousness, neuroticism and openness to experience (Goldberg, 1990). The traits are related to more narrow personality characteristics (John & Srivastava, 1999). For instance, extraversion is associated with the tendency to socialize; agreeableness relates with honesty; conscientiousness correlates with responsibility; neuroticism relates to emotional instability; and finally openness to experiences indicates preference for variety (McCrea & John, 1992). Additionally, the Big Five personality traits have been linked to certain behaviours and life outcomes. For instance, conscientiousness is linked to academic performance (Noftle & Robins , 2007); extraversion is associated with social status (Anderson, John, Keltner, & Kring, 2001) and neuroticism is associated with low levels of self-esteem (Richard, Tracy, Trzesniewski, Potter, & Gosling, 2001).

Prior research has focussed on how the Big Five personality traits correlate with SWB. It has been found that neuroticism and extraversion are the strongest predictors of SWB (Diener, Oishi, & Lucas, 2003) For instance, McCrae and Costa (1991) examined how the Big Five personality traits correlated to the various components of SWB (life satisfaction, positive affect and negative affect). This study found that especially extraversion followed by agreeableness and conscientiousness were positively correlated with life satisfaction and positive affect; neuroticism was negatively related to life satisfaction and positive affect; and openness to experience had no net effect on SWB (i.e. it had the same correlation to positive as negative affect). A similar result was found in a meta-analysis by DeNeve & Cooper (1988) who examined how 137 personality traits correlated with the different types of SWB (i.e. life satisfaction, happiness, positive affect and negative affect). In this study,

[5] Every individual possesses all five of these personality traits but to different extends (Nettle, 2007).

extraversion, agreeableness, conscientiousness and openness to experience had a positive correlation with SWB while neuroticism was negatively related with SWB (DeNeve & Cooper, 1998). These findings have been replicated by various studies. In a study, among students of the University of Tehran, extraversion (0.35), agreeableness (0.05) and conscientiousness (0.08) were found to be positively related to happiness, while neuroticism (-0.34) was negatively related to happiness (Momeni, Anvari, Kalali, Raoofi, & Zarrineh, 2011). Similarly, Soto (2015) reported that high levels of extraversion, agreeableness and conscientiousness and low levels of neuroticism result in higher levels of SWB.

These studies show that the Big Five predispose individuals to certain levels of SWB, through various channels (Diener, Oishi, & Lucas, 2003). First, individuals are predisposed to behave in manners that are favourable or unfavourable for happiness based on their personality (Tkach & Lyubomirsky, 2006). For instance, individuals who are extraverted are more inclined to engage in social events, this leads to positive affect and in turns positively influences SWB (Tkach & Lyubomirsky, 2006). Another study found that agreeable individuals are more helpful in social situations than their disagreeable peers. Consequently these individuals have better social relationships, which has a positive impact on SWB (Graziano & Tobin, 2009). Moreover, personality influences how individuals react to- and evaluate life circumstances (Diener, Oishi, & Lucas, 2003). One study found that situations that lead to positive affect (e.g. joy and excitement) have more impact on extraverts than introverts (Diener, Oishi, & Lucas, 2003). As a response, extraverts derive more SWB for positive affective situations (Diener, Oishi, & Lucas, 2003). In addition to this, Derryberry & Reed (1994) found that extraverts are more focused on rewarding incentives than introverts. Another study concluded that, neurotic individuals have a stronger reaction to negative events than emotionally stable individuals (Larson & Ketelaar, 1989). In other words: the same negative situation would lower the SWB of neurotic individuals more than the SWB of emotional stable individuals. In line with this finding, Diener (2016) reported that unhappy people have a harder time to recover from unfavourable circumstances than happy people (Diener, 2016). These findings suggest that individuals are predisposed to certain levels of SWB based on their personality.

2.2.6. Experiential Consumption, personality and SWB

Individuals can improve their happiness in life by practicing happiness increasing strategies, such as expressing gratitude or meditation (Lyubomirsky, Scheldon, & Schkade, 2005; Tkach & Lyubomirsky, 2006).

However, personality traits influence people's propensity to engage in happiness increasing behaviours. One study showed that extraverted individuals are more likely to engage in happiness increasing behaviours while neurotic individuals are less prone to engage in these kind of behaviours. Additionally, personality affects the success of happiness increasing strategies. For instance, Senf & Liau (2013) reported that happiness increasing behaviours are more profitable for individuals who are extraverted and open to new experiences.

Scientists have recommended experiential consumption as a happiness increasing strategy because of its positive association with SWB (Gilovich, Kumar, & Jampol, 2015; Howell & Hill, 2009; Kumar, Killingsworth, & Gilovich, 2014). Personality affects the preference for experiential consumption as a happiness increasing strategy. Howell, Pchelin & Iyer (2012) developed the experiential buying tendency scale (EBTS), to determine which individuals are more likely to engage in experiential consumption. Especially extraversion (0.17), agreeableness (0.11) and openness to experience (0.14) were positively associated with

experiential consumption. Also, conscientiousness (0.04) and neuroticism (-0.07) were correlated with an experiential buying tendency but this effect was smaller. In addition, this study found that spending money on experiential consumption was positively correlated with life satisfaction (0.13), happiness (0.18) and the satisfaction of autonomy (0.14), competence (0.16) and relatedness (0.21; Howell, Pchelin & Iyer, 2012).

Furthermore, the Big Five personality traits influence individual preferences for experiential activities. One study showed that the Big Five personality traits influence the media preferences and cultural participation of individuals (Kraaykamp & van Eijck, 2005). As an illustration it was found that neurotic individuals have a preference for informative TV programs and soap series while extraverts have a preference for social leisure activities such as pop concerts (Kraaykamp & van Eijck, 2005). Another study examined the impact of extraversion and neuroticism on leisure involvement and leisure satisfaction (Lu & Hu, 2005). This study showed that extraversion is positively correlated to leisure activities and leisure satisfaction, while neuroticism had no association with leisure involvement and was negatively related with leisure satisfaction (Lu & Hu, 2005).

Also another study by Mehmetoglu (20112) examined the relationship between the Big Five personality traits and experiential activity preferences. The experiential activities considered were culture, extreme sport, nature, skiing, social leisure and entertainment. The study results suggest that personality influences experiential consumption preferences, however the effect sizes were only small. One exception was openness to experience, which was significantly associated with four of the six experiential activities and had the largest effect size on cultural activities ($\beta = .25$). Based on the findings, this study concluded that "personality is a highly relevant psychological construct for the study of experiential economics and especially openness to experience is useful for understanding the experiential consumer behaviour" (Mehmetoglu, 2012, p. 94).

These studies suggest that individuals have a preference for experiential consumption (i.e. experiential expenditure and experiential activities) which is in line with their personality. However, do individuals who engage in experiential purchases that are more similar to their personality also derive more SWB from these purchases? In other words: does personality moderate the relationship between experiential consumption and SWB?

You would expect that various papers have already addressed this question, however, this is not the case. Only a few studies have focused on this relationship. To my knowledge, only the recent study by Matz et al. (2016) has examined the moderating role of personality on the relationship between consumption and life satisfaction. This study analysed more than 76,000 UK bank transaction records and found that individuals who consume products that are in line with their personality traits report higher levels of life satisfaction (Matz, Gladstone, & Stillwell, 2016). To illustrate this, the study provided an figure that showed that introverts derived more happiness from buying a book compared to extraverts while extraverts derived more happiness from going to a bar compared to introverts (Matz, Gladstone, & Stillwell, 2016).

Other studies have examined whether materialistic pursuits, as a possible personality trait moderated the relationship between experiential consumption and happiness (Zhang, Howell, Caprariello, & Guevarra, 2014). For instance, Millar and Thomas (2009) showed that materialistic beliefs affected the advantage of experiential purchases. Consequently, material and experiential purchases provided the same level of happiness for materialistic individuals (Millar & Thomas, 2009). Another study showed that the valence of the purchase matters for

how materialistic attitudes moderate the advantage of experiential purchases (Nicolao, Irwin, & Goodman, 2009). This study reported that materialists derive the same level of happiness from material and experiential purchases regardless of the valence of the purchase. However, low materialistic individuals derived less happiness from material purchases that experiential purchases, if both purchases turned out well (Nicolao, Irwin, & Goodman, 2009). Similarly, Zhang et al. (2014) conclude that experiential purchases do not lead to greater happiness for material buyers, while it does for experiential buyers (Zhang, Howell, Caprariello, & Guevarra, 2014). The results of these studies suggest that individuals can increase their SWB by spending money on purchases that are congruent with one's personality (Matz, Gladstone, & Stillwell, 2016).

With respect to the reviewed literature it is expected that individuals have a preference for experiential consumption (i.e. experiential expenditure and experiential activities). In addition, it is anticipated that people derive the most SWB from experiential purchases that are in line with their personality traits. Therefore, this study expects that *personality will have a moderating effect on the relationship between experiential consumption (i.e. experiential expenditure and experiential activities) and SWB (Hypothesis 2).*

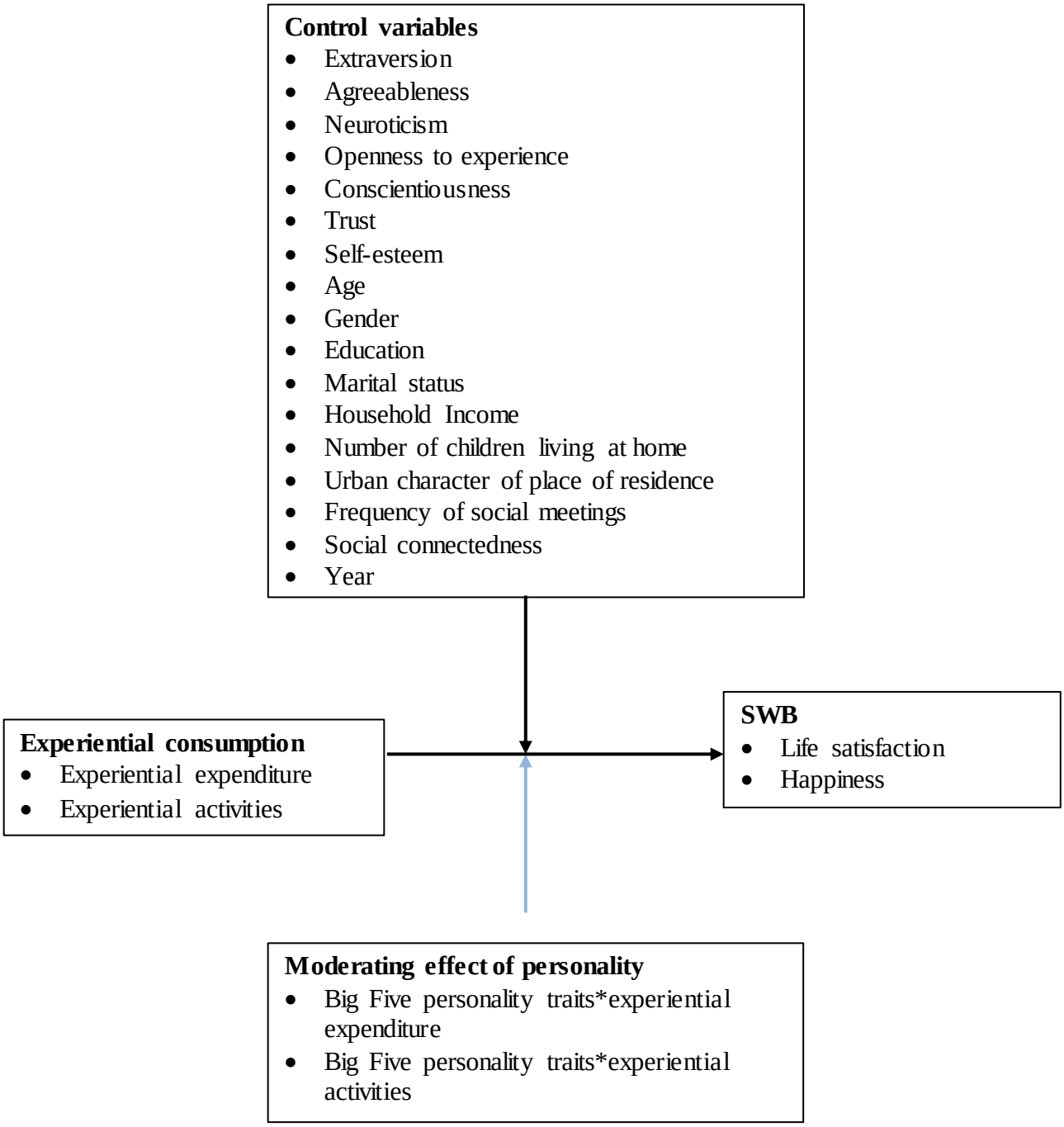
3. Data and methods

This chapter reviews the methodology and the data that will be used in this paper. First, the research model will be introduced. This includes a graphical representation of the relationships between the variables. Second, the data source, the dependent variables and independent variables will be discussed in detail. This includes a brief review on the importance of the control variables and their measurement. Lastly, the methodology and the statistical analysis will be discussed.

3.1. The research model

Figure 1 below graphically represents the research model that is used to address the two hypotheses of this study. The first hypothesis will be addressed by examining the relationships between experiential consumption, the control variables and SWB. The second hypothesis will be examined by adding the moderating effect of the Big Five personality traits and experiential consumption to the research model. This extension of the research model is represented by the blue arrow line.

Figure 1: The relationship between the variables in this study



3.2. Data and measures

3.2.1. Data

Data on SWB, experiential consumption and the control variables for individuals in the Netherlands is taken from the LISS Core Studies, which is a longitudinal study among 700 Dutch panel members that is carried out every year (LISS panel, 2014). In total, my sample consists of 4,081 observations for the years 2009 and 2010. The description of the variables used in this study is represented by appendix A1.

3.2.2. Dependent variables

Prior studies have found that life satisfaction and happiness have a different set of correlates (OECD, 2013). Happiness is more influenced by emotions while life satisfaction is more influenced by life circumstances (Stone & Mackie, 2013). Therefore, this study is interested in both happiness and life satisfaction since the effect of experiential consumption may be different on these types of SWB. This study assesses happiness and life satisfaction as follows:

Happiness

The LISS panel uses the following question to assess the happiness of respondents: "on the whole, how happy would you say you are?" (European Social Survey, 2013). To which respondents can answer on a scale from zero (i.e. totally unhappy) to ten (i.e. totally happy).

Life Satisfaction

This study uses two measures of life satisfaction[6]: the 5-item Satisfaction with Life Scale (i.e. referred to as SWLS) and a single-item life satisfaction scale (i.e. referred to as LS). The SWLS consists of five statements (e.g. "I am satisfied with my life") to which individuals indicate whether they agree or disagree with every statement, on a 7-point Likert scale (Diener, Emmons, Larsen, & Griffin , 1985). The total life satisfaction is obtained by adding up the responses to the five statements[7], where a higher score indicates that a person is more satisfied with his or her life (Diener, Emmons, Larsen, & Griffin , 1985). This means that the SWLS is treated as a continuous variable[8]. In addition, life satisfaction (LS) is assessed by the following question: "How satisfied are you with the life you lead at the moment?" with repsonses ranging from zero (i.e. not at all satisfied) to ten (i.e. completely satisfied).

3.2.3. Independent variables of interest

This study is interested in the effect of experiential consumption and experiential activities on SWB. The measurement of experiential expenditure and the various experiential activities are discussed below:

Experiential expenditure

This study uses monthly leisure time expenditure in euros (i.e. expenditure on film, theatre, hobbies, sports activities, photography, books, CDs/DVDs, expenditure during daytrips or travel without family, etc.) as a proxy for experiential expenditure.

Frequency of experiential activities

Experiential activities are sometimes used interchangeably as leisure activities since they denote both activities in which people engage to increase their happiness and enjoyment in life. Prior studies have shown that experiential activities have a positive impact on the SWB of individuals (Howell & Hill, 2009; Newman, Tay, & Diener, 2014). This positive association is mainly caused by the improved social interaction with other people from engaging in experiential activities (Kennedy & Smith, 1990). This study is interested in the frequency of the following seven experiential activities: holidays, sport activities, going out, dancing, photography, music activities and cultural activities, which are measured as follows: *Holidays*. The number of holidays per year, in the Netherlands or abroad.

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[6] Initially, I use two life satisfaction measures because prior studies showed that they have different statistical properties (Helliwell & Barrington-Leigh, 2010).

[7] The Cronbach alpha (i.e. measurement of internal consistency) has a value of 0.08827, which is far above the acceptable reliability coefficient of 0.7 identified by Nunnally (1978).

[8] This is in line with the study by Ferrer-i-Carbonell & Frijters (2004) who measured SWB by a question consisting of eleven response categories, which they also treated as a continuous variable.

Cultural activities. The number of visits to cultural performances per year (e.g. theatre, cabaret, concert of classical music or museum).
Sport activities, *going out*, *photography*, *dancing* and *music activities* are all measured as the total number of hours spent per week on each activity.

3.2.4. Control variables

This study controls for the Big Five personality traits, socio-demographic factors, personal characteristics, social relationships and year fixed effects.

The Big Five personality traits

The relationship between the Big Five personality traits and SWB is well-established. Extraversion; agreeableness; conscientiousness; and openness to experience have a positive correlation with SWB while neuroticism is negatively related with SWB (DeNeve & Cooper, 1998; McCrae & Costa, 1991; Soto, 2015). The Big Five personality traits will be assessed by the 50-item questionnaire developed by Goldberg (1990). Each of the five personality traits is assessed by ten specific questions, to which respondents can answer on a scale from one (i.e. very inaccurate) to five (i.e. very accurate; see appendix A1 for an overview of the questions). The overall value of each personality trait is obtained by adding up the scores of the ten trait-specific questions (Goldberg, 1990).

Socio-demographic variables

The following socio-demographic factors are used as control variables: age, gender, educational, marital status, household income, number of children and area of residence.

Age

In an early study, Wilson (1967) concluded that age is negatively related with SWB, i.e. young people are happier while older people are less happy. However, Diener et al. (1999) reviewed various follow-up studies and showed that age is not negatively related to SWB. Age is a continuous variable which is measured as the reported age of the respondents.

Gender

The evidence on the relationship between gender and SWB is mixed. Wilson (1967) discussed that being a men or a woman does not matter for one's level of SWB, but in another study Inglehart (1990) examined the average SWB scores of sixteen nations and found that men typically report lower levels of SWB than women. Gender is a nominal variable consisting of two categories: males (0) and females (1).

Education

In general, more educated individuals report higher levels of SWB than less educated individuals (Diener et al., 1999; Inglehart, 1990; Wilson, 1967). In a meta-analysis, DeNeve & Cooper (1998) reported a positive correlation of 0.14 between education and SWB based on 90 independent samples. Education is a categorical variable that consists of six categories (1 = primary school; 2 = secondary education; 3 = higher secondary education; 4 = intermediate vocational education; 5 = higher vocational education; and 6 = university).

Marital status

Married people have consistently been found to be happier than unmarried people (Diener et al., 1999; Shields & Wooden, 2003). Marital status is a categorical variable that consists of five categories (1 = married; 2 = separated; 3 = divorced; 4 = widow or widower; and 5 = never been married).

Household income
Studies have consistently found that individual income is positively correlated with SWB (Easterlin, 1974; Diener et al., 1999; Veenhoven, 2007; Wilson, 1967). Household income is a continuous variable and is measured as the monthly income of all household members combined.

The number of children living at home
Shields & Wooden (2003) found that the number of children living at home (i.e. also referred to in this study as the number of children) is negatively correlated with life satisfaction, however the number of grown up children who are living on their own has a positive effect on life satisfaction. The number of children living at home is measured as a categorical variable that consists of seven categories (0 = none, 1 = 1 child, 2 = two children, 3 = three children, 4 = four children, 5 = five children and 6 = six children).

The urban character of place of residence
The geographical area where individuals live affects the SWB of individuals (Lyubomirsky, Sheldon & Schkade, 2005, Veenhoven, 2007). Berry & Okulicz-Kozaryn (2011) examined longitudinal data from the United States and concluded that people living in small cities and rural areas are happier than people who live in big cities. The urban character of place of residence is a categorical variable that consists of five categories (1 = extremely urban; 2 = very urban; 3 = moderately urban; 4 = slightly urban; and 5 = not urban).

Personal characteristics
Besides the Big Five personality traits, other more narrow personality traits are also related to SWB (DeNeve & Cooper, 1998; Diener, Oishi, & Lucas, 2003; Wilson, 1967). This study controls for trust and self-esteem because these traits have a strong correlation with SWB (DeNeve & Cooper, 1998). Trust is positively associated with SWB (DeNeve & Cooper, 1998; Valeeva, 2016) and is measured as a continuous variable, where higher scores are associated with more trust. Also, self-esteem is positively correlated with SWB (DeNeve & Cooper, 1998; Diener & Diener, 2009). Self-esteem is assessed by three statements (e.g. "I am satisfied with the way I look") and participants rated their disagreement or agreements with each statement on a seven point Likert scale. Overall self-esteem was determined by combining the responses to each statement (i.e. Cronbach alpha is 0.7932), where a higher score indicates more self-esteem.

Social relationships
Diener & Biswas-Diener (2011) reported that social relationships are essential for people to become truly happy. Prior studies have measured social relationships in various ways, for instance by the number of social relationships; the number of friends; or the quality of social relationships (Saphire-Bernstein & Taylor, 2013). This study controls for social connectedness (i.e. also referred to as social connection) and the frequency of social meetings. Prior studies showed that social connectedness with others is positively correlated with SWB. For instance, among 444 Chinese undergraduates it was found that students who felt social connected with others reported higher levels of life satisfaction (Tu & Zhang, 2015). The frequency of social meetings is generally found to have a positive relationship with SWB. Van der Horst & Coffé (2012) showed that the frequency of social meetings results in higher levels of SWB through its positive effect on trust, social support and health and its negative effect on stress. The level of social connection is a continuous variable which is measured by six statements (e.g. "I have a sense of emptiness around me") with a response scale from one

(totally disagree) to three (totally agree). The overall social connection was determined by summing up the responses to the six statements (i.e. Cronbach alpha of 0.8007), where a higher score represented more social connectedness. The frequency of social meetings was measured by four questions (e.g. "How often do you spend an evening with someone from the neighbourhood?") with a response scale from zero indicating "never" to seven indicating "almost every day".

3.3. Methodology

Generally, economists assume SWB scores to be ordinal. This means that individuals interpret SWB answers in the same way, but the weight individuals attach to differences in happiness scores are not known (Ferrer-i-Carbonell & Frijters, 2004). As a result, many papers have analysed SWB data by ordinal models (e.g. ordered probit models; Fleurbaey, 2016). However, estimates produced by cardinal models have a more straightforward interpretation than estimates from ordinal models (Dumludag, 2015). In addition, Ferrer-i-Carbonell & Frijters (2004) showed that analysing SWB scores with cardinal or ordinal models does not affect the results. Based on these findings this study uses ordinary least squares regressions (i.e. a cardinal model) to estimate my data. This study uses the robust standard errors, to correct for possible heteroscedasticity. In addition, SWB research is susceptible to endogeneity problems[9] (Hajek, 2013), which was also the case in this study. This will be further discussed in the limitations of this research.

This thesis tests two hypotheses. First the relationship between experiential consumption (i.e. experiential expenditure and experiential activities) and SWB (i.e. happiness and life satisfaction) is examined. Second, the moderating effect of the Big Five personality traits on this relationship is examined.

Testing the first hypothesis, will be done in three steps. In the first step, I examine the relationship between experiential consumption and SWB while controlling for year effects. This is the simple-reduced form (i.e. base regression) of this study, which is represented by model 1:

$$SWB_{it} = \alpha\, Exp.consumption_{it} + \lambda_t + \mu_{it} \qquad (1)$$

where SWB_{it} indicates both self-reported measures of happiness and life satisfaction (i.e. SWLS and LS) for individual i in year t, $Exp.consumption_{it}$ represents the monthly experiential expenditure and the frequency of experiential activities by individual i in year t, λ_t is a year dummy to control for year-related external shocks that affect the SWB of all individuals *and* μ_{it} is the error term.

In the second step, the base regression is extended by the socio-demographic variables, the personal characteristic variables and the social relationship variables. This is represented by model 2:

$$SWB_{it} = \alpha\, Exp.consumption_{it} + \Phi\, Demo_{it} + \Sigma\, Personal_{it} + \Theta\, Social_{it} + \lambda_t + \mu_{it} \qquad (2)$$

where $Demo_{it}$ is a vector of demographic variables for individual i in year t, $Personal_{it}$ is a

[9] There are either relevant variables missing (i.e. omitted variables) or there is reversed causality (i.e. the independent variables influence SWB, however SWB also influences the independent variables; Hajek, 2013).

vector of other personal characteristics for individual i in year t, $Social_{it}$ is a vector of social relationships for individual i in year t.

Finally, I extend the model with the Big Five personality traits. I will refer to this as my full model, which is represented by model 3:

$$SWB_{it} = \alpha\, Exp.consumption_{it} + \beta\, Big\ Five_i + \Phi\, Demo_{it} + \Sigma\, Personal_{it} + \Theta\, Social_{it} + \lambda_t + \mu_{it} \quad (3)$$

where $Big\ Five_i$ refers to the Big Five personality traits (i.e. extraversion, neuroticism, conscientiousness, openness to experience and agreeableness) for individual i.

To examine the second hypothesis, the moderation between the Big Five personality traits and experiential consumption (i.e. experiential expenditure and experiential activities) is added to the full model, which is represented by model 4:

$$SWB_{it} = \alpha\, Exp.consumption_{it} + \beta\, Big\ Five_i * \alpha\, Exp.consumption_{it} + \beta\, Big\ Five_i + \Phi\, Demo_{it} + \Sigma\, Personal_{it} + \Theta\, Social_{it} + \lambda_t + \mu_{it} \quad (4)$$

where $Big\ Five_i * Exp.consumption_{it}$ is the term interacting each personality trait with experiential consumption. The effect of the interaction terms between the personality traits and experiential consumption will both be examined separately and simultaneously.

4. Empirical results

4.1. Descriptive statistics

Table 1 shows the descriptive statistics for the sample. It shows the number of observations, the mean, the standard deviation, the minimal value and the maximum value for all the variables. The sample consists of 28 variables which all have 4,081 observations. From table 1 it can be seen that happiness and LS have a very similar distribution. Happiness has a mean of approximately 7.60 and the mean of life satisfaction is 7.53, which is higher than the OECD average life satisfaction of 6.5 (OECD, 2015). The mean SWLS score is 25.81, suggesting people are on average satisfied with their life's. This is in line with the findings by Vassar (2008), who reported that in general life satisfaction scores in samples range from 23 to 28. Moreover, the table shows that on average people spend 41 euros per month on experiential consumption. On average, respondents visit 5 cultural performances and go 2.5 times per year on holiday. Individuals spend per week approximately 2.2 hours on sport activities; 0.1 hours on music activities; 0.2 hours on photography; 1.15 hours on going out; and 0.17 hours on dancing activities. The categorical variables in the sample are: age, gender, the number of children, marital status, urban character and education (see appendix A2 for their distribution). From table A2 it can be seen that there are slightly more females in the sample; most of the respondents have no children; are married; and have completed the questionnaire in 2009. In addition, most respondent live in moderately to very urban areas and everyone has at least finished primary school.

Table 1: Descriptive statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Happiness	4,081	7.603	1.267	1	10
SWLS	4,081	25.481	5.299	5	35
LS	4,081	7.525	1.361	0	10
Experiential expenditure	4,081	41.027	65.341	0	1000

Cultural activities	4,081	4.762	4.114	0	27
Holidays	4,081	2.537	1.881	0	10
Sport activities	4,081	2.162	3.239	0	40
Music activities	4,081	0.118	0.541	0	20
Photography	4,081	0.224	0.774	0	24
Going out	4,081	1.146	1.748	0	16
Dancing	4,081	0.167	0.687	0	8
Social Connectedness	4,081	10.094	2.378	0	12
Frequency social meetings	4,081	3.405	1.067	0	7
Extraversion	4,081	33.337	6.153	10	50
Agreeableness	4,081	36.337	7.115	15	50
Conscientiousness	4,081	36.404	5.212	17	50
Neuroticism	4,081	16.972	6.75	0	39
Openness to experience	4,081	34.365	4.779	15	50
Trust	4,081	6.175	2.109	0	11
Self-esteem	4,081	13.017	2.852	0	18
Gender	4,081	0.528	0.499	0	1
Age	4,081	49.068	17.003	16	92
Number of children	4,081	0.795	1.112	0	6
Marital status	4,081	2.414	1.772	1	5
Urban character	4,081	2.996	1.275	1	5
Net household income	4,081	3029.6	7294.7	0	285759
Education	4,081	3.458	1.507	1	6
Year	4,081	2009.186	0.389	2009	2010

To have a more meaningful presentation of the experiential activities, I have divided each variable into four categories of equal size, also referred to as quartiles [10], which are represented in table 2. This table presents the average time in hours spend by people in a certain quartile. From this table it can be inferred that for most activities the first quartile equals zero. The only exceptions are cultural activities and holidays for which the first quartile is larger than zero. From appendix A3, which shows how the observations are distributed over the quartiles, it can be seen that most respondents do not spend any time on photography, music activities, going out and dancing activities. However, people do spend time on sport activities, visit cultural performances and go frequently on holidays. For instance, 23 percent of the respondents spend on average two hours per week on sport activities.

Table 2: The average time in hours spend by people in a certain quartile

Quartile	Cultural	Holidays	Sports	Music	Photography	Going out	Dancing
1	1	0.5	0	0	0	0	0
2	3	1.5	0.5	0	0	0	0
3	5.5	4	2	0	0	1	0
4	>7	>4	>3	>0	>0	>2	>0

[10] Quartile 1 = 25th percentile, quartile 2 = 50th percentile, quartile 3 = 75th percentile and quartile 4 = 100th percentile

4.2. Correlations

Table 4 shows the correlations between happiness, life satisfaction (i.e. SWLS and LS), the Big Five personality traits and experiential consumption. From the table it can be concluded that there is a high correlation between the three measures of SWB. Especially, happiness is highly correlated (r=0.847) with LS but happiness also has a strong correlation with SWLS (r=0.700). Furthermore, the two life satisfaction variables are strongly correlated (r=0.728). The high correlations between the SWB variables are in line with the findings by the World Happiness Report (2015), which suggested that life evaluations (i.e. happiness and life satisfaction) are influenced by similar factors. Remarkably, LS is more strongly correlated with happiness than with SWLS. This is surprising because LS and SWLS are both cognitive in nature while happiness is more affective in nature (Diener, 1984). One possible explanation for this is that happiness and LS are both single-item scales, which have been found to produce biased scores, i.e. most answers are present in the happy categories (Andrews & Withey, 1976). The table also shows the correlations for the Big Five personality traits, experiential expenditure and experiential activities. In general, a correlation of 0.7 or higher (i.e. between the independent variables) can be an indication of multicollinearity problems (Dormann, Elith, Bacher, Buchman, & Carl, 2013). However, the correlation matrix shows that this is not the case. From the table it can be inferred that especially the personality traits extraversion and neuroticism are strongly correlated with SWB. This was expected since these traits are consistently found to have a strong relationship with SWB (Diener & Lucas, 1999; McCrae and Costa, 1991). In addition, appendix A4 represents the correlation between all the variables in the model. From this table it can be concluded that the variables that have the strongest correlation with SWB are trust (r=0.3), self-esteem (r=0.4) and gender (r=0.4).

Table 4: Correlation matrix between the dependent variables, the Big Five personality traits and experiential consumption.

Variable	1	2	3	4	5	6	7	8
1. Happiness	1							
2. SWLS	0.700	1						
3. LS	0.837	0.728	1					
4. Extraversion	0.213	0.193	0.186	1				
5. Agreeableness	0.075	0.080	0.069	-0.014	1			
6. Conscientiousness	0.163	0.182	0.175	0.040	0.405	1		
7. Neuroticism	-0.33	-0.368	-0.342	-0.099	-0.336	-0.292	1	
8. Openness	0.088	0.104	0.071	0.275	0.292	0.272	-0.224	1
9. Exp. expenditure	0.037	0.032	0.048	0.079	-0.023	-0.019	-0.006	0.064
10. Cultural activities	0.077	0.100	0.079	0.186	0.004	-0.051	-0.024	0.225
11. Holidays	0.148	0.206	0.172	0.129	0.009	0.016	-0.086	0.085
12. Sport activities	0.072	0.070	0.075	0.116	0.000	-0.004	-0.042	0.078
13. Music activities	-0.01	-0.020	-0.009	0.041	0.011	-0.025	0.010	0.079
14. Photography	0.013	-0.007	-0.003	0.061	-0.014	-0.033	0.003	0.072
15. Going out	0.009	0.003	-0.004	0.177	-0.039	-0.065	0.025	0.099
16. Dancing	0.016	-0.043	-0.003	0.105	0.025	-0.028	0.035	0.038

Variable	9	10	11	12	13	14	15	16
9. Exp. expenditure	1							
10. Cultural activities	0.209	1						

11. Holidays	0.093	0.333	1					
12. Sport activities	0.104	0.186	0.123	1				
13. Music activities	0.026	0.078	-0.002	0.021	1			
14. Photography	0.028	0.096	0.033	0.036	0.026	1		
15. Going out	0.135	0.318	0.162	0.132	0.052	0.112	1	
16. Dancing	0.062	0.144	0.035	0.119	0.017	0.066	0.277	1

4.3. Regression results

To examine whether experiential consumption has a positive impact on the SWB of individuals, I first estimated models 1, 2 and 3 by focussing on experiential expenditure with happiness as the dependent variables. The results are represented in table 5[11]. It can be inferred that experiential expenditure has a significant and positive effect in model 1, a result which remains significant after adding the other control variables (models 2 and 3). Its significance is even improved by adding the control variables (from the five percent to the one percent).

Second, I estimated model 3 for the three SWB variables, the results are represented in table 6. It can be inferred that experiential expenditure is significantly and positively related to both happiness and life satisfaction (i.e. only when measured by LS). The coefficient for both effects equals 0.001, which suggests that every extra euro per month spend on experiential purchases increases both the reported happiness and life satisfaction score by 0.001 points, ceteris paribus. This finding supports my first hypothesis. On the contrary, experiential expenditure is not significant when life satisfaction is measured by the SWLS. From table 6 it can be seen that the Big Five personality trait, trust, self-esteem and social connectedness are significantly related to SWB. Only the personality trait agreeableness and the frequency of social meetings are insignificant, which is surprising because agreeableness has consistently been found to have a positive relationship with SWB (McCrae & Costa, 1999) and this is also the case for the frequency of social relationships (Van der Horst & Coffé, 2012). Furthermore, table 6 shows that especially trust and self-esteem have a strong positive correlation with SWB. This is in line with the findings by DeNeve & Cooper (1998) who found that these traits have a strong relationship with SWB. From appendix A6, it can be seen that only a few control variables have a significant effect. Only gender and marital status have a significant effect on all three dependent variables. Females and married individuals report respectively higher levels of SWB than men and unmarried individuals. This is in line with the findings by Inglehart (1990) who found that women generally report higher levels of SWB and the findings by Diener et al., (1999) and Shields & Wooden (2003) who showed that married people consistently report higher levels of SWB than unmarried people.

Besides experiential expenditure, this study is also interested in the relationship between experiential activities and SWB. First, I have estimated models 1, 2 and 3 by experiential activities with happiness as the dependent variable. The results are shown in table 7. It can be inferred that certain experiential activity variables (i.e. quartiles of experiential activities) are significantly associated with happiness. Especially, the variable holidays (i.e. all quartiles) is significantly related to happiness in all three models. Also, the 2nd quartile of cultural activities has a significant effect on happiness in all three models. By adding the control variables, the relationship between the experiential activities and happiness weakens.

[11] For reasons of presentation the coefficients of the control variables are suppressed, which is done for all the regression results. In this case see appendix A5 for the coefficients of the control variables.

In addition, table 8 shows the coefficients obtained by estimating model 3 for both happiness and life satisfaction. The variable holidays (2nd, 3rd and 4th quartile) is significant (at the 1 percent) and positively affects all three measures of SWB. The other significant relationships are between the 2nd quartile of cultural activities and all three measures; the 4th quartile of music activities and life satisfaction (i.e. measured by LS); and the 3rd and 4th quartile of respectively going out and dancing on life satisfaction (i.e. measured by SWLS). From table 8 it can be concluded that most experiential activities do not have a significant effect on SWB, however, for the experiential activities that do have a significant relationship with SWB, the effect is positive. This relationship was expected because experiential consumption is consistently found to have a positive effect on SWB (Van Boven & Gilovich, 2003; Howell & Hill, 2009).

This study examines three different dependent variables, which makes it impossible to interpret all the significant coefficients. Therefore, I have chosen to only interpret the coefficients of the experiential activities that are significantly related with happiness. A positive significant effect is found for the 2nd quartile of cultural activities. This means that individuals who visit on average three cultural performances per year report a 0.115 points higher happiness score than those who visit one cultural performance per year, ceteris paribus. Also, the holiday variable (2nd, 3rd and 4th quartile) has a significant association with happiness. This implies that individuals who go on average one and a half times; three times; or more than three times per year on holiday report respectively a 0.169; 0.156; and 0.222 points higher happiness score compared to individuals who go on average a half time per year on holiday, ceteris paribus.

The findings from tables 6 and 8 offer support for my first hypothesis. From table 6 it was inferred that experiential expenditure has a positive relationship with happiness and life satisfaction (i.e. only when measured by the LS variable). However, in both cases the coefficients are equal to 0.001, which means that spending one euro per month extra on experiential consumption increases both the reported happiness and life satisfaction scores by 0.001 points, ceteris paribus. This corresponds to a 0.079 and 0.074 percent increase of a standard deviation of respectively happiness and life satisfaction. Thus, even though the effect on SWB is statistically significant, it does indicate economic significance. Regarding the experiential activity variables, only the holiday variable was found to have a strong significant effect on SWB. Nonetheless, the relationships between the other experiential activities and SWB is predominantly insignificant[12]. This finding is surprising, because experiential activities are commonly associated with higher SWB (Van Boven & Gilovich, 2003; Caprariello & Reis, 2013; Carter and Gilovich, 2010). A possible explanation for this finding is that there is not enough variance in the experiential activity variables, i.e. most observations fall in the first quartile (see appendix A3 for an overview of the distribution). However, the relationships that are significantly related to SWB are all positive. Therefore, it can be concluded that experiential consumption, if significant, has a positive impact on the SWB of individuals. As a result, the first hypothesis of this study is accepted.

[12] Only, holidays, sports activities and photography have a significant effect on happiness; dancing and holidays have a significant relationship with life satisfaction measured by SWLS; and sport activities and holidays have a significant relationship with life satisfaction, measured by LS.

Table 5: Happiness of individuals by experiential expenditure (see table A5 in the appendix for the full model)

	Happiness					
	(1)		(2)		(3)	
	β	SE	β	SE	β	SE
Experiential expenditure	0.001**	(-0.001)	0.001***	(-0.001)	0.001***	(-0.000)
Social connection			0.136***	(-0.001)	0.113***	(-0.010)
Frequency social meetings			0.007	(0.019)	0.012	(-0.020)
Extraversion					0.013***	(-0.003)
Agreeableness					-0.002	(-0.004)
Conscientiousness					0.013***	(-0.004)
Neuroticism					-0.033***	(-0.003)
Openness					-0.013***	(-0.004)
Trust			0.098***	(-0.010)	0.089***	(-0.010)
Self-esteem			0.136***	(-0.008)	0.108***	(-0.009)
Constant	7.590***	(-0.025)	3.961***	(-0.209)	4.730***	(-0.301)
Observations	4,081		4,081		4,081	
R-Squared	0.002		0.288		0.315	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 6: SWB of individuals by experiential expenditure (see table A6 in the appendix for full model)

	Happiness		SWLS		LS	
	β	SE	β	SE	β	SE
Experiential expenditure	0.001***	(-0.000)	0.002	(-0.001)	0.001***	(-0.000)
Social connection	0.113***	(-0.009)	0.430***	(-0.037)	0.118***	(-0.011)
Frequency social meetings	0.018	(-0.020)	-0.127*	(-0.076)	0.011	(-0.021)
Extraversion	0.013***	(-0.003)	0.033**	(-0.013)	0.010***	(-0.004)

Agreeableness	-0.002	(-0.004)	-0.054***	(-0.017)	-0.006	(-0.005)
Conscientiousness	0.013***	(-0.004)	0.057***	(-0.016)	0.018***	(-0.004)
Neuroticism	-0.033***	(-0.003)	-0.148***	(-0.014)	-0.038***	(-0.004)
Openness	-0.013***	(-0.004)	-0.051***	(-0.017)	-0.018***	(-0.005)
Trust	0.089***	(-0.010)	0.464***	(-0.040)	0.103***	(-0.011)
Self-esteem	0.108***	(-0.009)	0.509***	(-0.034)	0.114***	(-0.009)
Constant	4.730***	(-0.301)	14.379***	(-1.182)	4.625***	(-0.321)
Observations	4,081		4,081		4,081	
R-Squared	0.315		0.373		0.314	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 7: Happiness of the individuals by experiential activities (see table A7 in the appendix for the full model)

	Happiness					
	(1)		(2)		(3)	
	β	SE	β	SE	β	SE
Cultural activities (50th percentile)	0.116**	(-0.056)	0.104**	(-0.050)	0.115**	(-0.049)
Cultural activities (75th percentile)	-0.006	(-0.056)	-0.056	(-0.049)	-0.055	(-0.048)
Cultural activities (100th percentile)	0.103*	(-0.059)	-0.003	(-0.053)	0.015	(-0.053)
Holidays (50th percentile)	0.304***	(-0.056)	0.171***	(-0.047)	0.169***	(-0.046)
Holidays (75th percentile)	0.400***	(-0.054)	0.184***	(-0.046)	0.156***	(-0.045)
Holidays (100th percentile)	0.471**	(-0.063)	0.243***	(-0.056)	0.222***	(-0.055)
Sport activities (50th percentile)	-0.014	(-0.073)	-0.067	(-0.064)	-0.056	(-0.064)
Sport activities (75th percentile)	0.089*	(-0.049)	-0.021	(-0.044)	-0.021	(-0.043)
Sport activities (100th percentile)	0.184***	(-0.052)	0.0617	(-0.045)	0.047	(-0.044)
Music activities (100th percentile)	0.051	(-0.065)	0.0313	(-0.055)	0.063	(-0.054)
Photography (100th percentile)	0.014	(-0.048)	-0.001	(-0.041)	0.012	(-0.041)
Going out (75th percentile)	-0.110*	(-0.059)	-0.027	(-0.054)	-0.020	(-0.053)

Going out (100th percentile)	-0.081	(-0.049)	-0.014	(-0.046)	-0.027	(-0.045)
Dancing (100th percentile)	0.009	(-0.070)	0.084	(-0.062)	0.093	(-0.061)
Social connection			0.135***	(-0.010)	0.112***	(-0.010)
Frequency social meetings			0.016	(-0.021)	0.025	(-0.021)
Extraversion					0.013***	(-0.003)
Agreeableness					-0.002	(-0.004)
Conscientiousness					0.014***	(-0.004)
Neuroticism					-0.033***	(-0.003)
Openness					-0.014***	(-0.004)
Trust			0.094***	(-0.010)	0.086***	(-0.010)
Self-esteem			0.133***	(-0.008)	0.107***	(-0.009)
Constant	7.289***	(-0.053)	3.873***	(-0.215)	4.655***	(-0.303)
Observations	4,081		4,081		4,081	
R-squared	0.032		0.294		0.321	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 8: SWB of the individuals by experiential activities (see table A8 in the appendix for the full model)

	Happiness		SWLS		LS	
	β	SE	β	SE	β	SE
Cultural activities (50th percentile)	0.115**	(-0.049)	0.351*	(-0.195)	0.133**	(-0.052)
Cultural activities (75th percentile)	-0.055	(-0.050)	0.105	(-0.183)	-0.021	(-0.051)
Cultural activities (100th percentile)	0.015	(-0.053)	-0.014	(-0.211)	0.053	(-0.058)
Holidays (50th percentile)	0.169***	(-0.046)	1.016***	(-0.188)	0.197***	(-0.052)
Holidays (75th percentile)	0.156***	(-0.045)	1.275***	(-0.176)	0.255***	(-0.049)
Holidays (100th percentile)	0.222***	(-0.055)	1.525***	(-0.214)	0.320***	(-0.056)
Sport activities (50th percentile)	-0.056	(-0.064)	-0.102	(-0.252)	-0.094	(-0.068)

Sport activities (75th percentile)	-0.021	(-0.043)	0.166	(-0.174)	0.020	(-0.046)
Sport activities (100th percentile)	0.047	(-0.044)	0.198	(-0.176)	0.070	(-0.048)
Music activities (100th percentile)	0.063	(-0.054)	0.275	(-0.220)	0.107*	(-0.057)
Photography (100th percentile)	0.012	(-0.041)	0.008	(-0.157)	-0.028	(-0.044)
Going out (75th percentile)	-0.020	(-0.052)	0.425**	(-0.190)	-0.001	(-0.055)
Going out (100th percentile)	-0.027	(-0.045)	-0.004	(-0.183)	-0.026	(-0.048)
Dancing (100th percentile)	0.093	(-0.061)	-0.506**	(-0.241)	0.038	(-0.066)
Social connection	0.112***	(-0.010)	0.419***	(-0.036)	0.115***	(-0.011)
Frequency social meetings	0.025	(-0.021)	-0.040	(-0.079)	0.027	(-0.022)
Extraversion	0.013***	(-0.003)	0.029**	(-0.013)	0.009**	(-0.004)
Agreeableness	-0.002	(-0.004)	-0.052***	(-0.017)	-0.006	(-0.005)
Conscientiousness	0.014***	(-0.004)	0.058***	(-0.016)	0.018***	(-0.004)
Neuroticism	-0.033***	(-0.003)	-0.145***	(-0.013)	-0.037***	(-0.004)
Openness	-0.014***	(-0.004)	-0.050***	(-0.017)	-0.018***	(-0.005)
Trust	0.086***	(-0.010)	0.437***	(-0.040)	0.097***	(-0.011)
Self-esteem	0.107***	(-0.009)	0.505***	(-0.034)	0.112***	(-0.009)
Constant	4.655***	(-0.303)	13.426***	(-1.189)	4.510***	(-0.323)
Observations	4,081		4,081		4,081	
R-squared	0.321		0.387		0.322	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

From tables 4 to 8 it can be seen that the R-squared for life satisfaction is consistently higher when measured by SWLS than when it is measured by LS. This suggests that when life satisfaction is measured by SWLS more of the variance is explained by the independent variables. Therefore, I will continue my analysis with SWLS as my dependent variable for life satisfaction.

Table 9 shows how the personality traits moderate the relationship between experiential consumption and SWB. The results for happiness and life satisfaction are both represented in two columns[13]. From the table, it can be inferred that only the personality trait openness to experience positively moderates the relationship between experiential expenditure and happiness. This suggests, that individuals who are more open to new experiences can get more happiness from spending money on experiential purchases compared to individuals who are less open to new experiences. However, this effect is very small and equals 0.000 when rounded at three decimals. See appendices A9 and A10 for the full results for respectively happiness and life satisfaction.

By examining my first hypothesis it was found that most experiential activities did not have a significant relationship with SWB. Based on these findings, I expected most moderations to be insignificant, which was confirmed by my results. The experiential activities for which there were no or only a few significant interactions are included in the appendix[14]. This is the case for music activities[15], photography[16], going out[17] and dancing activities[18]. However, the Big Five personality traits moderate the relationship between respectively cultural activities, holidays, sports activities and SWB.

Table 10 shows the personality traits that significantly moderate the relationship between cultural activities and happiness. For reasons of presentation the insignificant coefficients have been suppressed, see the full results in appendix A10. From table 10 it can be inferred that personality trait neuroticism positively moderates the relationship between the 2nd, 3rd and 4th quartile of cultural activities and happiness. This means that individuals with higher levels of neuroticism derive more happiness from cultural activities compared to individuals who have lower levels of neuroticism. Also, the personality trait conscientiousness negatively moderates the relationship between cultural activities (2nd and 3rd quartile) and happiness. This means that individuals who are more conscientious derive less happiness from cultural activities if they fall in the 2nd and 3rd quartile compared to individuals who are less conscientious and also fall in the 2nd and 3rd quartile of cultural activities.

Furthermore, table 11 shows that the personality traits neuroticism and openness to experience positively moderate the relationship between respectively the 3rd and 2nd quartile of cultural activities and life satisfaction (i.e. see appendix A11 for the full

[13] The first column shows the coefficients obtained by examining each moderation separately and the second column shows the coefficients obtained by examining the moderations simultaneously.
[14] The Big Five personality traits did not moderate the relationship between music activities and SWB; and dancing activities and SWB. Also, there were only one or two personality traits that significantly moderated the relationships between photography and SWB; and going out and SWB.
[15] See appendices A16 and A17 for the results for respectively happiness and life satisfaction.
[16] See appendices A18 and A19 for the results for respectively happiness and life satisfaction.
[17] See appendices A20 and A21 for the results for respectively happiness and life satisfaction.
[18] See appendices A22 and A23 for the results for respectively happiness and life satisfaction.

results). This suggests that neurotic individuals derive more life satisfaction from cultural activities if they visit on average 5.5 cultural performances (i.e. 3rd quartile) per year compared to less neurotic individuals. Also, visiting on average 3 cultural performances per year contributes more to the life satisfaction of individuals who are open to new experiences compared to individuals who are less open to new experiences.

Tables 12 and 13 show the personality traits that significantly moderate the relationship between holidays and respectively happiness and life satisfaction (i.e. see appendix A12 and A13 for the full results). From table 12 it can be seen that the interactions between: extraversion and holidays (3rd quartile); openness to experience and holidays (3rd quartile); and conscientiousness and holidays (2nd, 3rd and 4th quartile) all negatively moderate the relationship between holidays and happiness. This finding suggests that individuals who are extraverted, open to new experiences and conscientious derive less happiness from holiday activities compared to individuals who have lower scores on these traits (i.e. this only holds for the significant interactions). On the contrary, the personality trait neuroticism positively moderates the relationship between holidays (2nd, 3rd and 4th quartile) and happiness, which means that neurotic individuals derived more happiness from holidays activities in the 2nd, 3rd and 4th quartile compared to individuals who fall in the same holiday quartiles who are less neurotic. The last column 'Big Five' shows the results obtained by testing the interactions simultaneously. Only a significant negative interaction between extraversion and holidays (3rd quartile) and between neuroticism and holidays (2nd, 3rd and 4th quartile) was found.

Figure 2, graphically presents how the personality trait neuroticism positively moderates the relationship between the number of holidays and happiness. From the figure it can be seen that neurotic individuals who do not go on holidays are less happy (i.e. happiness score of approximately 6.8) than emotionally stable individuals who do not go on holidays (i.e. happiness score of approximately 7.75). This is in line with the findings by McCrae & Costa (1991) and other studies who found that neurotic individuals are predisposed to lower levels of happiness compared to less neurotic individuals. However, it can be seen that the slope for neurotic individuals is steeper than for emotionally stable individuals, which means that neurotic individuals derive more happiness from going on holidays than less neurotic individuals. The two lines intersect at approximately 7.8 holidays per year, which implies that neurotic individuals who go on 7.8 or more holidays per year will report a happiness score that is higher than the happiness score of emotionally stable individuals who go on 7.8 or more holidays per year.

Figure 2: The positive moderating effect of neuroticism on the relationship between holidays and happiness

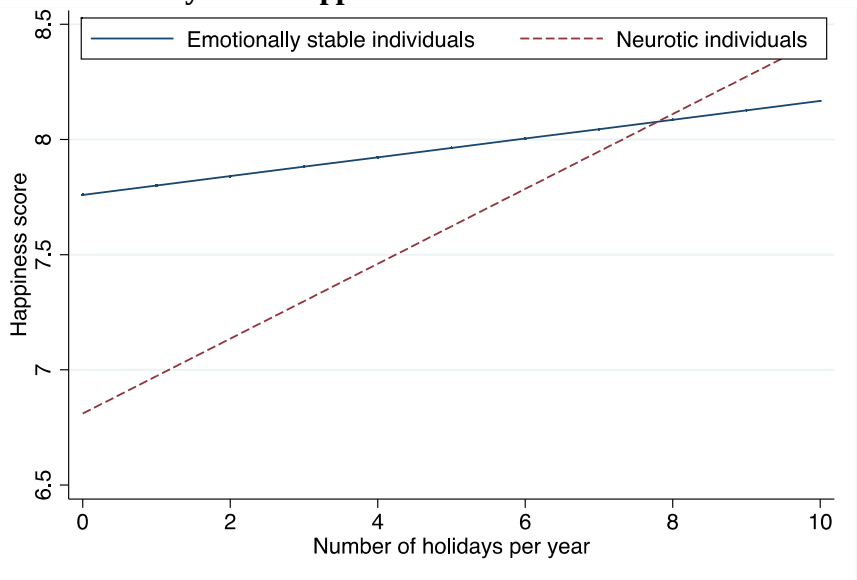
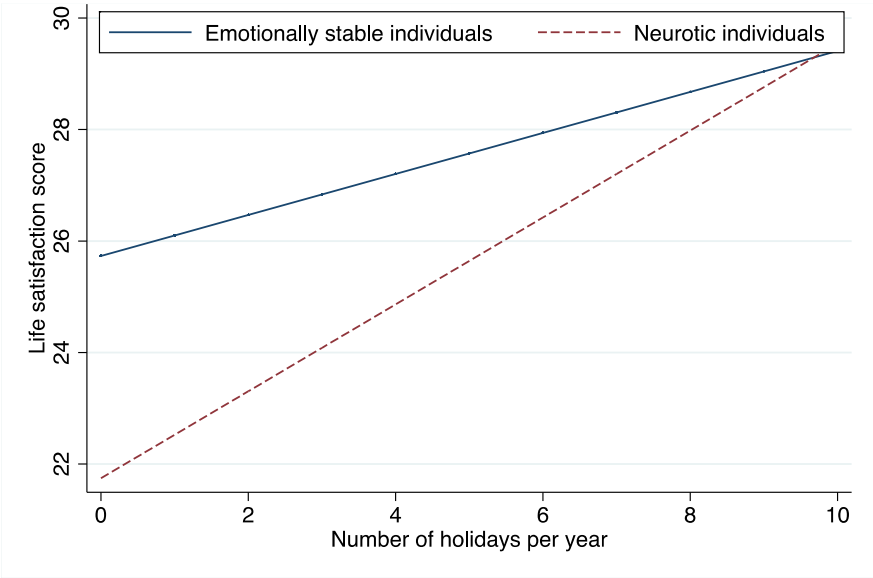


Table 13 shows the personality traits that significantly moderate the relationship between holidays and life satisfaction. It can be inferred that only the personality traits neuroticism and conscientiousness moderate the relationship between holidays and life satisfaction. The interactions between neuroticism and holidays (2nd, 3rd and 4th quartile) are all significant and positive, a finding which is similar to the moderating results found for happiness. On the contrary, the personality trait conscientiousness negatively moderates the relationship between holidays (2nd quartile) and life satisfaction. This implies that going on average one and a half times per year on holiday has a negative effect on the life satisfaction scores of conscientious individuals compared to less conscientious individuals who also go one and a half times per year on holiday. Furthermore, the moderating effects between the Big Five personality traits and holidays were examined simultaneously, represented by the column with the 'Big Five' header. Only, the personality trait neuroticism negatively moderates the relationship between the 3rd and 4th quartile of holidays and life satisfaction.

In addition, figure 3 shows the positive moderating effect of neuroticism on the relationship between holidays and life satisfaction. Similar to figure 2, it can be seen that neurotic individuals initially report lower levels of life satisfaction than emotionally stable individuals. However, the slope is again steeper for neurotic individuals than for emotionally stable individuals, suggesting that neurotic individuals benefit more from going on holidays than less neurotic individuals. The interception between the two lines is at approximately 9.8 holidays per year, which implies that neurotic individuals report higher life satisfaction if they go on 9.8 or more holidays per year compared to emotionally stable individuals who go on the same number of holidays per year.

Figure 3: The positive moderating effect of neuroticism on the relationship between holidays and life satisfaction



Lastly, table 14 shows the personality traits that significantly moderate the relationship between sport activities and happiness (see appendix A14 for the full results). It can be inferred that the personality trait agreeableness negatively moderates the relationship between the 4th quartile of sport activities and happiness; and the personality traits conscientiousness and openness to experience both negatively moderate the relationship between the 2nd and 4th quartile of sport activities and happiness. When the interactions were examined simultaneously only the negative moderation between the personality trait conscientiousness and the 2nd quartile of sport activities remained significant. Thus, individuals who are agreeable, open to new experiences and conscientious will report lower happiness scores when they spend a certain amount of time on sport activities (i.e. this only holds for the significant interactions) than individuals who are less agreeable, less open to new experiences and less conscientious and who spend the same amount of time on sport activities. With regards to life satisfaction, only the personality trait neuroticism negatively moderates the relationship between the 2nd quartile of sport activities and life satisfaction (i.e. see appendix A15 for the results). This implies that a person who is highly neurotic and spends on average half an hour per week on sport activities, reports higher happiness scores than less neurotic individuals who spend the same amount of time on sport activities.

Table 9: Moderating effect of personality on the relationship between experiential expenditure and SWB

	Happiness				Life satisfaction			
	(1)		(2)		(1)		(2)	
	β	SE	β	SE	β	SE	β	SE
Experiential expenditure			0	(-0.003)			-0.006	(-0.015)
Moderation								
Exp. expenditure*Extraversion (E)	0	(0)	0	(0)	0	(0)	0	(0)
Exp. Expenditure*Agreeableness (A)	0	(0)	0	(0)	0	(0)	0	(0)
Exp. expenditure*Neuroticism (N)	0	(0)	0	(0)	0	(0)	0	(0)
Exp. expenditure*Openness (O)	0	(0)	0.000*	(0)	0	(0)	0	(0)
Exp. expenditure*Conscientiousness (C)	0	(0)	0	(0)	0	(0)	0	(0)
Constant	4.733***	(-0.306)	4.757***	(-0.331)	14.434***	(-1.213)	14.657***	(-1.358)
Observations	4,081		4,081		4,081		4,081	
R-squared	0.315		0.315		0.373		0.373	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 10: The moderating effect of personality on the relationship between cultural activities and happiness

	Happiness					
	(N)		(C)		(Big Five)	
	β	SE	β	SE	β	SE
Cultural activities (50th percentile)	-0.116	(-0.122)	0.981***	(-0.363)	0.147	(-0.591)
Cultural activities (75th percentile)	-0.284**	(-0.113)	0.582*	(-0.344)	0.09	(-0.547)
Cultural activities (100th percentile)	-0.146	(-0.115)	0.532	(-0.34)	0.058	(-0.545)
Moderation						
Cultural activities (50th percentile)*N	0.015**	(-0.008)			0.013	(-0.008)
Cultural activities (75th percentile)*N	0.016**	(-0.007)			0.015**	(-0.008)

Cultural activities (100th percentile)*N	0.013*	(-0.007)			0.013	(-0.008)
Cultural activities (50th percentile)*C			-0.023**	(-0.01)	-0.024**	(-0.011)
Cultural activities (75th percentile)*C			-0.016*	(-0.009)	-0.015	(-0.011)
Cultural activities (100th percentile)*C			-0.012	(-0.009)	-0.012	(-0.011)
Constant	4.914***	(-0.306)	4.367***	(-0.354)	4.744***	(-0.439)
Observations	4,081		4,081		4,081	
R-squared	0.317		0.317		0.319	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 11: The moderating effect of personality on the relationship between cultural activities and life satisfaction

Life satisfaction						
	(N)		(O)		(Big Five)	
	β	SE	β	SE	β	SE
Cultural activities (50th percentile)	0.315	(-0.515)	-2.555	(-1.594)	-1.395	(-2.384)
Cultural activities (75th percentile)	-0.46	(-0.438)	0.79	(-1.3)	-0.341	(-2.243)
Cultural activities (100th percentile)	0.243	(-0.448)	-1.374	(-1.406)	-2.995	(-2.338)
Moderation						
Cultural activities (50th percentile)*N	0.015	(-0.031)			0.013	(-0.034)
Cultural activities (75th percentile)*N	0.054**	(-0.026)			0.056*	(-0.029)
Cultural activities (100th percentile)*N	0.012	(-0.027)			0.034	(-0.031)
Cultural activities (50th percentile)*O			0.092**	(-0.047)	0.117**	(-0.051)
Cultural activities (75th percentile)*O			-0.009	(-0.038)	0.014	(-0.042)
Cultural activities (100th percentile)*O			0.053	(-0.04)	0.045	(-0.044)
Constant	14.606***	(-1.204)	15.237***	(-1.436)	15.623***	(-1.719)
Observations	4,081		4,081		4,081	
R-squared	0.375		0.375		0.377	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 12: The moderating effect of personality on the relationship between holidays and happiness

Happiness										
	(E)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE
Holidays (50th percentile)	0.439*	(-0.265)	-0.322***	(-0.119)	0.512	(-0.34)	1.079***	(-0.353)	0.404	(-0.549)
Holidays (75th percentile)	0.883***	(-0.257)	-0.244**	(-0.111)	0.979***	(-0.32)	0.753**	(-0.33)	0.900*	(-0.538)
Holidays (100th percentile)	0.456	(-0.306)	-0.265**	(-0.131)	0.615*	(-0.355)	0.841**	(-0.382)	-0.097	(-0.61)
Moderation										
Holidays (50th percentile)*E	-0.008	(-0.008)							-0.006	(-0.008)
Holidays (75th percentile)*E	-0.022***	(-0.008)							-0.016**	(-0.008)
Holidays (100th percentile)*E	-0.007	(-0.009)							-0.002	(-0.009)
Holidays (50th percentile)*N			0.028***	(-0.007)					0.024***	(-0.008)
Holidays (75th percentile)*N			0.023***	(-0.007)					0.019***	(-0.007)
Holidays (100th percentile)*N			0.028***	(-0.008)					0.029***	(-0.009)
Holidays (50th percentile)*O					-0.01	(-0.01)			0.003	(-0.011)
Holidays (75th percentile)*O					-0.024***	(-0.009)			-0.014	(-0.011)
Holidays (100th percentile)*O					-0.012	(-0.01)			-0.005	(-0.012)
Holidays (50th percentile)*C							-0.025***	(-0.009)	-0.017	(-0.011)
Holidays (75th percentile)*C							-0.017*	(-0.009)	-0.009	(-0.01)
Holidays (100th percentile)*C							-0.017*	(-0.01)	-0.01	(-0.012)
Constant	4.348***	(-0.352)	4.977***	(-0.311)	4.311***	(-0.365)	4.180***	(-0.373)	4.463***	(-0.467)
Observations	4,081		4,081		4,081		4,081		4,081	
R-squared	0.32		0.322		0.319		0.319		0.325	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 13: The moderating effect of personality on the relationship between holidays and life satisfaction

Life satisfaction						
	(N)		(C)		(Big Five)	
	β	SE	β	SE	β	SE
Holidays (50th percentile)	0.168	(-0.483)	3.836***	(-1.332)	2.041	(-2.33)
Holidays (75th percentile)	0.114	(-0.431)	3.236**	(-1.261)	3.056	(-2.215)
Holidays (100th percentile)	0.134	(-0.509)	2.786*	(-1.491)	-0.373	(-2.542)
Moderation						
Holidays (50th percentile)*N	0.050*	(-0.028)			0.038	(-0.031)
Holidays (75th percentile)*N	0.070***	(-0.025)			0.059**	(-0.029)
Holidays (100th percentile)*N	0.083***	(-0.031)			0.091**	(-0.036)
Holidays (50th percentile)*C			-0.076**	(-0.036)	-0.059	(-0.041)
Holidays (75th percentile)*C			-0.053	(-0.034)	-0.023	(-0.04)
Holidays (100th percentile)*C			-0.034	(-0.04)	-0.004	(-0.047)
Constant	14.408***	(-1.222)	12.233***	(-1.405)	13.230***	(-1.783)
Observations	4,081		4,081		4,081	
R-squared	0.386		0.385		0.388	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Table 14: The moderating effect of personality on the relationship between sport activities and happiness

Happiness								
	(A)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE
Sport activities (50th percentile)	-0.085	(-0.359)	0.596	(-0.39)	1.047**	(-0.439)	1.370**	(-0.661)
Sport activities (75th percentile)	-0.115	(-0.227)	0.297	(-0.313)	0.175	(-0.317)	0.099	(-0.531)
Sport activities (100th percentile)	0.454*	(-0.233)	0.721**	(-0.318)	0.821**	(-0.337)	0.901*	(-0.534)

Moderation								
Sport activities (50th percentile)*A	0.001	(-0.009)					0.016	(-0.011)
Sport activities (75th percentile)*A	0.003	(-0.006)					0.008	(-0.007)
Sport activities (100th percentile)*A	-0.011*	(-0.006)					-0.003	(-0.007)
Sport activities (50th percentile)*O			-0.019*	(-0.011)			-0.014	(-0.013)
Sport activities (75th percentile)*O			-0.009	(-0.009)			-0.009	(-0.01)
Sport activities (100th percentile)*O			-0.019**	(-0.009)			-0.016	(-0.011)
Sport activities (50th percentile)*C					-0.030**	(-0.012)	-0.037***	(-0.013)
Sport activities (75th percentile)*C					-0.005	(-0.008)	-0.006	(-0.01)
Sport activities (100th percentile)*C					-0.021**	(-0.009)	-0.015	(-0.01)
Constant	4.702***	(-0.316)	4.501***	(-0.326)	4.436***	(-0.33)	4.426***	(-0.373)
Observations	4,081		4,081		4,081		4,081	
R-squared	0.315		0.315		0.316		0.318	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

5. Discussion and conclusion

5.1 Summary and implications

This study extends on the findings by Matz et al. (2016) who found that individuals with certain personality traits derive more life satisfaction from purchases that are in line with their personality traits. This study contributes to the literature by examining the moderating role of the Big Five personality traits on the relationship between experiential consumption and SWB. Three continuous variables are used to indicate the level of SWB of the respondents, one variable for happiness and two variables for life satisfaction. With respect to experiential consumption this study distinguishes between experiential expenditure and seven experiential activities (i.e. holidays, cultural activities, sport activities, music activities, going out, photography and dancing). It is hypothesized that experiential consumption has a positive impact on the happiness and life satisfaction of individuals. Moreover, based on the findings by Matz et al. (2016) it is hypothesized that the Big Five personality traits (i.e. extraversion, neuroticism, agreeableness, openness and conscientiousness) moderate the relationship between experiential consumption and SWB.

The data sample in this study consists of 4,081 individuals and is obtained from the LISS panel for the years 2008 and 2009. Ordinary least squares regressions are used to test the two hypotheses. The results of this study show that experiential consumption has a positive impact on both the reported happiness and life satisfaction scores of individuals. First, experiential expenditure has a positive coefficient of 0.001 on both happiness and life satisfaction (i.e. only when assessed by the single-item life satisfaction scale). In addition, all the significant relationships between the experiential activities and SWB were positive. Especially, the number of holidays has a consistent positive relationship with SWB. However, it is important to mention that the effects of the other experiential activities were predominantly insignificant. Based on the empirical results it can be concluded that when experiential consumption has a significant effect on SWB, this effect is positive. Therefore, hypothesis 1 is accepted. Furthermore, this study examined the moderating role of personality both separately and simultaneously on the relationship between experiential consumption and SWB. The results show that certain personality traits moderate the relationship between experiential consumption and SWB, however, most interactions were insignificant. One exception was the number of holidays, for which most of the personality traits moderated the relationship between SWB. In addition, a few personality traits moderated the relationship between sport activities and cultural activities. On the contrary, the Big Five personality traits did not moderate the relationship between respectively music activities; dancing activities; photography; and going out and SWB. So, the evidence on the moderating role of personality is mixed, but the interactions were predominantly insignificant. Therefore, hypothesis 2 is rejected.

5.2 Limitations and discussion for further research

The results of this study are likely to be influenced by endogeneity issues, which is a common problem in SWB research (Becchetti, Pelloni, & Rossetti, 2008). Endogeneity in this study is probably caused by omitting relevant variables and by self-selection. First, the Ramsey specification test has been used to test for omitted variables and the results showed that my results suffer from omitted variable bias. This was expected because there are a number of relevant variables, which are either correlated with SWB or to one of the explanatory variables, that were not included in the research model (Hajek, 2013). First, health is not included as a control variable, which is consistently found to have a strong correlation with SWB (Diener, et al., 1999; Wilson, 1967). Also, this study did not control for the general consumption levels (i.e. how much people spend in general), which is likely to influence the amount individuals spend on experiential consumption. However, based on the study by Royo (2007) it was assumed that income a good proxy for consumption, which means that the general consumption levels are similar to income. Another factor that is consistently found to have a negative relationship with both SWB and income is unemployment (Hurd, Rohwedder, & Tassot, 2014). Moreover, it is likely that unemployment is correlated with the experiential activities. For instance, a person who is unemployed has more free time to spend on sport activities. Second, the findings that experiential consumption is positively related to SWB may be caused by self-selection. This means that the individuals who engage in experiential consumption are already happier than the individuals who do not engage in experiential consumption. The result is that there is no causal effect of experiential consumption on SWB (Hajek, 2013). This is in line with the findings by Howell, Pchelin & Iyer (2012) who showed that individuals who score high on the happy personality traits (i.e. extraversion, agreeableness, openness to experience and conscientiousness) are more likely to engage in experiential consumption than individuals who score high on the unhappy personality trait (i.e. neuroticism). As a consequence, it is likely that the results of this study are biased by self-selection. Another limitation of this study is that many other experiential activities have not been included in the research model. In general, there was probably not enough variation in the experiential activities to find significant results, i.e. most responses fell in the first quartile which suggested that individuals did not spend any or almost no time on the experiential activities. Future research should extend the current study by examining including more experiential activities in the analysis. Prior studies have found that people mainly spend their free time on watching television (Brajša-Žganec, Merkaš, & Šverko, 2011), so it is worth investigating this experiential activity in the future. In addition, it can be useful to group certain experiential activities together, as a result there is more variance in the variables, which makes it more likely that a significant effect will be found. This has for instance also been done in the study by Kennedy & Smith (1990) who grouped various leisure activities in six categories (i.e. mass media, social activities, outdoor activities, sport activities, cultural activities and hobbies). Furthermore, future research can try to solve limit the omitted variable bias by including more variables that are relevant for studying the relationship between experiential consumption and SWB. However, you cannot control for all relevant variables that influence SWB, meaning that there will always be omitted variables.

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Appendix

Appendix A1: Description of variables

Variables	*Type*	Scoring	*Measurement*
Dependent variables			
Happiness	Continuous	0 (totally unhappy) -10 (totally happy)	On the whole, how happy would you say you are?
Life satisfaction (LS)	Continuous	0 (not at all satisfied) - 10 (completely satisfied)	How satisfied are you with the life you lead at the moment?
Satisfaction with Life Scale (SWLS)	Continuous	Extremely dissatisfied, Dissatisfied, Slightly dissatisfied, Neutral, Slightly satisfied, Satisfied, Extremely satisfied Alpha = 0.8827	1. In most ways my life is close to my ideal. 2. The conditions of my life are excellent. 3. I am satisfied with my life 4. So far I have gotten the important things I want in life 5. If I could live my life over, I would change almost nothing
Experiential consumption			
Experiential expenditure	Continuous	0 – 1000	The monthly amount spend in euros on personal leisure time expenditure
Cultural activities	Categorical	0-2, 2-4, 4-7, >7	How often did you visit cultural performances or facilities over the past 12 months? (e.g. museum, art gallery, cinema).
Holidays	Categorical	0-1, 1-2, 2-4, >4	Number of holidays within the Netherlands or abroad over the past 12 months
Sport activities	Categorical	0, 0 -1, 1 - 3, >3	Average weekly time expenditure in hours on sport activities
Music	Categorical	0, 0, 0, >0	Average weekly time expenditure in hours on making music
Photograph	Categorical	0, 0, 0, >0	Average weekly time expenditure in hours on photography
Going out	Categorical	0, 0, 0 - 2, >2	Average weekly time expenditure in hours on going out, cinema, theatre, dining out and terrace lounging
Dancing	Categorical	0, 0, 0, >0	Average weekly time expenditure in hours on playing dancing
Personal characteristics			
Trust	Continuous	0 (no trust) – 8 (most people can be trusted)	Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?
Self-esteem	Continuous	0 (no-self-esteem) – 18 (high self-esteem) Alpha = 0.7932	1. I am satisfied with the way I look 2. I feel good about myself 3. I have confidence in my capabilities
Demographic characteristics			

Gender	Categorical	Male - Female	Gender
Education	Categorical	Primary school, Secondary education, Higher secondary education, Intermediate vocational education, Higher vocational education, University	Level of education in CBS (Statistics Netherlands) categories)
Number of children	Categorical	None, 1 child, 2 children, 3 children, 4 children, 5 children, 6 children	Number of living-at-home children in the household
Marital status	Categorical	Married, Separated, Divorced, Widow or Widower, Never been married	Civil status
Urban character	Categorical	Extremely urban, Very urban, Moderately urban, Slightly urban, Not urban	Urban character of place of residence
Household income	Continuous	0 – 285.759	Net household income in euros
Age	Continuous	16 - 92	Age of the household member
Social characteristics			
Social connection	Continuous	0 (no social connection) – 12 (high social connection) Alpha = 0.8007	1. I have a sense of emptiness around me (-) 2. There are enough people I can count on in case of misfortune (+) 3. I know a lot of people that I can fully rely on (+) 4. There are enough people to whom I feel closely connected (+) 5. I miss having people around me (-) 6. I often feel deserted (-)
Frequency social meetings	Continuous	0 (never) – 7 (almost every day) Alpha = 0.606	1. How often do you spend an evening with family (other than members of your own household)? 2. How often do you spend an evening with someone from the neighbourhood? 3. How often do you spend an evening with friends outside your neighbourhood? 4. How often do you visit a bar or café?

Appendix A1 continued, description of the Big Five personality traits

Variable	*Type*	*Scores*	*Measurement* Directly-scored items	Reverse-scored items
Extraversion	Continuous	10 (low) – 50 (high) Alpha = 0.8309	1. I am the life of the party 2. Feel comfortable around people	6. Don't talk a lot 7. Stay in the background

			3. Start conversations 4. Talk to a lot of people at parties 5. Don't mind being centre of attention	8. Have little to say 9. Don't like to draw attention to myself 10. Am quiet around strangers
Agreeableness	Continuous	15 (low) – 50 (high) Alpha = 0.8813	1. Am interested in people 2. Sympathize with others' feelings 3. Have a soft hard 4. Take time out for others 5. Feel others' emotions 6. Make people feel at ease	7. Feel little concern for others 8. Insult people 9. Am not really interested in others 10. Am not interested in other people's problems
Conscientiousness	Continuous	17 (low) – 50 (high) Alpha = 0.7446	1. I am always prepared 2. Pay attention to details 3. Get chores done right away 4. Like order 5. Follow a schedule 6. I am exacting in my work	7. Leave my belongings around 8. Make a mess of things 9. Avoid doing my duties 10. Often forget to put things back in their proper places
Neuroticism	Continuous	0 (low) – 39 (high) Alpha = 0.8511	1. Am replaced most of the time 2. Seldom feel blue	3. Get stressed out easily 4. Worry about things 5. Am easily disturbed 6. Get upset easily 7. Change my mood a lot 8. Have frequent mood swings 9. Get irritated easily 10. Often feel blue
Openness	Continuous	15 (low) - 50 (high) Alpha = 0.6922	1. Have a rich vocabulary 2. Have a vivid imagination 3. Have excellent ideas 4. Am quick to understand things 5. Use difficult words 6. Spend time reflecting on things 7. Am full of ideas	8. Am not interested in abstract ideas 9. Do not have a good imagination 10. Have difficulty understanding abstract ideas

Appendix A2: Distribution of the categorical variables

Gender	Freq.	Percent	Cum.
Male	1,927	47.22	47.22
Female	2,154	52.78	100
Total	4,081	100	

Number of children	Freq.	Percent	Cum.
None	2,451	60.06	60.06
One child	453	11.1	71.16
Two children	834	20.44	91.6
Three children	276	6.76	98.36
Four children	47	1.15	99.51
Five children	11	0.27	99.78
Six children	9	0.22	100
Total	4,081	100	

Marital status	Freq.	Percent	Cum.
Married	2,394	58.66	58.66
Separated	18	0.44	59.1
Divorced	357	8.75	67.85
Widow or widower	211	5.17	73.02
Never been married	1,101	26.98	100
Total	4,081	100	

Urban character	Freq.	Percent	Cum.
Extremely urban	540	13.23	13.23
Very urban	1,078	26.42	39.65

Moderately urban	949	23.25	62.9
Slightly urban	887	21.73	84.64
not urban	627	15.36	100
Total	4,081	100	

Education	Freq.	Percent	Cum.
Primary school	384	9.41	9.41
Secondary education	1,088	26.66	36.07
Higher secondary education	456	11.17	47.24
Intermediate vocational education	899	22.03	69.27
Higher vocational education	938	22.98	92.26
University	316	7.74	100
Total	4,081	100	

Years	Freq.	Percent	Cum.
2009	3,323	81.43	81.43
2010	758	18.57	100
Total	4,081	100	

Appendix A3: Distribution (in percentage) of the seven experiential activities over the four quartiles

Quartile	Cultural	Holidays	Sports	Music	Photography	Going out	Dancing
1	34.99	32.49	45.85	91	78.12	61	90.96
2	19.97	23.08	7.47	-	-	-	-
3	23.43	29.09	23.28	-	-	15.8	-
4	21.61	15.34	23.4	9.38	21.88	23.5	9.04
Total	100	100	100	100	100	100	100

Table A4: Full correlation matrix

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Happiness	1.000													
2. SWLS	0.700	1.000												
3. LS	0.837	0.728	1.000											
4. Year	-0.027	-0.062	-0.035	1.000										
5. Trust	0.257	0.303	0.268	-0.058	1.000									
6. Self-esteem	0.386	0.417	0.381	-0.005	0.128	1.000								
7. Gender	0.013	0.013	0.000	-0.005	0.010	-0.118	1.000							
8. Age	0.004	0.032	0.047	0.052	0.051	0.062	-0.073	1.000						
9. Number of children	0.053	0.038	0.021	-0.126	-0.021	-0.040	0.029	-0.476	1.000					
10. Marital status	-0.144	-0.165	-0.156	0.104	-0.020	-0.077	0.026	-0.451	-0.010	1.000				
11. Urban character	0.024	0.036	0.039	-0.055	0.009	-0.018	0.001	0.027	0.126	-0.129	1.000			
12. Net household income	0.032	0.047	0.032	-0.024	0.017	-0.002	0.002	0.002	0.042	-0.030	0.021	1.000		
13. Education	0.026	0.061	0.027	-0.005	0.131	0.028	-0.102	-0.108	0.053	0.000	-0.083	0.025	1.000	
14. Extraversion	0.213	0.193	0.186	0.203	0.091	0.291	0.013	-0.073	-0.007	0.060	-0.071	0.004	0.061	1.000
15. Agreeableness	0.075	0.080	0.069	-0.769	0.112	0.035	0.183	-0.019	0.097	-0.110	0.014	0.024	-0.008	-0.014
16. Conscientiousness	0.163	0.182	0.175	-0.350	0.029	0.212	0.081	0.132	-0.058	-0.192	0.013	0.008	0.034	0.040
17. Neuroticism	-0.330	-0.368	-0.342	0.408	-0.197	-0.341	0.153	-0.048	-0.044	0.111	-0.036	-0.030	-0.073	-0.099
18. Openness	0.088	0.104	0.071	-0.246	0.099	0.247	-0.076	-0.121	0.055	0.061	-0.093	0.024	0.270	0.275
19. Experiential expenditure	0.037	0.032	0.048	0.011	0.029	0.009	-0.040	-0.064	-0.016	0.107	-0.070	0.040	0.121	0.079
20. Cultural activities	0.077	0.100	0.079	0.042	0.189	0.046	0.033	-0.108	-0.013	0.172	-0.149	0.033	0.247	0.186
21. Holiday activities	0.148	0.206	0.172	-0.005	0.129	0.085	-0.006	-0.013	-0.024	-0.038	-0.044	0.023	0.172	0.129
22. Sport activities	0.072	0.070	0.075	0.000	0.062	0.059	-0.089	-0.120	0.055	0.104	0.012	0.004	0.052	0.116
23. Music activities	-0.008	-0.020	-0.009	0.004	0.005	0.009	-0.065	-0.049	0.011	0.037	-0.012	0.001	0.022	0.041
24. Photography activities	0.013	-0.007	-0.003	0.023	-0.027	0.033	-0.052	-0.004	-0.011	0.019	-0.047	-0.005	0.026	0.061
25. Going out	0.009	0.003	-0.004	0.061	0.018	0.019	0.015	-0.295	0.040	0.311	-0.083	0.004	0.031	0.177
26. Dancing activities	0.016	-0.043	-0.003	0.006	-0.027	0.006	0.113	-0.196	0.040	0.172	-0.051	-0.012	-0.029	0.105
27. Gender	0.386	0.398	0.379	-0.063	0.231	0.240	0.026	-0.019	0.032	-0.097	0.042	0.024	0.059	0.231
28. Frequency social meetings	-0.082	-0.098	-0.069	-0.028	-0.079	-0.052	0.015	0.331	-0.083	-0.283	0.023	-0.018	-0.046	-0.273

Variable	15	16	17	18	19	20	21	22	23	24	25	26	27	28
15. Agreeableness	1.000													
16. Conscientiousness	0.405	1.000												
17. Neuroticism	-0.336	-0.292	1.000											
18. Openness	0.292	0.272	-0.224	1.000										
19. Experiential expenditure	-0.023	-0.019	-0.006	0.064	1.000									
20. Cultural activities	0.004	-0.051	-0.024	0.225	0.209	1.000								
21. Holiday activities	0.009	0.016	-0.086	0.085	0.093	0.333	1.000							
22. Sport activities	0.000	-0.004	-0.042	0.078	0.104	0.186	0.123	1.000						
23. Music activities	0.011	-0.025	0.010	0.079	0.026	0.078	-0.002	0.021	1.000					
24. Photography activities	-0.014	-0.033	0.003	0.072	0.028	0.096	0.033	0.036	0.026	1.000				
25. Going out	-0.039	-0.065	0.025	0.099	0.135	0.318	0.162	0.132	0.052	0.112	1.000			
26. Dancing activities	0.025	-0.028	0.035	0.038	0.062	0.144	0.035	0.119	0.017	0.066	0.277	1.000		
27. Gender	0.123	0.125	-0.291	0.088	0.027	0.141	0.141	0.069	0.028	-0.019	0.056	0.025	1.000	
28. Frequency social meetings	-0.022	0.065	0.047	-0.121	-0.121	-0.299	-0.172	-0.175	-0.071	-0.056	-0.398	-0.180	-0.260	1.000

Appendix A5: Happiness of individuals by experiential expenditure

	Happiness					
	(1)		(2)		(3)	
	β	SE	β	SE	β	SE
Experiential expenditure	0.001**	(-0.001)	0.001***	(-0.001)	0.0001***	(-0.000)
Social connection			0.136***	(-0.001)	0.113***	(-0.010)
Frequency social meetings			0.007	(0.019)	0.012	(-0.020)
Extraversion					0.013***	(-0.003)
Agreeableness					-0.002	(-0.004)
Conscientiousness					0.013***	(-0.004)
Neuroticism					-0.033***	(-0.003)

Openness					-0.013***	(-0.004)
Trust			0.098***	(-0.010)	0.089***	(-0.010)
Self-esteem			0.136***	(-0.008)	0.108***	(-0.009)
Gender (female)			0.109***	(-0.035)	0.140***	(-0.037)
Age			-0.002	(-0.002)	-0.003**	(-0.002)
Number of children (one child)			-0.021	(-0.06)	-0.007	(-0.059)
Number of children (two children)			0.093*	(-0.049)	0.087*	(-0.050)
Number of children (three children)			0.151**	(-0.065)	0.146**	(-0.070)
Number of children (four children)			0.143	(-0.126)	0.174	(-0.126)
Number of children (five children)			-0.02	(-0.140)	-0.063	(-0.130)
Number of children (six children)			0.656***	(-0.210)	0.571***	(-0.208)
Marital status (separated)			-0.633**	(-0.294)	-0.605**	(-0.293)
Marital status (divorced)			-0.418***	(-0.065)	-0.409***	(-0.065)
Marital status *(*widow or widower)			-0.455***	(-0.092)	-0.426***	(-0.091)
Marital status (never been married)			-0.261***	(-0.053)	-0.243***	(-0.052)
Urban character (very urban)			0.068	(-0.056)	0.055	(-0.055)
Urban character (moderately urban)			-0.005	(-0.058)	-0.025	(-0.058)
Urban character (slightly urban)			0.023	(-0.058)	0.030	(-0.060)
Urban character (not urban)			0.034	(-0.062)	0.014	(-0.062)
Education (secondary education)			0.008	(-0.073)	0.000	(-0.072)
Education (higher secondary education)			-0.119	(-0.080)	-0.094	(-0.079)
Education (intermediate vocational education)			-0.074	(-0.073)	-0.094	(-0.072)
Education (higher vocational education)			-0.091	(-0.072)	-0.090	(-0.070)
Education (university)			-0.078	(-0.086)	-0.063	(-0.085)
Net household income			0.000	(0.000)	0.000*	(0.000)
Year (2010)	-0.089*	(-0.054)	0.076	(-0.047)	0.250***	(-0.087)
Constant	7.590***	(-0.025)	3.961***	(-0.209)	4.730***	(-0.301)
Observations	4,081		4,081		4,081	
R-Squared	0.002		0.288		0.315	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A6: SWB of individuals by experiential expenditure

	Happiness		SWLS		LS	
	β	SE	β	SE	β	SE
Experiential expenditure	0.001***	(-0.000)	0.002	(-0.001)	0.001***	(-0.000)
Social connection	0.113***	(-0.009)	0.430***	(-0.037)	0.118***	(-0.011)
Frequency social meetings	0.018	(-0.020)	-0.127*	(-0.076)	0.011	(-0.021)
Extraversion	0.013***	(-0.003)	0.033**	(-0.013)	0.010***	(-0.004)
Agreeableness	-0.002	(-0.004)	-0.054***	(-0.017)	-0.006	(-0.005)
Conscientiousness	0.013***	(-0.004)	0.057***	(-0.016)	0.018***	(-0.004)
Neuroticism	-0.033***	(-0.003)	-0.148***	(-0.014)	-0.038***	(-0.004)
Openness	-0.013***	(-0.004)	-0.051***	(-0.017)	-0.018***	(-0.005)
Trust	0.089***	(-0.010)	0.464***	(-0.040)	0.103***	(-0.011)
Self-esteem	0.108***	(-0.009)	0.509***	(-0.034)	0.114***	(-0.009)
Gender (female)	0.140***	(-0.037)	0.861***	(-0.146)	0.137***	(-0.039)
Age	-0.003**	(-0.002)	0.004	(-0.007)	-0.000	(-0.002)
Number of children (one child)	-0.007	(-0.06)	-0.058	(-0.249)	-0.003	(-0.066)
Number of children (two children)	0.087*	(-0.05)	0.727***	(-0.198)	0.091*	(-0.051)
Number of children (three children)	0.146**	(-0.065)	0.380	(-0.267)	0.083	(-0.070)
Number of children (four children)	0.174	(-0.126)	-0.385	(-0.558)	0.012	(-0.163)
Number of children (five children)	-0.063	(-0.130)	0.726	(-1.365)	-0.264*	(-0.148)
Number of children (six children)	0.571***	(-0.208)	-0.654	(-1.558)	0.481**	(-0.218)
Marital status (separated)	-0.605**	(-0.293)	-4.600***	(-1.355)	-0.452	(-0.279)
Marital status (divorced)	-0.409***	(-0.065)	-2.629***	(-0.262)	-0.462***	(-0.066)
Marital status (widow or widower)	-0.426***	(-0.091)	-1.710***	(-0.345)	-0.413***	(-0.099)
Marital status (never been married)	-0.243***	(-0.052)	-0.926***	(-0.221)	-0.229***	(-0.057)
Urban character (very urban)	0.055	(-0.055)	0.225	(-0.233)	0.076	(-0.061)

Urban character (moderately urban)	-0.025	(-0.058)	0.222	(-0.237)	0.044	(-0.063)
Urban character (slightly urban)	0.030	(-0.057)	0.328	(-0.244)	0.119*	(-0.063)
Urban character (not urban)	0.014	(-0.062)	0.167	(-0.259)	0.056	(-0.066)
Education (secondary education)	0.000	(-0.072)	0.252	(-0.286)	-0.011	(-0.080)
Education (higher secondary education)	-0.094	(-0.078)	0.119	(-0.328)	-0.060	(-0.087)
Education (intermediate vocational education)	-0.094	(-0.072)	-0.041	(-0.294)	-0.083	(-0.079)
Education (higher vocational education)	-0.089	(-0.070)	0.212	(-0.288)	-0.084	(-0.080)
Education (University)	-0.063	(-0.085)	0.629*	(-0.344)	-0.026	(-0.093)
Net household income	0.000*	(0.000)	0.000***	(0.000)	0.000	(0.000)
Year (2010)	0.250***	(-0.087)	0.081	(-0.325)	0.202**	(-0.092)
Constant	4.730***	(-0.301)	14.379***	(-1.182)	4.625***	(-0.321)
Observations	4,081		4,081		4,081	
R-Squared	0.315		0.373		0.314	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A7: Happiness of the individuals by experiential activities

	Happiness											
	(1)		(2)		(3)		(4)		(5)		(6)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Experiential expenditure	0.001	(-0.001)	0.001	(-0.001)	0	(-0.001)	-0.001	(-0.001)	0.001	(-0.002)	0	(-0.003)
Moderation												
Experiential expenditure*E	0	(0)									0	(0)
Experiential expenditure*A			0	(0)							0	(0)
Experiential expenditure*N					0	(0)					0	(0)
Experiential expenditure*O							0	(0)			0.000*	(0)
Experiential expenditure*C									0	(0)	0	(0)
Social connection	0.113***	(-0.01)	0.113***	(-0.01)	0.113***	(-0.01)	0.114***	(-0.01)	0.113***	(-0.01)	0.114***	(-0.01)
Frequency social meetings	0.018	(-0.02)	0.017	(-0.02)	0.018	(-0.02)	0.018	(-0.02)	0.018	(-0.02)	0.017	(-0.02)
Extraversion	0.013***	(-0.004)	0.013***	(-0.003)	0.013***	(-0.003)	0.013***	(-0.003)	0.013***	(-0.003)	0.014***	(-0.004)
Agreeableness	-0.002	(-0.004)	-0.001	(-0.005)	-0.002	(-0.004)	-0.002	(-0.004)	-0.002	(-0.004)	0	(-0.005)
Conscientiousness	0.013***	(-0.004)	0.013***	(-0.004)	0.013***	(-0.004)	0.013***	(-0.004)	0.014***	(-0.004)	0.014***	(-0.005)
Neuroticism	-0.033***	(-0.003)	-0.033***	(-0.003)	-0.033***	(-0.004)	-0.033***	(-0.003)	-0.033***	(-0.003)	-0.034***	(-0.004)
Openness	-0.013***	(-0.004)	-0.013***	(-0.004)	-0.013***	(-0.004)	-0.015***	(-0.005)	-0.013***	(-0.004)	-0.018***	(-0.005)
Trust	0.089***	(-0.01)	0.089***	(-0.01)	0.089***	(-0.01)	0.089***	(-0.01)	0.089***	(-0.01)	0.089***	(-0.01)
Self-esteem	0.108***	(-0.009)	0.108***	(-0.009)	0.108***	(-0.009)	0.108***	(-0.009)	0.108***	(-0.009)	0.108***	(-0.009)
Gender (female)	0.140***	(-0.037)	0.140***	(-0.037)	0.140***	(-0.037)	0.141***	(-0.037)	0.140***	(-0.037)	0.141***	(-0.037)
Age	-0.003**	(-0.002)	-0.003*	(-0.002)	-0.003**	(-0.002)	-0.003**	(-0.002)	-0.003**	(-0.002)	-0.003**	(-0.002)
Number of children (one child)	-0.007	(-0.059)	-0.006	(-0.059)	-0.006	(-0.059)	-0.007	(-0.059)	-0.007	(-0.059)	-0.007	(-0.059)
Number of children (two children)	0.087*	(-0.048)	0.088*	(-0.048)	0.087*	(-0.048)	0.088*	(-0.048)	0.087*	(-0.048)	0.088*	(-0.048)
Number of children (three children)	0.146**	(-0.065)	0.147**	(-0.065)	0.146**	(-0.065)	0.146**	(-0.065)	0.146**	(-0.065)	0.149**	(-0.065)
Number of children (four children)	0.174	(-0.126)	0.171	(-0.127)	0.173	(-0.127)	0.173	(-0.126)	0.173	(-0.126)	0.168	(-0.127)
Number of children (five children)	-0.063	(-0.13)	-0.063	(-0.13)	-0.063	(-0.13)	-0.063	(-0.13)	-0.063	(-0.13)	-0.061	(-0.13)
Number of children (six children)	0.571***	(-0.208)	0.568***	(-0.208)	0.570***	(-0.208)	0.576***	(-0.206)	0.569***	(-0.208)	0.573***	(-0.207)
Marital status (seperated)	-0.605**	(-0.293)	-0.604**	(-0.294)	-0.604**	(-0.293)	-0.604**	(-0.293)	-0.605**	(-0.293)	-0.603**	(-0.295)
Marital status (divorced)	-0.409***	(-0.064)	-0.408***	(-0.065)	-0.408***	(-0.064)	-0.409***	(-0.064)	-0.409***	(-0.065)	-0.408***	(-0.065)
Marital status (widow or widower)	-0.426***	(-0.091)	-0.425***	(-0.091)	-0.426***	(-0.09)	-0.428***	(-0.091)	-0.427***	(-0.091)	-0.428***	(-0.091)
Marital status (never been married)	-0.243***	(-0.052)	-0.242***	(-0.052)	-0.242***	(-0.052)	-0.244***	(-0.052)	-0.243***	(-0.052)	-0.244***	(-0.052)
Urban character (very urban)	0.055	(-0.055)	0.055	(-0.055)	0.055	(-0.055)	0.057	(-0.055)	0.054	(-0.055)	0.057	(-0.055)
Urban character (moderately urban)	-0.025	(-0.058)	-0.025	(-0.057)	-0.026	(-0.057)	-0.023	(-0.057)	-0.026	(-0.057)	-0.023	(-0.057)
Urban character (slightly urban)	0.03	(-0.057)	0.03	(-0.057)	0.03	(-0.057)	0.032	(-0.057)	0.03	(-0.057)	0.033	(-0.057)
Urban character (not urban)	0.014	(-0.062)	0.014	(-0.062)	0.013	(-0.062)	0.016	(-0.062)	0.013	(-0.062)	0.015	(-0.062)
Net household income	0.000*	(0)	0.000*	(0)	0.000*	(0)	0.000*	(0)	0.000*	(0)	0.000*	(0)
Education (secondary education)	0	(-0.072)	0.001	(-0.072)	0.001	(-0.072)	0.001	(-0.072)	0.001	(-0.072)	0.003	(-0.072)
Education (higher secondary education)	-0.094	(-0.079)	-0.094	(-0.078)	-0.094	(-0.078)	-0.092	(-0.079)	-0.093	(-0.078)	-0.092	(-0.079)
Education (intermediate vocational education)	-0.094	(-0.072)	-0.094	(-0.072)	-0.094	(-0.072)	-0.093	(-0.072)	-0.093	(-0.072)	-0.091	(-0.072)
Education (higher vocational education)	-0.089	(-0.07)	-0.089	(-0.07)	-0.089	(-0.07)	-0.088	(-0.07)	-0.089	(-0.07)	-0.088	(-0.07)
Education (university)	-0.063	(-0.085)	-0.063	(-0.085)	-0.063	(-0.085)	-0.066	(-0.085)	-0.063	(-0.085)	-0.067	(-0.085)
Year (2010)	0.250***	(-0.087)	0.251***	(-0.087)	0.251***	(-0.087)	0.253***	(-0.087)	0.251***	(-0.087)	0.257***	(-0.087)
Constant	4.733***	(-0.306)	4.703***	(-0.306)	4.738***	(-0.301)	4.805***	(-0.306)	4.710***	(-0.311)	4.757***	(-0.331)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.315		0.315		0.315		0.315		0.315		0.315	

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Appendix A8: SWB of individuals by experiential expenditure

	Happiness		SWLS		LS	
	β	SE	β	SE	β	SE
Cultural activities (50th percentile)	0.115**	(-0.048)	0.351*	(-0.194)	0.133**	(-0.052)
Cultural activities (75th percentile)	-0.055	(-0.048)	0.105	(-0.183)	-0.021	(-0.050)
Cultural activities (100th percentile)	0.014	(-0.053)	-0.014	(-0.211)	0.053	(-0.058)
Holidays (50th percentile)	0.168***	(-0.046)	1.016***	(-0.188)	0.197***	(-0.051)
Holidays (75th percentile)	0.155***	(-0.045)	1.275***	(-0.176)	0.255***	(-0.048)
Holidays (100th percentile)	0.221***	(-0.054)	1.525***	(-0.213)	0.320***	(-0.055)
Sport activities (50th percentile)	-0.056	(-0.063)	-0.102	(-0.252)	-0.094	(-0.068)
Sport activities (75th percentile)	-0.021	(-0.042)	0.166	(-0.173)	0.020	(-0.045)
Sport activities (100th percentile)	0.047	(-0.044)	0.198	(-0.176)	0.069	(-0.047)
Music (100th percentile)	0.063	(-0.053)	0.275	(-0.220)	0.107*	(-0.056)
Photography (100th percentile)	0.013***	(-0.040)	0.008	(-0.157)	-0.028	(-0.044)
Going out (75th percentile)	-0.020	(-0.051)	0.425**	(-0.189)	-0.001	(-0.054)
Going out (100th percentile)	-0.027	(-0.045)	-0.004	(-0.183)	-0.026	(-0.048)
Dancing (100th percentile)	0.093	(-0.060)	-0.506**	(-0.240)	0.038	(-0.065)
Trust	0.086***	(-0.010)	0.437***	(-0.040)	0.097***	(-0.011)
Self-esteem	0.107***	(-0.008)	0.505***	(-0.033)	0.112***	(-0.009)
Gender (female)	0.137***	(-0.036)	0.888***	(-0.146)	0.134***	(-0.039)
Age	-0.003*	(-0.001)	0.003	(-0.006)	0.000	(-0.001)
Number of children (one child)	-0.008	(-0.058)	0.029	(-0.247)	-0.001	(-0.065)
Number of children (two children)	0.086*	(-0.048)	0.737***	(-0.197)	0.090*	(-0.051)
Number of children (three children)	0.145**	(-0.065)	0.406	(-0.267)	0.083	(-0.069)
Number of children (four children)	0.166	(-0.126)	-0.391	(-0.563)	0.001	(-0.162)
Number of children (five children)	-0.133	(-0.153)	0.343	(-1.397)	-0.360**	(-0.148)
Number of children (six children)	0.539**	(-0.231)	-0.762	(-1.707)	0.445*	(-0.256)
Marital status (seperated)	-0.605**	(-0.297)	-4.422***	(-1.304)	-0.416	(-0.278)

Appendix A8: SWB of individuals by experiential expenditure (continued)

	Happiness		SWLS		LS	
	β	SE	β	SE	β	SE
Marital status (divorced)	-0.380***	(-0.064)	-2.416***	(-0.258)	-0.422***	(-0.066)
Marital status (widow or widower)	-0.404***	(-0.091)	-1.534***	(-0.346)	-0.377***	(-0.099)
Marital status (never been married)	-0.229***	(-0.053	-0.772***	(-0.223)	-0.208***	(-0.057)
Urban character (very urban)	0.047	(-0.055)	0.188	(-0.232)	0.067	(-0.060)
Urban character (moderately urban)	-0.038	(-0.057)	0.150	(-0.236)	0.027	(-0.063)
Urban character (slightly urban)	0.016	(-0.057)	0.257	(-0.244)	0.098	(-0.063)
Urban character (not urban)	0.009	(-0.062	0.218	(-0.258)	0.057	(-0.066)
Net household income	0.000**	(0.000)	0.000***	(0.000)	0.000*	(0.000)
Education (secondary education)	0.005	(-0.072	0.274	(-0.284)	-0.003	(-0.080)
Education (higher secondary education)	-0.112	(-0.078)	-0.047	(-0.326)	-0.093	(-0.086)
Education (intermediate vocational education)	-0.097	(-0.072)	-0.151	(-0.291)	-0.095	(-0.078)
Education (higher vocational education)	-0.099	(-0.070)	-0.032	(-0.286)	-0.116	(-0.080)
Education (university)	-0.076	(-0.086)	0.281	(-0.345)	-0.076	(-0.093)
Social connection	0.112***	(-0.009)	0.419***	(-0.036)	0.115***	(-0.010)
Frequency social meetings	0.025	(-0.021)	-0.040	(-0.079)	0.027	(-0.022)
Extraversion	0.013***	(-0.003)	0.029**	(-0.013)	0.009**	(-0.003)
Agreeableness	-0.002	(-0.004)	-0.052***	(-0.017)	-0.006	(-0.004)
Conscientiousness	0.014***	(-0.004)	0.058***	(-0.015)	0.018***	(-0.004)
Neuroticism	-0.033***	(-0.003)	-0.145***	(-0.013)	-0.037***	(-0.003)
Openness	-0.014***	(-0.004)	-0.050***	(-0.017)	-0.018***	(-0.004)
Year (2010)	0.246***	(-0.086)	0.141	(-0.319)	0.196**	(-0.090)
Constant	4.655***	(-0.302)	13.425***	(-1.188)	4.509***	(-0.321)
Observations	4,081		4,081		4,081	
R-squared	0.321		0.3869		0.3223	

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Appendix A9: Moderating effect of personality on the relationship between experiential expenditure and SWB

Happiness												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Experiential expenditure	0.001	(-0.001)	0.001	(-0.001)	0	(-0.001)	-0.001	(-0.001)	0.001	(-0.002)	0	(-0.003)
Moderation												
Exp. expenditure*E	0	(0)									0	(0)
Exp. expenditure*A			0	(0)							0	(0)
Exp. expenditure*N					0	(0)					0	(0)
Exp. expenditure*O							0	(0)			0.000*	(0)
Exp. expenditure*C									0	(0)	0	(0)
Constant	4.733***	(-0.306)	4.703***	(-0.306)	4.738***	(-0.301)	4.805***	(-0.306)	4.710***	(-0.311)	4.757***	(-0.331)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.315		0.315		0.315		0.315		0.315		0.315	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Life satisfaction												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Experiential expenditure	0	(-0.007)	0.004	(-0.005)	0	(-0.003)	-0.003	(-0.009)	0.002	(-0.009)	-0.006	(-0.015)
Moderation												
Exp. expenditure*E	0	(0)									0	(0)
Exp. expenditure*A			0	(0)							0	(0)
Exp. expenditure*N					0	(0)					0	(0)
Exp. expenditure*O							0	(0)			0	(0)
Exp. expenditure*C									0	(0)	0	(0)
Constant	14.434***	(-1.213)	14.285***	(-1.207)	14.429***	(-1.189)	14.563***	(-1.23)	14.388***	(-1.245)	14.657***	(-1.358)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.373		0.373		0.373		0.373		0.373		0.373	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A10: Moderating effect of personality on the relationship between cultural activities and happiness

	Happiness											
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Cultural activities (50th percentile)	-0.007	(-0.295)	0.3	(-0.271)	-0.116	(-0.122)	0.16	(-0.37)	0.981***	(-0.363)	0.147	(-0.591)
Cultural activities (75th percentile)	0.156	(-0.258)	-0.117	(-0.267)	-0.284**	(-0.113)	0.424	(-0.335)	0.582*	(-0.344)	0.09	(-0.547)
Cultural activities (100th percentile)	0.248	(-0.252)	0.124	(-0.237)	-0.146	(-0.115)	0.169	(-0.326)	0.532	(-0.34)	0.058	(-0.545)
Moderation												
Cultural activities (25th percentile)*E	0	(0)									0	(0)
Cultural activities (50th percentile)*E	0.005	(-0.009)									0.006	(-0.009)
Cultural activities (75th percentile)*E	-0.005	(-0.008)									-0.001	(-0.008)
Cultural activities (100th percentile)*E	-0.005	(-0.007)									-0.004	(-0.007)
Cultural activities (25th percentile)*A			0	(0)							0	(0)
Cultural activities (50th percentile)*A			-0.004	(-0.007)							0.007	(-0.008)
Cultural activities (75th percentile)*A			0.003	(-0.007)							0.014	(-0.009)
Cultural activities (100th percentile)*A			-0.001	(-0.006)							0.006	(-0.008)
Cultural activities (25th percentile)*N					0	(0)					0	(0)
Cultural activities (50th percentile)*N					0.015**	(-0.008)					0.013	(-0.008)
Cultural activities (75th percentile)*N					0.016**	(-0.007)					0.015**	(-0.008)
Cultural activities (100th percentile)*N					0.013*	(-0.007)					0.013	(-0.008)
Cultural activities (25th percentile)*O							0	(0)			0	(0)
Cultural activities (50th percentile)*O							-0.001	(-0.011)			0.006	(-0.012)
Cultural activities (75th percentile)*O							-0.013	(-0.01)			-0.008	(-0.011)
Cultural activities (100th percentile)*O							-0.003	(-0.009)			0.005	(-0.011)
Cultural activities (25th percentile)*C									0	(0)	0	(0)
Cultural activities (50th percentile)*C									-0.023**	(-0.01)	-0.024**	(-0.011)
Cultural activities (75th percentile)*C									-0.016*	(-0.009)	-0.015	(-0.011)
Cultural activities (100th percentile)*C									-0.012	(-0.009)	-0.012	(-0.011)
Constant	4.722***	(-0.331)	4.734***	(-0.337)	4.914***	(-0.306)	4.648***	(-0.368)	4.367***	(-0.354)	4.744***	(-0.439)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.316		0.316		0.317		0.316		0.317		0.319	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1))

Appendix A11: Moderating effect of personality on the relationship between cultural activities and life satisfaction

	Life satisfaction											
	(1)		(2)		(3)		(4)		(5)		(6)	
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
Cultural activities (50th percentile)	0.136	(-1.085)	0.73	(-1.133)	0.315	(-0.515)	-2.555	(-1.594)	1.849	(-1.413)	-1.395	(-2.384)
Cultural activities (75th percentile)	1.475	(-0.981)	-0.21	(-1.014)	-0.46	(-0.438)	0.79	(-1.3)	1.718	(-1.293)	-0.341	(-2.243)
Cultural activities (100th percentile)	0.486	(-1.041)	-1.134	(-0.989)	0.243	(-0.448)	-1.374	(-1.406)	-0.199	(-1.325)	-2.995	(-2.338)
Moderation												
Cultural activities (25th percentile)*E	0	(0)			0	(0)					0	(0)
Cultural activities (50th percentile)*E	0.013	(-0.032)			0.015	(-0.031)					-0.004	(-0.034)
Cultural activities (75th percentile)*E	-0.031	(-0.029)			0.054**	(-0.026)					-0.025	(-0.031)
Cultural activities (100th percentile)*E	-0.001	(-0.03)			0.012	(-0.027)					-0.005	(-0.031)
Cultural activities (25th percentile)*A			0	(0)							0	(0)
Cultural activities (50th percentile)*A			-0.004	(-0.031)	14.606***	(-1.204)					-0.001	(-0.036)
Cultural activities (75th percentile)*A			0.018	(-0.028)	4,081						0.046	(-0.033)
Cultural activities (100th percentile)*A			0.044	(-0.027)	0.375						0.05	(-0.031)
Cultural activities (25th percentile)*N					0	(0)					0	(0)
Cultural activities (50th percentile)*N					0.015	(-0.031)					0.013	(-0.034)
Cultural activities (75th percentile)*N					0.054**	(-0.026)					0.056*	(-0.029)
Cultural activities (100th percentile)*N					0.012	(-0.027)					0.034	(-0.031)
Cultural activities (25th percentile)*O							0	(0)			0	(0)
Cultural activities (50th percentile)*O							0.092**	(-0.047)			0.117**	(-0.051)
Cultural activities (75th percentile)*O							-0.009	(-0.038)			0.014	(-0.042)
Cultural activities (100th percentile)*O							0.053	(-0.04)			0.045	(-0.044)
Cultural activities (25th percentile)*C									0	(0)	0	(0)
Cultural activities (50th percentile)*C									-0.035	(-0.038)	-0.055	(-0.045)
Cultural activities (75th percentile)*C									-0.035	(-0.035)	-0.039	(-0.041)
Cultural activities (100th percentile)*C									0.018	(-0.036)	-0.008	(-0.041)
Constant	14.179***	(-1.31)	14.771***	(-1.305)	14.606***	(-1.204)	15.237***	(-1.436)	13.959***	(-1.368)	15.623***	(-1.719)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.374		0.375		0.375		0.375		0.374		0.377	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1))

Appendix A12: Moderating effect of personality on the relationship between the holidays and happiness

	Happiness											
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Holidays (50th percentile)	0.439*	(-0.265)	0.521**	(-0.251)	-0.322***	(-0.119)	0.512	(-0.34)	1.079***	(-0.353)	0.404	(-0.549)
Holidays (75th percentile)	0.883***	(-0.257)	0.289	(-0.238)	-0.244**	(-0.111)	0.979***	(-0.32)	0.753**	(-0.33)	0.900*	(-0.538)
Holidays (100th percentile)	0.456	(-0.306)	0.311	(-0.28)	-0.265**	(-0.131)	0.615*	(-0.355)	0.841**	(-0.382)	-0.097	(-0.61)
Moderation												
Holidays (25th percentile)*E	0	(0)									0	(0)
Holidays (50th percentile)*E	-0.008	(-0.008)									-0.006	(-0.008)
Holidays (75th percentile)*E	-0.022***	(-0.008)									-0.016**	(-0.008)
Holidays (100th percentile)*E	-0.007	(-0.009)									-0.002	(-0.009)
Holidays (25th percentile)*A			0	(0)							0	(0)
Holidays (50th percentile)*A			-0.01	(-0.007)							0.001	(-0.008)
Holidays (75th percentile)*A			-0.004	(-0.006)							0.007	(-0.008)
Holidays (100th percentile)*A			-0.002	(-0.008)							0.011	(-0.009)
Holidays (25th percentile)*N					0	(0)					0	(0)
Holidays (50th percentile)*N					0.028***	(-0.007)					0.024***	(-0.008)
Holidays (75th percentile)*N					0.023***	(-0.007)					0.019***	(-0.007)
Holidays (100th percentile)*N					0.028***	(-0.008)					0.029***	(-0.009)
Holidays (25th percentile)*O							0	(0)			0	(0)
Holidays (50th percentile)*O							-0.01	(-0.01)			0.003	(-0.011)
Holidays (75th percentile)*O							-0.024***	(-0.009)			-0.014	(-0.011)
Holidays (100th percentile)*O							-0.012	(-0.01)			-0.005	(-0.012)
Holidays (25th percentile)*C									0	(0)	0	(0)
Holidays (50th percentile)*C									-0.025***	(-0.009)	-0.017	(-0.011)
Holidays (75th percentile)*C									-0.017*	(-0.009)	-0.009	(-0.01)
Holidays (100th percentile)*C									-0.017*	(-0.01)	-0.01	(-0.012)
Constant	4.348***	(-0.352)	4.516***	(-0.334)	4.977***	(-0.311)	4.311***	(-0.365)	4.180***	(-0.373)	4.463***	(-0.467)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.32		0.318		0.322		0.319		0.319		0.325	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A13: Moderating effect of personality on the relationship between holidays and life satisfaction

	Life satisfaction											
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Holidays (50th percentile)	0.671	(-1.014)	2.216**	(-1.033)	0.168	(-0.483)	1.794	(-1.444)	3.836***	(-1.332)	2.041	(-2.33)
Holidays (75th percentile)	2.822***	(-0.991)	2.375**	(-0.966)	0.114	(-0.431)	3.337***	(-1.281)	3.236**	(-1.261)	3.056	(-2.215)
Holidays (100th percentile)	1.025	(-1.18)	1.839	(-1.123)	0.134	(-0.509)	3.803***	(-1.447)	2.786*	(-1.491)	-0.373	(-2.542)
Moderation												
Holidays (25th percentile)*E	0	(0)									0	(0)
Holidays (50th percentile)*E	0.012	(-0.03)									0.019	(-0.032)
Holidays (75th percentile)*E	-0.045	(-0.029)									-0.032	(-0.03)
Holidays (100th percentile)*E	0.015	(-0.034)									0.049	(-0.037)
Holidays (25th percentile)*A			0	(0)							0	(0)
Holidays (50th percentile)*A			-0.032	(-0.028)							-0.004	(-0.032)
Holidays (75th percentile)*A			-0.029	(-0.026)							-0.001	(-0.031)
Holidays (100th percentile)*A			-0.008	(-0.03)							0.041	(-0.036)
Holidays (25th percentile)*N					0	(0)					0	(0)
Holidays (50th percentile)*N					0.050*	(-0.028)					0.038	(-0.031)
Holidays (75th percentile)*N					0.070***	(-0.025)					0.059**	(-0.029)
Holidays (100th percentile)*N					0.083***	(-0.031)					0.091**	(-0.036)
Holidays (25th percentile)*O							0	(0)			0	(0)
Holidays (50th percentile)*O							-0.022	(-0.042)			0	(-0.046)
Holidays (75th percentile)*O							-0.059	(-0.037)			-0.024	(-0.041)
Holidays (100th percentile)*O							-0.066	(-0.041)			-0.077	(-0.048)
Holidays (25th percentile)*C									0	(0)	0	(0)
Holidays (50th percentile)*C									-0.076**	(-0.036)	-0.059	(-0.041)
Holidays (75th percentile)*C									-0.053	(-0.034)	-0.023	(-0.04)
Holidays (100th percentile)*C									-0.034	(-0.04)	-0.004	(-0.047)
Constant	13.330***	(-1.332)	13.035***	(-1.296)	14.408***	(-1.222)	12.588***	(-1.42)	12.233***	(-1.405)	13.230***	(-1.783)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.385		0.385		0.386		0.385		0.385		0.388	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A14: Moderating effect of personality on the relationship between sport activities and happiness

	Happiness											
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Sport activities (50th percentile)	0.19	(-0.354)	-0.085	(-0.359)	-0.091	(-0.153)	0.596	(-0.39)	1.047**	(-0.439)	1.370**	(-0.661)
Sport activities (75th percentile)	0.054	(-0.25)	-0.115	(-0.227)	-0.086	(-0.106)	0.297	(-0.313)	0.175	(-0.317)	0.099	(-0.531)
Sport activities (100th percentile)	-0.123	(-0.254)	0.454*	(-0.233)	-0.06	(-0.106)	0.721**	(-0.318)	0.821**	(-0.337)	0.901*	(-0.534)
Moderation												
Sport activities (25th percentile)*E	0	(0)									0	(0)
Sport activities (50th percentile)*E	-0.007	(-0.01)									-0.004	(-0.011)
Sport activities (75th percentile)*E	-0.002	(-0.007)									0.001	(-0.007)
Sport activities (100th percentile)*E	0.006	(-0.007)									0.01	(-0.008)
Sport activities (25th percentile)*A			0	(0)							0	(0)
Sport activities (50th percentile)*A			0.001	(-0.009)							0.016	(-0.011)
Sport activities (75th percentile)*A			0.003	(-0.006)							0.008	(-0.007)
Sport activities (100th percentile)*A			-0.011*	(-0.006)							-0.003	(-0.007)
Sport activities (25th percentile)*N					0	(0)					0	(0)
Sport activities (50th percentile)*N					0.003	(-0.009)					-0.003	(-0.009)
Sport activities (75th percentile)*N					0.005	(-0.007)					0.005	(-0.007)
Sport activities (100th percentile)*N					0.008	(-0.007)					0.002	(-0.008)
Sport activities (25th percentile)*O							0	(0)			0	(0)
Sport activities (50th percentile)*O							-0.019*	(-0.011)			-0.014	(-0.013)
Sport activities (75th percentile)*O							-0.009	(-0.009)			-0.009	(-0.01)
Sport activities (100th percentile)*O							-0.019**	(-0.009)			-0.016	(-0.011)
Sport activities (25th percentile)*C									0	(0)	0	(0)
Sport activities (50th percentile)*C									-0.030**	(-0.012)	-0.037***	(-0.013)
Sport activities (75th percentile)*C									-0.005	(-0.008)	-0.006	(-0.01)
Sport activities (100th percentile)*C									-0.021**	(-0.009)	-0.015	(-0.01)
Constant	4.770***	(-0.317)	4.702***	(-0.316)	4.808***	(-0.305)	4.501***	(-0.326)	4.436***	(-0.33)	4.426***	(-0.373)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.315		0.315		0.315		0.315		0.316		0.318	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A15: Moderating effect of personality on the relationship between sport activities and life satisfaction

Life satisfaction												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Sport activities (50th percentile)	0.385	(-1.294)	-0.595	(-1.384)	1.234**	(-0.625)	0.163	(-1.786)	1.369	(-1.703)	4.181	(-2.932)
Sport activities (75th percentile)	0.986	(-1.005)	-0.314	(-0.936)	0.621	(-0.427)	0.901	(-1.303)	0.474	(-1.232)	2.198	(-2.218)
Sport activities (100th percentile)	-0.418	(-0.976)	0.333	(-0.976)	0.381	(-0.42)	1.104	(-1.322)	0.462	(-1.279)	0.493	(-2.254)
Moderation												
Sport activities (25th percentile)*E	0	(0)									0	(0)
Sport activities (50th percentile)*E	-0.011	(-0.038)									-0.022	(-0.041)
Sport activities (75th percentile)*E	-0.021	(-0.029)									-0.019	(-0.031)
Sport activities (100th percentile)*E	0.021	(-0.028)									0.031	(-0.03)
Sport activities (25th percentile)*A			0	(0)							0	(0)
Sport activities (50th percentile)*A			0.017	(-0.037)							0.022	(-0.042)
Sport activities (75th percentile)*A			0.016	(-0.025)							0.019	(-0.03)
Sport activities (100th percentile)*A			-0.001	(-0.026)							0.008	(-0.032)
Sport activities (25th percentile)*N					0	(0)					0	(0)
Sport activities (50th percentile)*N					-0.069*	(-0.036)					-0.080**	(-0.04)
Sport activities (75th percentile)*N					-0.02	(-0.026)					-0.025	(-0.03)
Sport activities (100th percentile)*N					-0.004	(-0.026)					-0.005	(-0.031)
Sport activities (25th percentile)*O							0	(0)			0	(0)
Sport activities (50th percentile)*O							-0.004	(-0.051)			-0.003	(-0.057)
Sport activities (75th percentile)*O							-0.018	(-0.038)			-0.022	(-0.042)
Sport activities (100th percentile)*O							-0.023	(-0.038)			-0.039	(-0.043)
Sport activities (25th percentile)*C									0	(0)	0	(0)
Sport activities (50th percentile)*C									-0.036	(-0.046)	-0.074	(-0.049)
Sport activities (75th percentile)*C									-0.006	(-0.033)	-0.022	(-0.038)
Sport activities (100th percentile)*C									-0.004	(-0.034)	-0.002	(-0.038)
Constant	14.390***	(-1.251)	14.571***	(-1.24)	14.189***	(-1.203)	14.096***	(-1.265)	14.216***	(-1.289)	13.632***	(-1.476)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.373		0.373		0.373		0.373		0.373		0.374	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A16: Moderating effect of personality on the relationship between music activities and happiness

Happiness												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Making music (100th percentile)	-0.043	(-0.338)	0.071	(-0.259)	0.146	(-0.139)	0.482	(-0.414)	0.011	(-0.388)	0.371	(-0.602)
Moderation												
Making music (75th percentile)*E	0	(0)									0	(0)
Making music (100th percentile)*E	0.003	(-0.01)									0.007	(-0.01)
Making music (75th percentile)*A			0	(0)							0	(0)
Making music (100th percentile)*A			0	(-0.007)							0.003	(-0.009)
Making music (75th percentile)*N					0	(0)					0	(0)
Making music (100th percentile)*N					-0.005	(-0.008)					-0.005	(-0.009)
Making music (75th percentile)*O							0	(0)			0	(0)
Making music (100th percentile)*O							-0.012	(-0.011)			-0.018	(-0.014)
Making music (75th percentile)*C									0	(0)	0	(0)
Making music (100th percentile)*C									0.002	(-0.01)	0.003	(-0.011)
Constant	4.779***	(-0.302)	4.771***	(-0.302)	4.764***	(-0.301)	4.737***	(-0.303)	4.777***	(-0.304)	4.741***	(-0.308)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.314		0.314		0.314		0.314		0.314		0.314	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A17: Moderating effect of personality on the relationship between music activities and life satisfaction

Life satisfaction												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Making music (100th percentile)	1.192	(-1.293)	-0.958	(-1.265)	-0.483	(-0.59)	0.545	(-1.524)	1.019	(-1.514)	-0.813	(-2.558)
Moderation												
Making music (25th percentile)*E	0	(0)									0	(0)
Making music (100th percentile)*E	-0.028	(-0.038)									-0.015	(-0.041)
Making music (75h percentile)*A			0	(0)							0	(0)
Making music (100th percentile)*A			0.034	(-0.034)							0.063	(-0.04)
Making music (75th percentile)*N					0	(0)					0	(0)
Making music (100th percentile)*N					0.043	(-0.035)					0.056	(-0.038)
Making music (75th percentile)*O							0	(0)			0	(0)
Making music (100th percentile)*O							-0.008	(-0.043)			-0.014	(-0.049)
Making music (75th percentile)*C									0	(0)	0	(0)
Making music (100th percentile)*C									-0.021	(-0.041)	-0.032	(-0.045)
Constant	14.439***	(-1.193)	14.607***	(-1.191)	14.574***	(-1.183)	14.475***	(-1.197)	14.432***	(-1.191)	14.619***	(-1.216)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.372		0.372		0.373		0.372		0.372		0.373	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A18: Moderating effect of personality on the relationship between photography and happiness

Happiness												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Photography (100th percentile)	-0.296	(-0.252)	0.433**	(-0.212)	-0.052	(-0.096)	0.405	(-0.293)	0.622**	(-0.317)	0.59	(-0.496)
Moderation												
Photography (75th percentile)*E	0	(0)									0	(0)
Photography (100th percentile)*E	0.01	(-0.007)									0.011	(-0.008)
Photography (75th percentile)*A	0	(0)	0	(0)							0	(0)
Photography (100th percentile)*A	-0.011**	(-0.006)	-0.011**	(-0.006)							-0.006	(-0.007)
Photography (75th percentile)*N	0	(0)			0	(0)					0	(0)
Photography (100th percentile)*N	0.005	(-0.006)			0.005	(-0.006)					-0.001	(-0.007)
Photography (75th percentile)*O	0	(0)					0	(0)			0	(0)
Photography (100th percentile)*O	-0.011	(-0.008)					-0.011	(-0.008)			-0.008	(-0.01)
Photography (75th percentile)*C	0	(0)							0	(0)	0	(0)
Photography (100th percentile)*C	-0.016*	(-0.008)							-0.016*	(-0.008)	-0.012	(-0.01)
Constant	4.818***	(-0.308)	4.671***	(-0.304)	4.774***	(-0.3)	4.686***	(-0.306)	4.641***	(-0.307)	4.638***	(-0.318)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.314		0.315		0.314		0.314		0.315		0.315	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A19: Moderating effect of personality on the relationship between photography and life satisfaction

Life satisfaction												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Photography (100th percentile)	0.752	(-0.931)	0.814	(-0.846)	-0.516	(-0.383)	2.354**	(-1.197)	1.887	(-1.155)	2.507	(-2.035)
Moderation												
Photography (75th percentile)*E	0	(0)									0	(0)
Photography (100th percentile)*E	-0.02	(-0.027)									-0.005	(-0.028)
Photography (75th percentile)*A	0	(0)	0	(0)							0	(0)
Photography (100th percentile)*A	-0.02	(-0.023)	-0.02	(-0.023)							0.006	(-0.027)
Photography (75th percentile)*N	0	(0)			0	(0)					0	(0)
Photography (100th percentile)*N	0.035	(-0.024)			0.035	(-0.024)					0.022	(-0.027)
Photography (75th percentile)*O	0	(0)					0	(0)			0	(0)
Photography (100th percentile)*O	-0.065*	(-0.034)					-0.065*	(-0.034)			-0.05	(-0.038)
Photography (75th percentile)*C	0	(0)							0	(0)	0	(0)
Photography (100th percentile)*C	-0.05	(-0.031)							-0.05	(-0.031)	-0.031	(-0.036)
Constant	14.338***	(-1.2)	14.300***	(-1.199)	14.565***	(-1.183)	14.015***	(-1.206)	14.099***	(-1.215)	13.981***	(-1.26)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.372		0.372		0.373		0.373		0.373		0.373	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A20: Moderating effect of personality on the relationship between going out and happiness

	Happiness											
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Going out (75th percentile)	0.013	(-0.308)	0.138	(-0.26)	0.372***	(-0.123)	-0.288	(-0.345)	-0.09	(-0.419)	0.871	(-0.625)
Going out (100th percentile)	0.268	(-0.249)	-0.191	(-0.208)	-0.002	(-0.097)	0.088	(-0.29)	0.153	(-0.289)	0.189	(-0.501)
Moderation												
Going out (50th percentile)*E	0	(0)									0	(0)
Going out (75th percentile)*E	0	(-0.009)									-0.006	(-0.009)
Going out (100th percentile)*E	-0.007	(-0.007)									-0.006	(-0.007)
Going out (50th percentile)*A	0	(0)	0	(0)							0	(0)
Going out (75th percentile)*A	-0.004	(-0.007)	-0.004	(-0.007)							-0.012	(-0.008)
Going out (100th percentile)*A	0.006	(-0.005)	0.006	(-0.005)							0.009	(-0.007)
Going out (50th percentile)*N	0	(0)			0	(0)					0	(0)
Going out (75th percentile)*N	-0.021***	(-0.008)			-0.021***	(-0.008)					-0.025***	(-0.009)
Going out (100th percentile)*N	0.001	(-0.006)			0.001	(-0.006)					0.002	(-0.007)
Going out (50th percentile)*O	0	(0)					0	(0)			0	(0)
Going out (75th percentile)*O	0.009	(-0.01)					0.009	(-0.01)			0.007	(-0.012)
Going out (100th percentile)*O	-0.002	(-0.008)					-0.002	(-0.008)			-0.002	(-0.01)
Going out (50th percentile)*C	0	(0)							0	(0)	0	(0)
Going out (75th percentile)*C	0.003	(-0.011)							0.003	(-0.011)	-0.002	(-0.012)
Going out (100th percentile)*C	-0.004	(-0.008)							-0.004	(-0.008)	-0.007	(-0.008)
Constant	4.702***	(-0.313)	4.793***	(-0.312)	4.692***	(-0.303)	4.778***	(-0.322)	4.732***	(-0.32)	4.577***	(-0.343)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.314		0.314		0.316		0.314		0.314		0.317	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A21: Moderating effect of personality on the relationship between going out and life satisfaction

Life satisfaction												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Going out (75th percentile)	1.734*	(-1.038)	0.081	(-1.038)	0.955**	(-0.452)	-0.228	(-1.373)	0.371	(-1.397)	1.808	(-2.39)
Going out (100th percentile)	1.164	(-1.024)	-1.383	(-0.865)	-0.599	(-0.407)	-1.426	(-1.225)	-0.901	(-1.159)	-4.246**	(-2.084)
Moderation												
Going out (50th percentile)*E	0	(0)									0	(0)
Going out (75th percentile)*E	-0.035	(-0.031)									-0.047	(-0.032)
Going out (100th percentile)*E	-0.029	(-0.029)									-0.031	(-0.03)
Going out (50th percentile)*A	0	(0)	0	(0)							0	(0)
Going out (75th percentile)*A	0.013	(-0.028)	0.013	(-0.028)							0.003	(-0.032)
Going out (100th percentile)*A	0.043*	(-0.023)	0.043*	(-0.023)							0.052*	(-0.028)
Going out (50th percentile)*N	0	(0)			0	(0)					0	(0)
Going out (75th percentile)*N	-0.023	(-0.027)			-0.023	(-0.027)					-0.026	(-0.031)
Going out (100th percentile)*N	0.045*	(-0.024)			0.045*	(-0.024)					0.074***	(-0.028)
Going out (50th percentile)*O	0	(0)					0	(0)			0	(0)
Going out (75th percentile)*O	0.023	(-0.039)					0.023	(-0.039)			0.032	(-0.043)
Going out (100th percentile)*O	0.046	(-0.035)					0.046	(-0.035)			0.049	(-0.039)
Going out (50th percentile)*C	0	(0)							0	(0)	0	(0)
Going out (75th percentile)*C	0.005	(-0.038)							0.005	(-0.038)	-0.012	(-0.042)
Going out (100th percentile)*C	0.029	(-0.031)							0.029	(-0.031)	0.017	(-0.036)
Constant	13.802***	(-1.229)	14.703***	(-1.245)	14.275***	(-1.191)	14.657***	(-1.275)	14.489***	(-1.268)	15.202***	(-1.413)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.374		0.374		0.374		0.374		0.374		0.376	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A22: Moderating effect of personality on the relationship between dancing and happiness

Happiness												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Dancing (100th percentile)	-0.02	(-0.383)	0.102	(-0.31)	0.131	(-0.155)	-0.385	(-0.471)	0.448	(-0.452)	0.065	(-0.712)
Moderation												
Dancing (75th percentile)*E	0	(0)									0	(0)
Dancing (100th percentile)*E	0.003	(-0.01)									0	(-0.011)
Dancing (75th percentile)*A	0	(0)	0	(0)							0	(0)
Dancing (100th percentile)*A	0	(-0.008)	0	(-0.008)							-0.001	(-0.01)
Dancing (75th percentile)*N	0	(0)			0	(0)					0	(0)
Dancing (100th percentile)*N	-0.002	(-0.009)			-0.002	(-0.009)					-0.003	(-0.01)
Dancing (75th percentile)*O	0	(0)					0	(0)			0	(0)
Dancing (100th percentile)*O	0.014	(-0.013)					0.014	(-0.013)			0.019	(-0.017)
Dancing (75th percentile)*C	0	(0)							0	(0)	0	(0)
Dancing (100th percentile)*C	-0.01	(-0.012)							-0.01	(-0.012)	-0.015	(-0.014)
Constant	4.755***	(-0.3)	4.746***	(-0.301)	4.744***	(-0.3)	4.790***	(-0.303)	4.712***	(-0.304)	4.744***	(-0.306)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.314		0.314		0.314		0.315		0.314		0.315	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Appendix A23: Moderating effect of personality on the relationship between dancing and life satisfaction

Life satisfaction												
	(E)		(A)		(N)		(O)		(C)		(Big Five)	
	β	SE	β	SE	β	SE	β	SE	β	SE	β	SE
Dancing (100th percentile)	0.802	(-1.413)	-0.677	(-1.266)	0.575	(-0.597)	-2.679	(-1.844)	-2.274	(-1.713)	0.015	(-2.764)
Moderation												
Dancing (75th percentile)*E	0	(0)									0	(0)
Dancing (100th percentile)*E	-0.033	(-0.04)									-0.063	(-0.043)
Dancing (75th percentile)*A	0	(0)	0	(0)							0	(0)
Dancing (100th percentile)*A	0.009	(-0.034)	0.009	(-0.034)							-0.032	(-0.041)
Dancing (75th percentile)*N	0	(0)			0	(0)					0	(0)
Dancing (100th percentile)*N	-0.051	(-0.035)			-0.051	(-0.035)					-0.06	(-0.04)
Dancing (75th percentile)*O	0	(0)					0	(0)			0	(0)
Dancing (100th percentile)*O	0.066	(-0.052)					0.066	(-0.052)			0.08	(-0.065)
Dancing (75th percentile)*C	0	(0)							0	(0)	0	(0)
Dancing (100th percentile)*C	0.053	(-0.046)							0.053	(-0.046)	0.036	(-0.053)
Constant	14.454***	(-1.187)	14.566***	(-1.188)	14.457***	(-1.182)	14.738***	(-1.2)	14.722***	(-1.201)	14.548***	(-1.215)
Observations	4,081		4,081		4,081		4,081		4,081		4,081	
R-squared	0.373		0.372		0.373		0.373		0.373		0.373	

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)