

# “Occupational Choice and Happiness”

Master Thesis Entrepreneurship and Strategy Economics

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## Abstract

There is a growing amount of interest in studying the reasons why some people are happier than others. This thesis examines the relationship between the occupational choice of an individual and the influence this choice has on his or her happiness. In addition to studying the difference in happiness levels, life and job satisfaction are examined. Finally, possible differences in these levels were examined between Northern and Southern Europe. For this empirical analysis, data is used from the European Values Study (EVS). Data analysis was performed using ordered logistic regression. The results showed that occupational choice does not have an influence on either happiness or life satisfaction. Self-employment, however, has a significant positive influence on job satisfaction. Additionally when comparing Northern and Southern Europe, the influence of occupational choice on happiness was significant for Northern Europe, yet not for Southern Europe. Hence, by lowering entry barriers for aspiring entrepreneurs, the level of job satisfaction in the population may rise. Similar effects might be obtained for happiness levels in Northern Europe.



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## 1 Introduction

In July 2011, the United Nations general assembly passed a resolution inviting the members of the United Nations to measure the happiness of their people. The reasoning behind this resolution was offering a different measure of progress in addition to financial indicators. Firstly it aimed to offer policy makers a review of the state of happiness in the world today. Secondly, it attempted to explain personal and national variations in happiness (World Happiness report 2015). After the first edition in 2012, two more editions of this report were released in 2013 and in 2015. The report concluded that a shift in policy goals from absolute increase in income to welfare is already occurring. This thesis researches the possible role occupation has in determining the level of happiness an individual experiences.

In modern society, one can discern two different types of jobs: jobs that are an integral part of a production process (manufacturing or services) and jobs that are more strategic and creative. The latter category also comprises most self-employed individuals. As these two categories differ in the type of work and demand for specific traits, this thesis hypothesized that they may also differ in the effect they have on an individual's happiness.

Economic approaches of Cantillon, Schultz and Kirzner emphasize the importance of the nature and role of the entrepreneur in society, and on the differences between what differentiates an entrepreneur and a wage worker. Cantillon (1755) points out the function, not the personality of the entrepreneur. According to his notion, entrepreneurs are involved in arbitrage, which means that they buy at a certain price to sell again at an uncertain price with the difference being their profit or loss. Schultz (1975) underlines the theory of human capital in his attempt to define entrepreneurship. In Schultz's world, the essence of entrepreneurship can be interpreted as the ability to deal with disequilibria. Finally, in Kirzner's theory of entrepreneurship (1979), the key role of the entrepreneur is to be alert to profit opportunities. Therefore, he emphasizes the quality of perception the entrepreneur acquires, recognizing an opportunity is a sure thing, whereas in reality every profit opportunity is uncertain.

Entrepreneurial activity is considered beneficial to society as it generates relatively high levels of employment, productivity growth and produces and commercializes high-quality innovations van (Praag and Versloot, 2007). Furthermore, when compared to non-entrepreneurs, they are vital to the larger economy (Acs, 2006). The above-mentioned economic views attach skills to the entrepreneur that make the function of entrepreneurship essential to the economic process. Although the benefits of entrepreneurship for society are clear, motivations for starting a business

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vary. And which benefits, in a broader sense, does an entrepreneur gain from starting a business? As Cromie (1987) finds, money is an important motivator for starting a business. But does more money also lead to more happiness and could happiness also be a motivator for entrepreneurship?

Linking money to happiness Easterlin (1995) shows that those with higher incomes are on average, happier. Nevertheless raising the incomes of all does not raise the happiness of all. This suggests that although income and happiness are correlated, financial means are not a perfect predictor for happiness. Furthermore Boyce et al (2010) showed that money does not buy happiness. It is the utility gained from their ranked position within a comparison group that predicts general life satisfaction.

Although it is widely recognized that small and medium-sized enterprises and entrepreneurs play a significant financial role in an economy, studies on their added value to happiness and overall life satisfaction are scarce. If happiness or welfare in a society is also determined by other factors than monetary ones, shouldn't policy makers take these factors into account? In other words, in addition to the financial merits of occupational choices, policy makers should also account for its benefits in a broader sense. For example, Bradley and Roberts (2004) demonstrated that self-employed persons enjoy higher job satisfaction than others and that this association could be explained by higher levels of self-efficacy and lower levels of depression. This suggests that entrepreneurs are not solely happier due to financial gains but that the secondary benefits greatly contribute to their wellbeing.

In the Scientific American article titled the Pursuit of Happiness, Myers and Diener (1994) find multiple traits that make people happy. First of all, they have high self-esteem; they believe that they are more ethical, more intelligent, more social and healthier than others. Secondly, they feel that they have more personal control and are more in control of their lives. This control factor plays a big part in entrepreneurial research. Beugelsdijk and Noorderhaven (2005) investigated traits that are consistently associated with entrepreneurial behaviour. They observed that one of the attributes is the concept of 'locus of control': *"It is clear that individuals with an internal locus of control are more likely to be entrepreneurs"*. Verheul, Thurik, Grilo and van der Zwan (2012) reported that individuals with an internal locus of control are more likely to prefer self-employment.

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The findings mentioned previously drive the question; if money is not the only determinant of happiness, which factors influence the welfare and satisfaction of people? This thesis aims to study that question by looking at one of the most important life choices people make: their occupational choice. More specifically becoming an entrepreneur or being a wage worker. Does having more control over your daily routine make you happier? Or does relegating some of that control for less responsibility and less job stress create more welfare?

These questions lead to the main research question of this paper:

*How does occupational choice influence happiness, life satisfaction and job satisfaction?*

Although some studies have been performed to measure the effects of occupational choice on happiness, few of them make cross-country comparisons. Therefore, this thesis also aspires to give an insight into whether the relationship between occupational choice and happiness differs between Southern and Northern European countries. This thesis therefore complements prior studies with respect to the role of happiness in occupational choice, and tries to contribute in comparing different cultures. Studies have shown that happiness levels could differ due to cultural differences between countries, Veenhoven and Ouweneel (1991), Helliwell et al (2013) and Exton et al (2015).

This thesis is organized as follows. First, literature on the study subject as well as several determinants of happiness are reviewed. Secondly, data and methodology are described, followed by the results of the statistical analysis. Finally, the conclusion is presented and recommendations and limitations are discussed.

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## 2 Literature Review

This section explores different existing literature of the relation between happiness and the occupational choice of an individual. This review will first look into the various concepts of entrepreneurship such as defining entrepreneurship and the different types of entrepreneurial activities. Secondly, determinants of happiness are discussed. This will lead to the selection of the control variables that will be studied using relevant literature. The literature will be the guide to the construction of the hypotheses.

### 2.1 Concepts of Entrepreneurship

#### 2.1.1 Classical Concepts

Hébert and Link (1989) conceptualize entrepreneurship in three distinct intellectual traditions. Firstly, the German tradition of von Thünen-Schumpeter. Secondly, the Chicago tradition of Knight-Schulz and, thirdly, the Austrian tradition of Mises-Kirzner and Shackle.

The classic work of Schumpeter, *Theory of Economic Development* (1911), describes the entrepreneur as the cause of economic development. It is the entrepreneur that pursues innovative activity by creating new firms that displace less innovative incumbents leading to a higher degree of economic growth. Schumpeter saw the entrepreneur as the one who is able to undertake uncertainties incident to what has not been done before. This implies that the entrepreneur has different risk taking attitudes and is more creative than his peers.

Von Thünen (1946) makes a careful distinction between the then popular 'profit grouping' combination of interest and entrepreneurial gains. He defines interest as the price or payment for the use of capital. Entrepreneurial profits, however, are deemed his salary of management and administration. The risks being taken with hazardous entrepreneurial activity remunerate themselves in entrepreneurial profit. Of interest is the fact that Von Thünen sees the entrepreneur as one that will stake his own fortune and exercise far more energy and ingenuity.

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In contrast to the previous concepts of entrepreneurs where businessmen are the only risk and uncertainty takers, Shultz (1975) extends the notion of dealing with disequilibria to other non-market activities as housewives managing households and mature students deciding on how to invest in themselves. The useful ability to deal with disequilibria is seen as a form of human capital and can be influenced, among other variables, by education. The entrepreneur is a human agent that reallocates its resources. Each reallocation of these resources entails risk and is rewarded as a rent. However this bearing of risk is not a unique attribute to entrepreneurs and therefore risk is seen as systemic risk. Entrepreneurs are agents that deal with disequilibria and not with uncertainty and are therefore not unique risk takers.

As a preface to Shultz' definition of entrepreneurs as disequilibria dealers, Knight (1921) also argues to mitigate forms of (insurable) risk. He argues that the only risk that leads to entrepreneurial profit arises from unique uncertainty and superior judgment that cannot be insured neither capitalized or salaried. Risk is therefore negated from the judgement of the entrepreneur as the results of a choice are not known (risk) but are solely uncertain bearing unknown outcomes. In his secondary theory of profit (1942) he elaborates more on the incentive for entrepreneurial action. Here he is more in line with Schumpeter where entrepreneurs are innovators earning monopolistic profits until the innovation is copied and unique returns are reduced to zero. Entrepreneurs are again agents that deal with uncertain outcomes and are able to forecast the future. Furthermore, entrepreneurs do not only rely on this ability but are also unique in the degree of faith placed in one's ability to do so.

The Austrian tradition is started by Mises. In his book Profit and Loss (1951) he describes entrepreneurs as *'he who judges the future prices of the products more correctly than other people'*. The entrepreneur has an anticipative understanding of an uncertain future. Although Mises makes no reference to creativity or innovation the ability of the entrepreneur to 'see' future prices earlier than others gives him at least visionary traits. As a reaction to the actions of an alert Miserian entrepreneur the markets eventually return to an equilibrium until an entrepreneur sees new options for entrepreneurial profits. Mises does however imply risk to entrepreneurs; as they are those on whom the incidence of losses on the capital employed falls.

Shackle (1961) stresses creativity and spontaneity, the entrepreneur imagines a set of alternative futures with different characteristics and different chances of success. The entrepreneur is again confident in his superior ability above others to predict the future correctly. In contrast to Mises Shackle does not entail the entrepreneurial process with risk. It is purely a decision of the entrepreneur who does not see chances of failure he merely chooses the best way to proceed.



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In contrast to Shackle Kirzner (1979) argues that entrepreneurs merely need to see entrepreneurial opportunities. The entrepreneur is alert to an opportunity and is quicker than others to grasp it. Potential gains have to be noticed in order to be exploited. This would not happen were it not for the existence of entrepreneurs. They have to be alert and recognize that there are alternatives that produce superior results compared to existing courses of action.

Comparing these different classic concepts of entrepreneurship, the following traits may be attributed to the entrepreneur. The entrepreneur is more innovative, more creative and more spontaneous. He has different risk taking attitudes compared to his peers and he is willing to exercise far more energy and ingenuity. Entrepreneurs are risk takers and deal with disequilibria, they have visionary traits, are more confident in their own abilities and are more alert to opportunities.

### 2.1.2 Modern Concepts of Entrepreneurship

To review the recent contributions to the concept of entrepreneurship the views of Casson and Casson (2013) are used. They differentiate between the function, role, personality and competencies of an entrepreneur. The personality is expressed in terms of attitudes and skills, the function and role mostly relate to economic values. This implies that in modern economy, conceptualizing the role of the entrepreneur is heterogeneous. For this thesis, the relationship between occupational choice and happiness of the individual is studied. As the function, role, personality and competencies of the entrepreneur could have an influence on the aforementioned, it is necessary to examine the influence these variables could have on the main research question.

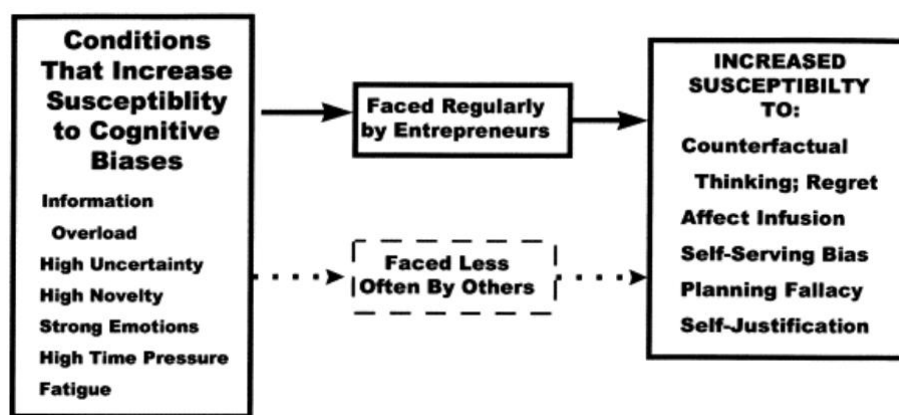
The role of traits is examined by Shaver and Scott (1991). The psychological approach focuses on the person of the entrepreneur and why not everyone chooses to create new ventures. Shaver and Scott define several psychological variables that could influence this behaviour. They conclude that economic circumstances are important but to create a new venture a person is needed in *'whose mind all of the possibilities come together, believes in innovation, and has the motivation to persist until the job is done'*. Person, process and choice are defined as the variables that determine new venture creation.

Baumol (1993) focuses on entrepreneurship as innovating entrepreneurship. He argues that entrepreneurial exercises, like opening a new restaurant or grocery, are merely repetitions of a process. It is the innovating entrepreneur that represents added value to the economy as they

introduce new and/or better products. The decision process of an entrepreneur is beyond systematic calculation and is based on instinct, inspiration, hunch and Kirzners (1985) 'alertness'.

A different approach was taken by Baron (1998). Instead of focusing on the traits approach, Baron turns to a more cognitive approach to explain entrepreneurial behaviour. Which thought processes differ in entrepreneurs vis-à-vis non entrepreneurs? Baron argues that entrepreneurs are more exposed to situations that test their limits of their cognitive abilities and, therefore, are more susceptible to errors in these cognitive processes.

Figure 1: Factors influencing differential susceptibility to cognitive errors by entrepreneurs and others:



Source: Baron (1998)

Baron concludes that entrepreneurs indeed think differently than non-entrepreneurs, this is however not based on personality traits. Entrepreneurs differ primarily in cognitive approaches to risk and uncertainty conditions.

Focussing more on the role of entrepreneurs in the economy, Wennekers and Thurik (1999) link entrepreneurship to economic growth. They define the entrepreneur as one who perceives and creates new opportunities and who introduce their ideas to the market under uncertainty. On the individual level, an entrepreneur needs entrepreneurial 'traits' and entrepreneurship is seen as a behavioural characteristic. It is the actions of the individual that determine entrepreneurship, and not the traits. On the economic (or aggregate) level the role of an entrepreneur is one of carrying out innovations and enhancing rivalry.

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Lastly, the views of Shane and Venkateraman (2000) are considered. As mentioned in the previous literature the mere definition of an entrepreneur who establishes a new venture is insufficient. This definition lacks the consideration of the quality of opportunities different people discover, evaluate and exploit. As seen previously with Shane, Kolvereid and Westhead (1991) the entrepreneurial process is evaluated based on *'sources of opportunities, processes of discovery and actions of individuals'*.

The role of an entrepreneur is also described in an occupational notion. An individual has the choice between being unemployed, wage employed or self-employed. Subsequently the level of entrepreneurship can be measured simply by counting the number of self-employed or more dynamically through the number of start-ups (Wennekers and Thurik 1999).

A different and more behavioural view of the role of the entrepreneur and his traits can be summarized as follows based on the aforementioned literature. The entrepreneur believes in innovation, is more innovative, and is more motivated to implement possible change. He differs in personality from non-entrepreneurs because his cognitive approach to risk and uncertainty are different. Entrepreneurial actions are performed because the individual has these behavioural characteristics, and these traits are what define the border between the entrepreneur and non-entrepreneur. Measuring entrepreneurship on a behavioural level is less straightforward.

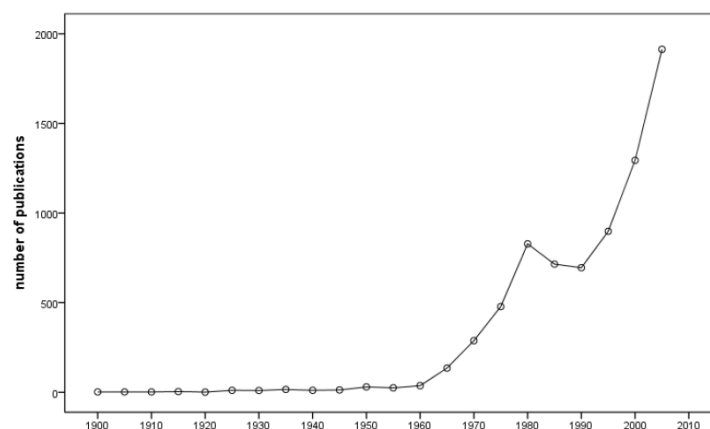
The distinction between these two views is important to this research. The occupational notion deals with the choice the individual makes between self-employment, wage-employment or unemployment. Differences in resulting happiness could come from this occupational choice. The behavioural characteristics of the entrepreneur could also have an influence on this relationship, therefore other variables need to be included to control for these effects.

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### 3 Determinants of Happiness

As was mentioned in the introduction of this thesis, happiness has gained a more prominent role in global policies. In the past, economic progress was measured solely on economic and monetary factor. Nowadays, life satisfaction and wellbeing are taken more into consideration when it comes to measuring progress. This trend is also noticeable in the increased number of scientific publications on happiness since the 1960's.

Figure 2: Number of scientific publications on happiness by 5 year periods



Source: Veenhoven (2015)

Happiness is however a difficult concept to define and measure. Veenhoven (2015) describes the concept as synonymous with 'subjective wellbeing', 'life-satisfaction' and 'quality of life'. He goes on to define happiness as "*enduring enjoyment of one's life as a whole*". As happiness concepts might be heterogeneous, to compare the literature on happiness, the aforementioned definition will be used.

In this paragraph, the concept of measuring happiness will be explained and an overview of prevailing literature regarding the relation between several variables and happiness is clarified. It is important to note that causality between variables is not assumed to be one directional but for the sake of clarity any reverse causality is not discussed in this paragraph.

The variables are discussed in this section specifically as they are known to influence the relationship between occupational choice and happiness (Andersson (2008), Block et al (2009)). This thesis tries to isolate the relationship of being self-employed or wage-employed and happiness, life satisfaction and job satisfaction. Therefore, control variables are chosen based on existing literature to investigate this relationship.

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Carree and Verheul (2012) investigated factors that influence satisfaction levels of entrepreneurs. They observed a relationship between income and satisfaction levels of entrepreneurs. Hessels, Gelderen and Thurik (2008) argue that one of the motives of entrepreneurs to start a new venture is personal profit. Occupational choice could influence satisfaction through income. Therefore, this variable is included in this study.

Health is included in this study as it has been shown to have a profound effect on happiness. Andersson (2008) explored this relationship amongst Swedish individuals. She reported that poor health is negatively correlated with life satisfaction. Furthermore, she showed that this relationship is different for the self-employed and wage-employed. To negate this possible association, health is included as a control variable.

Another determinant of happiness is education. Hartog and Oosterbeek (1998) demonstrated that education has a significant relationship with happiness albeit a nonlinear one. Robinson and Sexton (1994) report that having more years of formal education increases the probability of becoming self-employed (0.8% increase for each year of education). Education is therefore included as a control variable.

Marital status, gender and age all have a relationship with happiness and the propensity to start an enterprise. Blanchflower and Oswald (1992) observed that women and married individuals are more satisfied with life. Dunn (2013) finds that men and women, married and unmarried individuals differ in their reported happiness after starting a new venture. Tiefenbach and Kohlbacher (2013) studied a Japanese population in which they assessed the possible associations between happiness, age and gender. They found a U shaped relationship between age, being male and happiness. Yet, this association is not observed among women. The propensity to become an entrepreneur changes with age, being married and being man or woman according to Shane, Kolvereid and Westhead (1991). All these variables could have an effect on the relationship between occupational choice and the reported level of happiness. As such, they are included as control variables.

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### 3.1 Measuring Happiness

Psychology defines happiness as *frequent positive affect, high life satisfaction and infrequent negative affect* (Lyubomirsky et al 2005). Happiness or well-being are in these cases positive emotional states reported by a subject. As Kubovy (1999) showed, pleasures of the mind are collections of positive emotions distributed over time. They occur when emotional expectations are strong, met and ended on a positive emotional high. Furthermore Seligman and Csikszentmihalyi (2014), in their psychological research, find that high levels of positive emotion promote well-being. Psychology therefore refers to happiness as 'positive emotional states'. Aggregating these events over time and subtracting the negatives should represent the total well-being of an individual.

In Economics, happiness is measured in more utilitarian fashion. In other words, certain choices create more positive emotions. One choice has more happiness 'utility' than another. As a result, well-being is used as a proxy for total utility, including the utility derived from happiness.

In studying this utility, Kahneman (2000) discerns two different types labelled experienced and decision utility. Decision utility is determined by choices between alternatives (ex-ante), experienced utility is about enjoyment (ex-post). Additionally, both choices are discerned through either objective (in the moment) or subjective measurement. This distinction is important because depending on the way respondents are questioned, they have to either envision utility or describe it in hindsight, the latter being preferable.

A similar two-fold distinction is made by Keyes Shmotkin et al (2002). The first is subjective wellbeing (SWB). This entails evaluating one's life in terms of satisfaction. The second distinction is psychological wellbeing (PWB). This deals more with the emotional state one feels. SWB is more of a global evaluation of life and PWB is more of a question of thriving under the existential challenges of life (see Table 2 for an overview of empirical results and model). In this thesis, this differentiation is exemplified by the two happiness measures used. Happiness being the psychological wellbeing, questioning how happy a person is at the moment of the interview. Life satisfaction is the retrospective question, asking how satisfied someone is with his or her life.

This subjective ex-post happiness measuring has been measured in depth over the past years. Diener, Emmons et al (1985) developed a Satisfaction with Life Scale containing positive statements and an ordinal scale ranging from strongly agree to strongly disagree. Watson, Clark and Tellegen (1988) measure on a 10-item mood scale comprising positive and negative affect (PANAS) (see appendix Tables 3a and 3b for a more in depth overview).

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Considering both the psychological and economic approaches, one can conclude that positive emotional states lead to a well-being of some sorts, adding utility to one state versus another. In this research, looking at occupational choices would lead to a similar distinction. Does one occupational state lead to a higher emotional and thus utilitarian result?

Measuring these different happiness states has proven ambiguous in existing literature. As was mentioned before happiness is a measure for psychological well-being (PWB). Researching happiness in the dataset presented several options. Logically, happiness presented itself as a variable. However, as well-being is an inclusive term also used to refer to life satisfaction, Diener (2000), I also include life satisfaction as a proxy for subjective well-being (SWB).

This thesis aims to differentiate between different occupational choices. According to Van de Vliert and Janssen (2002), Susskind et al (2000), job satisfaction has a strong relationship with life satisfaction, happiness and subjective well-being. Job satisfaction is therefore included in this study to explain possible satisfaction affects that are created by this occupational choice, but that do not affect psychological or subjective well-being.

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### 3.2.1 Occupation

In their conceptual framework, Blau, Gustad, Jessor and Parnes (1956) identify three drivers of occupational choice: psychology, economics and sociology. The choice an individual makes between the various courses of action is motivated by the individuals' valuation of the different options and the consequent rewards offered by them. An individual also weighs the different chances of being able to realize one of these options (for a complete choice overview, see Table 1 in the appendix).

As this thesis reviews the relationship between occupational choice and happiness, one of the rewards offered by the occupational choice could be the happiness derived from being self-employed or a wage-worker.

Several studies have explored this link between occupational choice and happiness and the importance of "procedural utility". Procedural utility refers to the value that individuals attribute not only to the final outcome but also to the procedure that leads to the final outcome. Benz and Frey (2008) compared self-employed and wage-workers with respect to job satisfaction. After conducting a survey in Germany, Great Britain and Switzerland, they observed that self-employed individuals were more satisfied than those employed in organizations. The reason is that self-employment provides them with higher procedural utility.

Further research was performed by Block and Koellinger (2009), who focused exclusively on nascent entrepreneurs and analyzed their satisfaction levels. Their research confirmed the positive relationship between self-employment and job satisfaction. Moreover, they discovered that entrepreneurs who are seeking for independence and creativity, derive high procedural utility which in turn affects the start-up satisfaction. It seems that certain aspects of self-employment, such as having control over one's own actions, freedom, greater autonomy and flexibility increase the overall utility, thus entrepreneurs are more satisfied and consequently happier than wage workers.

Guerra et al (2014) investigated why individuals choose to change jobs. The researchers showed that both pecuniary and non-pecuniary arguments are chosen to switch to self-employment. Variation in job satisfaction is one of the non-pecuniary variables that was found to significantly influence transition probabilities. This notion is reinforced by Blanchflower and Oswald (1998) who, based on a survey in Great Britain, also revealed that self-employment has a positive effect on both job and life satisfaction levels.



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Furthermore, Hamilton (2000) evaluated the possible differences in earnings between self-employment and paid employment. He observed that although self-employed individuals have both lower initial earnings and lower earnings growth, when compared to paid employed individuals, they persist in their self-employment, thereby reinforcing the conclusion that many entrepreneurs enjoy non-pecuniary benefits.

Conversely, Brockhaus (1982) reported that it is not the satisfaction with self-employment that drives occupational choice, but rather the dissatisfaction with their previous paid employment. Lower rates of life and society satisfaction have also been shown to lead to higher country self-employment rates (Noorderhaven, Thurik et al 2004). This would again imply that self-employment leads to (relatively) higher satisfaction.

A lot of research has been performed on reported job satisfaction of self-employment versus paid employment. Blanchflower has carried out numerous studies on this relationship. With Freeman (1997) he demonstrated a positive relationship between self-employment and job satisfaction among Hungarian respondents. With Oswald (1998) he observed a similar result. A higher degree of self-employed individuals are 'very satisfied' with their job (38% vs. 30% for paid employment) and also experience more life satisfaction. Lastly Blanchflower (2000) examines self-employment in OECD countries. Again he observed a considerable higher level of job satisfaction for the self-employed.

In conclusion, prevailing literature suggests several possible associations between occupational choice and satisfaction level. Procedural utility derived from being an entrepreneur plays a role, so does possible dissatisfaction with wage employment. In addition, the majority of these studies seem to point towards a positive relationship between self-employment, happiness, life and job satisfaction.

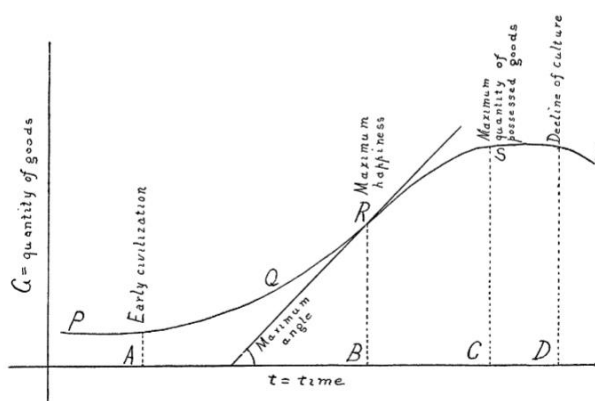
Based on the aforementioned literature the following hypothesis is formulated:

*Being an entrepreneur is positively associated with happiness, job satisfaction and life satisfaction*

### 3.2.2 Income

One of the oldest articles found on general life-satisfaction is an article by Karapetoff (1903). In this article, the author argues on the subject of material possessions and how this influences life satisfaction. Instead of absolute and static measurement of possession, Karapetoff proposes that is not the absolute quantity of goods possessed that determines satisfaction, but more the rapidity by which this quantity is increasing.

Figure 3: Societal Progress Curve



Source: Karapetoff (1903)

This would imply, as we have seen before, that economic and monetary *growth* has a profound and positive impact on life satisfaction. Furthermore figure 3 clarifies that a maximum marginal happiness can be found at point R. Meaning that there is a decrease in marginal returns when increasing the quantity of goods (income).

This effect of decreasing marginal returns was also noticed in research done by Veenhoven and Timmermans (1998). They argue that this satiation point where the increase in income does not longer lead to an increase in happiness is around US \$ 10.000 (GDP per capita). This conclusion is also supported by the notion that although most western countries have increased in economic welfare since the seventies, average happiness has stayed the same.

Easterlin (1974) shows that although this income-happiness relationship holds *within* countries, when comparing countries to each other this relationship is much weaker. Easterlin further argues that this increase in income lead to changes in relative social position that in turn leads to increased happiness. It is this relationship to one's societal group status that leads to

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increased happiness with increase in income and therefore absolute income across countries has little impact on happiness. This “relative position” is also supported by Layard (1980), who states: *richer societies are not happier than poorer ones, within any society happiness and riches go together.*

A striking example of this relative income phenomenon is researched by Solnick and Hemenway in 1998. They pose the following choice to individuals:

A: Your current yearly income is \$50,000; others earn \$25,000.

B: Your current yearly income is \$100,000; others earn \$200,000

If an individual would base his or her choice purely on absolute income; all would choose option B. Solnick and Hemenway found however that 50% of respondents choose A over B indicating that positional concerns are equally important as absolute.

This relationship is also investigated by Clark, Frijters and Shields (2008). They showed that happiness is indeed negatively related to others’ income and to own past income. This would explain why although GDP per capita has risen over the years, happiness levels have remained flat. As income rises for society as a whole inequality remains roughly the same. Therefore relative utility of one’s income only changes at the cost of someone else’s.

In contrast to these satiation point and relative income arguments, Stevenson and Wolfers (2008) state that the relationship between average GDP per capita across countries and happiness is positive. They find that changes in subjective well-being and income over time *are* positively related. These findings would indicate that absolute income is comparable between countries and a determinant for happiness.

In conclusion, the aforementioned literature is not coherent on the exact nature of the relationship between income and happiness. However they do agree that there is a relationship. Moreover there seems to be consensus that if there is any relationship chances are it is a positive one to a certain extent.

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### 3.2.3 Health

Working conditions, such as satisfaction, status, achievement and recognition level have shown to affect the level of happiness an employee or self-employed experiences (Argyle 1997). The level of happiness is in turn influenced by occupational stress and could result in differences in the health levels an entrepreneur or wage employee achieves (Buttner 1992).

Buttner (1992) explored whether the nature of entrepreneurial and managerial stress differs. He claims that running one's own business requires significant risk-taking and a large commitment of time and energy, which is stressful. The results of this empirical analysis indicate that entrepreneurs experience higher levels of role ambiguity, while managers experience more role conflict. Furthermore, it was found that entrepreneurs report higher stress and more health problems as well as lower job satisfaction than managers.

Lewin-Epstein and Yuchtman-Yaar (1991) tested whether the impact of self-employment is detrimental to health. Their research was based on the model of general susceptibility, which suggests that stress, role ambiguity, uncertainty isolation and fatigue result in more proneness to medical problems. The results revealed that entrepreneurs, due to the structure of their work, are confronted with greater health risks and suffer from poorer health than salaried workers.

Entrepreneurs experience higher work-related stress, which makes them vulnerable in threatening health life-styles and behaviours. They smoked more, consumed more alcohol (behavioural response), were more often obese and reported more somatic diseases (psychological response) when compared to salaried workers.

In contrast, empirical findings from the research of Stephan and Roesler (2010) seem to support the view that an entrepreneurial career may have some health benefits. In order to draw this conclusion, they compared entrepreneurs' health with employees' health and showed that entrepreneurs had lower blood pressure, higher well-being (life satisfaction) and more favourable behavioural health indicators. Regarding their association with somatic diseases and mental disorders, entrepreneurs showed lower somatic morbidity as well as lower rates of hypertension and lower mental morbidity.

Furthermore, Stephan and Roesler (2010) also provided some interesting results, using the job-demand-control-model (JDCM) which relates job characteristics and their health implications. The JDCM has two main dimensions, namely job control (the decision-making authority of job incumbents) and job demands (experienced work intensity).

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The JDCM explains that the health related consequences are the result of the combination between job control and job demands (Karasek, 1979). For instance, high levels of job demand combined with low levels of job control result into stress, which leads to psychological strain and ill health. This type of job is also referred to as a high-strain job. On the other hand, job incumbents experience better health when they are exposed in a job situation, which is characterized by high levels of job demand and job control. These active jobs, as they are called, have a positive influence on health because they stimulate the incumbent to be more active and confident to cope with challenging situations. (Karasek and Theorell, 1990; Theorell and Karasek, 1996; Holman and Wall, 2002).

Prior research on entrepreneurs' job characteristics agrees that, as compared to wage-workers, entrepreneurs are subject to higher levels of job control. Being the owner of their enterprise allows them to control the organization of different tasks and the allocation of resources (Hébert and Link 1989; Prottas and Thompson, 2006). However, entrepreneurs experience higher levels of job demands and workload as opposed to wage-workers (Chay, 1993, Stephan and Roesler, 2010). Paoli (2001) confirms this argument, by finding that entrepreneurs work more hours per week than wage-workers.

It can therefore be postulated that entrepreneurs could benefit from more positive health consequences in comparison to wage-workers. An explanation for this may be that entrepreneurs are healthier and happier due to their engagement in active jobs. Nonetheless, other existing research demonstrated that wage-workers are healthier, and therefore happier, because they experience lower levels of stress.

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### 3.2.4 Education

Numerous studies have examined the link between education and happiness.

Ross and van Willegen (1997) find that well educated individuals have lower levels of dissatisfaction with life. Similarly Hayo and Seifert (2003) observed that higher educated people are more satisfied with their life situation. In addition, Cunado and Garcia (2011) reported a positive relationship between education and happiness in Spain whereas Gerdtham and Johannesson (2001) also showed results that happiness increases with education among a Swedish adult population. Similar results were reported by Blanchflower and Oswald (2011), who showed that 1 year of extra education was associated with 0.017 extra happiness points (on a 3 point ordinal scale where a higher value represents more happiness). Finally, Chen (2011) also found a positive association between education and happiness among four East Asian countries.

In the aforementioned studies, education demonstrated to be positively related to happiness. Nevertheless, other studies question whether this relationship is directly causal or influenced through other variables. For instance Chen (2011) also observed that the relationship between education and happiness is mediated by the fact that individuals that have a higher education also have a wider social network and are happier because of that indirect effect.

A similar indirect effect through the influence of other variables is also reported by Hartog and Oosterbeek (1998). They showed that the effect of schooling on happiness is a parabolic effect and mostly related through health and wealth factors. Fabra and Camison (2009) also explored this indirect relationship between education and satisfaction. They demonstrated that a significant proportion of the effects of education on satisfaction are transmitted indirectly through other variables namely higher skill levels, higher pay and secured employment.

Clark and Oswald (1996) find a negative correlation of mental well-being and education. They observed that, when holding income constant, satisfaction levels are strongly declining in the level of education. A possible explanation for this inverse affect could be that education induces higher aspirations. An interesting finding related to this affect was made by Applegate and Clark (1987) who reported that a higher degree of knowledge led to a lower satisfaction rating. This again was related to higher expectations.

Education can therefore be classified as a 'mixed' variable. Results on happiness and/or satisfaction could be direct and indirect, and either negative or positive.

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### 3.2.5 Marital Status

Marriage has historically played a big role in countries' policies. As Hamilton (2004) notes: *"Marriage itself is seen as a tool to ensure the wellbeing of families and children, and federal and state family policies continue to rely heavily on it to do so"*. This policy implies that marriage is a proxy for wellbeing of a population and infers that being married increases your wellbeing vis-à-vis being not married.

This inference is supported by Zollar and Williams (1987) who observed that married persons report higher global happiness as compared to non-married individuals. Vemer, Coleman et al (1989), Oswald (1997) and Waite and Gallagher (2000) also reported a higher degree of satisfaction among married people.

In a study performed by Lucas and Clark et al (2003), the relationship between marriage and satisfaction was evaluated. They demonstrated that marital transitions (changes in marital status) were associated with long lasting changes in satisfaction. Meaning that marital status is a two way variable, being married is associated with a higher degree of satisfaction whereas being divorced is associated with a lower degree of satisfaction compared to a never married control group.

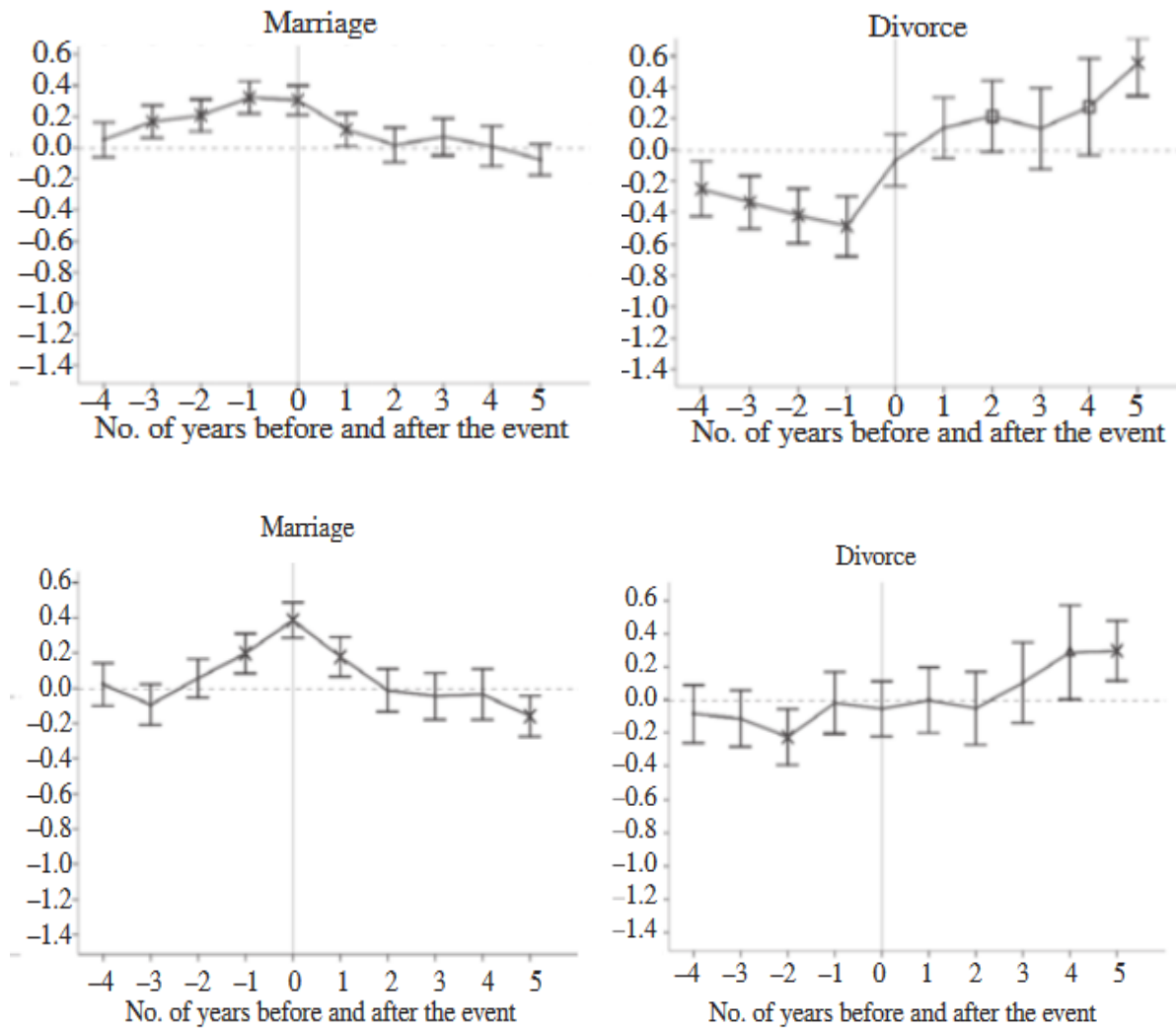
Waite, Browning, Doherty et al (2002) studied the effect of divorce on the level of happiness and showed that *"divorce was associated with dramatic declines in happiness and wellbeing."* Similar results were observed by Gardner and Oswald (2006). However, the latter study reported that its effect on wellbeing was temporal and that dissolution of the marriage produces a rise in psychological wellbeing in the long run.

In further studies, Lucas (2005) and Lucas and Clark (2006) studied whether changes in marital status lead to temporal or permanent changes in life satisfaction. The hypotheses in these studies revolved around the idea that people can adjust to almost any life event and that happiness levels, on average, continuously fluctuate around a set point. They showed that on average, individuals indeed adapted to being married (albeit in a couple of years) but that divorce has a permanent negative effect on life satisfaction.

A similar study was carried out in 2008 by Clark, Diener, Georgellis et al. They concur with previous studies that a positive correlation between marriage and life satisfaction is not permanent. In contrast to the Lucas' studies, the researchers observed that divorce showed the same temporal effect. In addition, it requires mentioning that men are about twice as slow in adaptation than women.

In conclusion, marital status could either have a negative or a positive influence on life happiness, but this effect could be temporal in nature and dissolve after a couple of years.

Figure 4: the dynamic effect of Life Events on Life Satisfaction (Top: Males, Bottom: Females, y-axis represents impact on life satisfaction)



Source: Clark, Diener, Georgellis et al (2008)

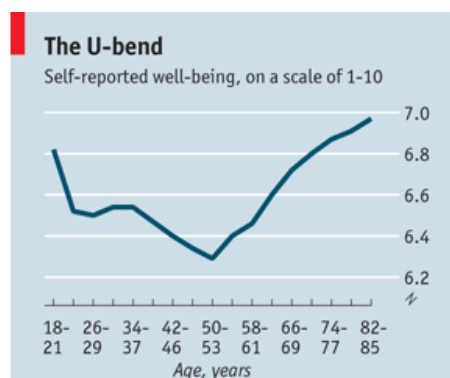


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### 3.2.6 Age

The relationship between age and happiness is interesting. One could expect happiness to rise in the earlier years of one's life where people are younger, are more active and have more possibilities. Then after a certain amount of years as age catches up, one could expect that the limitations would result in a decline in happiness. This, however, is not the case:

*Figure 5: A snapshot of the age distribution of psychological well-being in the United States*



Source: Stone (2010)

Many researchers report this U-shaped relationship between age and happiness. Blanchflower and Oswald have studied this in 2001, 2004 and 2007. Similar studies have been performed by Gerdtham and Johannesson (2001) and Hayo and Seifert (2003) who all report a U shaped relationship between age and happiness. Possible explanations offered for the shape of this relationship are that individuals learn to adapt to the negative aspects of growing older, and in mid-life quell their infeasible aspirations, Blanchflower and Oswald (2008)

More recently, Frijters and Beatton (2012) tried to replicate the findings from previous studies. Data from the Household Income Labour Dynamics Australia (Hilda), the British Household Panel Survey (BHPS) and the German Socioeconomic Panel (GSOEP) were used. All three datasets supported a (weak) U-shape relationship, yet this only became evident when controlling for other socio-economic variables (income, employment and marriage).

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In contrast to the U-shaped relationship, many studies have reported signs of increasing happiness with age. A rationale for this (linear) relationship is that as people get older they gather more positive memories and attend to more positive thoughts in spite of the mental and physical declines that come with aging. (Mroczek and Kolarz (1998) and Carstensen and Mikels (2005)) This positive outcome, as argued by Rothermund and Brandstadter (2003), is a result of the mental compensatory process that evolves to manage the negative aspects of aging.

Summarizing, it is hard to reach an unambiguous direction of the effect of age on happiness. Although a U shape form of the relationship seems to be the dominant theory in literature, a positive linear effect may also be expected.

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### 3.2.7 Gender

In the World Happiness Report of 2015 Fortin, Helliwell and Wang (2015) studied the relationship between gender and happiness. They observed very small differences regarding general reported happiness between men and women. However, they also examined six positive and six negative experiences and assessed how frequently these experiences were regarded positive or negative by both sexes. They showed that, in general, as compared to men, women more frequently had negative experiences.

A similar result was observed by Stevenson et al (2009) who studied the subjective well-being of women in the United States. They reported that, by objective measures, lives of women in the United States have improved. However, their reported well-being has been declining since the 1970's, relative to the reported well-being of men. Two possible clarifications for this difference are given. First, risk attitudes of women are different when compared to men, which creates a different reaction set to the changing modern world. Second, the changing role of women regarding their participation in the work environment could lead to less satisfaction, as they now have to divide their attention between both home and work.

Conversely, earlier studies performed by Aldous and Ganey (1999), Diener and Myers (1995) Alesina et al (2004) did show that women tend to be happier than men despite higher rates of anxiety and mood disorders.

In conclusion, the literature suggests that a wide variety of relationships between gender and happiness exist. Neutral, positive as well as negative relationships with well-being and gender might all be expected. These findings could be of interest as job requirements for self-employment may have a different impact depending on the gender of the entrepreneur.

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## 4 Data and Methodology

This chapter discusses the data that are used for analysis and how it was collected. It comprises the description as well as the coding of the used variables. Furthermore, the empirical model to test the hypothesized relationship between the dependent and independent variable is described.

### 4.1 Data

The data used in this study is collected from the European Values Study (EVS; 2011). The EVS is a longitudinal study on basic human values. The EVS started collecting data in 16 countries in 1981. In addition, three more waves of data collection were performed in 1990, 1999 and 2008. The first two waves contained data from the US and Canada, yet both were omitted in the 1999 and 2008 data collection. For a full overview of participating countries in each wave see Table 4.

Data was collected among a total of 166,502 respondents. The respondents were asked demographic questions (e.g. gender, age) as well as questions regarding the values they place on certain aspects of life. The studied topics were: Family, Society, Politics, Life, Work and Religion. Respondents were asked a range of questions regarding their valuation of, for instance, job characteristics, marriage characteristics and how much confidence they have in undertaking certain activities. Data collection was performed in person by interviewers across all nations; interviews were taken face-to-face among a stratified random sample of the population. All respondents were 18 years or older at the time of the interview. The target number of interviews in each wave and in each country was set at 1000, with an additional booster quota sample of 200 young adults aged 18-24. 46% of respondents is male.

The primary data used in this study was obtained from all the data waves; 1981, 1990, 1999 and 2008. Due to the choices made for the variables and the omission of missing data, the research data set was truncated to leave only the 2008 wave as usable. This left a total number of 21,801 respondents.

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#### 4.1.1 The Dependent Variables

Data on the first dependent variable is derived by asking the question: taking all things together how happy are you? Answers to this question are graded on a 4 point scale. The higher the value, the higher the reported happiness.

The second dependent variable is taken from the question: how satisfied are you with your life? Answers to this question are graded on a 10-point scale, value 1 being the lowest level of satisfaction and level 10 the highest level of satisfaction.

The third and last dependent variable is generated from the question: how satisfied are you with your job? Isolating this variable is interesting because literature has reported that self-employed individuals are more satisfied with their jobs and thus more satisfied with their life as a whole. Answers to this question are graded on exactly the same scale as the satisfied with life variable.

#### 4.1.2 The Independent Variable

The main variable of interest in this study is how occupational choice is associated with happiness. Therefore, a variable was created that takes value 1 if the respondents is self-employed and value 0 if the respondent works either full or part time.

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### 4.1.3 Control Variables

Since this study evaluated the association between occupational choice and happiness, the effects of other variables need to be negated. The following variables are chosen based on the literature:

Firstly, since literature showed that income possibly associates with the level of happiness, income is included as a control variable. The variable income is categorised in three categories: low, medium and high. The original survey question was: we would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in.

As a measure of health, a variable that asks: describe your state of health these days, is included. Answers to this question range from very poor to very good on a 5-point scale. The variable is recoded: the higher the health perception of the respondent, the higher the value of the response. This variable is treated as a continuous variable in the regression analysis.

To control for the level of education a respondent has received, the variable education is constructed as a categorical variable ranging from value 1 to 8 with increasing degree of formal education. The lowest category comprised inadequately completed elementary education whilst the highest category entailed a University degree. This variable is then recoded into 3 categories similar to Inglehart (2004). The first category consists of the lowest amount of education, entailing categories 1-3 whereas the second category, a medium amount of education, is constructed by combining values 4-5 and 6. Finally, the highest level of education is created by combining values 7 and 8.

Marital status is controlled for through the current legal marital status of the respondent. This variable is recoded to create a dummy. The dummy takes the value of 1 if the respondent is married or cohabitating and a value of 0 for all other values.

To control for gender, a dummy is created in which value 0 represented women and value 1 represented men.

To control for age effect of the respondent, age is included as a control variable. As defined by the OECD, the working population consists of 15 year to 65-year old respondents. The respondents of the EVS are 18 years or older which leaves a working population range from 18 to 65. Participants outside this range are excluded from this study. Since the literature review suggested the existence of possible nonlinear effects of age, a squared age variable is created to control for this.

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Furthermore a distinction is made between countries. As this study is performed among European countries, countries are divided according to their geographic location.

The Southern European countries comprised: Albania, Bosnia Herzegovina, Bulgaria, Croatia, Cyprus, Northern Cyprus, Greece, Hungary, Italy, Malta, Moldova, Montenegro, Portugal, Romania, Serbia, Slovenia, Spain, Turkey, Macedonia and Kosovo.

The Northern European countries existed of: Austria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Slovak Republic, Sweden, Switzerland, Great Britain, Northern Ireland and Belgium.

A dummy variable (Region) was created. Value 1 represents a respondent from the Northern European countries and value 0 a respondent from the Southern European countries.

As Azerbaijan, Belarus, Georgia, Russian Federation, Ukraine, Armenia, USA and Canada are not part of the Eurozone, respondents from these countries were removed from the dataset.

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## 4.2 Methodology

In order to test the 6 hypotheses of this study ordered logit regression analysis is performed. Ordered logit regression analyses are performed since the main dependent variable(s) are categorical and ordered from a low to a high score.

In determining the influence the independent and control variables have on happiness and satisfaction levels, 6 models are constructed. The first model provides insight into the associations between the main independent variable, occupational choice, and the dependent variable, happiness. In the second and third model, the dependent variable is changed to job and life satisfaction. In the fourth model the country and occupational choice interaction term is added to see whether there is a significant difference between Northern and Southern European countries. For the fifth and sixth model, the dependent variable in this extended model is changed to life and job satisfaction, respectively.

Since the control variables income and education are categorical, dichotomous variables are created to make it possible to include these variables into the regression analysis.

The residuals in the data set could be correlated across countries. To control for within country effects the standard errors are clustered by country.



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## 5 Empirical Results

Table 1 presents descriptive statistics about the means, maximum and minimum and standard deviation of the variables used in the models. In the entire population the average reported happiness was 3.14 which is relatively high given the 4-point scale. Reported Life and Job satisfaction are also both higher than the scale mean (5.50) averaging at 7.37 and 7.38, respectively. This means that, on average, the study population is rather happy.

The percentage of self-employed individuals in the total population is as expected (van Stel et al 2005); 10% are self-employed. The subdivision of the study population by Northern and Southern Europe creates a slight skewness in the data; about 60% of the respondents are residents of Northern European countries whereas 40% of the respondents are residents of the Southern European countries.

Table 2 lists the correlations. Most correlations are lower than 0.50. After the ordered logistic regression, a variance inflation factor test is performed to test for multicollinearity. The dependent variables happiness, job satisfaction and life satisfaction are positively and significantly correlated at the 1% significance level.

The first 3 models in Table 3 estimate the relation between happiness, life satisfaction, job satisfaction and self-employment using ordered logistic regression models. Models 4, 5 and 6 in Table 2 also estimate this relation, yet the interaction term, variable between self-employment and European region is added.

To test the models for multicollinearity, the Variance Inflation Factors are analysed (Table 5 in the appendix). The low VIF scores ( $VIF < 2$ ) indicated that multicollinearity between variables is not problematic. As such, the models mentioned above can be estimated reliably. Age and age squared are, as expected, highly correlated

**Table 1: Descriptive Statistics**

Variable	Scale	Mean	Std. Dev.
Happiness	(1 – 4)	3.14	0.63
Life Satisfaction	(1 – 10)	7.37	2.02
Job Satisfaction	(1 – 10)	7.38	2.03
Self-employed	(0 – 1)	0.10	0.30
Income	(1 – 3)	2.24	0.74
Health	(1 – 5)	4.00	0.81
Education	(1 – 3)	2.13	0.69
Married	(0 – 1)	0.61	0.49
Gender	(0 – 1)	0.52	0.50
Age	(18 – 65)	41.10	11.36
Region	(0 – 1)	0.57	0.50

*Notes:*

(1) Number of observations = 21,801

(2) Std. Dev. = Standard Deviation

(3) Self-employed: 1= Self-Employed, 0= Wage-Employed

(4) Married: 1= Married, 0= Not Married

(5) Gender: 1= Male, 0= Female

(6) Region: 1= Northern European Countries, 0= Southern European Countries

Source: European Values Study (2011)

**Table 2: Correlation Coefficients of variables**

Variables	Happiness	Life Satisfaction	Job Satisfaction	Self-employed	Income	Health	Education	Married	Gender	Age	Region
Happiness	1										
Life Satisfaction	0.52*	1									
Job Satisfaction	0.27*	0.40*	1								
Self-employed	-0.01**	0.00	0.04*	1							
Income	0.13*	0.15*	0.12*	-0.01	1						
Health	0.40*	0.34*	0.21*	-0.00	0.12*	1					
Education	0.10*	0.10*	0.10*	-0.07*	0.24*	0.11*	1				
Married	0.11*	0.08*	0.04*	0.07*	0.24*	-0.03*	-0.01	1			
Gender	-0.01	0.00	0.01	0.11*	0.04*	0.04*	-0.07*	0.05*	1		
Age	-0.09*	-0.04*	0.03*	0.06*	0.00	-0.21*	-0.03*	0.29*	-0.00	1	
Region	0.14*	0.12*	0.09*	-0.11*	-0.01	0.07*	0.10*	-0.08*	-0.07*	0.09*	1

\* Denotes Significance at 1% level

\*\* Denotes Significance at 5% level

Number of Observations = 21,801

Source: European Values Study (2011)

**Table 3: Ordered Linear Regression Results**

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
<i>Dependent Variable:</i>	Happiness	S.E.	Life Satisfaction	S.E.	Job Satisfaction	S.E.	Happiness	S.E.	Life Satisfaction	S.E.	Job Satisfaction	S.E.
<i>Independent Variable:</i>												
Self-Employed	0.03	(0.09)	0.08	(0.06)	0.31*	(0.11)	-0.07	(0.13)	0.04	(0.09)	0.11	(0.16)
Region*Self-Employed							0.20***	(0.15)	0.08	(0.11)	0.44*	(0.17)
<i>Control Variables:</i>												
Income Base Category												
Middle	0.18*	(0.07)	0.20*	(0.06)	0.22*	(0.05)	0.17*	(0.07)	0.20*	(0.06)	0.21*	(0.05)
High	0.30*	(0.07)	0.40*	(0.06)	0.36*	(0.07)	0.29*	(0.07)	0.40*	(0.06)	0.35*	(0.07)
Health Base Category												
Poor	1.21*	(0.38)	0.52	(0.33)	-0.78**	(0.40)	1.22*	(0.38)	0.52	(0.33)	-0.76***	(0.39)
Neutral	2.03*	(0.39)	1.30*	(0.33)	-0.30	(0.41)	2.04*	(0.39)	1.30*	(0.33)	-0.29	(0.41)
Good	3.04*	(0.40)	2.03*	(0.32)	0.15	(0.41)	3.05*	(0.40)	2.03*	(0.32)	0.16	(0.41)
Very Good	4.31*	(0.42)	2.90*	(0.32)	0.69***	(0.40)	4.32*	(0.42)	2.90*	(0.32)	0.70***	(0.40)
Education Base Category												
Middle	-0.00	(0.10)	0.09	(0.07)	0.15**	(0.07)	0.00	(0.10)	0.09	(0.07)	0.14**	(0.07)
High	0.18**	(0.09)	0.19*	(0.07)	0.28*	(0.08)	0.17**	(0.09)	0.18*	(0.07)	0.27*	(0.08)
Married	0.77*	(0.06)	0.39*	(0.03)	0.10*	(0.03)	0.77*	(0.06)	0.39*	(0.04)	0.10*	(0.03)
Gender	-0.11*	(0.04)	-0.05	(0.03)	-0.01	(0.02)	-0.11*	(0.04)	-0.05	(0.03)	-0.01	(0.02)
Age	-0.08*	(0.01)	-0.06*	(0.01)	-0.04*	(0.01)	-0.08*	(0.01)	-0.06*	(0.01)	-0.04*	(0.01)
Age Squared	0.00*		0.00*		0.00*		0.00*		0.00*		0.00*	
Region	0.57*	(0.16)	0.36*	(0.13)	0.19**	(0.08)	0.55*	(0.16)	0.35*	(0.13)	0.15**	(0.07)
Number of Observations	21,801		21,801		21,801		21,801		21,801		21,801	
Pseudo-R <sup>2</sup>	0.12		0.04		0.02		0.12		0.04		0.02	

\* Denotes significance at the 1% level  
 \*\* Denotes significance at the 5% level  
 \*\*\* Denotes significance at the 10% level  
 () Denotes Robust Standard Error

Source: European Values Study(2011)

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## 5.1 The Independent Variables

The first three models in table 3 assessed the relationship between the independent variable self-employed and the dependent variables happiness, life satisfaction and job satisfaction. It shows that being self-employed does not have a significant association with happiness (*ceteris paribus*), nor does it have a significant association with life satisfaction. However, self-employment does have a highly significant positive association with job satisfaction (*ceteris paribus*). These results suggest that being an entrepreneur results in more job satisfaction.

In the subsequent regression models, the interaction term region\*self-employed was added. Due to this addition, the main association of the self-employed variable on job satisfaction lost its statistical significance. Remarkably, when added to the model, the interaction term has a significant positive association with job satisfaction. These results imply that if you live in the northern region of Europe and you are an entrepreneur, you have a higher chance of being more satisfied with your job. Furthermore, addition of the interaction term to the models revealed a low significant (at the 10% level) association between being an entrepreneur, living in the northern region of Europe and happiness.

## 5.2 The Control Variables

The first control variable was the variable income. This variable was, as mentioned afore, divided into 3 categories; low, middle and high. When using the category 'low income' as reference category, both the middle income and high income categories showed to be significantly and positively related to happiness, life and job satisfaction. Of note, addition of the interaction term did not significantly affect the relationship.

The second control variable was the variable health. The reference category, very poor health, produced the regression coefficients for the other categories: poor, neutral, good and very good health. Compared to the reference category all other categories are significantly and positively related to happiness. Although the category 'poor' does not have a significant relationship with life satisfaction, the other health categories do have a significant and positive relationship with life satisfaction. Only the category 'poor' has a negative significant association with job satisfaction. When the interaction term was added, significance dropped to the 10% threshold for the category 'poor'. These results implied that health has highly positive, significant associations with happiness and life satisfaction (*ceteris paribus*), yet little or no association with job satisfaction.

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Being married had significant associations across all different models. The relationships between the dependent variables happiness, life and job satisfaction and marriage are all positive.

The control variable gender produced interesting results. Although gender does not relate to life and job satisfaction, it did have a negative association with happiness, also when the interaction term was added. Since this variable had a value of 1 for men, it can be concluded that being male significantly decreases the chance of being in a higher category of happiness (*ceteris paribus*).

The variable age has a negative significant association with all dependent variables in all models. However, when the variable age is squared, this association disappears and becomes 0 in all models (*ceteris paribus*).

European region has a significant positive association on all dependent variables. Significance also drops to a lower category (drops to 5% level from 1%) for the relationship between European region and job satisfaction. Thus, it can be concluded that Europeans living in the Northern European countries have a higher chance of being in a higher category of happiness, life and job satisfaction when compared to the inhabitants of the Southern European countries (*ceteris paribus*).

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## 6. Discussion and Conclusion

### 6.1.1 Happiness and Life satisfaction

The purpose of this thesis was to investigate the possible relationship between the occupational choice of an individual and his or her happiness. This possible relationship is further investigated by comparing the Northern and Southern parts of Europe with respect to this choice. Cultural differences as well as possibilities on the labour market due to (socio) economic circumstances could influence the choices people make between becoming an entrepreneur and choosing to work for a company in exchange for wage. As happiness is increasingly becoming a policy goal among governments the relationship between occupational choice and happiness is important.

The results of the empirical regression analyses suggest that occupational choice does not have a significant association on happiness and life satisfaction. These results are not consistent with prior studies. Seva, Vindberg et al (2016) reported a positive relationship between life satisfaction and self-employment. However, the researchers distinguish between self-employed individuals who have employees and self-employed individuals who do not have employees. The first group had a positive significant association and the latter group a negative association with life satisfaction. A distinction this research was not able to make.

In addition, Andersson (2007) reported a strong, positive correlation between life satisfaction and self-employment. Furthermore, Binder and Coad (2010) also observed that individuals who move from regular employment to self-employment experience an increase in life satisfaction. In similar research, Coad and Binder (2013) have shown a higher life satisfaction in the self-employed group due to the higher autonomy characteristics of self-employment. However, it requires mentioning that life satisfaction is at the end of the causal ordering following work satisfaction and income, meaning that self-employment has a relatively big impact on job satisfaction and income whereas the influence on life satisfaction is relatively small.

When the interaction term European region is added to the determinant (occupational choice) the results of the regression analysis change. The relationship of being self-employed and living in a Northern European country with happiness becomes significant at the 10% level. Although this is a relatively low level of significance, the addition of region to the regression analysis is interesting. It namely implies that there are differences in self-employment characteristics between

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Northern and Southern European countries. Possible explanations for this phenomenon are provided by Coad and Binder (2013), who observed that moving from unemployment to self-employment did not result in an increase in life satisfaction. This suggests that only an opportunistic choice in self-employment (choosing between a wage job and self-employment) and not a necessity driven choice create satisfaction. Individuals living in the South of Europe and post-communist countries are more likely to be engaged in necessity entrepreneurship than opportunity entrepreneurship according to Verheul, Thurik and Hessels (2010). The distinction made between Northern and Southern European countries in their study is largely comparable to the current study.

It appears that the welfare state of a country highly influences the entrepreneurial choice, as is also shown by Henrekson (2005). He argues that the more welfare opportunities a country has, the less economic incentive there is for both opportunity and necessity entrepreneurship. This safety net discourages necessity-based entrepreneurship by providing a minimum income and increases the threshold for opportunity-based entrepreneurship by eliminating the low productivity options. Thus leaving only the highly productive entrepreneurial options as a viable choice. This analogy can be further explored with Knights' view (1921) of individual choice between three activities; unemployment, self-employment and (wage)-employment. If the first choice increases in value (free welfare) the relative value of the other 2 choices diminishes and people are less likely to engage in entrepreneurial activities.

In light of the above, the most important finding of this study with regard to happiness and life satisfaction can be summarized as follows. The results reveal that there is no significant relationship between the occupational choice and the happiness and life satisfaction of an individual in Europe. When discerning between the northern and southern European countries there is a weak significant relationship between living in the Northern European countries and Happiness. This difference is most likely due to the difference in motivation behind choosing to be an entrepreneur in the different regions.



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### 6.1.2 Job Satisfaction

The third dependent variable evaluated in this study is job satisfaction. In the first model, the results are positive and significant. Being self-employed is positively associated with job satisfaction. These results are consistent with our hypothesis as well as with several other studies. Lange (2012) reported that higher levels of autonomy and independence lead to higher levels of job satisfaction among self-employed individuals. Similarly, Frey and Benz (2002, 2008) and Blanchflower (2004) reported higher levels of job satisfaction among self-employed individuals. The first study also provided the direction of causality; it is self-employment that causes job satisfaction not vice versa.

Literature provides various clarifications for this result. As mentioned afore, autonomy and independence lead to higher levels of job satisfaction (Lange 2012). Other reasons are mentioned by Hundly (2001) and include higher job returns due to more work-life control as well as more task variety leading to a less monotonous work life. Millan, Hessels et al (2013) showed that self-employed individuals are more satisfied due to their type of work but less satisfied with self-employment with regard to job security.

Interestingly, when adding the region interaction term, the significance and direction of the relation does not change. Self-employment without region interaction does however lose its' significance. Intuitive reasoning would imply that explanations for this phenomenon are similar to the explanation for happiness; the necessity entrepreneurship in the South of Europe does not lead to as much job satisfaction as the more opportunity driven entrepreneurship in the North of Europe. These findings are supported by Bauer (2004) who reported a lower job satisfaction in Southern European countries when compared to Northern European countries.

The results of this study reveal that the influence of self-employment on job satisfaction is present and significantly different between Northern and Southern European countries. This could again be explained through the different motivators for starting an enterprise. In contrast, higher job satisfaction in self-employed individuals does not lead to higher life satisfaction in this population. This can possibly be explained by the negative associations between being self-employed and life satisfaction. These negative associations could include more stress, Prottas, Thompson (2006), more work-family conflict, Parasuraman and Simmers (2001), and schedule irregularity, Yildirim and Aycan (2007).

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A positive association of occupational choice with job satisfaction is found. Literature suggests a positive association with job and life satisfaction among self-employed, Thompson, Kopelman and Schriesheim (1992). Furthermore Erdogan et al (2012), reported that in jobs that are regarded as a lifestyle choice work satisfaction could have a strong overlap with life satisfaction. Similarly Steiner and Truxillo (1989) report that the relationship between job and life satisfaction is moderated by the level of work involvement.

This study however finds no significant association between occupational choice, life satisfaction and happiness. Based on the literature, this could be due to possible positive effects of self-employment on life satisfaction being reported through the job satisfaction variable. Being self-employed could also be both negatively and positively associated with life satisfaction, which could lead to this ambiguous result.

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## 6.2 Policy Recommendations

The results of this study show that choosing to be an entrepreneur increases your chances of being in a higher job satisfaction category. Furthermore, if you live in the North of Europe your chances of being in a higher happiness category are also higher.

This would lead to a recommendation for policy makers to increase the opportunities for individuals to choose entrepreneurship instead of wage employment. However as Binder and Coad (2013) argue, this happiness increase is only valid when choosing between these two options: if people move from unemployment to self-employment, happiness levels do not increase. This would lead to the argument that lowering barriers to entrepreneurial entry is a good idea. Policy should reflect a priority on higher added value entrepreneurial activity with the aim of growing a business with more employees Seva, Vindberg et al (2016).

Further recommendations were uncovered whilst analysing the reasons why people are happier when self-employed. It is likely that it is the higher autonomy and control over one's work-life balance that increased both job and life satisfaction for the self-employed individual. This should be an incentive for employers to restructure work in a manner that enables employees to experience these factors, increasing their job and or life satisfaction.

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### 6.3 Limitations

As in every analysis, and empirical in particular, this study has limitations.

First and foremost the limitations of the dataset need to be examined. Data for the European Values Study is obtained by face-to-face interviews in a total of 47 countries. In each country 1500 persons were interviewed using a random sample from the population. This is a limitation since the sample size is the similar for countries with a small and large number of inhabitants. For instance, the percentage of respondents to total population of Germany is 0.002% whilst the same number for Luxembourg is 0.3%. These disproportions could lead to bias in the obtained data because it may be that not enough German respondents were interviewed to get a decent representation of the total population. Some countries are therefore overrepresented, which makes generalizing these findings for the complete European population more difficult.

Further issues arise due to the nature of the interviews. Face-to-face interviews provide less anonymity than telephone interviews according to Greenfield et al (2000). Due to the reduction of anonymity, respondents could choose to answer questions less truthfully and more towards what they think is socially acceptable to the interviewer. Secondly Mullainathan and Bertrand (2001) reported that the order of questions, words used and context highly influence the response. Furthermore, cultural differences in the way questions are perceived and answered may influence the response Bacq, Hartog and Hoogendoorn (2013).

Although the dataset allows for cultural differences to be attributed to a country, in this research, a division between the North and South of Europe is made. This methodology leads to unobserved within country effects, which in turn could skew the results. As an example, the political division East West could create unobserved within country variance that is not accounted for in this research. This could have an impact on the validity of the associations between the interaction term and dependent variables.

Furthermore, the time in which the interviews were done could have an association with the final outcome. The last wave of the survey was performed in 2008, this is the year the credit crisis was in full swing. As was noted previously, individuals could take up entrepreneurial activities based out of necessity. The context of the date of the interview could therefore affect the outcome.

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Finally, limitations are imposed by the choice of variables and their respective association. As the number of variables is limited, variables that have an influence on the happiness and satisfaction of an individual could have been omitted in the statistical analysis. As stated by Noorderhaven, Thurik et al. (2004), dissatisfaction with life could have a positive and significant influence on self-employment levels. Evidence that not only points to possible reverse causality of this thesis' main dependent variables but also the inverse association of satisfaction with individual behaviour.

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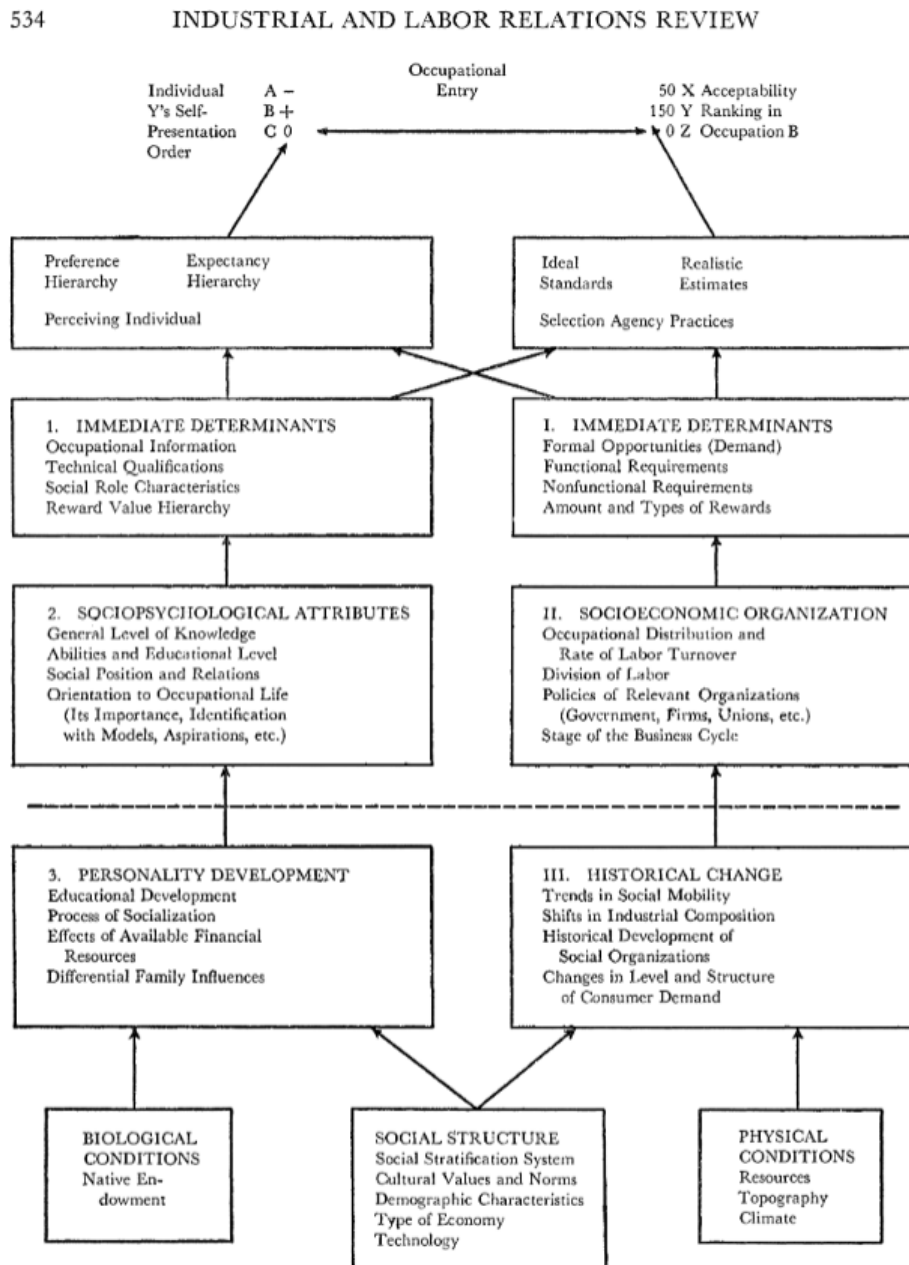
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Table 1: Industrial and labour relations review

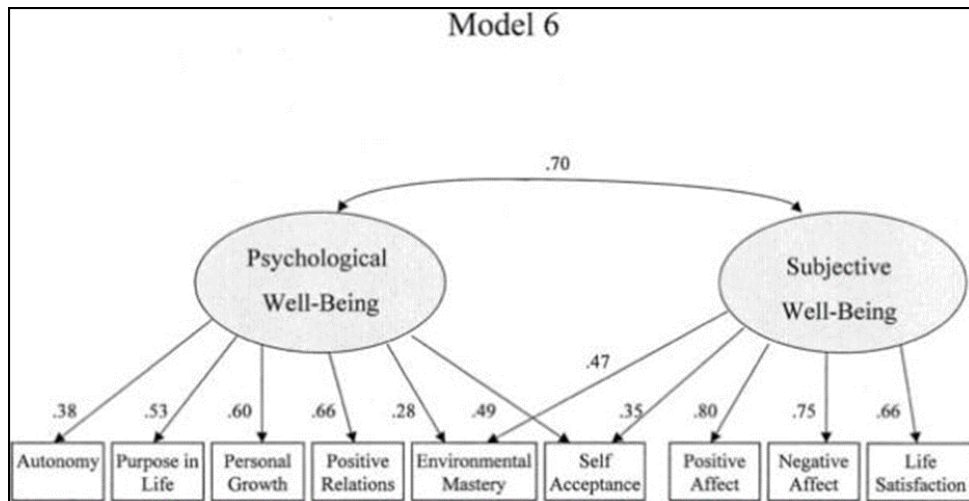


Source: Blau et al (1956).

Table 2: Subjective well-being and psychological well-being, factor analysis.

Measure	Factor structure coefficients <sup>a</sup>	
	SWB	PWB
Life satisfaction	.74	.29
Positive affect	<b>.83</b>	.30
Negative affect <sup>a</sup>	<b>.80</b>	.36
Self-acceptance	<b>.74</b>	<b>.61</b>
Environmental mastery	<b>.75</b>	<b>.47</b>
Positive relations	<b>.50</b>	<b>.70</b>
Personal growth	.36	<b>.76</b>
Purpose in life	.24	<b>.79</b>
Autonomy	.33	.36
Eigenvalue	3.9	1.1
% variance	43.7	12.3
Cumulative variance explained	43.7	56.0

*Note.* Presented is the structure matrix of a principal-components extraction with direct oblimin rotation. The correlation between factors is .45. Loadings above .40 appear in boldface. SWB = subjective well-being; PWB = psychological well-being.  
<sup>a</sup>The negative affect scale is reverse coded so that a higher score means less negative affect.



Source: Keyes et al (2002).

**Table 3a: Satisfaction with life scale items and factor loadings**

Table 1  
SWLS Items and Factor Loadings

Item	Factor Loadings	Item-Total Correlations
1. In most ways my life is close to my ideal.	.84	.75
2. The conditions of my life are excellent.	.77	.69
3. I am satisfied with my life	.83	.75
4. So far I have gotten the important things I want in life.	.72	.67
5. If I could live my life over, I would change almost nothing.	.61	.57

*Note:*  $n = 176$ . SWLS = Satisfaction With Life Scale.

Instructions for administering the scale are: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7-point scale is: 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, 7 = strongly agree.

Source: Diener et al (1985).

**Table 3b: Positive and negative affect descriptors**

Table 5  
*Median Varimax-Rotated Factor Loadings of the Positive and Negative Affect Schedule (PANAS) Descriptors Across the Six Solutions*

PANAS descriptor	Loading on	
	Positive Affect	Negative Affect
Enthusiastic	.75	-.12
Interested	.73	-.07
Determined	.70	-.01
Excited	.68	.00
Inspired	.67	-.02
Alert	.63	-.10
Active	.61	-.07
Strong	.60	-.15
Proud	.57	-.10
Attentive	.52	-.05
Scared	.01	.74
Afraid	.01	.70
Upset	-.12	.67
Distressed	-.16	.67
Jittery	.00	.60
Nervous	-.04	.60
Ashamed	-.12	.59
Guilty	-.06	.55
Irritable	-.14	.55
Hostile	-.07	.52

Source: Watson et al (1988).

Table 4: Participating countries European values study

European Values Study 1981-2008: Participating countries

Country/Region	1981	1990	1999	2008
USA	1982	1990		
Canada	1982	1990		
Belgium	1981	1990	1999	2009
Denmark	1981	1990	1999	2008
France	1981	1990	1999	2008
Germany*	1981	1990	1999	2008/2009
Great Britain	1981	1990	1999	2009/2010
Iceland	1984	1990	1999	2009/2010
Ireland	1981	1990	1999/2000	2008
Italy	1981	1990	1999	2009
Malta	1983/1984	1991	1999	2008
Netherlands	1981	1990	1999	2008
Northern Ireland	1981	1990	1999	2008
Spain	1981	1990	1999	2008
Sweden	1982	1990	1999/2000	2009/2010
Norway	1982	1990		2008
Austria		1990	1999	2008
Bulgaria		1990/1991	1999	2008
Czech Republic		1991	1999	2008
Estonia		1990	1999	2008
Finland		1990	2000	2009
Hungary		1991	1999	2008/2009
Latvia		1990	1999	2008
Lithuania		1990	1999	2008
Poland		1990	1999	2008
Portugal		1990	1999	2008
Romania		1993	1999	2008
Slovak Republic		1991	1999	2008
Slovenia		1992	1999	2008
Belarus			2000	2008
Croatia			1999	2008
Greece			1999	2008
Luxembourg			1999	2008
Russian Federation			1999	2008
Turkey			2001	2008/2009
Ukraine			1999	2008
Albania				2008
Armenia				2008
Azerbaijan				2008
Bosnia and Herzegovina				2008
Cyprus				2008
Northern Cyprus				2008
Georgia				2008
Kosovo				2008
Macedonia, Republic of				2008
Moldova, Republic of				2008
Montenegro, Republic of				2008
Serbia				2008
Switzerland				2008

\*1981 only West-Germany

Source: European Values Study (2011)



**Table 5: Variance inflation factor tests for multicollinearity**

Dependent Variable	Model 1		Model 2		Model 3	
	Happiness		Life Satisfaction		Job Satisfaction	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Age	54.85	0.02	54.84	0.02	55.02	0.02
Age Squared	53.63	0.02	53.63	0.02	53.82	0.02
Self Employed	1.03	0.96	1.03	0.97	1.03	0.97
Married	1.25	0.80	1.25	0.80	1.25	0.80
Income	1.15	0.87	1.15	0.87	1.15	0.87
Education	1.09	0.91	1.09	0.91	1.09	0.91
Health	1.08	0.93	1.08	0.92	1.08	0.93
Region	1.05	0.95	1.05	0.95	1.05	0.95
Gender	1.02	0.98	1.02	0.98	1.02	0.98
Mean Vif	12.95		12.95		12.95	

Dependent Variable	Model 4		Model 5		Model 6	
	Happiness		Life Satisfaction		Job Satisfaction	
	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
Age	55.02	0.02	55.02	0.02	55.02	0.02
Age Squared	53.82	0.02	53.82	0.02	53.82	0.02
Self Employed	1.81	0.55	1.81	0.55	1.81	0.55
Region * Self Employed	1.84	0.54	1.84	0.54	1.84	0.54
Married	1.25	0.80	1.25	0.80	1.25	0.80
Income	1.15	0.87	1.15	0.87	1.15	0.87
Education	1.10	0.91	1.10	0.91	1.10	0.91
Health	1.08	0.92	1.08	0.93	1.08	0.93
Region	1.17	0.85	1.17	0.85	1.17	0.86
Gender	1.03	0.98	1.03	0.98	1.03	0.98
Mean Vif	11.93		11.93		11.93	

Source: European Values Study (2011)