



# Entrepreneurs subjective well-being and job satisfaction: does personality matter?

Victor Berglund

Sociologiska institutionen  
Magisteruppsats, 60 hp  
Vt 2014

## **Abstract**

Previous research has suggested that there is a strong and positive relationship between being an entrepreneur and possessing a high degree of subjective well-being as well as job satisfaction. The big five personality traits have also been argued to be significantly related to both subjective well-being and job satisfaction. Little is however known if personality affects entrepreneurs and regular employees differently. In this paper the impact of personality traits on the cognitive part of subjective well-being as well as job satisfaction are investigated separately among entrepreneurs and regular employees. This is done through OLS-regressions using a Swedish nationally representative survey Employment, Material Resources, and Political Preferences (EMRAPP), where entrepreneurs were oversampled in order to be able to compare entrepreneurs (N = 2483) and regular employees (N = 2642). The findings suggest that there is no substantial difference between entrepreneurs and regular employees when looking at the relationship between personality traits and subjective well-being. Findings on job satisfaction on the other hand showed that the personality trait openness to experience had no impact on job satisfaction, and that the personality trait emotional stability (neuroticism reversed) was equally beneficial for both entrepreneurs and regular employees. Extraversion had a positive relationship with job satisfaction among both entrepreneurs and regular employees, although the relationship was twice as strong among entrepreneurs. The personality traits agreeableness and conscientiousness on the other hand were only related to job satisfaction among entrepreneurs. Personality traits are thus much more important for job satisfaction among entrepreneurs.

**Keywords:** Subjective well-being, job satisfaction, personality traits, entrepreneurs, regular employees.

## **Table of Contents**

1. Introduction .....	1
2. Subjective well-being, job satisfaction and entrepreneurship .....	2
3. Five-factor model of personality traits .....	4
4. Personality traits, subjective well-being and job satisfaction.....	6
5. Hypotheses .....	8
6. Data .....	9
6.1 Central dependent variables .....	10
6.2 Central independent variables .....	10
6.3 Control variables .....	11
6.4 Ethics .....	12
7. Results .....	12
8. Conclusion.....	18
References .....	20

## **1. Introduction**

The number of individuals starting their own businesses and becoming entrepreneurs has been increasing over the last quarter century and is likely to become even more prevalent (Hundley, 2001). Paid work is one of the most central parts of an adult's life but there is a difference in how work is perceived between entrepreneurs and regular employees (Eden, 1975; Hundley, 2001). According to earlier research, entrepreneurs tend to experience more enriching job requirements, a higher measure of self-determination and freedom (Eden, 1975), more autonomy, control, and discretion when compared to regular employees (Stephan & Roesler, 2010). Even though entrepreneurs sustain higher workloads, job demands (Stephan & Roesler, 2010), longer hours, and more irregular schedules when compared with regular employees (Eden, 1975), they tend to experience a higher degree of well-being as well as job satisfaction (Lange, 2009; Stephan & Roesler, 2010).

Previous research also suggests that personality traits play a significant role on individual's subjective well-being (Diener, 1984; Chay, 1993; Higgs & Dulewicz, 2014; Wiess, Bates & Luciano, 2008). Extraversion, emotional stability (neuroticism reversed), and conscientiousness have been argued to have a strong positive effect on both subjective well-being (Heller, Judge & Watson, 2002) and job satisfaction (Judge, Heller & Mount, 2002). Entrepreneurship and regular employment differs when it comes to working conditions, whereas entrepreneurs have the ability to control their own work environment and act according to personal preferences, regular employees must abide their superior's authority (Benz & Fray, 2008). Given the differences in working conditions between entrepreneurs and regular employees, it becomes interesting to investigate if personality traits might affect subjective well-being and job satisfaction differently among entrepreneurs and regular employees. Is being an entrepreneur equally beneficial for all personality types?

The aim of this paper is to investigate the effect of personality traits on the cognitive part of subjective well-being as well as job satisfaction among entrepreneurs and regular employees. To investigate this, a Swedish nationally representative survey, Employment, Material Resources, and Political Preferences (EMRAPP), where entrepreneurs were oversampled in order to be able to compare entrepreneurs (N = 2483) and employees (N = 2642), was used.

The remainder of this paper is organized as follows: A brief summary of the definition of subjective well-being and job satisfaction as well as a review of previous research on subjective well-being, job satisfaction, and entrepreneurship is provided in section two.

Section three presents a definition of the five-factor model of personality traits as well as previous research surrounding the effect of personality traits on subjective well-being and job satisfaction. The fourth section ties together forms of employment, personality traits and the dependent variables subjective well-being and job satisfaction. In the fifth section hypotheses are presented based on what is known from previous research. Section six introduces the data as well as an ethical discussion followed by analyses and results in section seven. The last section provides some concluding remarks.

## **2. Subjective well-being, job satisfaction and entrepreneurship**

Subjective well-being (SWB) is viewed as the most important element of people's lives (Diener, 2000) associated with a wide variety of positive outcomes such as good health and work performance (Diener, Suh, Lucas, & Smith, 1999; Weiss, Bates, & Luciano, 2008), and it is often used as a measure of individual's global judgments of life satisfaction (Zhai, Willis, O'Shea, Zhai & Yang, 2013). In the last 10 years there has been an increasing interest in the study of subjective well-being and it has been recognized through its significance for individuals and the society as a whole (Diener & Seligman, 2004; Veenhoven, 2004; Jovanovic, 2010). There is however no uniformity when it comes to the use of the term SWB. SWB is often used as a synonym for happiness and vice versa. Different interpretations of SWB have led to an inconsistent and non-universal use of the term, which makes the interpretation of results derived from such studies difficult (Jovanovic, 2010).

Diener (1984) defines SWB as a construct divided into three categories. The first category contains satisfaction with life and refers to a global evaluation of an individual's satisfaction with life as a whole. This category in turn is defined as the cognitive component of SWB (Diener 1984). The second category contains positive affect which refers to an individual's experience of pleasant emotions, and the third category of SWB contains low level or negative affect, which implies an absence of unpleasant emotional states. These two last categories are in turn defined as the affective components of SWB (Diener, Suh, Lucas & Smith, 1999). Several studies have indeed confirmed that these three categories together are best used to describe individuals SWB (Arthaud-day, Road, Mooney & Near, 2005; Lucas, Diener & Suh, 1996).

Job satisfaction has been argued to be a strong predictor for numerous behaviors such as workers commitment, motivation, absenteeism, and other positive or negative emotional responses to aspects of the work or the employer (Lange, 2009). Job satisfaction is basically defined by the same constructs as subjective well-being, whereas the affective part refers to

either negative or positive affect and the cognitive part refers to an individual's global evaluation of their satisfaction with their job. Simply put, job satisfaction is defined as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experience (Locke, 1976).

The relationship between SWB and job satisfaction is a well-known one and the causal direction of the relationship is thought to be reciprocal, resulting in a so called spillover model, where job experiences spill over onto other domains of life and vice versa (Judge & Watanabe, 1993). Through a national stratified and randomized sample of workers, Judge and Watanabe (1993) found that 68 per cent of the workers experienced the spillover-effect while the remaining 32 per cent either sought to compensate for a dissatisfying job by pursuing happiness outside the work, and vice versa, or felt that their work-life did not influence their life outside of work. This along with other results indicates that subjective well-being and job satisfaction are substantially correlated (Tait, Padget & Baldwin, 1989).

In this paper the analysis will be constructed by using the cognitive part of subjective well-being and job satisfaction while excluding the affective parts. This is done in order to study differences in entrepreneurs and regular employee's global evaluation of subjective well-being as well as job satisfaction.

When it comes to the relationship between subjective well-being and entrepreneurship there is relatively little research, but entrepreneurs does in general possess a greater subjective well-being than non-entrepreneurs (Binder & Coad, 2012). Blanchflower (2004) found a positive correlation between being an entrepreneur and life satisfaction, although it wasn't a strong connection. Andersson (2008) found through a study using the Swedish Level-of-Living survey from 1991 and 2000, that there was indeed a positive correlation between entrepreneurship and subjective well-being. Binder and Coad (2012) point out that individuals have different reasons to start their own businesses and that the relative lack of evidence in this field could be caused by methodological difficulties. In order to take this into account they implement a separation of the reasons for being an entrepreneur in their research. Their results suggests that an individual who goes from being a salaried worker to become an entrepreneur experience a positive and significant increase in well-being, thus indicating that leaving ones employment and becoming an entrepreneur is beneficial for one's subjective well-being (Binder & Coad, 2012).

Little research has been made on the relationship between subjective well-being and entrepreneurs, but job satisfaction on the other hand has received far more attention. Representative U.S. samples generally show that self-employed feel a higher satisfaction with

their jobs than regular employees (Hundley, 2001). Entrepreneurs, compared to regular employees, appear to strive for success, (Collins, Hanges & Locke, 2004), independency, autonomy, greater control, and a need for achievement (Benz & Frey, 2008) according to extensive research. These factors are in turn positively related to job satisfaction (Benz & Frey, 2008). Lange (2009) found, using the European social survey (2006) covering 25 European countries, that the likelihood was twice as high for entrepreneurs to possess greater job satisfaction when compared to salaried workers. Similar results were found by Andersson (2008) indicating that entrepreneurs possessed a higher degree of job satisfaction.

But what is it that makes entrepreneurs more satisfied with their jobs? According to earlier research, workers with more flexibility in their work-life find their jobs more satisfying (Loscocco & Roschell, 1991). Hundley (2001) argues that entrepreneurs experience a lesser need to coordinate with work routines and coworkers, indicating that they should possess a higher degree of job satisfaction. Evidence suggests that there is a positive correlation between job satisfaction and task autonomy (Hackman & Oldham, 1975) and that entrepreneurs tend to experience greater task variety since they don't have to follow the organizational workflow in the same manner as regular employees (Hundley, 2001). It is argued that entrepreneurs should suffer a greater risk of insecurity toward job loss and therefore should experience a lower job satisfaction (Mandel, 1996). Hundley (2001) on the other hand found that entrepreneurs are less likely to be burdened by job insecurity, instead they tend to experience a higher security due to their ability to control their work-life and meet threats and opportunities to secure the survival of their company and their work.

These mechanisms are feasible explanations that entrepreneurs possess a greater general satisfaction with life as well as with work in comparison with regular employees (Jamal, 1997; Andersson, 2008; Benz & Fray, 2008; Lange, 2009; Stephan & Roesler, 2010). Whereas entrepreneurs possess higher levels of control and autonomy, regular employees are restricted when it comes to both control and autonomy due to the necessity to obey their superiors (Benz & Fray, 2008).

### **3. Five-factor model of personality traits**

The moderating role of personality traits has received far less attention than the external factors in earlier studies of SWB, although the use of personality traits as a predictor of SWB is argued to have an even stronger impact on SWB than external factors (Diener, 1984; DeNeve & Cooper, 1998). And so the use of personality traits as a predictor of SWB has

begun receiving more and more attention in recent years (Binder & Ward, 2013; Diener, Oishi & Lucas, 2003).

The five-factor model of personality, also known as The Big Five is a hierarchical organization of five different dimensions of personality traits applicable across both observers and cultures (McCrae & Costa, 1987; McCrae & Costa, 1990; McCrae & John, 1992). During recent years the five factor model of personality has received a widespread acceptance among personality researchers as a basic model for capturing individual differences in personality and it is often seen as a dominant one in personality psychology (Jovanovic, 2010). The five personality dimensions included in the five-factor model exists of: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience.

Extraversion refers to the extent to which one is gregarious, talkative, energetic, enthusiastic, active, and assertive (McCrae & John, 1992; Zhai, Willis, O'Shea, Zhai & Yang, 2013). Individuals with a high level of extraversion tend to seek excitement and incentive, and possesses an optimistic view on reality, whilst individuals with a low level of extraversion tends to be withdrawn, composed, and self-dependent (Zhao & Seibert, 2006).

Agreeableness is signified as the extent to which one is generous, forgiving, kind, sympathetic, trusting, and appreciative (McCrae & John, 1992; Zhai, Willis, O'Shea, Zhai & Yang, 2013). Individuals who have a high degree of agreeableness tend to be cooperative, trustworthy, and think highly of other people. However, a low degree of agreeableness indicates a cynical view of life, and difficulty to cooperate with other people (Zhao & Seibert, 2006).

Conscientiousness as a trait includes the extent to which one is organized, planful, reliable, responsible, thorough, and efficient (McCrae & John, 1992; Zhai, Willis, O'Shea, Zhai & Yang, 2013). Individuals with a high level of conscientiousness tend to be self-disciplined, ambitious, and dutiful, whilst individuals with a low level of conscientiousness tend to be rash, ambitiousless, and unreliable (Zhao & Seibert, 2006).

Neuroticism addresses the degree to which one is self-pitying, tense, touchy, unstable, worrying, and anxious (McCrae & John, 1992; Zhai, Willis, O'Shea, Zhai & Yang, 2013). An individual with a high degree of neuroticism tend to experience negative emotions such as anxiety, depression, impulsiveness, and nervousness. Furthermore, individuals with a low degree of neuroticism tend to possess a confident and composed behavior (Zhao & Seibert, 2006).

Openness to Experience refers to an individual's desire to be cultivated and to perceive new experiences. Individuals with a high level of openness are usually creative, imaginative,

curious, impulsive, and insightful. Individuals who have a low degree of openness tend to be narrow-minded (Zhao & Seibert, 2006).

According to earlier research, three out of the five personality traits included in the five-factor model of personality: extraversion, neuroticism, and conscientiousness, have been shown to affect one's subjective well-being (Heller, Judge & Watson, 2002). Individuals with a high degree of neuroticism tend to experience more negative life events than individuals with a low degree of neuroticism, in a way that they always force themselves into situations that promote negative affect (Emmons, Diener & Larsen 1985). Individuals with a high level of extraversion, on the other hand, find it rewarding to socially interact with other people and thus disposing themselves to experience positive emotions (Costa & McCrae, 1992). Furthermore, McCrae and Costa (1991) argues that an individual with a high degree of conscientiousness foster both hard-work and task accomplishment, which in turn could be related to one's subjective well-being. Through a meta-analysis, DeNeve and Cooper (1998) found coherent effects between subjective well-being and the personality traits: neuroticism, extraversion, and conscientiousness (DeNeve & Cooper, 1998).

Although the relationship between subjective well-being and the five-factor personality traits have received more attention than the relationship between job satisfaction and the five-factor personality traits, evidence suggests that neuroticism, extraversion, and conscientiousness affects job satisfaction in a similar manner as subjective well-being (Heller, Judge & Watson, 2002). According to a meta-analysis by Judge, Heller and Mount (2002) they found that there is indeed a coherent effect between the personality traits neuroticism, extraversion, and conscientiousness and job satisfaction.

#### **4. Personality traits, subjective well-being and job satisfaction**

As shown above, previous research show that entrepreneurs experience a higher degree of subjective well-being and job satisfaction when compared with regular employees. This is probably due to differences in both working conditions and characteristics, where being an entrepreneur involves more flexibility (Loscocco & Roschell, 1991), more control (Benz & Fray, 2008), a lesser need to coordinate with work routines and coworkers, and a greater task variety (Hundley, 2001). The question is, if being an entrepreneur is equally beneficial for all personality types.

Extensive research (DeNeve & Cooper, 1998; Diener, Oishi & Lucas, 2003; Judge, Heller & Mount, 2002; Steel, Schmidt & Shultz, 2008) suggests that the determinants of SWB and job satisfaction might be either country- or cultural specific. This implies that subjective well-

being and job satisfaction might vary with contextual characteristics, yet little is known of their relationship with forms of employment. Although research on entrepreneurs and regular employees' job satisfaction has been widely studied, there is little known of the relationship between SWB and personality traits among entrepreneurs and regular employees.

What we do know from previous research is that personality traits are suggested to affect both subjective well-being and job satisfaction. Conscientiousness as such, is thought to influence individual's success, which in turn could have a significant impact on individual's subjective well-being as well as job satisfaction (Judge, Heller & Mount, 2002; McCrae & Costa, 1991). A high level of neuroticism is associated with experiences of job failures and dissatisfaction, whereas a low level of neuroticism, in contrast, is associated with both high job- and life satisfaction (Heller, Watson & Ilies, 2004). Extraversion is also argued to influence both job satisfaction and subjective well-being. McCrae and Costa (1986) argued that extraverts tends to handle stress through positive reappraisal coping styles and that the use of adaptive coping styles were associated with high levels of well-being, thus suggesting that extraverts possesses higher levels of well-being than introverts. DeNeve and Cooper (1998) also found a correlation between agreeableness and subjective well-being through traits such as defensiveness and trust.

According to this previous research, traits such as individual success, low experiences of failure, stress handling, and trustfulness are associated with high levels of job- and life satisfaction. These traits are in turn related to entrepreneurial characteristics indicating that entrepreneurs should possess a higher need of these traits in comparison to regular employees. That this could be the case is supported by previous research findings of personality based selections into entrepreneurship. Brandsätter (1997) found that Australian entrepreneurs possess a greater degree of extraversion when compared with the general Australian population. According to a meta-analysis by Zhao and Siebert (2006), they found that when comparing entrepreneurs to managers the traits: conscientiousness and openness to experience were significantly higher among entrepreneurs and that neuroticism and agreeableness were significantly lower among entrepreneurs, thus suggesting that entrepreneurs in general possess different sets of personality traits when compared with managers. Beuglesdijk and Noorderhaven (2005) conducted a study focusing on differences in personality characteristics between entrepreneurs, the general population, and regular employees. They found empirical evidence suggesting that entrepreneurs do differ from the general population and from regular employees in a number of characteristics. Entrepreneurs tend to be more individually oriented and achievement driven, thus valuing individual responsibilities, efforts, and hard work

(Beuglesdijk & Noorderhaven, 2005). It is also argued that entrepreneurs have a tendency to be more innovative when compared with regular employees because of their need to stay ahead on the market, thus suggesting that entrepreneurs possess a higher degree of openness to experience (Beuglesdijk & Noorderhaven, 2005).

## **5. Hypotheses**

According to earlier research it is suggested that being in control, possessing a high degree of autonomy, and having the freedom to act according to personal preferences is beneficial for one's subjective well-being as well as job satisfaction (Stephan & Roesler, 2010). Research has shown that entrepreneurs tend to possess a higher degree of these characteristics when compared to regular employees, thus indicating that being an entrepreneur is beneficial for one's subjective well-being and job satisfaction. Previous findings also suggest that the personality traits: extraversion, agreeableness, conscientiousness, and emotional stability are positively related to both subjective well-being and job satisfaction. This leads to the first two hypotheses where it is expected that previous findings will be reflected in this study, suggesting that entrepreneurs do possess a higher degree of subjective well-being and job satisfaction in comparison to regular employees and that a high degree of said personality traits will affect subjective well-being and job satisfaction positively.

**Hypothesis 1:** Entrepreneurs will score higher than regular employees on subjective well-being and job satisfaction.

**Hypothesis 2:** Extraversion, agreeableness, conscientiousness, and emotional stability will have positive effects on subjective well-being and job satisfaction.

Entrepreneurial behavior is associated with numerous demands such as a need for achievement, need for affiliation, risk-taking, creativity, and the tendency to assume personal responsibility for success or failure (Beuglesdijk & Noorderhaven, 2005). Extensive research also suggests that entrepreneurs possess a high level of self-confidence (Chen, Greene & Crick, 1998; Crant, 1996), have a need to be socially interactive with both internal and external contacts in order to cooperate with business partners (Zhao & Siebert, 2006), and are creative in their thinking when it comes to solving problems, strategizing and implicating business methods (McCrae, 1987). These entrepreneurial traits could in turn be seen as linked to extraversion, agreeableness, conscientiousness, emotional stability, and openness to

experience because entrepreneurs are in need of these traits in order to successfully run a business. Brandsätter (2010) also argued that personality traits may have a stronger effect on entrepreneurs than most other professions, because being an entrepreneur provides the ability to act according to personal preferences as well as more freedom in choosing and changing work environments. This led to the third hypothesis, where the personality traits extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience are expected to have a stronger positive effect on entrepreneurs than regular employees, due to the notion that entrepreneurs possess a higher degree of control, creativity, autonomy, discretion, and self-confidence as well as a need for affiliation (Chen, Greene & Crick, 1998; Crant, 1996; DeNeve & Cooper, 1998).

**Hypothesis 3:** Extraversion, conscientiousness, emotional stability, agreeableness, and openness to experience will have stronger positive effects on subjective well-being as well as job satisfaction among entrepreneurs.

## **6. Data**

The data for this paper originates from Employment, Material Resources, and Political Preferences (EMRAPP) postal survey that was conducted in Sweden. The survey specifically targets self-employed but also includes regular employees to facilitate comparisons across employment types. The sample was selected as well as administered by Statistics Sweden (SCB). A non-proportional, but nationally representative, stratified sample was used in order to obtain a large enough sample of self-employed for detailed analysis. The sample comprises two strata: stratum one (2483 respondents, response rate 42%) represents self-employed in Sweden aged 25–64 years, and stratum two (2642 respondents, response rate 44%) represents regular employees aged 25–64 years. The net and gross samples of both strata were compared using several key variables. The achieved samples are similar to the gross samples in their distributions of gender, age, and educational attainment. One bias is that younger respondents are slightly underrepresented in the achieved sample. During the analysis a variable measuring “currently in occupation” was used as a filter in order to only examine individuals who currently were working. This resulted in a sample of 1860 entrepreneurs currently working and 1930 regular employees currently working. EMRAPP contains not only detailed information on individual’s demographical characteristics but also information on individual’s personality traits, cognitive subjective well-being as well as job satisfaction. During the

analysis both entrepreneurs and regular employees were analysed separately by splitting the variable measuring forms of employment (entrepreneurship or other).

**Table 1:** Sample mean values and percentage distribution of the variables used in the empirical analysis.

Variable	Definition	Entrepreneurs	Regular employees
Subjective-wellbeing		Mean = 5,33	Mean = 5,32
Job Satisfaction		Mean = 5,70	Mean = 5,37
Extraversion		Mean = 5,22	Mean = 5,16
Agreeableness		Mean = 5,28	Mean = 5,38
Conscientiousness		Mean = 5,42	Mean = 5,57
Emotional stability		Mean = 5,14	Mean = 5,15
Openess to experience		Mean = 5,44	Mean = 5,33
Age		Mean = 50,6	Mean = 46,7
Gender-Female		27,2 %	51,1 %
Gender-Male		72,8 %	48,9 %
Monthly Income before taxes		Mean = 30857 kr	Mean = 31420 kr
Lower Education		61,3 %	45,1 %
Higher Education		38,7 %	54,9 %

## 6.1 Central dependent variables

The cognitive part of subjective well-being and job satisfaction are used as two central dependent variables in the analysis. Subjective well-being is measured through the question “If you evaluate your life in general, how happy or unhappy would you consider yourself?” using a 7 point likert scale where 1 represented “completely unhappy” and 7 represented “completely happy”. Job satisfaction was measured in the same manner, although through the question “How satisfied are you with your job?” where 1 represented “completely unsatisfied” and 7 represented “completely satisfied”. The mean values for employed entrepreneurs and regular employees are presented in table 1.

## 6.2 Central independent variables

The personality traits: extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience are used as central independent variables. The personality traits were measured using a 14-item personality questionnaire with items scaled from 1-7. The use of a likert point scale on personality traits is argued to be a representative method for categorizing personality traits within the five factor model (Costa & McCrae, 1992). The questions measured in what degree various characteristics represented the respondent’s personality, where 1 represented a low degree of said characteristics and 7 represented a high degree of said characteristics. Each of the five personality traits used in the analysis are based on two or three characteristics items representing each personality trait separately. Indexes constructed

from these items are used in order to capture more than one item per personality. The indexes are based on the same scale as the characteristic items, 1-7, where each additive score on the index was divided by the number of items for each personality trait. The personality trait index for extraversion contains three items “social, enthusiastic”, “self-contained, withdrawn” and “independent”. The Agreeableness-index were based on three items “critical, contentious”, “sympathetic, kind-hearted” and “rebellious”. The index for conscientiousness were based on the two items “dependable, self-disciplined” and “messy, careless”. Neuroticism was reversed into emotional stability in order to avoid negative outcomes. The index for emotional stability was measured through two items “anxious, easily agitated” and “calm, emotionally stable”. The last personality trait-index openness to experience was based on the two items “open for new experiences, complex” and “conventional, un-creative”.

### **6.3 Control variables**

Evidence derived from a large amount of research suggests that external demographical variables such as, income (Larson, 1978; Binder & Ward, 2013), age (Bradburn & Caplovitz 1965), gender (Braun, 1977), education (Campbell, 1981), and marriage- and family satisfaction (Freudiger, 1980; Larson, 1978) are positively correlated with SWB, although these external factors only account for a small amount of the variance in measures of subjective well-being (Diener, Suh, Lucas & Smith, 1999). In order to control for selection effects the control variables: gender, age, income, and education were used in the analysis.

The variable “gender” is divided into male and female where female was used as a reference category. As shown in table 1, the gender distribution among entrepreneurs are 27,2% female and 72,8% male. The distribution among regular employees are more evenly distributed with 51,1% female and 48,9% male. The variable “age” only contains individuals from age 25-64 and was used as a continuous variable. Entrepreneurs mean value on “age” was 50,63 years and the mean value for regular employees was 46,67 years. Income was measured through an open question asking for individual’s monthly income in SEK before taxes. The income variable used in the analysis represents individuals income measured per thousand SEK. Education was measured through six categories: compulsory school education, vocational upper secondary school, theoretically upper secondary school, university school without a degree certificate, 3 year university school with a degree certificate, and more than 3 years of university school with a degree certificate. For the purpose of the analysis the education variable was collapsed into three categories: compulsory school education, upper secondary school education, and university education. Compulsory school was used as

reference category. Table 1 presents the percentage distribution between low and high education among entrepreneurs and regular employees. Values 1-3 on the variable education were classified as low education and values 4-6 were classified as high education. The sample mean values and percentage distribution of all variables used in the empirical analysis are presented in table 1.

#### **6.4 Ethics**

There are four ethical ground principles that one must take into account when conducting research on human beings. These principles exist of: information requirement, consent requirement, confidentiality requirement, and utilize requirement. Information requirement refers to the researcher's obligation to inform the respondents of the purpose of the research as well as their right to refuse participation. Consent requirement refers to the respondents consent in participating in the research. The confidentiality requirement refers to the participant's right to anonymity and the utilize requirement refers to how the collected data is used, which must only be used in a scientific purpose (Vetenskapsrådet, 2002).

The research material used in this paper has taken these ethical ground principles into account. Within the covering note of the postal survey both the information- and the consent requirement was fulfilled. In order to fulfill the confidentiality requirement the respondents within the collected data was labeled, by Statistics Sweden, with an ID-number unrelated to their individual social security number and all the information used in this paper has been processed as well as presented in aggregated form. As for the utilize requirement, the data collected in this research is only used for scientific purpose. The data has also been approved by the regional ethical review board in Umeå during 2011.

#### **7. Results**

This paper investigates the effect of personality traits on cognitive subjective well-being and job satisfaction among entrepreneurs and regular employees. From what is previously known through earlier research, entrepreneurs should possess a higher degree of subjective well-being and job satisfaction when compared with regular employees (Jamal, 1997; Andersson, 2008; Benz & Fray, 2008; Lange, 2009; Stephan & Roesler, 2010). Moreover, a high degree of the personality traits: extraversion, agreeableness, conscientiousness, and emotional stability should have a positive effect on both subjective well-being and job satisfaction (Stephan & Roesler, 2010). In order to investigate these previous findings three OLS-regression models are presented for

each of the dependent variables (subjective well-being and job satisfaction) separately<sup>1</sup>. The first model consists of a crude model where the variable separating entrepreneurs from regular employees are used as an independent variable. In the second model the central independent variables: extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience are added to the regression model. In the last model the additional variables, age, gender, monthly income, and education are entered as controls.

**Table 2:** OLS-regression of the relationship between subjective well-being, entrepreneurs, regular employees and personality traits.

	Model 1		Model 2		Model 3	
	B-value	Std. Error	B-value	Std. Error	B-value	Std. Error
Intercept	5,32***	,021	3,11***	,119	3,24***	,150
Entrepreneurs (ref) Regular employees	0,01	,030	0,02	,029	0,06*	,031
Extraversion			0,15***	,013	0,14***	,013
Agreeableness			0,10***	,017	0,10***	,018
Conscientiousness			0,02	,015	0,03	,015
Emotional stability			0,17***	,014	0,17***	,014
Openess to experience			-0,01	,016	-0,01	,017
Age					-0,01***	,001
Gender Male (ref) Gender Female					-0,06	,032
Monthly income					0,002***	,000
University education					0,06	,050
Upper secondary school education (ref) Compulsory school education					0,05	,050
Adjusted R <sup>2</sup>		,000		,138		,150

Sig levels: \* = 0,05, \*\* = 0,01, \*\*\* = 0,001.

Starting with table 2, where scores on subjective well-being are investigated, we can see in model 1 that forms of employment has no statistically significant relationship with subjective well-being. The relationship remains statistically insignificant when controlling for personality traits in the second model. When controlling for additional variables in the third model, there is however a significant difference between entrepreneurs and regular employees, where entrepreneurs have a higher score than regular employees on subjective

<sup>1</sup> Analyses have also, given the relatively short dependent variables, been performed for all regressions using PLUM ordinal regression. All such analyses have produced the same substantial results.

well-being. This shows that entrepreneurs are better off than regular employees when taking their characteristics into account. Looking at personality traits in the second model we can see that a higher degree of extraversion, agreeableness, and emotional stability are significantly related to higher scores on subjective well-being. Conscientiousness and openness to experience are however statistically insignificant. These results continue to be valid even when controlling for additional variables in model 3.

**Table 3:** OLS-regression of the relationship between job satisfaction, entrepreneurs, regular employees, and personality traits.

	Model 1		Model 2		Model 3	
	B-value	Std. Error	B-value	Std. Error	B-value	Std. Error
Intercept	5,37***	,024	3,57***	,146	3,44***	,185
Entrepreneurs	0,33***	,035	0,35***	,035	0,34***	,038
(ref) Regular employees	0,00		0,00		0,00	
Extraversion			0,10***	,016	0,09***	,017
Agreeableness			0,08***	,021	0,07***	,022
Conscientiousness			0,04*	,018	0,04*	,018
Emotional stability			0,14***	,017	0,14***	,017
Openess to experience			-0,01	,020	0,00	,021
Age					0,01**	,002
Gender Male					-0,08*	,040
(ref) Gender Female					0,00	
Monthly income					0,001*	,000
University education					-0,14*	,062
Upper secondary school education					-0,10	,062
(ref) Compulsory school education					0,00	
Adjusted R <sup>2</sup>		,023		,083		,088

Sig levels: \*=0,05, \*\*=0,01, \*\*\*=0,001.

Turning to job satisfaction in table 3, we see in model 1 that entrepreneurs experience a significantly higher degree of job satisfaction when compared with regular employees and that this continue to be true in every model. In the second model, we see a positive and statistically significant score on every personality trait except openness to experience. This in turn indicates that a positive score on extraversion, agreeableness, conscientiousness, and emotional stability are related to a higher score on job satisfaction. In the third model, when controlling for additional variables, the personality traits: extraversion, agreeableness, conscientiousness, and emotional stability still show a significant relationship with job satisfaction.

According to previous research and hypothesis 1 it was suggested that entrepreneurs would score higher than regular employees on both subjective well-being and job satisfaction. The result from table 2 and 3 suggests that this also is true, with qualifications. Being an entrepreneur seems to be highly beneficial for one's job satisfaction even when controlling for additional variables. As for subjective well-being the results were weaker and being an entrepreneur showed no statistical significance in the first two models, although when adding more independent control variables, being an entrepreneur showed a positive relationship with subjective well-being. Turning to hypothesis 2 previous researches suggested that a high degree of extraversion, agreeableness, conscientiousness, and emotional stability would be positively related to subjective well-being and job satisfaction. The results from table 2 and 3 indicate that this is true. A higher degree of extraversion, agreeableness, conscientiousness, and emotional stability seem to be highly beneficial for one's subjective well-being as well as job satisfaction, although openness to experience doesn't seem to affect either.

Knowing that entrepreneurs possess a higher degree of subjective well-being as well as job satisfaction, and that a high degree of the personality traits: extraversion, agreeableness, conscientiousness, and emotional stability is beneficial for one's subjective well-being and job satisfaction, the next step is to investigate if personality traits affect subjective well-being and job satisfaction differently among entrepreneurs and regular employees. In table 4 and 5 the relationship between personality traits, subjective well-being, and job satisfaction among entrepreneurs and regular employees are studied separately in order to easily compare the groups. The tables consist of a two-step OLS-regression for each employment form. The first step, model 1, only includes personality traits as the central independent variables whilst the control variables are added in the second step, model 2.

**Table 4:** OLS-regression estimates on the relationship between subjective well-being and personality traits among entrepreneurs and regular employees.

	Entrepreneurs				Regular employees			
	Model 1		Model 2		Model 1		Model 2	
	B-value	Std. Error	B-value	Std. Error	B-value	Std. Error	B-value	Std. Error
Intercept	3,29***	,170	3,56***	,225	2,99***	,165	3,00***	,206
Extraversion	0,15***	,019	0,14***	,019	0,15***	,018	0,15***	,019
Agreeableness	0,10***	,024	0,10***	,025	0,10***	,025	0,10***	,025
Conscientiousness	0,04	,021	0,05*	,021	0,00	,021	0,00	,021
Emotional stability	0,14***	,019	0,14***	,020	0,19***	,019	0,19***	,019
Openess to experience	-0,03	,023	-0,03	,024	0,00	,023	0,01	,023
Age			-0,01**	,002			-0,00	,002
Gender Male (ref)			-0,03	,051			-0,08	,042
Gender Female			0,00				0,00	
Monthly income			0,001	,000			0,003***	,000
University education			-0,01	,069			0,13	,075
Upper secondary school education (ref)			-0,01	,0684			0,14	,075
Compulsory school education			0,00				0,00	
Adjusted R <sup>2</sup>		,120		,130		,155		,169

Sig levels: \*=0,05, \*\*=0,01, \*\*\*=0,001.

Looking at model 1 in table 4, where scores on subjective well-being is investigated, we see that extraversion, agreeableness, and emotional stability shows a significant relationship with both entrepreneur's and regular employees subjective well-being. In both cases conscientiousness and openness to experience show no statistical significance related to subjective well-being. When adding the control variables in the second model there are no substantial changes in the relationship between personality traits and subjective well-being between entrepreneurs and regular employees. These results indicate that personality traits don't affect subjective well-being much differently between entrepreneurs and regular employees. The only difference that these findings suggest is that conscientiousness seem to be a relevant, although not strong, factor for entrepreneur's subjective well-being but not for regular employees.

**Table 5:** OLS-regression estimates on the relationship between job satisfaction and personality traits among entrepreneurs and regular employees.

	Entrepreneurs				Regular employees			
	Model 1		Model 2		Model 1		Model 2	
	B-value	Std. Error	B-value	Std. Error	B-value	Std. Error	B-value	Std. Error
Intercept	3,69***	,197	3,72***	,264	3,82***	,211	3,57***	,265
Extraversion	0,12***	,022	0,12***	,023	0,07**	,024	0,06*	,024
Agreeableness	0,11***	,028	0,09**	,030	0,05	,031	0,06	,032
Conscientiousness	0,07**	,024	0,07**	,025	0,01	,026	0,01	,027
Emotional stability	0,12***	,022	0,14***	,024	0,15***	,024	0,15***	,025
Openness to experience	-0,03	,027	-0,02	,028	0,01	,029	0,02	,030
Age			0,00	,003			0,01*	,002
Gender Male (ref) Gender Female			-0,13*	,060			-0,05	,054
			0,00				0,00	
Monthly income			0,001	,000			0,002	,000
University education			-0,16*	,080			-0,12	,096
Upper secondary school education (ref) Compulsory school education			-0,15	,078			-0,06	,097
			0,00				0,00	
Adjusted R <sup>2</sup>		,083		,087		,049		,050

Sig levels: \*=0,05, \*\*=0,01, \*\*\*=0,001.

Turning to job satisfaction in table 5, the first model show that every personality trait except openness to experience has a significant and positive relationship with entrepreneur's job satisfaction. Turning to regular employees, only extraversion and agreeableness show a significant relationship with job satisfaction, and the relationship for extraversion is only half as strong as the relationship was for entrepreneurs. This continues to be true even when controlling for additional control variables in the second model, thus suggesting that the relationship between personality traits and job satisfaction is substantially stronger among entrepreneurs<sup>2</sup>.

These findings indicate that personality trait do not significantly affect subjective well-being differently among entrepreneurs and regular employees. Entrepreneurs and regular employees seem to have relatively similar scores on each personality trait. The only difference between them is that conscientiousness showed a significant relationship with subjective well-being among entrepreneurs, thus indicating that conscientiousness is of relevance for entrepreneurs but not for regular employees. When it comes to job satisfaction

<sup>2</sup> The interaction effects between employment status and personality traits have also been analyzed using pooled data and interaction terms. The analysis showed slightly lower effects and severe problems of multicollinearity for the models, results were however substantially the same.

on the other hand, the personality traits agreeableness, conscientiousness, and openness to experience did not relate to regular employee's job satisfaction. When we look at entrepreneurs however, we can see that both agreeableness and conscientiousness have a significant relationship with job satisfaction and that the relationship between extraversion and job satisfaction is twice as strong among entrepreneurs.

## **8. Conclusion**

The aim of this paper was to investigate personality traits effect on the cognitive part of subjective well-being as well as job satisfaction among entrepreneurs and regular employees. By doing separate OLS-regressions on both subjective well-being and job satisfaction the results clearly show that personality do indeed affect entrepreneurs and regular employees differently. Three hypotheses were presented earlier, suggesting that (1) entrepreneurs would score higher than regular employees on subjective well-being and job satisfaction; (2) that the personality traits: extraversion, agreeableness, conscientiousness, and emotional stability would have positive effects on subjective well-being and job satisfaction; and (3) that extraversion, conscientiousness, emotional stability, agreeableness, and openness to experience would have stronger positive effects on subjective well-being as well as job satisfaction among entrepreneurs.

Initial findings showed that entrepreneurs tend to possess a higher degree of subjective well-being and a substantially higher degree job satisfaction when compared to regular employees. It also showed that the personality traits: extraversion, agreeableness, conscientiousness, and emotional stability were positively related to both subjective well-being and job satisfaction. This confirms previous findings made on the relationship between entrepreneurs, subjective well-being, and job satisfaction as well as the relationship between personality traits, subjective well-being, and job satisfaction.

Using two separate OLS-regressions we saw that there are only small differences in the relationship between personality traits and subjective well-being between entrepreneurs and regular employees. The main difference was that the personality trait conscientiousness did not seem to be related to subjective well-being among regular employees, but did so to some extent amongst entrepreneurs. Turning to job satisfaction we saw, on the other hand, that entrepreneurs when compared with regular employees had significant positive coefficients for every personality trait except openness to experience. In comparison only extraversion and emotional stability were significantly related to job satisfaction among regular employees.

The relationship between extraversion and job satisfaction was also only half as strong among regular employees as it was among entrepreneurs.

These results suggest that there is no substantial difference between Swedish entrepreneurs and regular employees when looking at the relationship between personality traits and subjective well-being. Turning to job satisfaction on the other hand, these findings show that being an entrepreneur is beneficial for one's job satisfaction and that a high degree of the personality traits: extraversion, agreeableness, conscientiousness, and emotional stability are likely to have strong and positive effects on Swedish entrepreneur's job satisfaction. The results in turn suggest that being an entrepreneur is beneficial for individuals with certain personality traits and that entrepreneur's with these personality traits are likely to possess a higher degree of job satisfaction than other entrepreneurs. A plausible explanation for this is the theory of Person-environment fit which indicates that individual traits, such as personality, need to be matched with a certain environment, including working conditions, in order for the individual to experience a high degree of job satisfaction (Edwards, Caplan & Harrison, 1998). This notion is in turn supported by previous research suggesting that entrepreneurs and regular employees differ in terms of working conditions, whereas entrepreneurs possess a higher degree of control and freedom in comparison to regular employees.

There is little or even no research that has focused on investigating the impact of personality traits on subjective well-being and job satisfaction separately among entrepreneurs and regular employees and that is this paper's main contribution. By using this approach this research has both confirmed previous findings on general relationships and contributed with new findings suggesting that personality traits are of great importance for entrepreneurs, thus important when investigating entrepreneur's job satisfaction.

This research also has limitations. First, the survey is based on a cross sectional Swedish nationally representative sample which makes the results culturally specific. Second, the personality questionnaire was only based on 14 personality items which in terms of personality measurement might be less representative for the big five personality traits.

Given this, there is a need for both a comparative research in order to investigate differences or similarities between institutional settings, as well as a longitudinal research following individuals with different personality traits over time into and/or out of entrepreneurship.

## References

- Andersson, P. (2008). Happiness and Health: Well-being among the self-employed. *The Journal of Socio-Economics*, 37, 213-236.
- Arthaud-Day, M. L., Rode, J. C., Mooney, C. H. & Near, J. P. (2005). The subjective well-being construct: A test of its convergent, discriminant and factorial validity. *Social Indicators Research*, 74, 445-476.
- Benz, M. & Fray, B. S. (2008). Being independent is a great thing: Subjective evaluations of self-employment and hierarchy. *Economica*, 75, 362-383.
- Beugelsdijk, S. Noorderhaven, N. (2005). Personality Characteristics of Self-Employed; An Empirical Study. *Small Business Economics*, 24, 159-167.
- Binder, M. & Coad, A. (2012). Life satisfaction and self-employment: a matching approach. *Small Business Economics*, 40(4), 1009-1033.
- Binder, M. & Ward, F. (2013). The structure of subjective well-being: A vector autoregressive approach. *Metroeconomica*, 64:2, 361-400.
- Blanchflower, D. (2004). Self-employed: more may not be better. *Swedish Economic Policy Review*, 11(2), 15-73.
- Bradburn, N. M. & Caplovitz, D. (1965). Reports on happiness. Chicago: Aldine.
- Braun, P. M. W. (1977). Psychological well-being and location in the social structure. *Dissertation Abstracts International*, 40, 5802B.
- Brandsätter, H. (2010). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, 51, 222-230.
- Campbell, A. (1981). *The sense of well-being in America: Recent patterns and trends*. New York: McGraw-Hill.
- Chay, Y. W. (1993). Social support, individual differences and well-being: A study of small business entrepreneurs and employees. *Journal of Occupational and Organizational Psychology*, 66, 285-302.
- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers? *Journal of Business Venturing*, 13, 295-316.
- Collins, C. J., Hanges, P. J., & Locke, E. A. (2004). The relationship of achievement motivation to entrepreneurial behavior: A meta-analysis. *Human performance*, 17(1), 95-117.
- Costa, P. T. Jr. & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor (NEO-FFI) Inventory professional manual*. Odessa, FL: PAR.
- Crant, J. M. (1996). The proactive personality scale as a predictor of entrepreneurial intentions. *Journal of Small Business Management*, 34, 42-49.
- DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, 124, 197-229.
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542-575.
- Diener, E. (2000). Subjective well-being: The science of happiness, and a proposal for a national index. *American Psychologist*, 55, 34-43.
- Diener, E., Oishi, S. & Lucas, R. E. (2003). Personality, culture and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology*, 54, 403.
- Diener, E., Suh, E. M., Lucas, R. E. & Smith, H. L. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, Vol. 125, No. 2, 276-302.
- Diener, E., & Seligman, M. E. P. (2004). Beyond money: Toward an economy of well-being. *Psychological Science in the Public Interest*, 5, 1-31.
- Eden, D. (1975). Organizational Membership vs. Self-Employment: Another Blow to the American Dream. *Organizational Behavior and Human Performance*, 11(1), 79-94.

- Edwards, J. R., Caplan, R. D. & Harrison, R. V. (1998). "Person-environment fit theory: Conceptual foundations, empirical evidence, and directions for future research" In: Cooper (ed) *Theories of organizational stress*, 28-67 Oxford: Oxford University.
- Emmons, R. A., Diener, E. & Larsen, R. J. (1985). Choice of situations and congruence models of interactionism. *Personality and Individual Differences*, 6, 693-702.
- Freudiger, P. T. (1980). Life satisfaction among American women. *Dissertation Abstracts International*, 40, 6438A.
- Hackman, R., J. & Oldham, G., R. (1975). Development of the Job Diagnostic Survey. *Journal of Applied Psychology*, 60, 159-170.
- Heller, D., Judge, T.A. & Watson, D. (2002). The confounding role of personality and trait affectivity in the relationship between job and life satisfaction. *Journal of Organizational Behavior*, 23, 815-835.
- Heller, D. & Munt. (2002)
- Heller, D., Watson, D. & Ilies, R. (2004). The role of person versus situation in life satisfaction: A critical examination. *Psychological Bulletin*, 130, 574-600.
- Higgs, M. & Dulewicz, V. (2014). Antecedents of well-being: a study to examine the extent to which personality and emotional intelligence contribute to well-being. *The International Journal of Human Resource Management*, Vol. 25, No. 5, 718-735.
- Hundley, G. (2001). Why and When are the Self-Employed More Satisfied with Their Work? *Industrial Relations: A Journal of Economy and Society* 40(2), 293-316.
- Jamal, M. (1997). Job Stress, Satisfaction, and Mental Health: An Empirical Examination of Self-Employed and Non-Self-Employed Canadians. *Journal of Small Business Management*, 35, 48-57.
- Jovanovic, V. (2010). Personality and subjective well-being: One neglected model of personality and two forgotten aspects of subjective well-being. *Personality and Individual Differences*, 50, 631-635.
- Judge, T. A. & Watanabe, S. (1993). Another look at the job satisfaction-life satisfaction relationship. *Journal of Applied Psychology*, 78, 939-948.
- Judge, T. A., Heller, D. & Mount, M. K. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, 87, 530-541.
- Lange, T. (2009). Job satisfaction and self-employment: autonomy or personality? *Small Bus Econ* 2012, 38, 165-177.
- Larson, R. (1978). Thirty years of research on the subjective well-being of older Americans. *Journal of Gerontology*, 33, 109-125.
- Locke, E. A. (1976). The nature and cause of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology*, 1297-1349.
- Loscocco, K., A. & Roschelle, A., R. (1991). Influences on the Quality of Work and Nonwork life: Two Decades in Review. *Journal of Vocational Behavior*, 39, 185-225.
- Lucas, R. E., Diener, E. & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology*, 71, 616-628.
- Mandel, M., J. (1996). *The High Risk Society: Peril and Promise in the New Economy*. New York: Times Business.
- McCrae, R. R. & Costa, P. T. Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of personality*, 54, 385-405.
- McCrae, R. R. & Costa, P. T. Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52, 81-90.
- McCrae, R. R. & Costa, P. T. Jr. (1990). *Personality in adulthood*. New York: Guilford.
- McCrae, R. R. & Costa, P. T. Jr. (1991). Adding liebe und arbeit: the full five-factor model and well-being. *Personality and Social Psychology Bulletin*, 17, 227-232.

- McCrae, R. R. & John, O. P. (1992). An introduction to the Five-Factor model and its applications. *Journal of Personality*, 60, 175-215.
- Steel, P., Schmidt, J., & Shultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin*, 134, 138-161.
- Stephan, U. & Roesler, U. (2010). Health of entrepreneurs vs. employees in a national representative sample. *Journal of Occupational and Organizational Psychology*, 83(3), 717-738.
- Tait, M., Padgett, M. Y. & Baldwin, T. T. (1989). Job and life satisfaction: a reevaluation of the strength of the relationship and gender effects as a function of the date of the study. *Journal of Applied Psychology*, 74, 502-507.
- Veenhoven, R. (2004). Happiness as a public policy aim: The greatest happiness principle. In P. A. Linley & S. Joseph (eds.) *Positive psychology in practice* (pp. 658-678). Hoboken, NJ: Wiley.
- Vetenskapsrådet (2002). Forskningsetiska principer inom humanistisk- samhällsvetenskaplig forskning. <http://www.codex.vr.se/texts/HSFR.pdf>. Hämtad 05-06-2014.
- Weiss, A., Bates, T.C. & Luciano, M. (2008). Happiness Is a Personal(ity) Thing: The Genetics of Personality and Well-Being in a Representative Sample. *Psychological Science*, 19, 205-210.
- Zhai, Q., Willis, M., O'Shea, B., Zhai, Y. & Yang, Y. (2013). Big Five personality traits, job satisfaction, and subjective well-being in China. *International Journal of Psychology*, Vol. 48, No. 6, 1099-1108.
- Zhao, H. & Seibert, S. E. (2006). The Big Five Personality Dimensions and Entrepreneurial Status: A Meta-Analytical Review. *Journal of Applied Psychology*, Vol. 91, No. 2, 259–271.