

# **The influence of personality on career success: An empirical study**

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## **Abstract**

This thesis studies the relation between the “Big Five” personality traits (openness to experience, conscientiousness, extraversion, agreeableness and neuroticism) and career success. Career success is divided into income and job satisfaction to be able to study the differences in the relation of these two types of career success. Cross-sectional data of the Longitudinal Internet Studies for the Social sciences panel (LISS) is used to investigate the possible relation between personality and career success.

Results obtained from 1940 Dutch workers reveal that conscientious, extraverted, calm and disagreeable workers report to have higher incomes. Furthermore, it is shown that conscientious, agreeable and calm workers report to have higher job satisfaction. It is found that demography-related, human capital related and profession related variables are associated with income and job satisfaction. Additionally, women are found to have higher incomes than men for equal levels of the traits openness to experience and neuroticism.

# Contents

- Abstract ..... I
- Contents ..... II
- List of tables and figures ..... III
- Introduction..... 1
- Related literature ..... 3
  - Career success ..... 3
  - The Big Five personality traits ..... 3
  - Personality and career success..... 4
- Data and methodology..... 6
  - Dependent variables ..... 6
  - Independent variables..... 7
  - Other career success predictors..... 7
  - Methodological approach ..... 10
- Empirical results ..... 11
  - Effect of personality on income ..... 11
  - Effect of personality on job satisfaction..... 13
  - Discussion..... 15
  - Practical implications..... 16
  - Limitations..... 16
- Extension – Male and Female career success differences ..... 19
- Conclusions..... 23
- Appendices ..... 24
- Bibliography..... 26

## **List of tables and figures**

Table 1: Variable definitions.

Table 2: Descriptive statistics: Means and standard deviations of the variables.

Table 3: Correlations between the Big Five personality traits and the dependent variables.

Table 4: OLS estimates: The effect of personality on income.

Table 5: OLS estimates: The effect of personality on job satisfaction.

Table 6: Testing for nonlinear effect of personality on career success.

Table 7: Male – Female differences in personality traits and income.

Table 8: Male – Female differences in personality traits and job satisfaction.

Figure 1: Means of the different traits between the sexes.

## Introduction

What factors lead some employees to be more successful in their careers than others? This interesting and important question is just partly answered through prior research. In this thesis the effect of personality on income and job satisfaction is investigated. The “Big Five” personality traits are used for measuring personality, to determine the possible relation with career success. The Big Five personality traits are: openness to experience, conscientiousness, extraversion, agreeableness and neuroticism (Costa and McCrae, 1992).

Prior empirical research shows that a person with more human capital<sup>1</sup> has on average more career success than other persons (Hanushek and Woessmann, 2008) (Boissiere et al., 1985). Other evidence shows that demography-related factors like age, sex and race are predictors of career success. However, these factors explain just a small part<sup>2</sup> of the difference in career success between people (Bowles et al., 2001). There is less evidence about the effect of non-cognitive skills<sup>3</sup> on career success. Knowing what affects income and job satisfaction is important and relevant for employees who want to increase their own welfare. If an employee is able to recognize his/her own personality he/she can select him/herself in certain jobs. Furthermore, employees who are more satisfied with their jobs can be more beneficial for organisations (Freeman, 1978) (Delfgaauw, 2007). This makes it beneficial for organisations to select the right employees for the right jobs.

The main purpose of this thesis is to examine the effects of the Big Five personality traits on career success. In this thesis income and job satisfaction are used to measure career success. The second objective is to explore the effect of demography-related, human capital related and profession related variables on the above mentioned relationship. The research question for this thesis is:

*What is the role of personality towards differences in career success between employees and why?*

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<sup>1</sup>The collective skills, knowledge, or other intangible assets of individuals that can be used to create economic value for the individuals, their employers, or their community (Oxford Dictionary).

<sup>2</sup>Judge et al. (1995) found that these factors explain 31% of the variance in income and 15.5% of the variance in job satisfaction in the US. Levin & Plug (1999) found that 35% of the variance in income could be explained by these factors in the Netherlands.

<sup>3</sup>Non-cognitive skills are any skills that are not cognitive and include emotional maturity, empathy, interpersonal skills and verbal and non-verbal communication.

In this thesis use is made of data of the LISS (Longitudinal Internet Studies for the Social sciences) panel administered by CentERdata (Tilburg University, The Netherlands), a representative sample of Dutch individuals who participate in monthly internet surveys. The questionnaire used, includes 50 items from the International Personality Item Pool (IPIP) (Goldberg et al. 2006) to measure the Big Five personality traits. Previously, hardly any research is performed that simultaneously investigates intrinsic career success (job satisfaction) and extrinsic career success (income); this thesis aims to fill this void. As an extension to this thesis, a distinction between men and women is made. Gender-personality interaction terms are included to test whether there are gender specific effects of personality on career success. This is done to determine whether men and women face different returns for the same personality traits. Osborne (2000) shows, for instance, that women are punished in the wage setting for being aggressive, while men are punished for withdrawal. This is the first study that studies this effect on job satisfaction while the effect already has been tested on income.

The results show that conscientious workers report higher career success and more neurotic workers report lower career success. Agreeable workers report to have a lower income but a higher job satisfaction. Extraverted workers report to have a higher income but no relation with job satisfaction is found. Remarkable is that workers who are more open to experience report to have higher incomes and have less job satisfaction. The relation of some of the personality traits on career success changes when demography-related, human capital related and profession related variables are added. Additionally, it is found that women earn more for the traits openness to experience and neuroticism than men with the same level of these traits.

## **Related literature**

### **Career success**

Career success is most commonly defined as: "... the extrinsic and intrinsic outcomes or achievements individuals have accumulated as a result of their work experiences" (Judge et al., 1995). Looking at the extrinsic outcomes that individuals have accumulated there is focus on objectively and externally observable outcomes like salary or promotions (London and Stumpf, 1982). For the intrinsic achievements that individuals have accumulated there is focus on subjectively reported outcomes like career satisfaction or job satisfaction (Greenhaus, Parasuraman, and Wormley, 1990). It is important to use both to measure career success because they measure different aspects of career success and can be influenced by different factors (Bray and Howard, 1980).

### **The Big Five personality traits**

The objective of this thesis is to find effects of personality on career success. Personality is measured using the Big Five personality traits. The five traits are openness to experience, conscientiousness, extraversion, agreeableness and neuroticism. The questions asked to measure the traits are found in appendix 1. Digman (1990) wrote about the emergence of the Big Five personality traits and described them as follows:

*Openness to experience* includes a person's curiosity and the tendency for seeking and appreciating new experiences and novel ideas. People who score high are inventive and curious. People who score low are more consistent and cautious.

*Conscientiousness* indicates the individual's willingness to follow rules and schedules, persistence, and the extent to which individuals are hardworking, organised, detailed, and dependable, as opposed to lazy, disorganised and unreliable. People who score high are more efficient and organized where low scoring people are more likely to be easy-going and careless.

*Extraversion* encompasses the preference for human contact, attention and the wish to inspire other people. People who score high tend to be outgoing and energetic and people who score low are more solitary and reserved.

*Agreeableness* is the willingness to help other people and to act in accordance with other person's interests. Individuals who score high are more friendly and compassionate where a low score means a more analytical and detached person.

*Neuroticism* indicates adjustment versus emotional stability and addresses the degree to which the individual is insecure, anxious, depressed and emotional rather than calm, self-confident and cool. People who score high tend to be sensitive and nervous while people who score low are more secure and confident.

The traits are commonly used by researchers to measure personality in a wide range of social disciplines (Mount and Barrick, 1995). They occur in different cultures and languages which indicates that it is possible to investigate cross country differences (Heine and Buchtel, 2009). Another feature of the traits is that they tend to be stable during adulthood (Costa and McCrae, 1997). Despite the usefulness of the traits, the traits do not fully capture personality. They ignore aspects like religiosity, sense of humour, honesty and risk-taking. The traits should therefore be viewed as broad factors underlying a number of related personality facets. Hendriks et al. (1999) tested the scale in multiple ways using various datasets. They used three alternative Big Five measures to test validity and a test-retest procedure was done in order to test stability in the assessments. They conclude that the IPIP is a reliable, valid and efficient questionnaire to measure the Big Five personality traits.

### **Personality and career success**

Prior literature shows that people who score high on conscientiousness and extraversion and low on neuroticism and agreeableness score higher on extrinsic and intrinsic career success. (Judge et al., 1999; Judge et al., 2002; Seibert and Kraimer., 2001). The exact hypotheses and arguments for them are now presented.

Judge et al., (1999) shows that there is a positive relationship between conscientiousness and career success. Conscientiousness is linked with being efficient, hard-working and organized and those aspects proved to have a positive influence on extrinsic career success. Conscientiousness leads to a higher possibility of satisfying work rewards like payment or promotions (extrinsic) and recognition, respect and feelings of personal accomplishments (intrinsic) (Organ and Lingl., 1995). The first hypothesis is that conscientious workers earn more and are also more satisfied with their job.

Harrell and Alpert (1989) found that extraversion has a positive influence on income. They argue that extravert people have more social contacts at work. This can help them to get a promotion and to get higher incomes. Headey and Wearing (1989) found that extravert



employees had higher job satisfaction. They argue that extraverts are more positive by their nature and they generalized this to job satisfaction. So, the second hypothesis is that extravert people earn more and are more satisfied with their jobs.

There are mixed results concerning the effect of agreeableness on career success. On the one hand agreeableness can be rewarded by employers because these people are more likely to give positive response to employers (Salgado, 1997). On the other hand more agreeable people are less likely to claim higher wages and more likely to get overruled by others. This is the reason that people who are more agreeable are more likely to have lower incomes and also have less joy in their work (Johnson, 1997; Judge et al., 1999). The main consensus regarding agreeableness is that it relates negatively to career success. The third hypothesis is that agreeable people have lower incomes and are less satisfied with their jobs. Barrick and Mount (1991) and Salgado (1997) found that neuroticism is negatively related to job performance across occupations. Therefore it is expected that neuroticism leads to lower wages. Prior literature also suggests that neuroticism leads to lower intrinsic career success (Smith et al., 1983). This is due to the fact that more neuroticism leads to persons overreacting to situations at work which is generalized to intrinsic career success. Therefore, the fourth hypothesis is that people who score high on neuroticism earn less and have lower job satisfaction.

There is not much empirical evidence that shows that people who are open to experience have more or less career success. So, there is no hypothesis for the trait openness to experience.

Prior research shows that demography-related variables like age, gender and marital status affect career success (Judge et al., 1999). Other research shows that the human capital related variable "level of education" also affect career success (Hanushek and Woessmann, 2008) (Boissiere et al., 1985). Finally, it has been shown that there is a difference in career success between profession related variables. These include: working in the public or private sector, tenure, type of profession and the number of employees working in an organisation (Seibert and Kramer, 2001).

## Data and methodology

In this thesis data of the LISS (Longitudinal Internet Studies for the Social sciences) panel administered by CentERdata (Tilburg University, The Netherlands) is used. “The LISS panel is a representative sample of Dutch individuals who participate in monthly Internet surveys. The panel is based on a true probability sample of households drawn from the population register. Households that could not otherwise participate are provided with a computer and Internet connection. A longitudinal survey is fielded in the panel every year, covering a large variety of domains including work, education, income, housing, time use, political views, values and personality (LISS, 2014)” Data is used from three studies of the LISS panel. The first one is the study background variables of April 2012. This study includes variables like: age, gender, income and marital status. The second study is work and schooling of April 2012 where variables like type of education, type of profession and working in the public or private sector are included. The final study used is the personality study which includes five waves every April between 2008 and 2012. In this study questions are asked that measure the Big Five personality traits. Not every person filled in this questionnaire every year. For this reason the means over the measured years is used as measure for the traits. Costa and McCrae (1997) found that the Big Five personality traits do not change over time despite the fact that people accumulate a lifetime of experiences. After combining the data of the different studies, 1940 household members are left. The data includes people of 16 years<sup>4</sup> and older. People who are actually working at the time of the questionnaire are selected.

### Dependent variables

The first dependent variable is net monthly income. The question: “How much is your personal net monthly income?” is asked. When people answer with “I don’t know”, a second question is asked with income in different categories<sup>5</sup>. The mean of these categories is then used as input in the variable personal net monthly income. There is no data on the number of promotions of individuals so in this thesis only income is used to measure extrinsic career success. The second dependent variable is job satisfaction and is measured with five

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<sup>4</sup> There is consensus that personality is not changing after the age of 30 (Caspi and Roberts, 1999). It is tested for workers above 30 and no differences were found in the results compared with workers above 16, so the regressions are not presented.

<sup>5</sup> The categories are: €500 or less, €501 to €1000, €1001 to €1500, €1501 to €2000, €2001 to 2500, €2501 to €3000, €3001 to €3500, €3501 to €4000, €4001 to 4500, €4501 to €5000, €5001 to €7500, more than €7501 and I really don’t know.

different questions. These questions asked employees to report their satisfaction with various facets of their jobs (salary, working hours, type of work, atmosphere among your colleagues, your current work). The answer categories range from 0 (not at all satisfied) to 10 (completely satisfied). A new variable is created that sums up the outcomes to measure the job satisfaction of each individual with a range from 0 to 10. To test for the reliability of the measuring questions Cronbach's alpha (Cronbach, 1951) is used. For job satisfaction Cronbach's alpha is 0.83 which indicates a good reliability<sup>6</sup>.

### **Independent variables**

#### *The Big Five personality traits*

Personality is measured using 50 items from the International Personality Item Pool (IPIP) (Goldberg et al. 2006). For every personality trait 10 questions were asked starting with the phrase: "Please use the rating scale below to describe how accurately each statement describes you" (Appendix 1). The answer categories range from 1 (very inaccurate) to 5 (very accurate). The Cronbach's alpha for the five traits are: 0.77 for openness to experience, 0.77 for conscientiousness, 0.87 for extraversion, 0.80 for agreeableness and 0.88 for neuroticism which indicates a good reliability of the answers.

### **Other career success predictors**

The effect of other personal characteristics is used to measure the relation between the Big Five personality traits and career success. These variables are divided into two categories. The first category includes the demography-related variables: age, gender and marital status and are not likely to be correlated with personality. The second category includes the human capital related variable: education and the profession related variables: type of profession, tenure, sector and number of employees. A possible problem with these variables is that they may be affected by personality and vice versa which can mediate the effects of personality on career success. That is why hierarchical multiple regressions<sup>7</sup> are used to measure the difference on the personality traits from the other career success predictors. Table 1 lists the definitions for all variables. In table 2 the descriptive statistics of the variables are listed.

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<sup>6</sup> Cronbach's alpha is a way to determine whether multiple items may be combined to form a scale. This is assessed on the basis of the correlation of the various items. A value of 0.7 to 0.8 is an acceptable value for Cronbach's alpha and higher is better (Field, 2009).

<sup>7</sup> Described in the next section: methodological approach.

**Table 1:** Variable definitions

<b>Variable</b>	<b>Definition</b>
Net monthly income	Measured in Euros.
Job satisfaction	Measured from 0, completely dissatisfied, to 10, completely satisfied.
Openness to experience	Measured from 1, totally open, to 10, completely closed
Conscientiousness	Measured from 1 totally disorganized, to 10, completely conscientious.
Extraversion	Measured from 1 totally introvert, to 10, completely extravert.
Agreeableness	Measured from 1 totally disagreeable, to 10, completely agreeable.
Neuroticism	Measured from 1 totally calm/relaxed, to 10, completely nervous/ high-strung.
Gender	Dummy =1 if the worker is male.
Age	Age of the worker in years.
Age <sup>2</sup>	Age of the worker in years squared.
Married	Dummy = 1 if the worker is married.
Tenure	Number of years with the current employer.
Tenure <sup>2</sup>	Number of years with the current employer squared.
Number of employees	Number of employees working in the company.
Education <sup>8</sup>	(i)=Low education, (ii)=Middle education, (iii)=Higher education.
Profession <sup>9</sup>	(i)=Higher professions (ii)=Intermediate professions (iii)=Other professions.
Sector	Dummy = 1 if the worker works in the private sector.

<sup>8</sup> The level of education is measured by the highest level of education completed by the respondents in six categories from primary school to university education. The answers are coded as low, middle and high education. (i) Low education means primary education, vmbo (intermediate secondary education, US: junior high school) or mbo (intermediate vocational education, US: junior college). (ii) Middle education consists of havo/vwo (higher secondary education/preparatory university education, US: senior high school) and hbo (higher vocational education, US: college). (iii) High education is WO (university). (i) Low education is the omitted dummy variable.

<sup>9</sup> The type of profession the respondents work in is measured by the question: "What is your current profession?" The nine answer categories were clustered in three new categories. (i) Higher professions include higher academic or independent profession (e.g. architect, physician, scholar, academic instructor, and engineer) and higher supervisory profession (e.g. manager, director, owner of large company, supervisory civil servant). (ii) Intermediate professions include intermediate academic or independent profession (e.g. teacher, artist, nurse, social worker, policy assistant) and intermediate supervisory or commercial profession (e.g. head representative, department manager, and shopkeeper). (iii) Other professions include other mentally intensive work (e.g. administrative assistant, accountant, sales assistant, family carer), skilled and supervisory manual work (e.g. car mechanic, foreman, electrician), semi-skilled manual work (e.g. driver, factory worker), unskilled and trained manual work (e.g. cleaner, packer) and agrarian profession (e.g. farm worker, independent agriculturalist). The category (iii) other professions is the omitted dummy variable in the regression.

**Table 2:** Descriptive statistics: Means and standard deviations of the variables.

<b>Variable:</b>	<b>Mean</b>	<b>Std. Deviation</b>
Net monthly income <sup>10</sup>	1758.07	860.565
Job satisfaction	7.256	1.318
Openness to experience	6.458	0.922
Conscientiousness	6.595	0.988
Extraversion	5.628	1.232
Agreeableness	6.904	0.935
Neuroticism	4.683	1.235
Gender	0.483	0.500
Age	42.760	11.499
Married	0.582	0.493
Tenure	12.262	10.617
Number of employees	310.680	924.317
Middle education	0.348	0.476
High education	0.113	0.317
Intermediate profession	0.239	0.427
Higher profession	0.088	0.283
Sector	0.391	0.488

Variables Gender, Married, Middle education, High education, Intermediate profession, Higher profession and Sector are dummy variables.

<sup>10</sup> The average income of an employee in the Netherlands is €20.740,- a year (CBS, 2012). This means that the average net monthly income is €1728,-. The difference of €30,- is caused by the categorized income variable used.

## Methodological approach

A cross-sectional hierarchical multiple regression analyses is performed first. In a hierarchical multiple regression the independent variables are put in the model after each other. First the variables are put in the model of which the unique contribution wants to be known and after that the other variables are put into the regression. In the first regression only the Big Five personality traits are used to measure whether there is any effect on career success. In the second regression the demography-related variables are added to the regression to see whether they affect career success and to see if the personality variables will change. Finally, the human capital related variables and the job related variables are included to see their influence on career success. In the last regression the variables lower education and lower profession are omitted because they are the base case for the other dummy variables of education and profession. The hypotheses are tested simultaneously with three main models. These models are the same for income and job satisfaction with the only difference that income is also regressed on job satisfaction like Judge et al., (1995) did. This is done to measure the intrinsic job satisfaction independent of extrinsic career outcomes. The base models are:

1.  $Income_i = \alpha_0 + \alpha_1 P_i + \alpha_2 X_i + \varepsilon_i$
2.  $Job\ satisfaction_i = \alpha_0 + \alpha_1 P_i + \alpha_2 X_i + \varepsilon_i$

In the regression  $\alpha_0$  is the constant term,  $P$ , are the Big Five personality traits,  $X$ , are the control variables and  $\varepsilon_i$  is the error term.

## Empirical results

First the bivariate correlations between the variables are examined. Appendix 2 contains the intercorrelations between all the main variables. Table 2 shows the intercorrelations between the Big Five personality traits with income and job satisfaction. In italics the range of the intercorrelations found in previous studies is mentioned (Boudreau et al., 2001; Judge et al., 1999; Judge et al., 2002; Seibert and Kraimer., 2001). Excluding the correlation between openness and income the general pattern of correlations fall in the range mentioned in previous studies. However, there is no hypothesis for the trait openness to experience and career success.

**Table 3:** Correlations between the Big Five personality traits and the dependent variables.

	<b>Income</b>	<b>Job satisfaction</b>
<b>Openness to experience</b>	0.24 ( <i>-0.08; 0.04</i> )	0.06 ( <i>-0.01; 0.13</i> )
<b>Conscientiousness</b>	0.05 ( <i>-0.03; 0.34</i> )	0.15 ( <i>0.12; 0.20</i> )
<b>Extraversion</b>	0.07 ( <i>0.08; 0.24</i> )	0.11 ( <i>0.12; 0.27</i> )
<b>Agreeableness</b>	-0.12 ( <i>-0.12; -0.06</i> )	0.12 ( <i>-0.26; 0.31</i> )
<b>Neuroticism</b>	-0.22 ( <i>-0.32; -0.08</i> )	-0.27 ( <i>-0.56; -0.21</i> )

### Effect of personality on income

In table 4 the regressions of personality on income are found. In the first regression it is seen that all variables have the expected hypothesised signs. However, only agreeableness and neuroticism have a significant influence in this regression. When somebody is one point more agreeable or neurotic he/she is expected to earn €207,- and €116,- less respectively on average. A striking result is that openness to experience has a positive influence on income. If an employee is one more point open to experience he/she is expected to earn €227,15 more on average.

After including the demography-related variables (regression (ii) of table 4) into the income regression it is observed that there are no changes in the signs of the variables. However, being one point more extraverted increases someone's wage now with €34 on average. It is also seen that females have €577,- less income on average as males. The variable age and

age<sup>2</sup> show the expected concave function. This means that when people get older the effect of age on income decreases.

In the last regression (iii) the human capital related and profession related variables are added to see the effect of personality on income. It is seen that openness to experience has no longer a significant influence on income. On the other hand it is seen that one more point of conscientiousness on average leads to an increase of €24,- in income. The coefficients of being extraverted, agreeable and neurotic still have the same signs. The coefficient extraversion increased and those of agreeableness and neuroticism decreased. Married employees have on average €93,- less monthly income. The variable tenure and tenure<sup>2</sup> show the same relation to income as age. The function of tenure is concave which implies that when people work longer in a company the rise of their income decreases. If an employee has followed middle/high education he/she will earn €295,-/€708,- more on average each month. The same effect is seen with the intermediate/high profession where someone earns €237,-/€686,- more on average. Finally, working in the public sector decreases someone's income with €109,- on average.

**Table 4:** OLS estimates: The effect of personality on income

Variable	(i)	(ii)	(iii)
Openness to experience	227.15*** (20.77)	185.37*** (19.45)	-2.71 (18.11)
Conscientiousness	10.13 (18.85)	15.16 (17.49)	24.34* (14.89)
Extraversion	13.28 (15.77)	33.88** (14.56)	38.81*** (12.45)
Agreeableness	-206.72*** (20.88)	-91.73*** (20.91)	-64.43*** (17.87)
Neuroticism	-115.60*** (14.73)	-56.16*** (13.88)	-31.99 *** (11.84)
Gender		-577.37*** (35.96)	-543.10*** (31.37)
Age		26.16* (10.60)	35.03*** (9.42)
Age <sup>2</sup>		-0.14 (0.12)	-0.25** (0.11)
Married		-44.15 (34.77)	-93.34*** (29.68)
Tenure			11.22** (4.45)
Tenure <sup>2</sup>			-0.18 (0.12)
Number of employees			0.03** (0.02)



Middle education			294.61*** (31.92)
High education			707.60*** (54.13)
Intermediate profession			236.56*** (31.46)
Higher profession			685.90*** (47.99)
Sector			-109.36*** (29.66)
(Constant)	2173.13*** (205.021)	681.78*** (293.94)	874.53*** (252.04)
Adjusted R <sup>2</sup>	0.134	0.273	0.476

*Notes: N=1940; Unstandardized coefficients with standard errors in italics.*

\*\*\*, \*\*, \* denotes statistically significant differences at 1%, 5% and 10% level respectively.

### **Effect of personality on job satisfaction**

Table 5 contains the regressions of personality on job satisfaction. From the first regression it is seen that being one point more conscientious and agreeable increases one's job satisfaction with 1.01% and 1.03% on average. Being open to experience and being neurotic decreases one's job satisfaction with 0.5% and 2.27% on average.

Looking at the effect of personality on job satisfaction after the inclusion of demography-related variables, it is seen that there are no major changes (regression (ii) of table 5). The personality variables still have the same signs and the coefficients are just changing slightly. Age and gender do not affect job satisfaction but being married increases somebody's job satisfaction with 2.24 % on average

Considering the last regression with human capital related variables and profession related variables included it is seen that there are still no major changes in the personality traits. All variables that had an effect in the previous regressions still have a comparable effect. When looking at the control variables it is seen that being a female has a positive significant effect on job satisfaction of 1.38% on average. The profession related variables also have a significant influence on job satisfaction. Working in the public sector increases one job satisfaction with 1.28% on average. Finally, having a higher income increases job satisfaction.

**Table 5:** OLS estimates: The effect of personality on job satisfaction

<b>Variable</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>
Openness to experience	-0.055* (.031)	-0.037 (.032)	-0.098*** (.034)
Conscientiousness	0.101*** (.028)	0.088*** (.028)	0.088*** (.028)
Extraversion	0.008 (.024)	0.009 (.024)	0.006 (.024)
Agreeableness	0.103*** (.032)	0.092*** (.034)	0.107*** (.034)
Neuroticism	-0.227*** (.022)	-0.220*** (.023)	-0.205*** (.023)
Gender		0.023 (.059)	0.138** (.064)
Age		-0.003 (.017)	0.002 (.018)
Age <sup>2</sup>		-0.000 (0)	0.000 (0)
Married		0.224*** (.057)	0.218*** (.056)
Tenure			-0.007 (.008)
Tenure <sup>2</sup>			0.000 (0)
Number of employees			0.000 (0)
Middle education			-0.010 (.062)
High Education			0.040 (.107)
Intermediate Profession			0.63 (.061)
Higher Profession			0.163* (.096)
Sector			0.128** (.057)
Income			0.000*** (0)
(Constant)	7.366*** (.309)	7.274*** (.479)	7.042*** (.479)
Adjusted R <sup>2</sup>	0.075	0.082	0.104

**Notes:** N=1936; Unstandardized coefficients with standard errors in italics (Beta of income =0.127).

\*\*\*, \*\*, \* denotes statistically significant differences at 1%, 5% and 10% level respectively.

## **Discussion**

The first hypothesis states that conscientiousness is positively related to income and job satisfaction. Looking at the results it is seen that in both regressions conscientiousness is positively related to career success. For the job satisfaction regression it is seen that even after including the control variables, conscientiousness has a significant positive influence on job satisfaction. This means that being efficient, hard-working and organized leads to higher job satisfaction on average. For the income regressions, only in the third regression with all control variables conscientiousness has a (weakly) significant influence on income. The hypothesis that conscientiousness has positive influence on income is partially supported and the positive influence on job satisfaction is supported.

The second hypothesis states that extraversion is positively related to career success. Looking at the income regressions it is seen that only after including the control variables extraversion has a significant (positive) influence on income. In the regressions of job satisfaction it is seen that there is no significant influence of extraversion. The hypothesis that extraversion has positive influence on income is partially supported and the positive influence on job satisfaction is not supported.

The third hypothesis states that agreeableness is negatively related to career success. Looking at the regressions of income it is seen that in all three regressions agreeableness has a negative significant influence on income. However, looking at the regressions of agreeableness on job satisfaction it is seen that agreeableness has a positive significant influence in each regression. The hypothesis that agreeableness has negative influence on income is supported and the negative influence on job satisfaction is rejected.

The final hypothesis states that neuroticism is negatively related to career success. In the regressions of income it is seen that in all three regressions neuroticism has a negative significant effect on income. This is the same for the effect from neuroticism on job satisfaction. The hypothesis that neuroticism has negative influence on income and job satisfaction is supported.

## **Practical implications**

A first practical implication is one for the individual. If an individual wants to be more successful in his or her career he or she could look at the own personal traits. He or she can then easily see whether his or her traits are favourable for a successful career. If not, that person could adjust the traits. For example, an individual high in neuroticism may have had his or her career inhibited by being too worried, stressed and upset. If that person can adjust these items he or she can get more successful. Even if one cannot change these traits, at least knowing which strengths and weaknesses someone's personality has, can help.

Secondly, there is a practical implication for organisations. If an individual is successful in his or her career it is more likely that this individual is also more successful in his or her job.

Organisations can then select the individuals with the right personality traits.

A final practical implication is there for policy makers, parents and teachers. If these people want to give children a better career, they can emphasize the personality traits that can lead to a successful career.

## **Limitations**

Although the results of this thesis are comparable to results obtained by previous studies, they should be treated with care. It is possible that there are problems due to response biases, non-linearity bias and reversed causation.

It is possible that people who are more open to experience are more likely to fill in the questionnaires. Also people who are more conscientiousness may fill in the questionnaires with more care than others. A last point is that people fill in the questionnaires themselves and can over or underestimate their own personality factors. These response biases may influence the validity but are nearly impossible to exclude from such questionnaires (Furnham, 1986). The fact that the LISS panel uses a large set of people and pays those people to fill in the questionnaires helps to limit these biases.

The second possible bias is that the relationship between personality and career success can be non-linear. It is possible that the labour market only values moderately neurotic people and punishes neurotic people and non-neurotic people. In table 6 non-linear personality effects are tested using dummy variables for the top and bottom 10% of the distribution. It is seen that not all the dummy variables are unequal to zero. However, for the variables that had a significant influence in the previous regressions, it is found that those dummy

variables are significant and show a linear pattern. It is concluded that for these variables a linear pattern is a good indication of the whole relationship.

**Table 6:** Testing for nonlinear effect of personality on career success

	<b>Income</b>	<b>Job satisfaction</b>
<i>Openness</i>		
Bottom 10%	-294.55 *** (55.02)	0.059 (.082)
Top 10%	454.28*** (62.51)	-0.079 (.396)
<i>Conscientiousness</i>		
Bottom 10%	-8.51 (63.54)	-0.203** (.094)
Top 10%	-88.51 (51.99)	0.194** (.012)
<i>Extroversion</i>		
Bottom 10%	-25.36 (58.14)	-0.105 (.086)
Top 10%	96.01 (60.52)	0.05 (.09)
<i>Agreeableness</i>		
Bottom 10%	283.20*** (63.68)	-0.198** (.095)
Top 10%	-283.55*** (61.73)	0.28*** (.092)
<i>Neuroticism</i>		
Bottom 10%	223.68*** (58.72)	0.476*** (.087)
Top 10%	-311.76*** (63.11)	-0.518*** (.093)
Adjusted R2	0.088	0.053

Unstandardized coefficients with standard errors in italics. \*\*\*, \*\*, \* denotes statistically significant differences at 1%, 5% and 10% level respectively. The (omitted) reference categories are the percentiles between 10% and 90%.

Another concern is the one of reversed causality. It is possible that not only the personality traits affect income and job satisfaction but that these relationships also work the other way around because they are simultaneously determined. This problem can be even more significant after including the human capital related and profession related variables because they can be influenced by personality, income and job satisfaction and vice versa. Because of the possibility that the personality traits capture both cause and effect of the relationship, the coefficients can be biased upwardly. That is the reason to look at the coefficients as upper bounds of the actual personality effects. Fortunately, previous research on the longitudinal stability of the personality traits found that there is a causal relation from personality to career success and not the reverse (Judge et al., 1999) which supports the validity of the results of this paper.

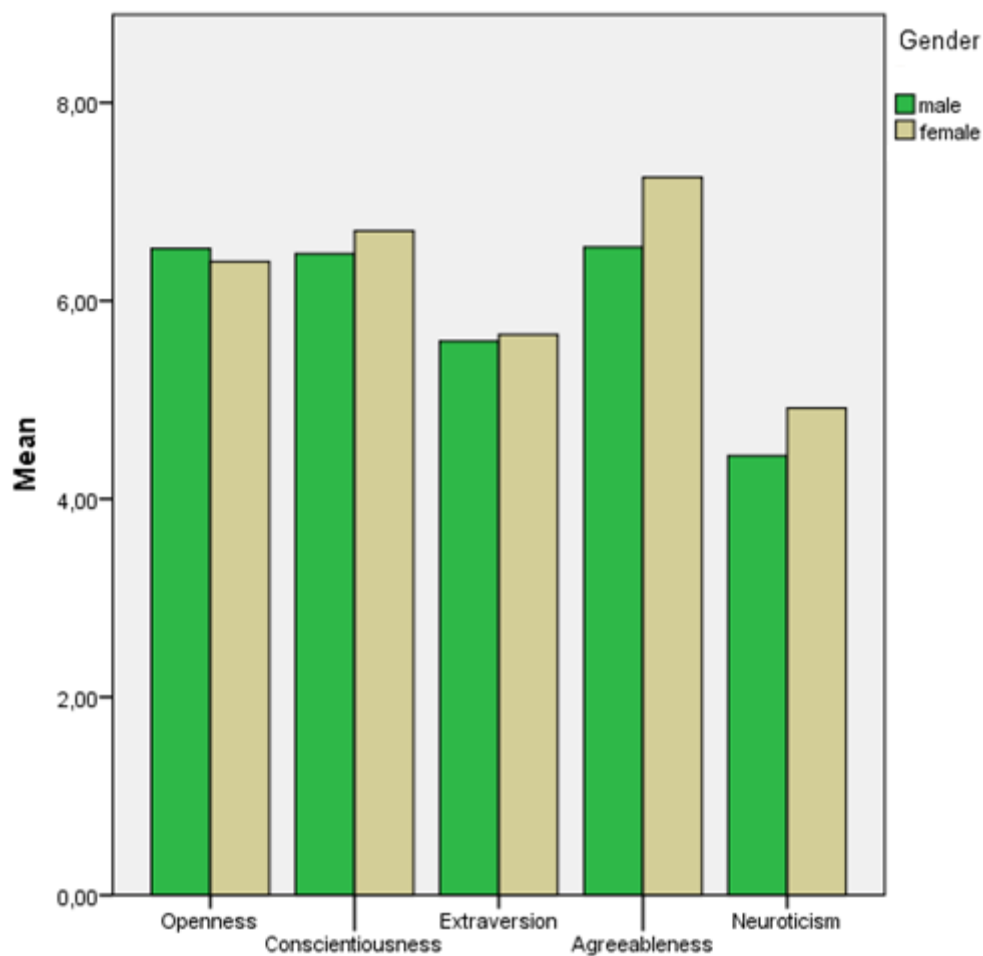
It would be interesting for future research to look at other places and times to look whether the results hold. Thereby, it will be interesting to include variables like number of

promotions, unemployment duration, place of the company, working hours and occupation type. These variables were not available in this dataset but may describe career success in a different way.

## Extension – Male and Female career success differences

Now that the main results of this thesis are investigated, it is interesting to look at the differences between men and women. Everybody knows the saying: “Men are from Mars, Women are from Venus.” The origin of this saying includes the difference in personality between the sexes (Feingold, A. 1994). In this extension it is examined which differences in personality between men and women are a cause of the differences in career success between them. In figure 1 the means of the personality traits of men and women are shown. An independent sample test shows that only for the trait extraversion the sexes do not differ<sup>11</sup>.

**Figure 1:** Means of the different traits between the sexes.



<sup>11</sup> For extraversion  $p=0.102$ . For the other traits  $p=0.000$

Mueller and Plug (2006) found that women receive higher returns than man for the traits introversion, agreeableness, conscientiousness, neuroticism and openness to experience. When Mueller and Plug used more control variables they found that only agreeableness had a significant difference between men and women. Nyhus and Pons (2005) found that women have a significant higher return than man if they are less neurotic. However, the women had a significant lower return when they are as agreeable or extravert as the men. These papers have different results and do not look at the differences in job satisfaction. However, this thesis uses about the same control variables as Mueller and Plug (2006) did. That is why the hypothesis is that women have higher incomes than men for introversion, agreeableness, conscientiousness, neuroticism and openness to experience.

As far as known there is no previous literature about the interaction effect between gender and personality with the effect on job satisfaction. Despite the fact that there is no hypothesis for this effect it is tested to see if there occurs any effect. To test the income hypothesis and the effect on job satisfaction, five new interaction variables are created with each personality trait times the variable female and the results are presented in table 7 and table 8.

**Table 7:** Male – Female differences in personality traits and income.

Variable	(i)	(ii)	(iii)
Openness	142.20*** (26.78)	151.49*** (26.33)	-52.89** (23.78)
Conscientiousness	35.72 (25.68)	22.37 (25.25)	42.69** (21.50)
Extraversion	3.78 (20.35)	18.15 (19.99)	45.93*** (17.15)
Agreeableness	-39.87 (27.97)	-61.80** (27.55)	-57.93** (23.52)
Neuroticism	-94.76*** (20.25)	-96.55*** (19.87)	-58.27*** (16.97)
Female	-959.06** (403.88)	-1006.82*** (395.59)	-1030.83*** (336.13)
Female * Openness	69.20* (39.47)	69.01* (38.66)	106.58*** (33.00)
Female * Conscientiousness	-6.827 (35.38)	-12.40 (34.65)	-35.60 (29.46)
Female * Extraversion	28.29 (29.55)	31.30 (28.95)	-19.47 (24.75)
Female * Agreeableness	-68.77 (42.66)	-67.77 (41.79)	-13.05 (35.70)
Female * Neuroticism	58.14** (28.18)	79.03*** (27.71)	51.32** (23.59)



Adjusted R <sup>2</sup>	0.246	0.277	0.479
<b>Controls</b>			
Demography-related		X	X
Human capital & Profession related			X

*Notes: Unstandardized coefficients with standard errors in italics.*

**\*\*\*, \*\*, \*** denotes statistically significant differences at 1%, 5% and 10% level respectively.

In the all three regressions of table 7 it is seen that the interaction terms of female with openness and neuroticism have a significant influence. The positive sign implies that women who have 1 point more in those traits earn €69,- and €58,- more on average than men who have the same level of these traits. The hypothesis is therefore partly rejected for extrinsic career success. Women earn significantly more for the traits openness to experience and neuroticism. There is no significant return for the traits extraversion, conscientiousness and agreeableness.

In the first two columns of table 8 it is seen that the interaction term female with neuroticism gender has a significant influence. This implies that women who are 1 more point neurotic have about 1 percent higher job satisfaction on average than men with the same level of neuroticism. In the third regression there is no significant effect left of this interaction term. There was no hypothesis to test the effect on job satisfaction and there is only a significant effect for the interaction term female with neuroticism. It may be interesting for future research to examine this interaction term with job satisfaction but it is very likely that no significant patterns are found as in this thesis.

**Table 8:** Male – Female differences in personality traits and job satisfaction.

<b>Variable</b>	<b>(i)</b>	<b>(ii)</b>	<b>(iii)</b>
Openness	-0.029 (0.044)	-0.014 (0.044)	-0.076* (0.046)
Conscientiousness	0.101** (0.042)	0.91** (0.042)	0.92** (0.042)
Extraversion	0.023 (0.034)	0.024 (0.034)	0.03 (0.033)
Agreeableness	0.12*** (0.046)	0.111** (0.046)	0.115** (0.046)
Neuroticism	-0.29*** (0.033)	-0.283*** (0.033)	-0.253*** (0.033)
Female	-0.101 (0.667)	-0.069 (0.666)	0.174 (0.657)
Female * Openness	-0.91 (0.065)	-0.086 (0.065)	-0.094 (0.065)
Female * Conscientiousness	0.045 (0.058)	0.043 (0.058)	0.040 (0.057)

Female * Extraversion	-0.007 (0.049)	-0.009 (0.049)	-0.033 (0.048)
Female * Agreeableness	0.002 (0.071)	-0.004 (0.070)	0.025 (0.070)
Female * Neuroticism	0.094* (0.047)	0.093** (0.047)	0.069 (0.046)
Adjusted R <sup>2</sup>	0.090	0.097	0.130
<b>Controls</b>			
Demography-related		X	X
Human capital & Profession related			X

*Notes: Unstandardized coefficients with standard errors in italics.*

\*\*\*, \*\*, \* denotes statistically significant differences at 1%, 5% and 10% level respectively.

## Conclusions

In this thesis the influence of personality on career success is examined with new insights. The expectation was that there are personality traits that influence income and job satisfaction. Therefore, the research question for this thesis was:

*What is the role of personality towards differences in career success between employees and why?*

Hierarchical linear OLS regressions were used to answer this research question. To answer the first part of this question; it can definitely be stated that personality has a significant effect on career success. Looking at the second part of this question it is shown that a conscientious, extravert, disagreeable and less neurotic individual has on average more income. Secondly, it is seen that a closed, less neurotic, conscientious agreeable person has more satisfaction in their job after. Furthermore, it was shown that there are demography related, human capital related and profession related variables that also influence career success. Many of these findings are supported by previous studies. However, the personality trait agreeableness has a significant positive influence on job satisfaction where it was expected to find a negative relation. Another point is that openness to experience seems to have a significant influence on career success where there was no relation expected. Finally it is found that there are different traits for men and women that are important for their career success.

This thesis has contributed to the examination of influence of personality on career success. This study is one of the first that uses a large, nationally representative sample with high-quality measures of personality traits combined with demography-related, human capital related and profession related variables to explain career success. The other main contribution of this thesis to the existing literature is that it has examined a combination of sociological and economic factors to explain career success and not just one of these factors. Thereby, this is one of the first papers that has examined differences in personality between men and women and career success.

## Appendices

### Appendix 1: The International Personality Item Pool

Extraversion	Agreeableness	Openness	Conscientiousness	Neuroticism
I am the life of the party.	I am interested in people.	I have a rich vocabulary.	I am always prepared.	I am easily disturbed.
I don't mind being the centre of attention.	I sympathize with others' feelings.	I have a vivid imagination.	I pay attention to details.	I change my mood a lot.
I feel comfortable around people.	I have a soft heart.	I have excellent ideas.	I get chores done right away	I get irritated easily.
I start conversations.	I take time out for others.	I am quick to understand things.	I like order.	I get stressed out easily.
I talk to a lot of different people at parties.	I feel others' emotions.	I use difficult words.	I follow a schedule.	I get upset easily.
I don't talk a lot. ( <i>reversed</i> )	I make people feel at ease.	I spend time reflecting on things.	I am exacting in my work	I have frequent mood swings.
I keep in the background. ( <i>reversed</i> )	I am not really interested in others. ( <i>reversed</i> )	I am full of ideas.	I leave my belongings around. ( <i>reversed</i> )	I often feel blue.
I have little to say. ( <i>reversed</i> )	I insult people. ( <i>reversed</i> )	I am not interested in abstractions. ( <i>reversed</i> )	I make a mess of things. ( <i>reversed</i> )	I worry about things.
I don't like to draw attention to myself. ( <i>reversed</i> )	I am not interested in other people's problems. ( <i>reversed</i> )	I do not have a good imagination. ( <i>reversed</i> )	I often forget to put things back in their proper place. ( <i>reversed</i> )	I am relaxed most of the time ( <i>reversed</i> )
I am quiet around strangers. ( <i>reversed</i> )	I feel little concern for others. ( <i>reversed</i> )	I have difficulty understanding abstract ideas. ( <i>reversed</i> )	I shirk my duties. ( <i>reversed</i> )	I seldom feel blue. ( <i>reversed</i> )

## Appendix 2: Correlations between the variables

	Inc	Job	O	C	E	A	N	Age	Gen	Mar	Ten	Num	Pub	Mid	Hie	Int	Hip
Income	1																
Job satisfaction	<b>0,18</b>	1															
Openness	<b>0,24</b>	0,06	1														
Conscientiousness	0,05	<b>0,15</b>	<b>0,24</b>	1													
Extraversion	<b>0,07</b>	<b>0,11</b>	<b>0,34</b>	<b>0,07</b>	1												
Agreeableness	<b>-0,12</b>	<b>0,12</b>	<b>0,28</b>	<b>0,3</b>	<b>0,32</b>	1											
Neuroticism	<b>-0,22</b>	<b>-0,27</b>	<b>-0,17</b>	<b>-0,18</b>	<b>-0,23</b>	<i>-0,30</i>	1										
Age of the household member	<b>0,21</b>	<b>0,09</b>	<i>-0,03</i>	<b>0,15</b>	<b>-0,08</b>	<b>0,08</b>	<b>-0,09</b>	1,00									
Gender	<b>-0,38</b>	<i>0,00</i>	<b>-0,07</b>	<b>0,12</b>	<i>0,03</i>	<b>0,38</b>	<b>0,19</b>	<i>-0,03</i>	1,00								
Married	<b>0,10</b>	<b>0,11</b>	<b>-0,06</b>	<b>0,09</b>	<i>-0,01</i>	<i>0,01</i>	<b>-0,07</b>	<b>0,38</b>	<i>-0,04</i>	1,00							
Tenure	<b>0,14</b>	<b>0,11</b>	<b>-0,08</b>	<b>0,08</b>	<b>-0,08</b>	<i>0,00</i>	<b>-0,07</b>	<b>0,54</b>	<b>-0,10</b>	<b>0,21</b>	1,00						
Number of employees	<b>0,14</b>	<i>0,04</i>	<b>0,14</b>	0,06	<i>0,03</i>	<i>0,03</i>	<i>-0,07</i>	<i>0,02</i>	<b>-0,07</b>	<i>-0,03</i>	<b>0,09</b>	1,00					
Public sector	<i>-0,01</i>	<b>0,09</b>	0,06	<i>0,03</i>	<i>0,02</i>	<b>0,13</b>	<i>-0,02</i>	<b>0,12</b>	<b>0,16</b>	<i>0,03</i>	<b>0,15</b>	<b>0,11</b>	1,00				
Middle education	<b>0,13</b>	<i>0,03</i>	<b>0,18</b>	0,06	0,04	<b>0,09</b>	<i>-0,04</i>	<i>0,00</i>	0,05	<i>-0,02</i>	<i>-0,03</i>	0,05	<b>0,12</b>	1,00			
High education	<b>0,33</b>	0,06	<b>0,26</b>	<i>0,01</i>	0,04	<i>0,00</i>	<i>-0,05</i>	<i>-0,04</i>	<i>-0,01</i>	<i>0,00</i>	<b>-0,10</b>	<b>0,10</b>	<b>0,07</b>	<b>-0,26</b>	1,00		
Intermediate profession	0,01	<b>0,08</b>	0,04	<b>0,09</b>	<i>0,03</i>	<b>0,11</b>	<i>-0,04</i>	<b>0,08</b>	<b>0,12</b>	<i>0,00</i>	0,06	<i>-0,03</i>	<b>0,22</b>	<b>0,13</b>	<b>-0,06</b>	1,00	
Higher profession	<b>0,33</b>	<b>0,11</b>	<b>0,22</b>	0,03	<b>0,08</b>	<i>-0,03</i>	<b>-0,10</b>	0,03	<b>-0,09</b>	0,04	<i>-0,03</i>	<b>0,12</b>	<i>0,04</i>	<b>0,08</b>	<b>0,33</b>	<b>-0,17</b>	1,00

Note: Correlations in italics are non-significant ( $p>0.05$ ); correlations in bold are significant at  $p<0.001$  (two-tailed tests)

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