Job satisfaction and Life satisfaction

An analysis of the influence of socio-demographic factors and industries in Belgium, Germany and the Netherlands

Lara K. Fagin-Stief[1]

ABSTRACT

This study analyses the reciprocal nature of the relationship between job and life satisfaction as first introduced by Judge and Watanabe (1993). It focuses on the significance of autonomy at work, income satisfaction and industry sectors as predictors of job satisfaction and subjective general health and industry sectors as predictors of life satisfaction. Results are compared between three geographically close countries, namely Belgium, Germany and the Netherlands. The significance of these predictors in the three countries is analysed through OLS regression using data from 2012 provided by the European Social Survey (ESS). In this way, the following conclusions can be drawn: Firstly, the reciprocal relationship holds due to potential spill over between both job and life. Secondly, in all three countries, job satisfaction increases life satisfaction more than vice versa. Thirdly, more autonomy at work will lead to increased job satisfaction levels in all three countries with the effect being highest in the Netherlands. Further, only in Belgium will industry sectors influence both job and life satisfaction directly and indirectly. In contrast, in Germany and the Netherlands income dissatisfaction will lower job satisfaction directly but increase it indirectly. Lastly, a higher subjective general health will increase life satisfaction in these two countries while differences in predictors to Belgium were explained by varying working conditions. The study introduces the importance of comparing industries across countries when looking at job and life satisfaction. Future research might extend the study in this direction, but also attempt at validating these results over time and including ESS-data on several years. Additionally, further predictors as well as more countries or regions should be included to extend the insights delivered by this study.

1 Introduction

Recently, businesses have come to realize the importance of providing a good work life balance in recruiting new employees and keeping current ones. In the UK, the top reason for employees to quit their job in 2015 was the prospect of achieving a better work life balance elsewhere according to recruitment specialist company Robert Half UK (Onrec.com, 2015). Nowadays, employees from all around the world put their satisfaction levels with both job and life into focus. Thus, it is of utmost importance for businesses and researchers to understand which factors, including differences as well as similarities in socio-demographics and industries, influence the relationship between job and life satisfaction and how these vary per country. Consequently, the relevant research question of this study is the following: What are the similarities in the relationship between job and life satisfaction between Germany, the Netherlands and Belgium?

In order to provide an answer, the paper will be structured as follows: Firstly, a discussion of the relevant concepts and variables will be given in order to explain all aspects taken into account within the boundaries of this specific study. In addition, the relevance and contribution to existing knowledge is given. Secondly, the research design of this study will be presented. This will include a review of the chosen database, the data preparation and the chosen methods. Thirdly, discussion and interpretation of the results will follow. The paper will then end with a conclusion on the main findings, the theoretical contribution, the managerial implications and the limitations as well as future research opportunities.

[1] Lara K. Fagin-Stief received a B.Sc. degree in International Business with a major in Marketing in 2016. At the moment, she works in International Brand Management for BMW MINI before continuing with her master studies. For contact, use: lara_katharina@gmx.de.

2 Literature Review

To understand the context of the study, the relevant terms will first be clarified. Several academics have tried to define job satisfaction; however, the most commonly adopted definition was given be Locke in 1976. He defined job satisfaction as "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976, p. 1304). More recent definitions define job satisfaction as multidimensional psychological responses to a person's job in terms of cognition, affection and behaviour (Hulin, 2003). During this study, however, the common definition by Locke will be used.

Further, life satisfaction is seen as a measure of individual's evaluations of their life as a whole (OECD, 2015). It is often regarded as part of the concept of subjective well-being (SWB), which is made up of three components: Next to the cognitive evaluation that will be termed "life satisfaction", SWB also consists of positive emotions that constitute happiness and negative emotions such as pain, anger and worry (OECD, 2013). However, the focus of this study is based on life satisfaction only.

The hitherto existing research findings that are relevant for this study will be summarized in this section. Firstly, the main theories that can explain the relationship between job and life satisfaction will be identified. Secondly, the general findings on the relationship between the two will be examined. Thirdly and fourthly, evidence for the importance of countries and industries as moderators of the relationship will be given. Fifthly, a discussion of the relevant socio-demographic variables will follow. This will be divided into several sections, starting with the control variables that possibly influence both job and life. A section on the moderators of job satisfaction and one on the moderators of life satisfaction will follow. Having explored all these variables, the relevant research questions will be stated. Lastly, the literature review will end with an explanation of the relevance and contribution of this study.

2.1 Theories explaining the relationship

The two concepts of job and life satisfaction are closely related due to potential spill-over effects from both sides as will be demonstrated within the study. Spill over effects are generally understood as events occurring in one field caused by another, often unrelated, field.

Life satisfaction in itself can be explained with the help of two theoretical approaches: the top-down approach and the bottom-up approach. Erdogan, Bauer, Truxillo, and Mansfield (2012) describe the former as life satisfaction being explainable through stable personality characteristics. The latter approach, however, bases life satisfaction on contentment in other, related areas. This would include explaining life satisfaction as a result of job satisfaction. The bottom-up approach is split up into two types: it can be seen as need-based, where life satisfaction exists due to satisfaction of financial, interpersonal, power needs or others. It can also be seen as activity-based, where the satisfaction is merely a by-product of engaging in meaningful and mindful activity that challenge individuals (Erdogan et al., 2012).

2.2 The relationship between job and life satisfaction

The relationship between job and life satisfaction itself has been researched extensively, however, Judge & Watanabe were the first to look at the direction of the relationship in 1993. They provide evidence of the existence of a causal and bivariate relationship through the use of cross-sectional analysis. Additionally, they find a larger effect of life satisfaction on job satisfaction rather than vice versa in their longitudinal analysis, which is in line with the top-down approach to life satisfaction. In general, this approach was confirmed by a number of studies, including Erdogan et al. (2012), Iverson and Maguire (2000) and Rode (2004). Iverson and Maguire (2000) also found evidence for a reciprocal relationship between job and life

satisfaction in a community context. Results of the coal mining community that was analysed additionally showed a stronger effect of life satisfaction on job satisfaction. Therefore, the bivariate relationships as well as the top-down understanding of life satisfaction seem to hold not only on a country-basis but also on an industry-basis. As such, what is essential is to understand what factors influence the bivariate relationship.

There is, however, also some evidence that is consistent with the bottom-up model: Easterlin (2006) studied the disparity in satisfaction derived from several life domains, including financial situations, family life, health and work. According to his findings, happiness can be seen as the "net outcome of both objective and subjective factors in various life domains" (Easterlin, 2006, p. 463) .

2.3 How countries make a difference

Potentially, the relationship between job and life satisfaction differs relative to which countries are analysed. As a starting point, the OECD's better life index provides data on the subjective rating of life satisfaction around countries from the whole world. For instance, the scores for Belgium, Denmark, Germany and the Netherlands are higher than the average of 6.6 on a 0-to-10 scale whilst countries such as Estonia, Greece and Portugal fall on the lower spectrum (OECD, 2015).

Taking this knowledge one step further, Delhey (2004) examined how the quality of life varies within European member states. His study was based on the first ever pan-Europe questionnaire. In doing so, he identified three main clusters within the European countries that are subject to substantially different living conditions. These three clusters are, firstly, the old Northern and Central European Member States, secondly, the old Mediterranean countries[2] and the most well off NMS countries[3] and, thirdly, the Baltic countries together with Bulgaria, Poland and Slovakia. He provides evidence that wealthier European countries, as measured by GDP per capita, show higher life satisfaction levels. In general, there seems to be a huge discrepancy between the Western and Eastern European countries. Delhey's (2004) findings lead to the question of how the relationship between job and life satisfaction differs across countries. Although the differences in job or life satisfaction as a consequence of countries analysed has been subject to research, little research has looked at the influence of countries on the relationship between job and life satisfaction.

2.4 Evidence of industries as moderators

As countries are subject to diverse economic conditions, the relation between job and life satisfaction may vary between industries. The Eurofound Working Conditions Survey analysed how working conditions, job quality, worker's health and job security differ within the financial industry (Eurofound, 2015). As each industry is exposed to economic crises to a different extent than others, the impact on jobs and the consequent job satisfaction of employees will vary. The findings provide evidence that the variables, which can be related to job satisfaction, differ significantly within the financial industry itself but also in comparison to the European average. Another example is delivered by Cimete, Gencalp, and Keskin (2003) who analysed the relationship between job satisfaction and quality of life for nurses which fall into the health services sector. They find a significant positive correlation between the two concepts. Similarly,

[2] Greece, Portugal, Spain
[3] relevant New Member States (NMS) countries: Cyprus, Czech Republic, Malta, Slovenia

Kantaka, Futrellb, and Sagerc (1992) examine the relationship of job and life satisfaction in one sales force and find strong correlations combined with no difference between job levels.

Research so far has either concentrated on a limited number of countries or industries only (Cimete et al., 2003; Delhey, 2004; Kantaka et al., 1992). However, what is missing is a comparison of the differences and similarities in the relationship between job and life satisfaction across industries between countries. It is expected that such a study will reveal that the strength of the bivariate relationship varies depending on which industry is analysed across countries. One potential reason might be the varying job characteristics between industries.

2.5 Evidence of socio-demographic factors as moderators in general

In recent studies, a number of socio-demographic factors have been used as control variables. Rode (2004) includes age, gender and household income, amongst others, while Alavi and Askaripur (2003) in their study on the relationship between self-esteem and job satisfaction go on to include the length of service for the current employer. Others have included work-life balance as a variable that potentially influences satisfaction levels (Delhey, 2004). Such variables will not only change the levels of either job or life satisfaction, but have the capability to have an effect on both simultaneously and their relationship to each other. Therefore, it is of utmost importance to recognize these variables and control for them by including them in the research design.

2.5.1 The moderating effect of gender

Gender is recognized as a control variable in many different research areas, as it is easily testable and often widely accessible. In this context it seems that in the past women showed higher levels of job satisfaction. Clark (1997) argues that as women's jobs are generally worse than men's, they hold lower expectations. These can be met more easily and will therefore be satisfied earlier. Mora and Ferrer-i-Carbonell (2009), however, now provide evidence that women continue to be less satisfied with their advancement opportunities, the general earnings and the security of their job. In their findings, it is evident that the gender gap for both earnings and job security disappears after controlling for job characteristics. Mora and Ferrer-i-Carbonell (2009) therefore argue that women apparently report lower job satisfaction levels only where the assumption of worse conditions really holds. In sum, the two researchers propose that, nowadays, young women have similar expectations and therefore similar job satisfaction levels can be reported amongst men and women. The OECD's results for life satisfaction overall only show a marginal difference in satisfaction with life amongst men and women (OECD, 2015) as do the results of Eurostat (2015). Thus, it can be expected that gender in general plays an insignificant role in predicting life satisfaction levels but might influence job satisfaction levels.

2.5.2 The moderating effect of age

Age is yet another variable that is commonly controlled for due to high accessibility. In recent years, age has been said to show an inverted U-shaped relationship with job satisfaction according to a number of researchers. For instance, Clark, Oswald, and Warr (1996) found strong evidence for this relationship, meaning that as people get older, they are more satisfied with their job, up until a certain point when satisfaction decreases again. These findings were confirmed by Hochwarter, Ferris, Perrewé, Witt, and Loewotz (2001). Robbins (1995), similarly, argues on the one hand that job satisfaction after the age of 60 will decrease and on the other hand that older people tend to be more satisfied with their job. He

reasons that older people seem to be able to acquire more experience, hold lower expectations in general and tend to be more adapted to their current working situation. Younger employees tend to have higher expectations and thus be less satisfied with their current job. He rounds up this argument by stating that due to the increased use and the changes coming from the introduction of technology, these differences in job satisfaction due to age might change in the near future.

However, Easterlin (2006) found only weak evidence for the inverted U-shaped relationship. His results suggested that happiness of individuals seems to be at its peak towards midlife. He reasons that people tend to experience increased levels of happiness at this stage of life due to success at work and a growing family. However, after midlife our satisfaction with health, family and work tends to decrease, but is offset by a growing financial satisfaction. The difference in happiness between midlife and after-midlife, therefore, is not huge according to one of the more recent studies (Easterlin, 2006).

Looking at the effect of age on life satisfaction, Eurostat (2015) show that the younger the respondents, the more likely they will be to report higher levels of life satisfaction. Life satisfaction in their data set decreased with age up until respondents aged 50 to 64. According to Eurostat (2015), this age group is in the time period right after initial retirement and seems to report increased life satisfaction levels. This is termed the "retirement effect" (Eurostat, 2015).

In general, research suggests that age as a variable could potentially influence the relationship between job and life satisfaction. Therefore, age will also be included as a control variable.

2.5.3 The moderating effect of education

The more educated one is, the higher is the probability to have responsibility and autonomy at work, to control one's own work, control others and control money. Hence, people expect a higher job satisfaction due to the increase in autonomy and control over one's own work (Ross & Reskin, 1992). However, Ross and Reskin (1992) show that the total effect of increased education on job satisfaction itself is zero. They propose that this zero-effect is due to the increase in expectations. However, they continue to argue in favour of the increased job satisfaction due to higher education levels as they see the zero-effect as the result of negative and positive effects cancelling each other out. Other research has concentrated on the effect of education on life satisfaction. One of the main reasons for a positive relationship to exist is that education will lead to increasing aspirations that mediate the relationship.

Past research has also found some evidence for a positive relationship between education and life satisfaction levels (Cuñado & Pérez-de-Gracia, 2012). However, the scope of this particular study is limited to Spain only. Noticeably, it was also shown that education indirectly increases life satisfaction levels through health, employment status and income (Clark & Oswald, 1994; Ferrante, 2009; Frey & Stutzer, 2002). López-Noval and Pugno (2013) further conclude that education will increase life satisfaction levels through the channels of health, finances, employment status, social participation and trust. Further, Cheung and Chan (2009) in their study on "the effect of education on life satisfaction across countries" find that life satisfaction levels are higher in those countries where the average number of years spend on education is higher. Although most research has focused on the indirect effect of education on life satisfaction, there is sufficient evidence for the fact that education does have an impact on life satisfaction - be it direct or indirect. Therefore, this study will include education as another control variable.

2.5.4 The moderating effect of work-life balance (WLB)

Delhey (2004) uses the concept of work-life balance in his study on quality of life as he argues that employees also have emotional investments in work. He therefore claims that the balance will affect

satisfaction levels with both work and life. Further, he states that the purpose of gender division was to reconcile family and paid work but that nowadays gender division per se is out-dated. In his eyes, this calls for the need of a better WLB in general. After conducting his study, he finds strong evidence that work life affects family life to a larger degree than vice versa. He found more employees to have difficulties on keeping up with their responsibilities at home due to high demands at work than employees with difficulties at work due to issues at home. As the concept of work life balance in itself consists of the ideally equal balance between time spent on work and time spent on non-work life, it is closely related to both job and life satisfaction. Therefore, it will be included as a control variable.

2.6 Evidence of socio-demographic factors as moderators of job satisfaction

Several factors influence the strength of satisfaction levels with work. Amongst the most researched is income, but others, such as autonomy levels at work have also been proven to be major influencers.

2.6.1 The moderating effect of income

As stated, Delhey (2004) finds some evidence that the wealthier European countries show increased levels of life satisfaction. However, Easterlin (1995) shows that despite a positive correlation between income and happiness, the rise in income of a population does not naturally bring about an increased happiness of the whole population. The reason for this phenomenon, also termed the "Easterlin paradox", is simply that the standards on which we judge rise with income (Easterlin, 1974). Therefore, he reveals that there is no evidence for a sustained positive effect of a country's raised income on its population's happiness in the long run.

However, it is possible that people with a high income relative to the rest of the sample are unsatisfied with their current income and therefore experience a lower job satisfaction, which in turn influences their satisfaction with life as a whole. In line with this, Alavi and Askaripur (2003) use satisfaction from salary and wages in their analysis of the relationship between self-esteem and job satisfaction. They find evidence for a significant relationship between self-esteem and satisfaction derived from salaries and wages. Thus, they conclude that employees with a high self-esteem in general will tend to be more satisfied with their job. However, they found no significant difference between levels of job satisfaction for people with different salaries and wages when taking into account the five dimensions[4]. Even though there is some evidence indicating that income levels might not influence the relationship between job and life satisfaction, this study will include a variable on satisfaction with the household's income.

2.6.2 The moderating effect of autonomy

A number of authors have included autonomy at work to see how this variable influences the derived satisfaction from work. For instance, Rode (2004) analysed how it influences job satisfaction and in return non-work satisfaction. However, his findings were insignificant.

Contrary, many others found that autonomy increases job satisfaction significantly (Lincoln & Kalleberg, 1985; Mortimer, Finch, & Maruyama, 1988; Mortimer & Lorence, 1989; Ross & Reskin, 1992). Ross and Reskin (1992), specifically, found that the effect of job autonomy on job satisfaction increases more for the well educated than for poorly educated respondents. They argue that therefore only those that are highly educated and enjoy the highest levels of job autonomy will share the same job satisfaction

[4] five dimensions of job satisfaction: satisfaction from the kind of work, the manager/supervisor, the co-workers, promotion, salary & wages

levels as the poorly educated. In line with this reasoning, autonomy at work will be included as a variable potentially influencing job satisfaction levels.

2.7 Evidence of socio-demographic factors as moderators of life satisfaction

Socio-demographic factors potentially influence the levels of life satisfaction individual's experience. For instance, Judge and Watanabe (1993) used not only age and gender but also marital status, subjective health and physical symptoms in general.

2.7.2 The moderating effect of subjective general health

The effect of subjective general health can be related to a number of studies. In Delhey's (2004, p. 2) words "good health is not only important for a sense of well-being, but also determines our ability to reach our goals". This shows the general importance of including subjective general health in analysing life satisfaction levels.

Amongst others, Alavi and Askaripur (2003) in their study on the relationship between job satisfaction and self-esteem argue that increasing self-esteem can easily lead to higher job satisfaction. Self-esteem in itself can be related back to mental general health. Further, Clark et al. (1996) find that the u-shaped relationship pattern evident between age and job satisfaction is also somewhat present between context-free mental health and age. Therefore, they conclude that "both job satisfaction and context-free mental health are affected by non-job factors of life-stage and personal circumstances" (Clark et al., 1996, p. 57). Other researchers found that subjective general health in itself will increase life satisfaction and decrease mortality rates (Chida & Steptoe, 2008), as well as decrease sleeping complaints (Brand et al., 2010) and burnout rates (Haar & Roche, 2010). Diener (1984) shows that health in general will increase life satisfaction, whilst Judge and Watanabe (1993) later confirm this findings for subjective health. This is confirmed by the results of Eurostat (2015): According to their findings, people who perceive their own health as bad will report lower life satisfaction levels and vice versa. In general, it can therefore be concluded that subjective general health, i.e. the overall health status perceived and reported by the individual respondent, has the potential to influence life satisfaction and should therefore be included in this study.

2.8 Research Questions

Based on the above discussion of the relevant research results, gender, age, education and WLB will be used in this study as control variables. These four factors will be included to check how they impact the relationship between job and life satisfaction in this particular sample of the selected European countries.

In general, most variables used can also be found in the studies by Delhey's (2004) and Judge & Watanabe's (1993). For instance, Delhey (2004) used family concept, education, health, employment, WLB, whilst Judge & Watanabe (1993) additionally looked at education, wage rate and job tenure, amongst others. This study will focus on industry sectors and subjective well-being as influencing variables of life satisfaction and industry sectors, satisfaction with household's income and autonomy at work as variables influencing job satisfaction. Although past research has looked at a number of other variables as well, including more exceeds the scope of this study.

To provide an answer, the research question will contain the following two sub-questions:

1. What effect do socio-demographic factors have on the bivariate relationship between job and life satisfaction in Germany, the Netherlands and Belgium?

2. What effect do different industries have on the bivariate relationship between job and life satisfaction in Germany, the Netherlands and Belgium?

It is important to note that this study will focus on three countries only, namely Belgium, Germany and the Netherlands. The fact that the three are geographically close explains frequent interaction between them, but research shows that they are, indeed, subject to different cultural aspects (Geert-hofstede.com, 2015). As mentioned, past research has focused on the differences in the job-life satisfaction relationship across countries; however, this study will first and foremost be focused on the similarities between the three countries. Knowing this will add value to understand how the three countries can be similarly approached and if they can be included in the same segment.

2.9 Relevance of this study

In summary, what is now needed in the world of research is a broader understanding of the factors influencing the bivariate relationship that was proven by Judge & Watanabe (1993). It is therefore necessary to extent the findings of Delhey (2004) and Eurofound (2015) on how industries and socio-demographics will similarly impact the relationship and to what extent their influence varies per country.

The study will add to the existing research by analysing the influence of socio-demographic variables as well as a selection of industries on the relationship of job and life satisfaction across countries. As the paper will be amongst the first to include various industries, it will provide a first indication and lay the groundwork for future research. Another major contribution of the study is its primary focus on the similarities existing across countries in order to help businesses understand how they can strategically combine marketing efforts and human resource management. Generally, it will deliver important managerial implications and guidelines for both businesses and governments on how to increase job and life satisfaction and, consequently, potentially also productivity. To do so, it will provide a better understanding of the factors needed to enhance the relevant conditions that will increase satisfactory levels. Discovering the relationship between job and life satisfaction and the influence of several different factors on it will help understand when and how job and life satisfaction differs. It will show what factors need to be enhanced in order to achieve an increased job or life satisfaction. For businesses that want to increase job satisfaction at their organisation, this study aims at providing an overview on how this is to be achieved. Should managers try to improve the satisfaction with income or give employees more autonomy? Or do they need to start improve the life satisfaction of their employees before targeting satisfaction with jobs?

3 Research Design

The framework, as seen in figure 1, illustrates that, first of all, the bivariate relationship between job satisfaction and life satisfaction will be examined to check for spill over effects (H1, H2, H3). To confirm the bivariate relationship, first found by Judge and Watanabe (1993), the following hypotheses are proposed:

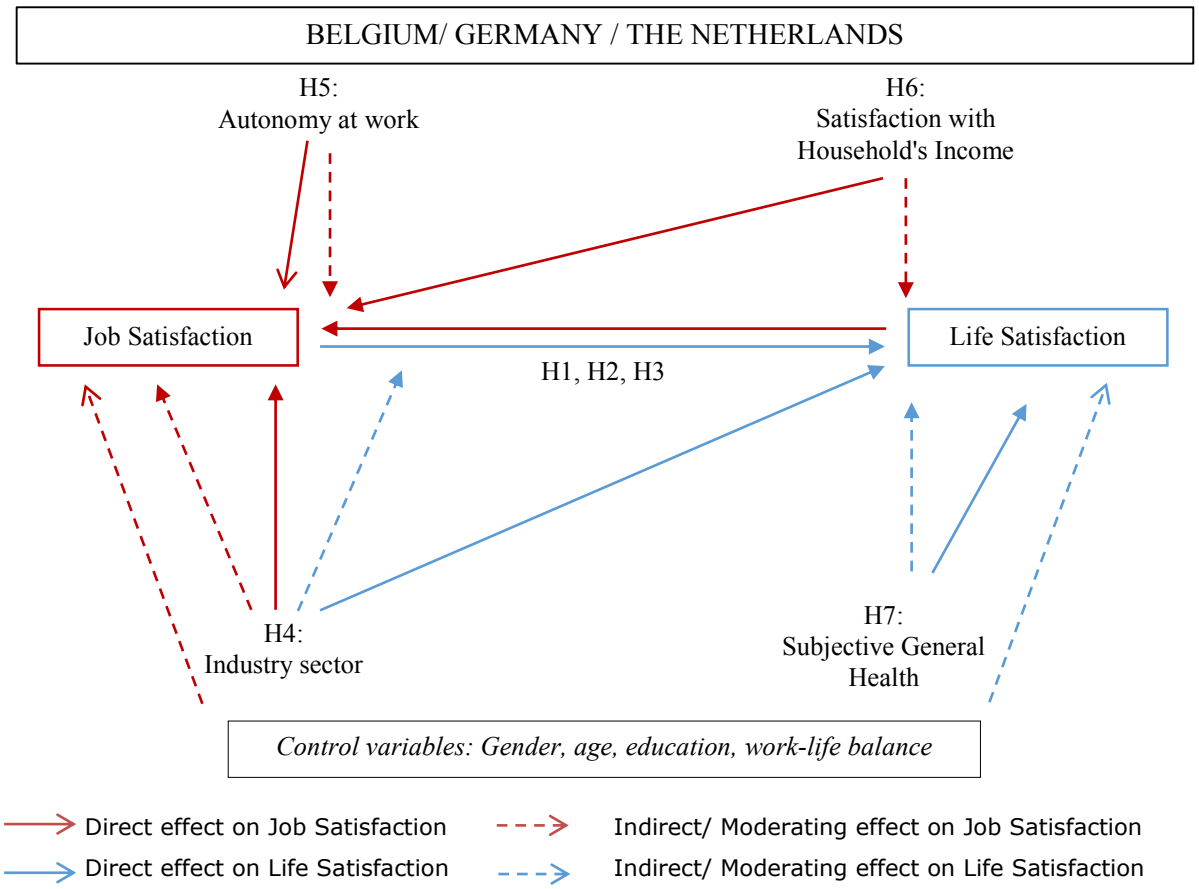
H1: Life satisfaction significantly influences job satisfaction for all three countries.

H2: Job satisfaction significantly influences life satisfaction for all three countries.

Based on their findings, it is hypothesized:

*H3: The influence of life satisfaction over job satisfaction is **larger than** the influence of job satisfaction over life satisfaction for all three countries.*

Figure 1: General Research Design



Further, the relationship is subject to two types of moderators, namely industries and several socio-demographic variables. The influence of these moderators on the strength of the relationship is expected to change per country.

In line with Delhey (2004), differences in the strength of the bivariate relationship are expected between the industries selected. It is further expected that the influence of industry sectors on job satisfaction is higher than on life satisfaction. The type of industry one works in directly changes working environments, responsibilities, working hours and conditions and other factors. Thus, the type of industry directly influences job satisfaction whereas the influence on life satisfaction is rather indirect through job satisfaction itself. Therefore, the following is hypothesized:

*H4a: The selected industry sectors **influence** the bivariate relationship between job and life satisfaction **to a different degree**.*

*H4b: There is a **larger, moderating** impact of industry sectors on job satisfaction than on life satisfaction for all three countries.*

As seen in the literature review, autonomy at work and income satisfaction are two of many socio-demographic factors that can be expected to have an impact on job satisfaction (Alavi & Askaripur, 2003; Easterlin, 1995; Rode, 2004; Ross & Reskin, 1992). Due to higher levels of autonomy at work employees might feel empowered and at the same time responsible for contribution. Such feelings will increase their satisfaction with their current job. At the same time, satisfaction with income generally can be interpreted

as a feeling of correct compensation and valuation of one's work, translating into higher job satisfaction. Therefore, the direct and indirect effects can be hypothesized as:

*H5a: Autonomy at work **directly increases** job satisfaction.*

*H5b: Autonomy at work **positively moderates** the effect of life satisfaction on job satisfaction.*

*H6a: Satisfaction with the household's income **directly increases** job satisfaction.*

*H6b: Satisfaction with the household's income **positively moderates** the effect of life satisfaction on job satisfaction.*

The literature reviews also showed that we can expect an influence of socio-demographic factors on life satisfaction. However, the scope of this study only allows inspecting the direct and indirect effects of subjective general health on life satisfaction. It is expected that the better the subjective general health, the higher the life satisfaction reported. This should also be true for indirect effects as a better health can be expected to lead to better performance results at work and thus to better satisfaction at work. Thus:

*H7a: Subjective general health **directly increases** life satisfaction.*

*H7b: Subjective general health **positively moderates** the effect of job satisfaction on life satisfaction.*

3.1 Data set

The data required for this study will be extracted from the "European Social Survey" (ESS) data set. The ESS has been conducted every two years since 2001 within Europe to gather data on several factors describing patterns in attitudes, beliefs and behaviours within each round (Europeansocialsurvey.org, 2015). So far, seven rounds of data have been gathered, with the latest being published in October 2015. In each round, the minimum sample size is 1,500 respondents, or for countries that have a population smaller than 2 million a minimum sample size of 800. Another requirement is a minimum target response rate of 70% (ESS, 2012b). In this way, the full coverage of each population is ensured.

One limitation is that the data collected is not consistent as more countries were added in later rounds and temporary topics were covered in some rounds next to the standard ESS topics. In order to fulfil the requirements of this study, the round selected has to include data for all three relevant countries and all selected variables. Although round 7, which is based on year 2014, was recently published, this analysis will concentrate on data provided for round 6 which is based on 2012. This is mainly due to the fact that the most recent data does not provide information on two crucial variables (job satisfaction and work-life balance).

In the sixth round, the survey covers 29 countries and employs the most rigorous methodologies (ESS, 2015). The survey involves strict random probability sampling and detailed translation protocols as done for all sampling rounds of the European Social Survey (ESS, 2012b). The hour-long face-to-face interviews include questions on a variety of core topics repeated from previous rounds of the survey, namely "media and social trust", "politics", "subjective well-being", "gender, household", "socio demographics" and "human values". Additionally, two modules were used in the 2012 surveys covering "personal well-being", which was first introduced in 2006 during round 3, and "democracy" (ESS, 2015).

3.2 Respondents

The respondents selected for the sample have to be older than age 15 and live within the relevant country. For all rounds, random probability methods were applied to ensure cross-sectional data (ESS, 2012b). In this particular study, only responses of employed survey participants can be included to ensure that unemployed or retired participants do not influence the levels of job satisfaction and hence the relationship

between job and life satisfaction. The data set of round 6.0 provides a sample size of 1869 respondents for Belgium, 2958 for Germany and 1845 for the Netherlands. In total, 54.697 respondents from all 29 countries participated in the survey. When controlling for paid work, the sample sizes are reduced to 953 respondents for Belgium, 1608 for Germany and 991 for the Netherlands, respectively (see Table 1, page 23).

3.3 Data preparation

The data for round 6 was filtered based on whether or not the respondent is currently in paid work. In addition, only data for the three relevant countries was included in the further analysis. In order to include variables with nominal scales in the regression dummy variables were created. This applies to industry sectors and satisfaction with the household's income. In the following section, the variables will be explained in detail as well as how they were transformed or created.

3.4 Variables

This section explains on what questions of the ESS survey round 6 the variables that are used in this study are based and how they were transformed, if applicable. Information stems directly from the European Social Survey's online platform or their reports (ESS, 2012a, 2012b, 2015). In general, if respondents indicated "not applicable" for a specific question, the answer was coded as 66 in the original dataset. Similarly, refusal is 77, answer "don't know" is 88 and no answer is coded as 99. A 0-to-10 Likert scale in the survey such as the following was used in order to make sure that it is symmetric and equidistant in order to approximate interval ratios.

Extremely										Extremely
Dissatisfied					Neutral					Satisfied
0	1	2	3	4	5	6	7	8	9	10

3.4.1 Employment filter

In order to only include respondents that are employed, the data was pre-selected based on the variable "icpdwrk: Interviewer code, respondent in paid work". The survey's question F17d determines whether the respondent is currently in paid work.

Answer opportunities include:

1) In paid work
2) Not in paid work.

3.4.2 Job satisfaction

Question F35b of the survey asks "All things considered, how satisfied are you with your present job?" Respondents rated the question on a scale from 0 to 10, where 0 indicates "extremely dissatisfied" and 10 means "extremely satisfied".

3.4.3 Life satisfaction

Question B20 of the survey asks "All things considered, how satisfied are you with your life as a whole nowadays? Please answer using this card, where 0 means extremely dissatisfied and 10 means extremely satisfied." Based on a scale from 0 to 10, respondents indicated their satisfaction levels.

3.4.4 Work-life balance (WLB)

Question F35c is the basis for the variable work-life balance (WLB). The relevant question reads "How satisfied are you with the balance between the time you spend on your paid work and the time you spend on other aspects of your life?" Answers are provided on a scale of 0 to 10, with 0 representing extreme dissatisfaction and 10 being extreme satisfaction.

3.4.5 Gender

Question F21 asks for the gender of the respondent with answer options 1) Male and 2) Female. This variable was recoded as a dummy variable with 1 for males and 0 for females.

3.4.6 Age

Based on question F31b, the calculated age of respondents is used for this numeric variable. The European Social Survey selected only participants older than 15 years.

3.4.7 Years of full-time education completed

The variable "education" is based on question F16 asking for the years of full-time education completed. It should be noted that this variable is not based on the different levels of education per se, but on the amount of years respondents spent in education as was also done by Cheung and Chan (2009). This is due to the fact that education systems within Europe differ and are incomparable.

The literal question used is "About how many years of education have you completed, whether full-time or part-time? Please report these in full-time equivalents and include compulsory years of schooling." Interviewers rounded up or down to the nearest whole year.

3.4.8 Subjective general health

In the survey, question C7 asked "How is your health in general? Would you say it is..." with answer options:

1) Very good
2) Good
3) Fair
4) Bad
5) Very bad.

For the regressions, this scale is reversed so that a high number on the scale for subjective general health indicates a high and good rating.

3.4.9 Satisfaction with the household's income

The original survey variable "hincfel" based on F42 in the survey is used to show the satisfaction respondents have with their current household income. Respondents could tick 4 answer options for "Which of the descriptions on this card comes closest to how you feel about your household's income nowadays?"

1) Living comfortably on present income
2) Coping on present income
3) Difficult on present income
4) Very difficult on present income

As the answers to this variable are categorical, three dummy variables were created. The base line used is "coping on present income" whilst the others were coded into dummy's. As typical, a value of 1 in the

data set indicates that the respondent chose the dummy as an answer option whilst a 0 means that the individual chose one of the other two dummies or the base line reply.

3.4.10 Autonomy at work

Autonomy is based on two variables by creating the mean values per respondent. Autonomy is seen as the freedom employees experience in how they structure their work (Robertson). The sixth round of ESS provides data for two questions measuring autonomy, namely F27-28. They state "I am going to read out a list of things about your working life. Using this card, please say how much the management at your work allows/allowed you to decide how your own daily work is/was organised?" and "Using this card, please say how much the management at your work allows/allowed you to influence policy decisions about the activities of the organisation?" Answer options for both questions were based on a Likert scale ranging from 0 "I have/had no influence" to 10 "I have/had complete control".

These questions can be used as a means to detect autonomy as they ask for the autonomous power the respondents hold at work in designing their own daily work as well as policy decision-making. Therefore, the new variable "autonomy" was created as a mean of question F27 and F28.

3.4.11 Industry sector

The variable "industry" is based on question F31 asking "What does/did the firm/organisation you work/worked for mainly make or do?" As there are 99 answer options, this variable was recoded into "industry type" with the following categorical answer options:

1) Primary industry, including agriculture, mining, quarrying etc.
2) Secondary industry, i.e. manufacturing sector
3) Wholesale & retail
4) Private services
5) Public services
6) Miscellaneous

With these answer options, categorical information is given. Therefore, five dummy variables were created for answer options two to six. Option one, i.e. the primary industry, is used as a base line reply.

3.5 Method

Once selected, the data set will then be processed and analysed with the help of SPSS to detect the true relationship between the variables and draw conclusions on the relevant implications. To do so, descriptive statistics, a correlation analysis and an ordinary least squares (OLS) regression will be used to highlight the most relevant factors influencing the satisfaction relationship between the three countries. As any linear regression, the OLS regression assumes that the dependent variable is a function of the independent variables used. For instance:

$$Y = a_0 + a_1 * X_1 + a_2 * X_2 + \cdots + a_N * X_N$$

Where Y = Dependent variable
X_{0-N} = Independent variables 0 - N
a_{0-N} = Model coefficients for variables 0 - N

Specifically, the regressions are:

(1) $Job\ Satisfaction = \alpha + \beta_1 * Life\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education$

(2) $Life\ Satisfaction = \alpha + \beta_1 * Job\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education$

(3) $Job\ Satisfaction = \alpha + \beta_1 * Life\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education + \beta_6 * Income\ Satisfaction + \beta_7 * Autonomy + \beta_8 * Industry$

(4) $Life\ Satisfaction = \alpha + \beta_1 * Job\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education + \beta_6 * Subjective\ general\ health + \beta_7 * Industry$

The main advantage of OLS regressions is that the sum of squared differences between actual and predicted values of the dependent variable is minimized in selecting the appropriate predicted value for the model output. Thus, this type of linear regression guarantees more accuracy. However, linear regressions are subject to a number of constraints. Therefore, before regressing the data, it will be scanned for outliers that could potentially change results. If outliers exist, a second set of regressions will be run excluding these. To detect any cross-correlation that will lead to large coefficients in the model output, a correlation analysis will also be performed.

4 Data analysis

As mentioned, after filtering the data set provided by ESS (2012a) and including only employed respondents from Belgium (953 respondents), Germany (1608 respondents) and the Netherlands (991 respondents), a total of 3,552 respondents is included in the data set as seen in table 1.

Table 1
Filtered data set

	Working respondents
Belgium	953
Germany	1608
Netherlands	991
Total	3552

Table 2 shows the distribution results for the variables selected amongst the three countries. For job satisfaction, respondents from all three countries reported values around 7 to 8 scale points on average, thus indicating strong satisfaction. The Netherlands seems to provide the highest mean with 7.76 and the lowest standard deviation of 1.56. Belgians follow closely (mean of 7.64, standard deviation of 1.67) whilst Germans not only have the lowest average score of the three countries but also the highest volatility in their replies based on the standard deviation of 2.09.

Similarly, all three countries provide a 7-point average for life satisfaction indicating clear satisfaction. Moreover, Dutch people yet again reported the highest satisfaction levels on average (mean of 7.96 and standard deviation of 1.56). Belgians follow closely with a mean of 7.56 and a standard deviation of only 1.51, whilst Germans reported the lowest satisfaction levels of the three countries with a mean of 7.52 and a slightly higher volatility of 1.92. Strikingly, satisfaction levels for life are higher for both Germany and the Netherlands than for job satisfaction, whereas Belgians seem to score closely on both job and life satisfaction.

Table 2
Variable distributions per country

		N	Mean	SD	Skewness	Min	Max
Job Satisfaction	Belgium	948	7.64	1.67	-1.41	0	10
	Germany	1574	7.44	2.09	-1.14	0	10
	Netherlands	983	7.76	1.56	-1.41	0	10
Life Satisfaction	Belgium	948	7.56	1.51	-1.26	0	10
	Germany	1574	7.52	1.92	-1.16	0	10
	Netherlands	983	7.96	1.56	-1.41	0	10
WLB	Belgium	948	6.82	1.96	-0.78	0	10
	Germany	1574	6.38	2.35	-0.44	0	10
	Netherlands	983	7.08	1.79	-0.89	0	10
Age	Belgium	948	41.59	11.79	0.01	15	75
	Germany	1574	48.09	18.31	-0.01	15	99
	Netherlands	983	51.00	18.35	0.04	15	93
Yrs. Education	Belgium	948	2.46	0.73	0.04	1	5
	Germany	1574	2.48	0.70	0.83	1	6
	Netherlands	983	2.62	0.79	0.43	1	6
S.G. Health	Belgium	948	4.09	0.65	-0.32	2	5
	Germany	1574	3.80	0.78	-0.35	1	5
	Netherlands	983	4.05	0.66	-0.37	2	5
Autonomy	Belgium	948	6.06	2.79	-0.50	0	10
	Germany	1574	5.91	2.86	-0.35	0	10
	Netherlands	983	6.35	2.72	-0.71	0	10

Average scores for work life balance are lower than for job or life satisfaction individually and range between 6.38 for Germany and 7.08 for the Netherlands. Again, the Netherlands provide the highest score with the lowest standard deviation (1.79) and Germans reported the lowest scores on average but were also more volatile in the distribution of the responses (standard deviation of 2.35). Compared to the job and life satisfaction results, this makes intuitive sense as work life balance is closely related to both job and life satisfaction and general tendencies should be similar; as is the case.

It should be noted that for job satisfaction, life satisfaction, work life balance and autonomy at work the 11-point scale was fully used by all three countries as minimum (=0) and maximum (=10) values are the extreme points on the scale. This indicates that in all three countries the scale was fully used which is not always the case when comparing between cultures.

Table 3 shows the gender distribution for the three countries. It is evident that, in general, there were slightly more male respondents than female ones in each of the three groups. The distribution is most equal in the Netherlands with 51.9% of male respondents and 48.10% of females.

Table 3
Gender distribution per country

Selected Countries			Frequency	% Percent	Valid Percent	Cumulative Percent
Belgium	Valid	Male	515	54.00	54.00	54.00
		Female	438	46.00	46.00	46.00
		Total	953	100.00	100.00	
Germany	Valid	Male	860	53.50	53.50	53.50
		Female	748	46.50	46.50	46.50
		Total	1608	100.00	100.00	
Netherlands	Valid	Male	514	51.90	51.90	51.90
		Female	477	48.10	48.10	48.10
		Total	991	100.00	100.00	

Interestingly, there is quite some variance in the age distribution of the three countries as seen in table 2. The highest mean is found in respondents from the Netherlands who were 51 years old on average. In Germany, respondents were 48 on average and Belgians were 41 years old. The oldest respondent was 99 and came from Germany. In the Netherlands, the eldest was 93, which is close to the German maximum age. Belgians, however, were only up to 75 years old. This matches the fact that the lowest standard deviation in the age distribution is found in Belgium with 11.79.

The average of years of education completed is highest for the Netherlands with 2.62. However, the standard deviation is also highest with 0.79 (see Table 2). Germans follow with a mean of 2.48 years of education (standard deviation of 0.70) before Belgians who spent 2.46 years educating themselves (standard deviation of 0.73).

In all three countries respondents rated their subjective general health above three on average, which indicates it to be "fair". In Belgium and the Netherlands, the mean was even higher than four, indicating a "good" health level. Looking at the results, it should be noted that Germany, which holds the lowest mean and the highest standard deviation with 0.78, was the only country where respondents made use of the full spectrum of the scale. In Belgium and the Netherlands, no one indicated their general health level to be "very bad" (see Table 2). Reasons for this can either be that in those two countries nobody felt that their general health level should be seen as "very bad", the scale or the definition of "subjective general health" was interpreted differently or cultural behaviour did not allow for the full use of the scale to its lower ends.

As the variable for satisfaction with the household's income is split up into dummies, looking at means and standard deviations does not make sense. Rather, it is helpful to look at frequency distributions. Table 4 shows that in all three countries the majority lives comfortably on the current income or is able to cope. In Belgium, however, more respondents reported being able to cope (42.8%) than being able to live comfortably (40.2%). In addition, 14.9% of participants said that they find it difficult to live off the current household's income in Belgium. In Germany, only 8.7% were in the same situation and found it difficult to cope. However, the majority of Germans of 52.8% is only able to cope compared to 36.6% who are able to live comfortably. Only in the Netherlands were the majority of participants able to live comfortably on the current income (51.8%) with a large proportion also being able to cope (40.2%). Amongst Dutch respondents, therefore, the fewest share of people reported finding it difficult (6.9%) or very difficult to cope (1.1%)

Dutch respondents reported the highest autonomy at work on average with a mean of 6.35, followed by the Belgians with 6.06 and then German respondents who valued their autonomy at 5.91 on average (see Table 2). In general, standard deviations are quite high for an 11-point scale with all of them being above 2 points based on the output provided by table 2.

Table 4
Satisfaction with Household`s total net income

Selected Countries			Frequency	% Percent	Valid Percent	Cumulative Percent
Belgium	Valid	Living comfortably	383	40.2	40.2	40.2
		Coping	408	42.8	42.8	83.0
		Difficult	142	14.9	14.9	97.9
		Very difficult	20	2.1	2.1	100.0
		Total	953	100.0	100.0	
Germany	Valid	Living comfortably	588	36.6	36.6	36.6
		Coping	848	52.7	52.8	89.5
		Difficult	139	8.6	8.7	98.1
		Very difficult	30	1.9	1.9	100.0
		Total	1605	99.8	100.0	
	Missing	Refusal	2	,1		
		Don't know	1	,1		
		Total	3	,2		
	Total		1608	100.0		
Netherlands	Valid	Living comfortably	511	51.6	51.8	51.8
		Coping	396	40.0	40.2	92.0
		Difficult	68	6.9	6.9	98.9
		Very difficult	11	1.1	1.1	100.0
		Total	986	99.5	100.0	
	Missing	Refusal	2	,2		
		Don't know	3	,3		
		Total	5	,5		
	Total		991	100.0		

As the industry variable is split up into dummies, frequency distributions will be analysed in percentages. Inspecting table 5 shows that in all three countries the majority of respondents seem to work in private or public services with more than 30% each. In Belgium and the Netherlands public services even account for close to 40% (38.41% in Belgium, 39.96% in the Netherlands). In Germany, the manufacturing industry is the third most popular sector with 19.71% of German respondents working there which is no surprise given the German car industry. For Belgium, 14.48% work in manufacturing, whilst for the Netherlands this group does not reach the 10% level (only 9.49%). However, more Dutch respondents worked in wholesale & retail (12.82%) than Germans (10.95%) or Belgians (10.91) did. In all three countries, the primary sector and miscellaneous make up less than 5% together.

Table 5

Industry sector distribution per country

Selected Countries			Frequency	% Percent	Valid Percent	Cumulative Percent
Belgium	Valid	Primary sector	6	0.63	0.63	0.63
		Manufacturing	138	14.48	14.48	14.48
		Wholesale & Retail	104	10.91	10.91	10.91
		Private services	306	32.11	32.11	32.11
		Public services	366	38.41	38.41	38.41
		Miscellaneous	4	0.42	0.42	0.42
		Total	953	96.96	96.96	
Germany	Valid	Primary sector	38	2.36	2.36	2.36
		Manufacturing	317	19.71	19.71	19.71
		Wholesale & Retail	176	10.95	10.95	10.95
		Private services	511	31.78	31.78	31.78
		Public services	536	33.33	33.33	33.33
		Miscellaneous	30	1.87	1.87	1.87
		Total	1608	100.00	100.00	
Netherlands	Valid	Primary sector	28	2.83	2.83	2.83
		Manufacturing	94	9.49	9.49	9.49
		Wholesale & Retail	127	12.82	12.82	12.82
		Private services	326	32.90	32.90	32.90
		Public services	396	39.96	39.96	39.96
		Miscellaneous	13	1.31	1.31	1.31
		Total	991	100.00	100.00	

4.1 Synopsis

Based on the above analysis of variable distributions, the following picture can be drawn: There were slightly more male respondents for all three countries, although the distribution is rather equalized. Age-wise, the typical respondent in the Netherlands and Germany is around 50 years old whilst the average Belgian is 10 years younger. The oldest respondent was a German.

In all three countries, satisfaction levels are high for both job and life. Dutch respondents reported the highest means for both variables, followed by Belgians and then Germans. Strikingly, in Germany and the Netherlands satisfaction levels reported for life were higher than for job. The opposite was the case in the Belgian data set. The average scores for work life balance are, generally speaking, lower than for job and life satisfaction but still confirm the results from job and life satisfaction.

Respondents in the Netherlands reported the longest time of education completed on average with just above 2.5 years. Germans and Belgians followed closely. Health wise, respondents in the Netherlands and Belgium indicated good levels whilst Germans rated their own general health to be fair, on average. Germans were the only nation amongst the three making use of the full scale when reporting subjective general health.

Looking at the job life, autonomy at work is seen to be highest in the Netherlands and lowest in Germany. The frequencies of income satisfaction results showed that the majority of participants from Belgium and Germany were only able to cope on the current income rather than live comfortably. In the Netherlands, however, the clear majority was able to live comfortably.

The main industries that respondents work in are private and public services. This is true for all three countries. Additionally, the manufacturing sector is one of the main employers for German respondents.

Strikingly, average scores for Germany were lowest for job and life satisfaction, work life balance, subjective general health and autonomy at work.

4.2 Requirements for OLS

Before running the regression, the qualitative variables were analysed with the help of frequencies and the quantitative variables by means of SPSS's option "explore" which shows frequencies and histograms as well as boxplots. Conventionally, it is important to check the sample size first in order to guarantee a high generalizability. According to Tabachnik and Fidell (2001, p. 117) one will need more than $50 + 8 * m$ where m is the number of independent variables. In this study, 16 independent variables are used when counting the dummy variables separately. Therefore, 178 cases would be required to provide generalizability and therefore scientific value added. As the total data set consists of 3552 respondents and not less than 950 cases per country, this study provides a high potential for generalizability.

The first requirement for OLS regression is that the dependent variable needs to be continuous. Most of the quantitative variables, apart from age and years of education, are based on a Likert scale, which is not regarded as continuous scaling. However, the 11-point scales are equalized, meaning that they have equal distances from the middle point to both extreme ends, and can therefore approximate interval ratios. Thus, OLS regression can be used with job or life satisfaction as dependent variable.

4.2.1 Outliers

Next, boxplots need to be investigated to identify outliers. It should be emphasized that multiple regression can be very sensitive to outliers who will influence results due to their extreme scores (Pallant, 2005, p. 143). In this data set, most quantitative variables did include a number of outliers. However, in a 0-to-10/ 0-to-4 Likert scale design, outliers representing answer options 10 or 0/ 4 or 0 can be disregarded as the answer options differ only little in comparison to the mean. Additionally, the large sample size gives less power to outliers and they can therefore be disregarded.

4.2.2 Normality

Another requirement before running a regression is to check for normality, which exists when the residuals are normally distributed amongst the dependant variable scores (Pallant, 2005, p. 143). The check was done by inspecting table 2. Life satisfaction, job satisfaction and work life balance have a strong negative skew. Similarly, subjective general health and satisfaction with the household's income have a slight negative skew. This indicates that more data is found in the left tail than expected from a normal distribution. However, as the sample sizes for the three countries are not lower than 953 (Belgium) based on table 1, the Central Limit Theorem can be expected to hold and therefore normality can be assumed.

4.2.3 Linearity

Ideally, one needs to check for linearity. Regression results will help show linearity which exists when there is a straight line relationship to be seen between residuals and the dependent variable scores (Pallant, 2005, p. 143). Both the scatter plots from model 3 and model 4 as well as the regression results as seen in Table 13 and 16 confirm this picture.

4.2.4 Multicollinearity

According to Pallant (2005, p. 149) the independent variable should have some kind of relationship with the dependent variable. A correlations table will provide this information. The Pearson product moment correlation coefficient is commonly calculated but works for parametric statistics only. However, since most of the variables chosen are not continuous and since some dummy variables are included, the Spearman's rank order correlation (rho) will be used (Pallant, 2005, p. 110) as an alternative.

In general, correlation tables help detect the existence of multicollinearity. This is the case whenever the independent variables tested are highly correlated with an r value of 0.9 or larger (Pallant, 2005, p. 142). It might also be the case that singularity exists in some form, which happens when one independent variable actually proves to be a combination of a number of others. Multiple regression does not work well if multicollinearity or singularity exists, which is why these should be checked for (Pallant, 2005, p. 142). Singularity would exist if the income satisfaction variable were to be included next to the dummy variables created for the different satisfaction levels. Since this is not the case, singularity is probably not an issue. The correlation output for the three countries helps analyse if a relationship between the independent and dependent variables exists and if multicollinearity appears to be a problem.

4.2.5 Interpretation of correlation tables

The correlation tables 6-8 will be interpreted as done by Pallant (2005, p. 126). Specifically, the following rules can be applied when interpreting r: r=|0,10| to |0,29| is small correlation, r=|0,30| to |0,49| is a medium correlation and r=|0,50| to |1,0| is a large correlation. It is important to not only check for strength but also the direction of the correlation, i.e. positive or negative. A negative correlation translates into high values in one variable that lead to low values in the correlated variable.

When comparing the correlation matrixes between the three countries, the following should be recognized: Life and job satisfaction have a relatively high correlation compared to most other variables. Further, work life balance is always more correlated with job satisfaction than job satisfaction is correlated with life satisfaction. However, the correlation between WLB and life satisfaction is lower than the one between job and life satisfaction. This indicates that the relationship between work life balance and job satisfaction is stronger than between work life balance and life satisfaction. The R-values are medium strong and positive with 0,468 for Germany (table 7), 0,442 for Belgium (table 6) and 0,346 for the Netherlands (table 8). Thus multicollinearity does not seem to play a role here. Moreover, based on these results WLB could potentially be more based on job than on one's life satisfaction.

Table 6
Correlations for Belgium

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Job satisfaction																	
2. Life satisfaction	.360**																
3. WLB	.442**	.302**															
4. Gender	.018	.036	.027														
5. Age	.129**	.012	.072*	-.016													
6. Yrs. education	.000	.062	-.030	0.010	-.087**												
7. Subj. gen. health	.151**	.176**	.124**	.007	-.150**	.144**											
8. Autonomy	.348**	.142**	.083*	-.060	.183**	.129**	.045										
9. coping inc.	.187**	.313**	.091**	-.004	.064*	.199**	.112**	.208**									
10. living comfortable inc.	.187**	.313**	.091**	-.004	.064*	.199**	.112**	.208**	1.000**								
11. difficult inc.	-.093**	-.254**	-.073*	-.013	-.040	-.165**	-.023	-.108**	-.343**	-.343**							
12. very difficult inc.	-.054	-.175**	-.032	-.032	-.001	-.005	-.046	-.025	-.120**	-.120**	-.061						
13. Primary sector	-.004	-.044	-.031	-.047	.049	-.066*	-.059	.004	-.011	-.011	.041	-.012					
14. Manufacturing sector	-.003	.032	.028	-.110**	-.029	-.132**	-.001	-.065*	.058	.058	-.021	-.039	-.033				
15. Whole sale and retail	-.023	-.010	-.027	.035	-.022	-.114**	-.015	.023	-.026	-.026	.052	-.051	-.028	-.144**			
16. Private services	-.032	-.048	-.087**	-.138**	-.054	.005	.001	.064	-.014	-.014	-.029	.025	-.055	-.283**	-.241**		
17. Public services	.071*	.060	.098**	.142**	.081*	.215**	.024	-.026	.0128	.013	-.003	.005	-.063	-.325**	-.276**	-.543**	
18. Miscellaneous	-.047	-.048	-.022	.038	.032	-.055	.041	.019	.046	.046	-.027	.104**	-.005	-.027	-.023	-.045	-.051

** p < 0.01
* p < 0.05

Table 7
Correlations for Germany

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Job satisfaction																	
2. Life satisfaction	.367**																
3. WLB	.468**	.306**															
4. Gender	.037	.029	.083**														
5. Age	.010	.031	.020	.038													
6. Yrs. education	-.052*	.045	-.119**	-.034	-.007												
7. Subj. gen. health	.138**	.275**	.076**	-.006	.004	.109**											
8. Autonomy	.242**	.140**	.043	-.067**	.011	.179**	.066**										
9. coping inc.	.146**	.305**	.130**	-.014	-.005	.164**	.150**	.179**									
10. living comfortable inc.	.146**	.305**	.130**	-.014	-.005	.164**	.150**	.179**	1,000**								
11. difficult inc.	-.143**	-.250**	-.119**	-.003	.012	-.080**	-.142**	-.087**	-.234**	-.234**							
12. very difficult inc.	-.084**	-.164**	-.066**	.019	-.002	-.077**	-.059*	-.068**	-.105**	-.105**	-.042						
13. Primary sector	.004	-.045	-.039	-0,038	-.002	-.029	.010	.096**	-.050*	-.050*	.025	-.021					
14. Manufacturing sector	.015	.043	.039	-.208**	-.016	-.081**	-.004	-.081**	.016	.016	-.008	-.034	-.077**				
15. Whole sale and retail	-.031	-.048	-.041	.088**	.004	-.102**	-.042	.022	-.064*	-.064*	.027	.025	-.055*	-.174**			
16. Private services	-.031	-.040	-.019	-.080**	.035	.064*	.020	.084**	.017	.017	.023	.024	-.106**	-.338**	-.239**		
17. Public services	.030	.052*	.023	.211**	-.015	.088**	.012	-.058*	.030	.030	-.034	-.010	-.110**	-.350**	-.248**	-.483**	
18. Miscellaneous	.026	-.010	.005	-.009	-.025	-.022	-.014	-.007	-.010	-.009	-.026	.015	-.021	-.068**	-.048	-.094**	-.097**

** p < 0.01
* p < 0.05

Table 8
Correlations for the Netherlands

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Job satisfaction																	
2. Life satisfaction	.323**																
3. WLB	.346**	.213**															
4. Gender	-.517	-.011	.040														
5. Age	.031	.015	-.006	.046													
6. Yrs. education	-.029	.100**	-.068*	-.009	-.007												
7. Subj. gen. health	.111**	.237**	.099**	.012	.055	.093**											
8. Autonomy	.334**	.140**	.089**	-.088**	.001	.157**	.075*										
9. coping inc.	.161**	.289**	.100**	-.040	.031	.179**	.178**	.186**									
10. living comfortable inc.	.161**	.289**	.100**	-.040	.031	.179**	.178**	.186**	1.000**								
11. difficult inc.	-.100**	-.208**	-.077*	.074*	-.003	.121**	-.143**	-.105**	-.280**	-.280**							
12. very difficult inc.	-.003	-.118**	.022	-.006	-.052	.009	-.042	-.036	-.109**	-.109**	-.029						
13. Primary sector	.007	-.016	-.021	-.079*	-.002	-.063*	.011	.025	-.078*	-.078*	.026	-.018					
14. Manufacturing sector	.002	-.031	-.046	-.174**	-.027	-.094**	-.052	-.062	-.003	-.003	-.020	-.034	-.055				
15. Whole sale and retail	-.047	-.008	.008	.023	.019	-.111**	.067*	.015	-.021	-.021	.027	.046	-.065*	-.124**			
16. Private services	.010	.007	-.012	-.133**	-.013	.038	-.001	.073*	.038	.038	-.020	.028	-.119**	-.227**	-.268**		
17. Public services	.015	.034	.055	.237**	.012	.121**	-.003	-.067*	.024	.024	.007	-.027	-.139**	-.264**	-.313**	-.571**	
18. Miscellaneous	-.019	-.033	-.078*	-.040	.032	.033	-.056	0.025	-.048	-.048	-.031	-.012	-0.020	-.037	-.044	-.081*	-.094**

** p < 0.01
* p < 0.05

Comparing correlations with industries between the countries, it can be seen that in all three countries the industry sectors are correlated with each other. Further, few of the sectors are correlated with income satisfaction dummies.

In Belgium, public services are the only sector that is correlated with job satisfaction; none of the others are correlated with job, life satisfaction or work life balance (table 6). The correlations are weak in general, apart from the correlation between public and private services, which is strong with -0.543. This indicates that if a respondent worked in public services, he will not work in private services. Miscellaneous sectors are not correlated with the rest of the sectors but are correlated with finding it very difficult to cope on current income. Reasons for this can possibly be that in smaller industries not listed there is not enough economic activity, thus income levels are lower than in other industry sectors.

In Germany, apart from the public services sector, which is correlated with life satisfaction, none of the industry sectors is correlated with job or life satisfaction, or work life balance (table 7). The same holds for the Netherlands (table 8), although here miscellaneous is the only sector that is negatively correlated with work life balance. This means that those working in miscellaneous will have a lower work life balance than others, potentially connected to the fact that incomes are lower and they need to spend more time working to earn enough money.

In Belgium, years of education are negatively correlated with the primary, manufacturing and wholesale & retail sector. An explanation for the negative correlation might be that there exist a lot of jobs where university degrees are not needed in these sectors. For instance, manufacturing includes assembly line work, primary sectors include agricultural work and companies often train employees for wholesale & retail in a couple of months. However, the amount of years of education is positively correlated with public

services. All these correlations are relatively weak. In Germany and the Netherlands, similar pictures are drawn from the correlation matrix. Specifically, in Germany, even though there is no correlation between years of education completed and primary sectors, there is a significantly positive (but still weak) one with private services.

It should be noted that in Germany and the Netherlands, the private service sectors are weakly and positively correlated with autonomy, indicating that in these a generally higher level of autonomy exists. On the other side, there is also a negative but weak correlation with public service sectors and autonomy at work in both these countries. In Belgium, none of this is the case.

Age in Belgium is only positively correlated with job satisfaction and not with life satisfaction or WLB. There is also a weak but positive relationship with autonomy and coping or living comfortably on the current household income. Further, a negative relationship holds with years of education and subjective general health. This makes intuitive sense, since an older respondent will have had more time to spend it on educating himself and at the same time the older we get, the worse our health level gets. At this point it should be noted, that in Germany and the Netherlands, age is not correlated with any of the variables tested against.

According to table 6, there are possibly more Belgian females working in manufacturing and private services than Belgian males, but more males working in public services than females. This information is based on the fact that a negative correlation draws into the direction of 0, which was the code for females, while a positive one goes into the direction of 1 and thus coded males. In Germany, the same distribution holds, however, more males seem to work in wholesale & retail as well. Additionally, males seem to have a slightly higher work life balance. If gender increases, i.e. approximates 1 and indicates males, then autonomy will decrease since the correlation is negative. This is unexpected, since males traditionally receive jobs with more autonomy. The same result exists for the Netherlands, where the correlation is even more negative, but still weak. Additionally, more Dutch women seem to work in the primary sector, the manufacturing sector or in private services, whilst more Dutch men work in public services.

In Belgium, years of education are not correlated with job or life satisfaction or with work life balance, but are, however, positively but weakly correlated with coping and living comfortably on current income, but weakly negatively with having difficulties coping on income. This makes sense since if the amount of years in education is higher, one is more able to get a better-paid job. If education levels are lower, the job is worse and income will be lower as a consequence.

Subjective general health is positively correlated with job and life satisfaction as well as WLB, age and coping or living comfortably on household income in all three countries. Even though the relationships are mostly weak, it can be seen that in all three countries subjective general health is more correlated with life than with job satisfaction. This justifies not including it in model 3 to predict job satisfaction. Additionally, there is a positive relationship between subjective general health and years of education completed. This makes sense since the more educated one is, the more one knows about health and how to take care of oneself, thus, the better the individual's health. Naturally, there is a negative correlation with having difficulties or strong difficulties to cope on current household's income with a lower subjective general health. This holds, however, only in Germany and the Netherlands. Further, there is a weak but

positive relationship between health and working in wholesale & retail for the Dutch data, indicating that people working in this sector tend to think of themselves as healthier than those working in other sectors (table 8).

In general, autonomy has a medium strong relationship with job satisfaction but a weak relationship with life satisfaction in the three countries. This confirms including autonomy only in model 3 but not in model 4 which will estimate life satisfaction. Further, autonomy in Belgium is positively correlated with WLB, age, education and coping or living comfortably on income. Since jobs with less autonomy are further down the ladder and worse paid; the correlation makes sense. It should be noted that in Germany, autonomy is not correlated with WLB and holds a weak to medium relationship with job and life satisfaction. Additionally, there is a negative relationship between autonomy and having (some/ severe) difficulties with coping on the current income. In the Netherlands, this holds for having some difficulties but not for finding it very difficult. Although correlations for autonomy are similar to those in Belgium, Dutch respondents working in wholesale & retail will hold higher levels of autonomy.

Lastly, the correlation tables provide information on the dummy variables of satisfaction with the current household's income. First, it should be noticed that the correlation between "coping on income" and "living comfortably on income" is 1,0 for all three countries. This indicates a strong positive correlation, i.e. whenever one was coping on income, one would also be living comfortably on the current household's income. As a statement per se, this makes sense to the degree that those who can cope seemed to automatically also live comfortably on their income. In this case, the only difference would have been if one were able to cope or not. However, since both variables are answer to one question, this is not logically possible since one respondent can only pick one answer. As said before, a value of higher than 0,9 indicates a problem of multicollinearity. This means that, potentially, due to the high correlation a small change in data or the model itself might lead to an unproportionally high change in the outcomes. However, this will not change the generalizability or predictive power of the models used, rather, it means that single results for income satisfaction might easily change. Additionally, it means that the results should be viewed in bundles and conclusions should be carefully drawn as to how much the outcomes exist due to selections of predictors only and if the same outcome would result from just looking at a single predictor.

In Belgium, coping on income and living comfortable dummy variables are correlated with all other variables except industry sectors. Additionally, it should be noted that both of these variables have a medium relationship with life satisfaction but only a weak one with job satisfaction and all other variables. At the same time, having some or severe difficulties coping with the income is more negatively correlated with life satisfaction than with job satisfaction in all three countries. This is not surprising, since having not enough money may be based on a bad-paying job but it affects life itself and not the job per se in its consequences. Having no problems coping financially, however, means that life is less restricted. In all three countries, the variables "coping" and "living comfortably" are negatively correlated with "difficult on income" and "very difficult on income". Further, in Germany there is a weak but negative and significant relationship between coping or living comfortably and the primary sector as well as the wholesale & retail sector. In the Netherlands, there is a weak and negative relationship with the primary sector. Therefore, those who work in either of these sectors will be less likely to fall into the category of being able to cope (well) on income.

Finding it difficult or very difficult to cope on the current income is negatively correlated with job and life satisfaction and WLB in most cases in the three countries. It should be noted, that it is not correlated with gender and age in Belgium and Germany, meaning that there are no typical demographics

that have difficulties surviving on their income. This also holds for the Netherlands apart from a positive, weak relationship between "difficult on income" and gender, meaning that slightly more Dutch males will have difficulties. Moreover, it should be noted that in Belgium, there is no relationship with subjective general health, but in Germany there is a weakly negative one with both of these variables. In the Netherlands, there is a significant one for "difficult on income" only. All in all, this means that if there is a negative relationship, respondents who had a lower subjective general health level also had difficulties coping on income.

The analysis of the correlation matrices shows that Belgian correlations differ slightly from Germany and the Netherlands in some cases, for instance when looking at the relationships with industry sectors. Additionally, caution should be applied when analyzing results on income satisfaction, since there is multicollinearity between coping and living comfortably on income and correlation values for the two are always the same. Other than that, all requirements for multiple regression are met. Therefore, the next section will proceed to analyze these.

4.3 Regression results

The 4 models presented in section 3.5 will now be analysed in order to conclude if the proposed hypotheses hold. In order to do so, each model will be analysed separately at first, before concluding on rejecting or accepting the relevant research hypothesis. Throughout the regression tests, a significance level of 95% or better will be applied[5]. Only significant predictors will be included in this analysis to gain an understanding of life and job satisfaction and all predictors not mentioned did not meet the significance level. Further, it should be understood that the variables are presented with the most significant first and the least significant last reported in the tables.

As the variables included are not all based on the same scale, it is difficult to compare them with normal regression coefficients. Therefore, standardized ß-coefficients are reported that result from standardizing the variance of both dependent and independent variables to 1. The coefficients then show how many standard deviations the dependent variable, e.g. job satisfaction in model 1, will change per increase in standard deviation in the predictor variable, e.g. life satisfaction in model 1. For job and life satisfaction the same 11-point scale was used and therefore unstandardized coefficients will be included in the analysis.

4.3.1 Model 1

Model 1 was the following: $Job\ Satisfaction = \alpha + \beta_1 * Life\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education$. Results can be found in table 9.

The results for model 1 show that, according to the adjusted R squared values, the model is most able to explain the variation around the mean of Germany's data, namely 27.6% of it. The same model is able to explain 24.8% of the variation in Belgium's data and 26.8% in the data from the Netherlands. The F-statistic tests the null hypothesis that the fit of a model containing no predictors (intercept-only model) and the tested model are equal. Since all F-statistics are significant at the 1% level, the null hypothesis

[5] If not stated differently: * $p < 0,05$ and ** $p < 0,01$ are applied.

can be rejected for all the countries and it can be concluded that the predictors are able to explain job satisfaction to some degree.

The ß-coefficients of the three regressions show that in all three countries work life balance is better able at explaining job satisfaction than life satisfaction. In the Netherlands only, age is also a significant predictor of job satisfaction following WLB and life satisfaction. The control variables gender and years of education do not significantly influence job satisfaction in all of the three countries.

H1: Life satisfaction significantly influences job satisfaction for all three countries.

As the life satisfaction ß-coefficients for all three countries are significant at the 1% level, hypothesis 1 cannot be rejected and is assumed to be true. In all three countries, life satisfaction increases job satisfaction based on the positive ß-coefficients.

Table 9

Result from Model 1 estimating job satisfaction

	Adj. R. sq.	F	B	SE	ß
Belgium	0.248	63.823**			
(Constant)			2.974**	0.344	
WLB			0.313**	0.025	0.368**
Life satisfaction			0.258**	0.032	0.235**
Age			0.013**	0.004	0.091**
Germany	0.276	122.349**			
(Constant)			3.126**	0.28	
WLB			0.339**	0.02	0.380**
Life satisfaction			0.297**	0.024	0.272**
Netherlands	0.168	40.746**			
(Constant)			3.651**	0.37	
WLB			0.272**	0.026	0.307**
Life satisfaction			0.276**	0.038	0.219**

4.3.2 Model 2

Model 2 was the following: $Life\ Satisfaction = \alpha + \beta_1 * Job\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education$. The regression results are presented in table 10.

The adjusted R squared values are again highest for Germany with 16.8% of variation around the mean explained according to table 10. This is again followed by Belgium with 13.6% and finally the Netherlands with 10.3% of variation explained. Interestingly, the adjusted R squared values are lower for the model 2 regressions than for the model 1 regression. The F-statistics for all three regressions are significant and therefore, once again, this model can be assumed to better explain life satisfaction than an intercept-only model. For all three countries, job satisfaction is the first and therefore best predictor of life satisfaction amongst the tested ones. It has the most influence on Germany, where a 1-point higher job satisfaction will increase life satisfaction by 0.287 when using the unstandardized coefficient output. Work-life balance

is the second best predictor in all countries, followed by the years of education completed. The influence of work life balance is highest in Belgium with a significant ß-coefficient of 0.159 whilst completed years of education have the most impact on life satisfaction in the Netherlands where the ß-coefficient is 0.132. In all three regressions, the control variables gender and age do not change levels of life satisfaction.

H2: Job satisfaction significantly influences life satisfaction for all three countries.
As job satisfaction is a significant predictor in all three countries, hypotheses 2 cannot be rejected and is assumed to be true. The positive ß-coefficients show that job satisfaction increases life satisfaction in all three countries. This confirms the reciprocal causal nature of the relationship between the two variables.

H3: The influence of life satisfaction over job satisfaction is larger than the influence of job satisfaction over life satisfaction for all three countries.
In order to assume hypothesis 3 holds, the ß-coefficients of life satisfaction in model 1 and job satisfaction in model 2 have to be compared. In all three countries, the ß-coefficients of life satisfaction in model 1 are smaller than the ones of job satisfaction in model 2. It seems as if job satisfaction increases life satisfaction to a larger extent than life satisfaction increases job satisfaction. Therefore, hypothesis 3 is rejected.

Table 10
Result from Model 2 estimating life satisfaction

	Adj. R sq.	F	B	SE	ß
Belgium	0.136	30.925**			
(Constant)			4.507**	0.316	
Job satisfaction			0.245**	0.031	0.270**
WLB			0.123**	0.026	0.159**
Yrs. Education			0.128*	0.063	0.062*
Germany	0.168	65.016**			
(Constant)			3.849**	0.268	
Job satisfaction			0.287**	0.024	0.313**
WLB			0.126**	0.021	0.155**
Yrs. Education			0.24**	0.064	0.087**
Netherlands	0.103	23.756**			
(Constant)			5.297**	0.271	
Job satisfaction			0.187**	0.026	0.236**
WLB			0.09**	0.023	0.128**
Yrs. Education			0.21**	0.048	0.132**

4.3.3 Model 3

Model 3 was the following: $Job\ Satisfaction\ =\ \alpha + \beta_1 * Life\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education + \beta_6 * Satisfaction\ Income + \beta_7 * Autonomy\ +\ \beta_8 * Industry$ with the results presented in table 11, 12 and 13.

Model 3 regresses job satisfaction against life satisfaction and several other predictors including both direct and indirect, moderating effects with the help of interaction variables, as seen in table 11. Table 12 reports the summary statistics for this regression. In phase 1, job satisfaction is modelled against life satisfaction and the control variables. In phase 2, the other predictors are added. Finally, in phase 3, the model is complete with the interaction variables being added. The highest adjusted R square is, for all three countries, found in the complete models of phase 3. Amongst the countries, Belgium has the highest adjusted R square with 32.7% of variation explained, followed by Germany with 31.8% and the Netherlands with only 26.6%. Compared to the basic model 1 which was used to prove the reciprocal relationship between job and life satisfaction, model 3 therefore seemingly improves the amount of variation accounted for due to the chosen predictors added. Table 12 shows the R square change and the F change in addition to the adjusted R square to compare between the three phases. Notably, the third phase is not statistically significant by means of F value change for Germany and the Netherlands, but is significant at the 5% level for Belgium. Table 13a reveals the coefficients for model 3 and shows that for Germany and the Netherlands of all interaction variables tested only "it is difficult coping with income" has both a significant direct and a moderating effect of life satisfaction on job satisfaction.

The correlation tables show that there is an issue of multicollinearity when using "coping on income" and "comfortably living on income". However, due to insignificance of income satisfaction variables other than "difficult to cope", this is not an issue for the current study.

Table 11
Model 3 - setup of regression estimating job satisfaction

	1	2	3
Variables Entered	Life satisfaction, control variables	Predictor variables (only direct relationships)	Interaction variables (predictor variable * life satisfaction)

Table 12
Model 3 - summary of regression estimating job satisfaction

	Variables Entered	Adjusted R Square	SE	Change Statistics		F Value
				R Square Change	F Change	
Belgium	1	0.250	1.446	0.254	64.078**	64.078**
	2	0.319	1.378	0.076	11.695**	32.742**
	3	0.327	1.370	0.013	2.293*	21,901**
Germany	1	0.277	1.780	0.279	121.616**	121.616**
	2	0.316	1.731	0.043	11.027**	53.019**
	3	0.318	1.729	0.005	1.509	34.375**
Netherlands	1	0.167	1.451	0.172	40.669**	40.669**
	2	0.262	1.365	0.101	15.032**	26.058**
	3	0.266	1.362	0.009	1.573	17.232**

It should be noted that the baseline in this regression for income satisfaction is "coping on current income" and the baseline for industry sectors is "primary sector". Thus, all results following in this analysis are compared to these two. Additionally, table 13a then reveals the following:

For Belgium, in phase 1 next to life satisfaction, the control variables WLB and age are also significant predictors of job satisfaction. For Germany and the Netherlands, this holds for life satisfaction and WLB only. Thus, age seems to play a role in predicting job satisfaction in Belgium but not in Germany and the Netherlands. However, when adding the direct links between the predictors and job satisfaction, the statistical significance of age for predicting job satisfaction in Belgium disappears. For Belgium, in phase 2, autonomy at work is the only added predictor of job satisfaction with a significant and positive beta of 0.278. In both Germany and the Netherlands, years of education and autonomy at work are added. Notably, whilst a higher level of autonomy at work continues to increase job satisfaction levels, more years of education seem to decrease job satisfaction levels. Additionally, the dummy variable "difficult on income" is able to significantly decrease job satisfaction directly for Germany. Thus, the more Germans feel that it is difficult to cope on their income, the lower their job satisfaction. This makes intuitive sense and continues to hold in phase 3 for Germany.

Moreover, in the complete model the moderating effect of "difficult on income" is also significant for Germany. However, it can be seen that once the interaction variables are added, the direct effect of "difficult on income" on job satisfaction is even more negative whilst the indirect effect is positive in Germany. This means, that the lower ability to cope on the current income decreases job satisfaction more through the direct effect than through the indirect effect. For instance, the direct effect of difficulties with income on job satisfaction of Germans is -0.201 whilst the indirect effect is 0.313. Specifically, if a respondent felt it was difficult to cope on income they seemed to generally report higher life satisfaction levels, which in turn increased job satisfaction levels. As in Germany, this direct and indirect effect of "difficult on income" exists in the Netherlands, although the model shows a lower significance of 5% only. In both countries, industries do not seem to have a significant direct or moderating effect on job satisfaction, neither do the rest of the different income satisfaction levels. Only once a respondent was unable or found it difficult to cope on the current household's income did he experience lower job satisfaction levels. Notably, life satisfaction does not significantly change job satisfaction in the complete model with all added predictors for Germany and the Netherlands, but will increase job satisfaction when strengthened through the moderating effect of "difficult on income". Output for the complete model therefore seems to be similar for Germany and the Netherlands, but is different for Belgium. Here, life satisfaction is also an insignificant predictor in the complete model; however, some industries show to have a significant direct and indirect effect on job satisfaction. Particularly, working in wholesale and retail or in private services will directly increase job satisfaction, but decrease the effect of life satisfaction on job satisfaction. On the contrary, if a Belgian respondent works in manufacturing, this will increase the effect of life satisfaction on job satisfaction significantly. All variables not mentioned but tested as predictors did not significantly change job satisfaction levels.

In general, it can be seen that in Belgium, autonomy and industry sectors are able to predict job satisfaction, but in Germany and the Netherlands autonomy and income dissatisfaction as well as years of education do so. What is to be seen in the following discussion is why these differences exist with special regards to the difference in predictive power of industry sectors.

*H5a: Autonomy at work **directly increases** job satisfaction.*

This means that the more freedom, i.e. autonomy at work a participant held, the more satisfied he or she was with the current job. As autonomy at work is a significant predictor in all three complete models, this hypothesis cannot be rejected and is assumed to hold. The effect is highest in the Netherlands.

*H5b: Autonomy at work **positively moderates** the effect of life satisfaction on job satisfaction.*

This would mean that more autonomy at work would increase the participant's life satisfaction and therefore indirectly increase job satisfaction, as a higher life satisfaction will lead to an increase in job satisfaction. However, for none of the three countries selected does autonomy at work change the influence of life satisfaction on job satisfaction in any way (neither positively nor negatively). Therefore, this hypothesis is rejected.

*H6a: Satisfaction with the household's income **directly increases** job satisfaction.*

This would mean that the more satisfied one would be with the current income of the household, the higher would be the general job satisfaction. Yet, in Germany and the Netherlands it only makes a difference whether the respondent felt that he or she had difficulties coping on the current household's income. This lowered the job satisfaction levels compared to any other income satisfaction level. In Belgium, there was no significant difference in job satisfaction as a result of changing income satisfaction levels. Therefore, this hypothesis is rejected for Belgium but cannot entirely be rejected for Germany and the Netherlands. In other words, satisfaction with the household's income per se does not change job satisfaction, but dissatisfaction does.

*H6b: Satisfaction with the household's income **positively moderates** the effect of life satisfaction on job satisfaction.*

This would mean that the higher satisfaction with the household's income was, the larger the impact of life satisfaction on job satisfaction. According to the output given, life satisfaction on its own will insignificantly increase job satisfaction for Germany and the Netherlands but decrease job satisfaction insignificantly for Belgium. If a German or Dutch respondent felt it was difficult to cope on the current income, then this would lower job satisfaction directly, but indirectly increase the effect of life satisfaction on job satisfaction and therefore lead to larger job satisfaction. Consequently, there is a positive direct but negative indirect effect of income satisfaction on job satisfaction in these two countries. For Belgium, satisfaction with the household's income does not influence job satisfaction at all, neither directly nor indirectly. Therefore, in total, this hypothesis can be rejected.

Table 13
Result from Model 3 - estimating job satisfaction

			B	SE	ß
Belgium	1	(Constant)	2.76**	0.344	
		Life satisfaction	0.257	0.032	0.233**
		WLB	0.317	0.025	0.372**
		Age	0.013	0.004	0.090**
	2	(Constant)	2.570**	0.420	
		Life satisfaction	0.213	0.034	0.193**
		WLB	0.307	0.024	0.360**
		Autonomy	0.167	0.017	0.278**
	3	(Constant)	4.508**	1.008	
		WLB	0.304	0.024	0.356**
		Autonomy	0.168	0.017	0.280**
		Interaction wholesale & retail	0.511	0.158	0.740**
		Interaction private services	0.388	0.128	0.831**
		Wholesale and retail	-3.378	1.184	-0.632**
		Private services	-2.410	0.939	-0.673*
		Interaction manufacturing	0.347	0.154	0.574*
		Life satisfaction	-0.059	0.129	-0.053
Germany	1	(Constant)	3.148**	0.281	
		Life satisfaction	0.297	0.025	0.272**
		WLB	0.340	0.020	0.381**
	2	(Constant)	3.167**	0.408	
		Life satisfaction	0.248	0.026	0.227**
		WLB	0.329	0.020	0.369**
		Autonomy	0.147	0.016	0.201**
		Difficult inc.	-0.408	0.167	-0.055*
		Yrs. education	-0.151	0.066	-0.05*
	3	(Constant)	3.698**	1.141	
		WLB	0.328	0.020	0.367**
		Autonomy	0.148	0.016	0.202**
		Difficult inc.	-1.501	0.461	-0.201**
		Interaction difficult	0.180	0.070	0.150**
		Yrs. education	-0.157	0.066	-0.052*
		Life satisfaction	0.180	0.152	0.165
Netherlands	1	(Constant)	3.650**	0.370	
		Life satisfaction	0.276	0.038	0.219**
		WLB	0.272	0.026	0.307**
	2	(Constant)	3.407**	0.434	
		Life satisfaction	0.232	0.037	0.184**
		WLB	0.239	0.025	0.270**
		Autonomy	0.182	0.017	0.313**
		Yrs. education	-0.166	0.058	-0.083**
	3	(Constant)	3.62*	1.717	
		WLB	0.236	0.025	0.267**
		Autonomy	0.179	0.017	0.307**
		Yrs. education	-0.167	0.058	-0.083**
		Interaction difficult	0.256	0.105	0.289*
		Difficult inc.	-1.726	0.767	-0.275*
		Life satisfaction	0.209	0.216	0.166

4.3.4 Model 4

Model 4 was the following: $Life\ Satisfaction = \alpha + \beta_1 * Job\ Satisfaction + \beta_2 * WLB + \beta_3 * Gender + \beta_4 * Age + \beta_5 * Education + \beta_6 * Subjective\ general\ health + \beta_7 * Industry.$ Regression results can be found in table 14, 15 and 16.

As for model 3, the regression of model 4 was done in three steps, which are explained in table 14. Again, the complete model as seen above is tested in step 3, which includes job satisfaction, all control variables, as well as the direct and the moderating effect of the predictors chosen. It should be mentioned that for industry sectors, the "primary sector" was again used as the baseline and therefore all results are compared to it.

Table 14
Model 4 - setup of regression estimating life satisfaction

	1	2	3
Variables Entered	Job satisfaction, control variables	Predictor variables (only direct relationships)	Interaction variables (predictor variable * job satisfaction)

Table 15

Model 4 - summary of regression estimating life satisfaction

	Variables Entered	Adjusted R Square	SE	Change Statistics		F Value
				R Square Change	F Change	
Belgium	1	0.136	1.410	0.40	30.925**	30.925**
	2	0.144	1.404	0.013	2.406*	15.494**
	3	0.161	1.389	0.023	4.289**	11.750**
Germany	1	0.168	1.747	0.170	64.932**	64.932**
	2	0.216	1.695	0.051	17.298**	40.773**
	3	0.217	1.694	0.004	1.295	26.869**
Netherlands	1	0.103	1.195	0.108	23.756**	23.756**
	2	0.133	1.175	0.035	6.676**	14.815**
	3	0.132	1.176	0.004	.728	9.827**

Table 15 gives an overview on the summary statistics. As for model 3, the complete model 4 shows the highest adjusted R square for Belgians and Germans indicating that including the predictors as well as their moderating effects explains more of the variation than only including life satisfaction and the control variables. Only for the Netherlands does this trend not hold: The highest adjusted R squared value is found in step 2 when only the direct links but not the indirect links between predictors and life satisfaction are tested. Even though the F-value in itself is significant, the change in the F-value is not. The same phenomena can be seen for Germany when comparing the second and third step of the model. In other words, the third and complete model does not differ a lot from the second-step model, since the F-statistic

determines if the change was significantly different from zero, which seems to not be the case. It can be said though that the complete model is still a good model for all three countries in explaining the variation in the outcome variable life satisfaction. Overall, the highest R squared adjusted for the final and complete model 4 was found in Germany with 21.7% of variation explained, followed by Belgium with 16.1% and then the Netherlands with only 13.2%. The same trend was seen for model 3 estimating job satisfactions; although R squared adjusted values were generally above 26%. Thus, model 3 is better able to explain the variation in job satisfaction than model 4 is able to explain the variation in life satisfaction. The same conclusion was drawn from inspecting regression results of model 1 and 2.

Table 16 shows the regression results for model 4 including only significant predictor coefficients. In step 1, only job satisfaction and the control variables were used to predict life satisfaction. For all three countries selected, job satisfaction held the highest coefficient at this stage, thus being able to change the outcome variable life satisfaction the most. Work life balance and years of education follow afterwards. In Germany, job satisfaction has the highest impact with a coefficient of 0.287. Thus, for every 1-point change in job satisfaction, life satisfaction is increased by 0.287. The same trends were found when analysing model 2, which makes intuitive sense, as they measure the same.

The results of stage 2 look somewhat different between the three countries. Job satisfaction and work life balance continue to be the two most significant predictors of life satisfaction. However, the number of years of education is not significant for the Belgian data anymore, less significant for Germany but still the third most significant predictor in the Netherlands. In Belgium, the fourth added predictor is the dummy variable manufacturing with a significant coefficient of 0.128. Thus, if a Belgian participant were working in the manufacturing sector, he would experience an increased life satisfaction by 0.128 points. The same holds for Germany, where the manufacturing dummy is the least good predictor of life satisfaction with a coefficient of 0.125 that is significant at the 5% level only. In the Netherlands, working in manufacturing or not does not make a difference in life satisfaction. Moreover, none of the other industry dummies is a significant enough predictor of life satisfaction for any of the three countries. What does, however, make a difference is the level of subjective general health. It can be said that in all three countries, the higher the subjective general health level is reported to be, the higher the life satisfaction. The impact of subjective general health is highest in Germany with a coefficient of 0,220. Thus, for a 1 SD increase in the subjective general health level, life satisfaction will increase by 0,22 points.

Interestingly, when looking at the significant coefficients for the complete model (step 3), subjective general health continues to be an important and significant predictor of life satisfaction in Germany and the Netherlands, but does not do so in Belgium. However, more industries start playing a role: Manufacturing is not anymore a significant predictor, but instead it makes a difference whether a participant works in private services or in wholesale & retail as opposed to any other industry sector. Working in these two sectors will decrease life satisfaction by -0.775 points for private services and -0.567 for wholesale & retail. However, the moderating effects of these two variables are even more significant predictors and will positively increase job satisfaction levels, which are slightly negative but insignificant on their own. Thus, the job satisfaction coefficient would become positive, meaning that when considering the moderating effect of any of the two named sectors, job satisfaction will increase life satisfaction instead of decreasing it as otherwise.

When considering the complete model, the significance of working in manufacturing disappears in the German regression results and only works life balance, subjective general health, job satisfaction and years of education stay to be significant predictors. For the Netherlands, the same variables as mentioned in step 2 are significant predictors in step 3 apart from job satisfaction, which becomes insignificant. One

difference is, however, that in the complete model a higher work life balance and more years of education are the more significant predictors before job satisfaction.

The results raise the question as to why Belgian predictors differ from German and Dutch ones where industries do not play a significant role in the complete model. This will be explored in the discussion section.

*H7a: Subjective general health **directly increases** life satisfaction.*

According to this hypothesis, if a respondent reported a higher subjective general health level, then this respondent should, as a consequence, also experience a higher level of life satisfaction. When looking at stage 2 of model 4, the coefficient of subjective general health is significant and positive, which is in line with this hypothesis. However, when including the moderating effects with the help of interaction variables, this does not hold anymore for Belgium but continues to do so for the Netherlands and Germany. Thus, this hypothesis cannot be fully rejected.

*H7b: Subjective general health **positively moderates** the effect of job satisfaction on life satisfaction.*

According to this hypothesis, a higher subjective general health level reported would lead to an increase in job satisfaction, which will then raise life satisfaction. Since in none of the three regressions is the interaction variable between job satisfaction and subjective general health significant, this hypothesis is rejected. There is no moderating influence of subjective general health on the impact of job satisfaction on life satisfaction.

H4a: The selected industry sectors influence the bivariate relationship between job and life satisfaction to a different degree.

This hypothesis simply states that each industry will have a different influence on the bivariate relationship investigated. However, in the Netherlands and Germany, industry sectors do not play a role at all in predicting either job or life satisfaction. In Belgium and Germany, the manufacturing sector is able to influence life satisfaction levels significantly as long as only direct effects are considered. When including moderation effects, industry sectors only play a role in Belgium, namely direct and indirect effects of private services and wholesale & retail as well as direct effects of manufacturing. When looking at job satisfaction, industry sectors do not play a role in Germany but do change job satisfaction in Belgium. Again, direct and indirect effects for private services and wholesale & retail exist. Thus, industry sectors do not influence the bivariate relationship in the Netherlands, but they do in Belgium and Germany. In Belgium, the effect is larger on job satisfaction than on life satisfaction. In Germany, depending on which predictors are included, there is either no effect or a small effect on life satisfaction. The question therefore is what the relationship is between industry sectors and the other predictors.

H4b: There is a larger, moderating impact of industry sectors on job satisfaction than on life satisfaction for all three countries.

Here, it is hypothesised that the indirect effect of different industry sectors is higher on job satisfaction than on life satisfaction since industries directly influence working conditions. It seems to hold for Belgium, where more industry dummies are significant predictors of job satisfaction than of life satisfaction in the complete model. However, none of the industry sectors had a direct or moderating effect on either job or life satisfaction in the complete model in Germany and the Netherlands. Therefore, this hypothesis is rejected for Germany and the Netherlands.

Table 16
Result from Model 4 - estimating life satisfaction

			B	SE	ß
Belgium	1	(Constant)	4.507	0.316	
		Job satisfaction	0.245	0.031	0.270**
		WLB	0.123	0.026	0.159**
		Yrs. education	0.128	0.063	0.062*
	2	(Constant)	3.453**	0.458	
		Job satisfaction	0.231	0.031	0.254**
		WLB	0.112	0.026	0.145**
		Subj. gen. health	0.202	0.073	0.087**
		Manufacturing	0.550	0.270	0.128*
	3	(Constant)	5.785**	1.200	
		WLB	0.110	0.026	0.142**
		Interaction private services	0.396	0.115	0.958**
		Interaction wholesale & retail	0.444	0.142	0.713**
		Private services	-2.519	0.863	-0.775**
		Wholesale & retail	-2.756	1.077	-0.567*
		Job satisfaction	-0.111	0.157	-0.122
Germany	1	(Constant)	3.856**	0.269	
		Job satisfaction	0.287	0.024	0.314**
		WLB	0.126	0.021	0.154**
		Yrs. education	0.239	0.064	0.087**
	2	(Constant)	1.784**	0.414	
		Job satisfaction	0.258	0.023	0.282**
		WLB	0.118	0.021	0.144**
		Subj. gen. health	0.541	0.056	0.220**
		Yrs. education	0.170	0.063	0.062**
		Manufacturing	0.600	0.295	0.125*
	3	(Constant)	0.418	1.265	
		WLB	0.119	0.021	0.146**
		Subj. gen. health	0.853	0.181	0.346**
		Job satisfaction	0.447	0.162	0.488**
		Yrs. education	0.169	0.063	0.061**
Netherlands	1	(Constant)	5.297**	0.271	
		Job satisfaction	0.187	0.026	0.236**
		WLB	0.090	0.023	0.128**
		Yrs. education	0.210	0.048	0.132**
	2	(Constant)	4.055**	0.379	
		Job satisfaction	0.173	0.025	0.218**
		WLB	0.080	0.023	0.114**
		Yrs. education	0.174	0.048	0.110**
		Subj. gen. health	0.360	0.057	0.190**
	3	(Constant)	3,.42*	1.457	
		WLB	0.079	0.023	0.113**
		Yrs. education	0.172	0.049	0.108**
		Subj. gen. health	0.762	0.248	0.401**
		Job satisfaction	0.308	0.184	0.388

In summary, the regression output from model 3 leads to the following output as seen in Figure 2, while model 4, on the other hand, is visualized by Figure 3.

Figure 2: Model 3 Output

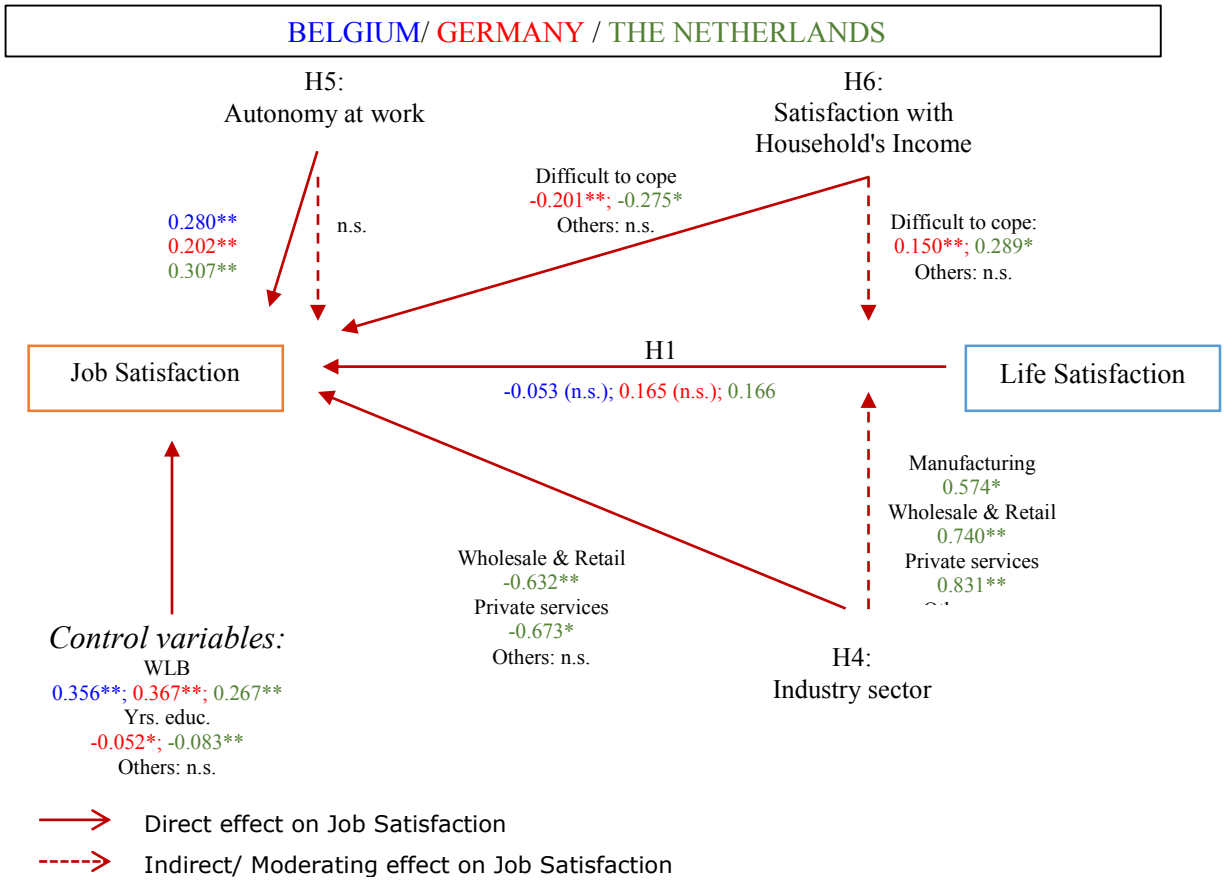
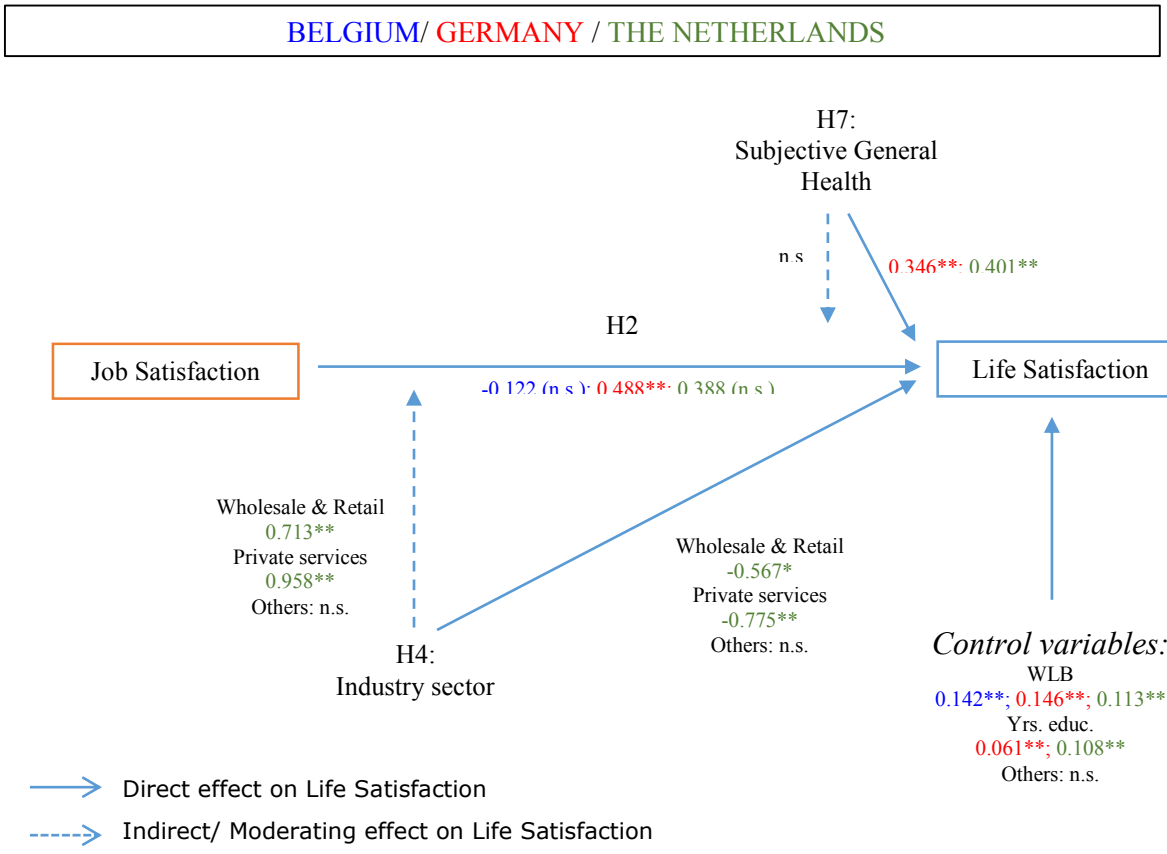


Figure 3: Model 4 Output



5 Discussion

In this section, results on the analysis of the relationship between job and life satisfaction will be interpreted and set into context. This will be done by first looking at the bivariate relationship between job and life satisfaction in general before analysing which factors play a role for job satisfaction and potential reasons. Next, the predictors of life satisfaction will be discussed. Since industry sectors were predictors used for both job and life satisfaction, discussion of these will follow at the end.

Analysis of the variable distributions and frequencies revealed that in Belgium, Germany and the Netherlands satisfaction levels with job and life are generally high. Dutch respondents appeared to be the most satisfied, followed by Belgians and then Germans. In general, means for Germany were notably lower than for the other two countries for the following variables: job and life satisfaction, work life balance, subjective general health and autonomy at work. Therefore, it seems as if Germans had less autonomy at work, a lower subjective general health level and at the same time reported lower mean values for job and life satisfaction and how they rated their overall work-life balance.

5.1 The relationship between job and life satisfaction

Regression results for model 1 and 2 confirmed that the bivariate relationship between job and life satisfaction as introduced by Judge and Watanabe (1993) holds. Therefore, hypothesis 1 and 2 were confirmed for all three countries.

Since the bivariate relationship holds, this confirms the existence of a spill over effect from one's life into one's job and vice Specifically, when one is more (less) satisfied with one's job, satisfaction with life as a whole will also increase (decrease) as a consequence. At the same time, the opposite holds true as well and satisfaction from life in general simultaneously holds the power to influence satisfaction at one's job. As such, both work and life influence each other and the two cannot be separated. It was seen that they are highly correlated with work life balance, each being able to influence the degree of work life balance. However, regression results showed that WLB itself is often not as important as job or life satisfaction per se. Only when job satisfaction is considered in the minimized model 1 will WLB be more significant than life satisfaction in predicting job satisfaction. Further, it will increase job satisfaction more than life satisfaction does.

What was striking is that average satisfaction levels for life were higher than those for job in both Germany and the Netherlands, but in Belgium the opposite was true. Precisely, Belgian job and life satisfaction levels are not different from those in Germany or the Netherlands. The only difference lies in the fact that job satisfaction is higher than life satisfaction for Belgians. The question arising is why job satisfaction in Belgium was rated better than life satisfaction. Possibly, this has to do with the fact that it depends on industry sectors and autonomy at work, whilst in the other two countries autonomy at work and income dissatisfaction play a role in predicting job satisfaction. Therefore, future research should concentrate on finding out if the difference in predictors causes job satisfaction levels to be higher than life satisfaction amongst Belgians. It would additionally be interesting to see if Belgians value job satisfaction higher than life satisfaction or not.

It was also seen that work-life balance is highest in the Netherlands, where average job and life satisfaction were also highest. Therefore, it seems as if Dutch respondents were more content overall with their current job and life situation. Consequently, it should be analysed what Dutch employers do differently than employers in other countries, in order to find out why both job satisfaction and work life balance levels are so high. Since life satisfaction levels are also the highest in the Netherlands, the reason might not be found in corporate policies but in cultural habits. This is to be analysed in further studies, e.g. by conducting a regression analysis including variable such as working hours, number of holidays per year, number of years spent in the current job and more.

Hypothesis 3 suggested that the influence of life on job satisfaction might be larger than vice versa for the three countries. However, regression results showed that the opposite is true and job satisfaction increases life satisfaction to a larger degree than life changes job satisfaction. Thus, hypothesis 3 has to be rejected. Possibly, an explanation might be that one's job is more important than expected. Employees spend most of their time at the job; and additionally job titles as well as job descriptions are commonly used in society to define oneself and they form part of everyone's identity. Thus, the importance of one's job in general is not to be underestimated, especially when regarding the fact that a higher job satisfaction has the potential to increase life satisfaction in the long term.

Companies should focus on understanding the importance of job satisfaction and that increasing job satisfaction will increase life satisfaction. Due to the reciprocal and causal relationship, an increased life satisfaction will again lead to an increase in job satisfaction. Additionally, increased levels of satisfaction in job have been found to increase productivity at work and lead to better results in the long term. This is due to the fact that a higher job satisfaction leads to more motivation to work and according to Bakker (2011) this in turn will lead to better results, which then are rewarding and will increase engagement and effectiveness. As such, a vicious cycle exists between being motivated to work due to new achievements and rewards and being rewarded due to motivation and consequent higher work effort.

5.2 Results on job satisfaction

Model 3 investigated which of the proposed predictors are significant in estimating job satisfaction. Predictors included autonomy at work, satisfaction with the household's income as well as industry sectors.

The mean scores of autonomy at work are highest in the Netherlands and lowest in Germany. Similarly, regression results confirmed hypothesis 5a saying that autonomy at work will directly increase job satisfaction. This is in line with past research (Lincoln & Kalleberg, 1985; Mortimer et al., 1988; Mortimer & Lorence, 1989; Ross & Reskin, 1992). Further, this effect was highest for the Netherlands. Thus, giving employees more autonomy as done in Dutch companies will directly lead to higher job satisfaction levels. This makes intuitive sense since more autonomy means that individual's will have more personal freedom to do the work how they feel most comfortable at it. At the same time possessing the power to decide when and how to complete a task means that their individual effort will be larger.

Hypothesis 5b further proposed that an increased level of autonomy at work might positively moderate the effect of life on job satisfaction. However, this hypothesis has to be rejected due to insignificance of the relevant variables in all three countries. When additionally considering the weak correlation between autonomy and life satisfaction in all three countries, this indicates that autonomy at work has the power to change job satisfaction levels but does not change life satisfaction, at least not directly. However, since more autonomy at work will directly translate into more satisfaction at the current job, this might potentially also spill over to a slight increase in satisfaction with life in general. However, the effect, if present, seems to be not strong enough to exist in the conducted regression.

Analysis of frequency distribution of income satisfaction in the three countries showed that in Belgium and Germany the majority of respondents was able to cope on their current income rather than live comfortably. The Netherlands was the only country of the three where the majority was able to live comfortably with their current resources. Regression analysis further showed that being dissatisfied with the current income, i.e. having difficulties coping will decrease job satisfaction directly in Germany and the Netherlands. In Belgium, there was no effect seen for different income satisfaction levels on job satisfaction. These findings lead to the rejection of hypothesis 6a for Belgium, which proposed that an increased income satisfaction level should increase job satisfaction. For Germany and the Netherlands, the hypothesis cannot fully be rejected since a decrease in satisfaction levels with income will lead to a lower job satisfaction, whilst an increase only matters if comparing having difficulties and not having these. If an individual would move from having difficulties coping to being able to cope on the current household's income, results would suggest that the job satisfaction level would increase. However, there would be no further significant increase when moving from being able to cope to living comfortably on the current household's income.

The main question arising at this point is why only dissatisfaction, i.e. problems with coping on the current income, is relevant. Reasons for this might be that being dissatisfied will mean that an individual can feel the consequences immediately. Not having any problems means that individuals will not be conscious about the importance of income satisfaction as less effort has to be put into making decisions that carry financial consequence. Thus, life will be easier and job satisfaction will be less influenced directly by the amount of income satisfaction that exists. However, if difficulties exist, the direct effect will decrease job satisfaction as individuals will be faced with financial issues constantly in their everyday life and will attribute this to their bad paying job.

These findings suggest that even though nowadays non-financial rewards are common, it is important to meet a certain threshold of income paid out to employees in order to guarantee that they do not feel less satisfied with their job. Regarding the fact that only dissatisfaction will bear consequences,

meeting the certain threshold is enough for individuals not to complain about their job. It is not necessary to raise wages after meeting this threshold, as this will not increase job satisfaction further.

Hypothesis 6b suggested that an increase in income satisfaction would positively moderate the effect of life satisfaction on job satisfaction. It was found that the opposite is true and a negative, indirect effect of income satisfaction on job satisfaction exists in Germany and the Netherlands. In total, this hypothesis can therefore be rejected. In other words, it is evident that a lower income satisfaction will increase the effect of life satisfaction on job satisfaction. Even though this might be counterintuitive at first, it is perfectly logical: The main reason might be that when individuals are dissatisfied with their income and have difficulties surviving on it, the satisfaction with life in general will become even more important and its effect on job satisfaction will increase as a consequence of that. This can also be explained as an individual's inner protective mechanism. However, for now this is only a speculative explanation for which no scientific evidence exists. This is to be clarified in future analyses.

For Belgium, satisfaction with the household's income does not influence job satisfaction at all, neither directly nor indirectly. Therefore, the following question arises: Why does income not play a role in Belgium? This is even more interesting regarding the fact that frequency distributions show that dissatisfaction in Belgium is more common with 14.9% than in Germany or the Netherlands, where 8,6% and 6,9% respectively reported to be satisfied. Also, as seen, satisfaction levels are not highest in Belgium but in the Netherlands. The question can therefore not be answered with the fact that satisfaction levels are generally high enough in Belgium to not have a problem with coping on income. A possible explanation might, on the other hand, be that since more people have a problem coping, it might be more common to not be able to ignore financial consequences of decision-making. In societies, comparisons between individuals are common and comfort is often achieved from knowing that others also face certain situations. Thus, having difficulties at time to cope with the current income, might not define job satisfaction, as the difficulties appear to be smaller in importance. Another, more straight-forward explanation might be that individuals feel they are paid a fair amount for their work in Belgium and therefore, even though they have difficulties, they do not feel as if it is the fault of their job and consequently job satisfaction is not as affected as it is in other countries.

However, what would be interesting to see is if non-financial rewards are higher in Belgium and if these make up for potential problems with coping on income. This would mean that, although the results of this study would suggest otherwise, potentially non-financial rewards have the ability to substitute lower wages in general.

5.3 Results on life satisfaction

Model 4 analysed which predictors will change life satisfaction levels. It included subjective general health as well as industry sectors.

Starting with analysing subjective general health, it was noted that Dutch and Belgian participants reported good levels of health while Germans said that their own health is fair, on average. Additionally, regression results show that hypothesis 7a, which proposed that subjective general health will directly increase life satisfaction, delivers different results for the three countries: For the Netherlands and Germany, this hypothesis cannot be rejected and is therefore held to be true. However, in Belgium subjective general health was an insignificant predictor when including all direct and indirect predictors in the model tested. This would lead to rejecting the hypothesis for Belgium. When including only direct

predictors, subjective general health did increase life satisfaction in Belgium as well. Thus, results differ depending on which predictors are included.

Since the hypothesis is not rejected for now for Germany and the Netherlands, this means that taking care of one's own health will translate to higher life satisfaction in the long term in these two countries. This confirms past research by Clark et al. (1996), Chida and Steptoe (2008), Brand et al. (2010), Haar and Roche (2010) and Diener (1984). Strikingly, however, life satisfaction is not affected by subjective general health in Belgium. Even though it does play a role when including only direct predictors, this will not tell the full story. When interpreting studies, it should always be kept in mind that even though a model is limited to a certain number of predictors, in the real world other predictors might influence the results. Thus, for now it has to be assumed that in Belgium, health does not play a role in predicting life satisfaction. Future research should then analyse in which circumstances it does as well as what reasons exists for it to not be significant. A possible reason might be that in Belgium, where the highest mean for subjective general health amongst the three countries was found, health simply does not play a major role in predicting life satisfaction as most participants did not have any problems. This logic is the same as with dissatisfaction in income: If Belgian respondents do not have any health problems, their satisfaction with life in general does not suffer as a consequence. If they had worse health states, they would feel the result immediately and only then would satisfaction with life decrease. However, this does not show in regression results, which might be due to the high general health levels or due to the explanation not being true. This is to be seen in the future.

It was also analysed whether or not subjective general health has the potential to positively moderate the effect of job on life satisfaction as proposed by hypothesis 7b. However, due to insignificance of all relevant variables, this hypothesis has to be rejected in all three countries. This means that an increased level of subjective general health will not change the effect job satisfaction has on life satisfaction. However, health was seen to be more correlated with life satisfaction than with job satisfaction, which is intuitive since personal consequences of bad health are larger than consequences on the job. This finding helps understand that in all three countries health will not change life satisfaction levels indirectly.

5.4 Importance of industry sectors for life and job satisfaction

Results of industry sector analysis showed that the main industries found amongst participants in all three countries were private and public services with roughly one third of participants working in each of these. Further, the manufacturing sector is amongst the main employers for Germans with 20% of participants working there. Potentially, this is due to the prosperity of the German car manufacturing industry. 15% of Belgian respondents also worked in the manufacturing industry, whilst in the Netherlands the wholesale & retail sector was more represented.

One tested hypothesis was 4a, which said that each industry would have a different influence on the bivariate relationship between job and life satisfaction. It was found that this hypothesis has to be rejected for the Netherlands, where industry sectors did not play a role in predicting either job or life satisfaction. However, industry sectors influence the relationship in Belgium and also in Germany to some extent. Specifically, it matters if a Belgian respondent worked in private services, wholesale & retail or manufacturing. This would increase both job and life satisfaction levels, whilst the effect is larger on job satisfaction than on life satisfaction.

It can be seen that for Germany, under some circumstances working in manufacturing shows to increase life satisfaction. Specifically, this is the case when only including direct predictors. Mean scores

showed that a lot of respondents were employed in this sector. The question now is why working in this sector has the potential to increase life satisfaction directly. A possible explanation is the constant prosperity of this sector. The car manufacturing industry is very developed and additionally supported by state substitutions, which possibly leads to more economic success and the capability of companies to offer their employees more financial and non-financial rewards. This might lead to higher life satisfaction levels. For now, this means that researchers and managers should try to find out in which ways the manufacturing industry in Germany differs from the Netherlands and Belgium and how this knowledge can be applied in raising life satisfaction in other countries.

Regarding the fact that in Belgium it made a difference in life satisfaction if a respondent works in private services, wholesale & retail or manufacturing, similar conclusions apply. For now, one question is why the most represented sector, which is public services, is not a significant predictor. It seems that conditions are better in private services, wholesale & retail and manufacturing which is why life satisfaction levels are higher in these sectors. One explanation might be that private services, in general, remuneration levels are higher than in public services. Potentially, more income leads to the increased satisfaction levels. This is to be seen in future analysis.

The main question arising from these results is why industries do not play a role in predicting either job or life satisfaction in the Netherlands. Future research should analyse if there are insignificant differences in working conditions amongst industries in the Netherlands. In order to do so, the working time and the basic minimum income should be compared.

Hypothesis 4b proposed that there is a larger, moderating impact of industry sectors on job satisfaction than on life satisfaction for all three countries. This hypothesis can be rejected for Germany and the Netherlands since predictors were insignificant in the complete model. However, for Belgium this hypothesis cannot be rejected, as more industry dummies are significant predictors of job satisfaction than of life satisfaction in the complete model. This shows that in Belgium, the choice of sector one works in has the potential to not only change job satisfaction itself or life satisfaction itself, but it will indirectly increase job satisfaction to a larger degree than it will increase life satisfaction. It should be generally kept in mind that there is no direct or indirect effect of industry sectors on job or life satisfaction in Germany or the Netherlands. Potentially, a reason for this might be that in Belgium, dissatisfaction with income is less important, but between industry sectors working conditions might differ a lot compared to Germany and the Netherlands and therefore these have a more significant influence on job and life satisfaction.

6 Conclusion

This study examined the similarities of the relationship between job and life satisfaction between the three European countries Germany, the Netherlands and Belgium. In doing so, it focused on the influence of socio-demographic factors and the influence of different industries on the bivariate causal relationship between job and life satisfaction. The socio-demographic factors evaluated on their ability to influence job satisfaction were autonomy and income satisfaction. Subjective general health and legal marital status were analysed as moderators of life satisfaction. In addition, gender, age, years of education and reported work-life balance were included as general moderators. Industry sectors were theorized as predictors of both job and life satisfaction.

After presenting the main findings of this study, sections on the managerial implications, the theoretical contribution, limitations and future research will follow.

6.1 Main findings of this study

The first conclusion of this study is the confirmation of the bivariate relationship between job and life satisfaction for the three countries Belgium, Germany and the Netherlands. The main reason for this can possibly be found in the spill over effect which describes how an increase/ decrease in job satisfaction will result in an increase/ decrease in life satisfaction and vice versa as the two cannot be separated and influence each other. Generally, it was found that Dutch respondents seemed to be most content with their life, their job as well as their overall work-life balance.

Further, results show that job satisfaction increases life satisfaction to a larger degree than vice versa. This shows the importance of job satisfaction and emphasized that trying to create better working conditions and increasing job satisfaction will lead to a greater life satisfaction but, due to the reciprocal nature of the relationship, will potentially also increase job satisfaction again in the long term. In that sense, a kind of multiplier effect might appear.

The study revealed that an important predictor of job satisfaction in Germany, the Netherlands and Belgium is autonomy at work. It will directly increase job satisfaction. This effect is highest for the Netherlands.

Further, dissatisfaction with the current household's income will decrease job satisfaction in Germany and the Netherlands. In other words, this reveals the following: After a certain threshold, allowing employees to cope on their income, is met, life satisfaction will not increase further as a result of increasing income satisfaction. Therefore, companies can apply this knowledge when designing wages and remunerate employees with non-financial means that might potentially increase job satisfaction further after meeting the threshold first.

In Germany and the Netherlands, a lower income satisfaction will also increase the effect of life satisfaction on job satisfaction. This was attributed to the fact that once income satisfaction is low, life satisfaction might win in importance. In Belgium, neither a direct not an indirect effect of income satisfaction on job satisfaction existed within this study.

However, in Belgium some industry sectors have the ability to increase job satisfaction levels both directly and indirectly. These do not play a role in Germany or the Netherlands. Specifically, Belgian participants working in private services or wholesale & retail will have reported an increased job satisfaction both directly and indirectly. There is also a direct positive effect of working in manufacturing that leads to larger job satisfaction levels. It is hypothesized that these results are due to differing working conditions.

Significant positive predictors of life satisfaction found were subjective general health levels for Germany and the Netherlands. For Belgium only industry sectors could increase life satisfaction. In particular, working in private services or wholesale & retail will again directly and indirectly increase life satisfaction levels for Belgian respondents. No explicit reasons for this difference between countries other than cultural differences or different working conditions were found.

Additionally, no indirect effects of subjective general health on life satisfaction or autonomy at work on job satisfaction were found in any of the three countries.

All in all, the main existing similarities that should be focused on are the following: The reciprocal relationship holds. Job satisfaction is predicted by a higher autonomy at work in all three countries. In Belgium, industry sectors influence both job and life satisfaction directly and indirectly. In contrast, in Germany and the Netherlands income dissatisfaction will lower job satisfaction directly but increase it indirectly and a higher subjective general health will increase life satisfaction.

6.2 Managerial implications

First and foremost, companies, C-suite and HRM managers should focus on understanding the importance of job satisfaction. Namely, an increasing job satisfaction will increase life satisfaction and through the reciprocal nature job satisfaction levels might increase further in the future. Higher job satisfaction levels will then lead to more motivation at work and in the long term potentially increase productivity.

Having seen that Dutch employees were more content with their life, their job and their work-life balance in general, HRM managers should use this knowledge to further analyse what is done in Dutch corporations that is different from Germany, Belgium or other countries. A follow up measure would then be to adapt working conditions to Dutch levels.

Increasing autonomy at work will directly increase job satisfaction, as seen in the Netherlands. Corporations should therefore proceed to adapt German and Belgian autonomy levels to the degree of the Netherlands, as well as restructure the company to include more autonomy where possible and logical. This is especially important for Germany since not only were job and life satisfaction levels lowest in this country, but also autonomy at work and subjective general health.

An increased subjective general health level will increase life satisfaction in the long term, which is important for HRM managers as this might affect job satisfaction due to the reciprocal nature. However, in all three countries health will not change life satisfaction levels indirectly. Nonetheless should managers focus on providing good health care. This is due to the correlations existing between life satisfaction and subjective general health: These indicate that increasing levels of health might translate into increasing levels of job satisfaction itself. This is to be analysed in more detail in the future.

Further, managers should realize that in order to increase job satisfaction, a certain level of income satisfaction has to be met but after this is done, job satisfaction will not increase anymore as a result of higher income satisfaction. Therefore, managers need to determine this level in practice for Germany and the Netherlands and analyse if remunerating employees with other non-financial rewards has the potential to increase job satisfaction further.

However, HRM managers should realize that these findings do not hold for all three countries and further differences might exist when including more countries in the analysis. Therefore, before making too many assumptions and including more countries than Germany and the Netherlands in translating these findings into a policy, further analysis should be conducted. It is important to keep in mind that difference will exist between Western and Eastern European countries, as found by Delhey (2004).

In general, HRM managers and company leaders should also see the opportunities in knowing that Germany, the Netherlands and Belgium, as well as potentially other Western European countries, can be approached simultaneously when creating new HR practices and campaigns. According to this study, this would make sense especially when concerning autonomy at work, subjective general health or dissatisfaction with income. In doing so, corporations can not only save resources but also work more efficiently in improving satisfaction levels amongst employees and reaching long term goals such as productivity.

6.3 Theoretical contribution

Past research has focused on the differences rather than the similarities in trying to understand the factors that influence job and life satisfaction. However, for practical applications knowing the similarities can add more value by helping managers decide how to approach the three countries in a combined manner as explained above. It will help researchers as well as practitioners segment the three countries and consequently target them in a more cost-efficient way.

What this study introduces into the relevant topic of research is the importance of comparing industries across countries. In this sense, the study shows that it is not only helpful to know the similarities across countries but also if these hold for industries. Future research, however, should replicate the study in this direction and include all European countries of the dataset. Additionally, industries could be analysed separately instead of looking at the chosen industry sectors like this study does. Further, job and life satisfaction levels should be analysed between industries to see how these potentially differ in both magnitude and predictor variables. Therefore, this study was able to lay the groundwork in including industry types as a variable influencing the relationship between job and life satisfaction.

6.4 Limitations

First and foremost, one limitation is that data used in this study is based on 2014, but it might be subject to specific economic conditions. Any general conclusion drawn from this study needs to be applied with caution. Therefore, it would be interesting to see if the same results hold when more years of data are included in the analysis. Another limitation is that the data collected by ESS is not consistent across years. Therefore, comparing results across years might be difficult. Specifically, some variables do not exist in certain rounds of data collection, such as missing data for job satisfaction and work-life balance for round 7, which is the most recent one.

The data analysis itself focused on the use of SPSS and established if the relationships hold with the means of OLS regression. The main advantage of OLS regressions is that it guarantees a high level of accuracy as the sum of squared differences between actual and predicted values of the dependent variable is minimized in selecting the appropriate predicted value for the model output. However, one drawback of OLS regression, as any linear regression, is that they are often subject to problems with outliers. As the method tries to minimize the sum of the squared error, outliers will have an unusually large effect on the resulting predicted coefficients. Another drawback is that multicollinearity is a frequent problem. When the independent variables are highly correlated, the regression model will not provide adequate coefficients. In this study, outliers were identified but not excluded, as they were all logically acceptable in their values. However, there was an issue with multicollinearity in this study. As the relevant variables were not significant, this was disregarded. Nonetheless, future research might correct for this by using a correlation analysis in combination with Variation Inflation Factors (VIF) to detect cross-correlations. Using standardized coefficients in analysing the regression output did allow comparing the results across variables and countries; however, this also often means that effects are less straightforward to read.

Before conducting a regression, the residuals need to be checked. In this study, the histograms were slightly skewed to the right, indicating that the test for normality is challenged. However, the large sample sizes allow applying the Central Limit Theorem and thus problems with normality and linearity were disregarded.

Another common limitation encountered in this study was problems with self-reporting bias. Since individuals were asked to participate in the survey and report their subjective evaluation, certain answers might be faked to the degree deemed socially acceptable by the individual or according to personal wishes. Since the ESS checks for reliability in results, this bias is minimized as far as possible but cannot be eliminated.

In addition, when using one survey across countries, cultural problems based on misunderstanding can potentially appear. Each culture will understand the questions differently due to translations, context and time. ESS controls for that and consistently reports on updated survey translations (ESS) as well as provides data on country, region and individuals (Rydland, Arnesen, & Ostensen, 2007). Specifically, ESS

uses a so-called TRAPD method to ensure equal translations: translate first, then review, adjudication, pretesting, documentation follows (ESS). Since this study included data on individuals, country and demographics, cultural differences in effect were minimized as much as possible.

However, each culture will also interpret scales differently and thus respond differently (ESS). This potentially happened for subjective general health levels where Germans were the only people that made use of the full spectrum of the scale. In general, some cultures might find it socially unacceptable to make use of the full spectrum of a scale and reporting extreme values. Therefore, it is unclear if this was the case here or if none of the Belgian and Dutch respondents felt their subjective general health should be placed at the lowest end of the scale.

6.5 Future research

Future research might extend this study and its findings by analysing the relationship between job and life satisfaction and its moderating factors across all seven rounds of the survey; thus, attempting a cross-sectional analysis over time. In order to overcome the problems of OLS regression, future research replicating this study should not only concentrate on the use of OLS regression but cross-check with multiple other tests if the relationships hold and to what extent the tests support the same conclusion.
First and foremost, further research could replicate this study in order to validate the results for all rounds as data is provided on every two years by the ESS. Further, the data set includes several other variables that might be able to explain or influence the relationship between job and life satisfaction. Thus, future research should carefully select relevant variables and explore how they influence the relationship both in isolation and in combination with others. Such variables include, amongst many others, the type of organisation, the number of employees supervised by the respondent, the respondent's allocation of free time and whether or not the respondent feels that work hinders taking care of family responsibilities or vice versa. These variables were omitted in the present study as the focus was lying on the main variables reported in past research to influence either job or life satisfaction.

It should be noted that the results found on the reciprocal relationship hold for all three countries. Therefore, future research should concentrate on not only the differences and similarities between these three, but include more countries and compare between countries of different development standards (e.g. compare MEDCs and LEDCs) or different regions (e.g. compare Europe and USA). This also applies to the analyses of predictors of job and life satisfaction.

It was seen that satisfaction levels in the Netherlands with job, life and work life balance are generally high but that for a lot of the chosen variables German averages were quite low compared to the other two countries. Future research should analyse why these differences exist and for instance focus on what Dutch employers do differently than employers in other countries. Additionally, when including more European countries, researchers and managers should try group countries together based on existing similarities.

Further, it was also seen that in Belgium, job satisfaction was higher than life satisfaction, whilst in the other two countries, the opposite was true. Therefore, future research should concentrate on finding out if Belgians value job satisfaction higher than life satisfaction or not. Since predictors in Germany and the Netherlands were quite similar but differed a lot from Belgium, it is necessary to find out what potential reasons for these differences are and if under certain circumstances Belgium shows similar predictors for job and life satisfaction as Germany and the Netherlands. It will also be helpful to see what the relationship is between industry sectors and other predictors between the three countries. Future research could additionally analyse in which industries autonomy has the largest effect on increased job satisfaction levels,

and for which types of jobs (i.e. at what kind of managerial level). It will be of added value to see what similarities exist between countries for this kind of analysis as it will help managers decide where to increase autonomy levels.

References

Alavi, H. R., & Askaripur, M. R. (2003). The Relationship Between Self-Esteem and Job Satisfaction of Personnel in Government Organizations. Public Personnel Management, 32(4).

Bakker, A. B. (2011). An Evidence-Based Model of Work Engagement. Current Directions in Psychological Science, 20(4), 265-269. doi:10.1177/0963721411414534

Brand, S., Beck, J., Hatzinger, M., Harbaugh, A., Ruch, W., & Holsboer-Trachsler, E. (2010). Associations between satisfaction with life, burnout-related emotional and physical exhaustion, and sleep complaints. World Journal of Biological Psychiatry, 11, 744-754.

Cheung, H., & Chan, A. W. H. (2009). The Effect of Education on Life Satisfaction Across Countries. The Alberta Journal of Educational Research, 55(1), 124-136.

Chida, Y., & Steptoe, A. (2008). Positive psychological well-being and mortality: A quantitative review of prospective observational studies Psychosomatic Medicine, 70, 741-756.

Cimete, G., Gencalp, N. S., & Keskin, G. (2003). Quality of Life and Job Satisfaction of Nurses. Journal of Nursing Care Quality, 18(2), 151-158.

Clark, A. E. (1997). Job Satisfaction and Gender: why are women so happy at work? Labour Economics, 8, 223-242.

Clark, A. E., & Oswald, A. J. (1994). Unhappiness and Unemployment. The Economic Journal, 104(424), 648-659.

Clark, A. E., Oswald, A. J., & Warr, P. (1996). Is Job Satisfaction U-shaped in Age? Journal of occupational and organizational psychology, 69(1), 57-81.

Cuñado, J., & Pérez-de-Gracia, F. (2012). Does Education Affect Happiness? Evidence for Spain Social Indicators Research, 108(1), 185-196.

Delhey, J. (2004). Quality of life in Europe.

Diener, E. (1984). Subjective well-being. Psvchological Bulletin, 95, 542-575.

Easterlin, R. A. (1974). Does Economic Growth Improve the Human Lot? Some Empirical Evidence. In e. Paul A. David and Melvin W. Reder (Ed.), Nations and Households in Economic Growth: Essays in Honor of Moses Abramovitz (pp. 89-125). New York: Academic Press.

Easterlin, R. A. (1995). Will raising the incomes of all increase the Hapiness of all? Journal of Economic Behaviour & Organization, 27(1), 35-47.

Easterlin, R. A. (2006). Life cycle happiness and its sources. Journal of Economic Psychology, 27(4), 463-482. doi:10.1016/j.joep.2006.05.002

Erdogan, B., Bauer, T. N., Truxillo, D. M., & Mansfield, L. R. (2012). Whistle While You Work: A Review of the Life Satisfaction Literature. Journal of Management, 38(4), 1038-1083. doi:10.1177-0149206311429379

ESS. Measuring National Context. Retrieved from http://www.europeansocialsurvey.org/methodology/measuring_national_context.html

ESS. Translations. Retrieved from http://www.europeansocialsurvey.org/methodology/translation.html

ESS. (2012a). Appendix A7: VARIABLES AND QUESTIONS, ESS6-2012. Retrieved from http://www.europeansocialsurvey.org/docs/round6/survey/ESS6_appendix_a7_e02_1.pdf

ESS. (2012b). Sampling for the European Social Survey Round VI: Principles and Requirements. Retrieved from Mannheim: http://www.europeansocialsurvey.org/docs/round6/-methods/-ESS6_sampling-_guidelines.pdf

ESS. (2015). ESS Themes. Retrieved from http://www.europeansocialsurvey.org/about/participating_countries.html

Eurofound. (2015). Financial Services Sector: Working conditions and job quality. Eurofound Working Conditions Survey.

Eurostat. (2015). Quality of life in Europe - facts and views - overall life satisfaction. Retrieved from http://ec.europa.eu/eurostat/statistics-explained/index.php/Quality_of_life_in_Europe_-_facts_and_views_-_overall_life_satisfaction

Ferrante, F. (2009). Education, Aspirations and Life Satisfaction. Kyklos, 62(4), 542-562.

Frey, B. S., & Stutzer, A. (2002). Happiness and economics : how the economy and institutions affect well-being [Press release]

Haar, J. M., & Roche, M. A. (2010). Family supportive organization perceptions and employee outcomes: The mediating effects of life satisfaction. International Journal of Human Resource Management, 21, 999-1014.

Hochwarter, W. A., Ferris, G. R., Perrewé, P. L., Witt, L. A., & Loewotz, C. (2001). A Note on the Nonlinearity of the Age-Job-Satisfaction Relationship. Journal of Applied Social Psychology, 31(6), 1223-1237.

Hulin, C. (2003). Job Attitudes. Comprehensive Handbook Of Psychology. doi:10.1002/0471264385.wei1211
Iverson, R. D., & Maguire, C. (2000). The relationship between job and life satisfaction: Evidence from a remote mining community. Human Relations, 53(6), 807-839.
Judge, T. A., & Watanabe, S. (1993). Another Look at the Job Satisfaction - Life Satisfaction Relationship. Journal of Applied Psychology, 78(6), 939-948.
Kantaka, D. M., Futrellb, C. M., & Sagerc, J. K. (1992). Job Satisfaction and Life Satisfaction in a Sales Force. Journal of Personal Selling & Sales Management, 12(1), 1-7. doi:10.1080/08853134.1992.10753893
Lincoln, J. R., & Kalleberg, A. L. (1985). Work organization and workforce commitment: A study of plants and employees in the U.S. and Japan. American Sociological Review, 50, 738-760.
Locke, E. (1976). The nature and causes of job satisfaction. Handbook Of Industrial And Organizational Psychology, 1, 1297-1343.
López-Noval, B., & Pugno, M. (2013). Understanding the Relationship between Education and Life Satisfaction. https://www.unican.es/NR/rdonlyres/F2CF6470-FBE2-45ED-9C66-870027B077D0/87554/LopezNovalPugno_abstractRome2013.pdf Retrieved from https://www.unican.es/NR/rdonlyres/F2CF6470-FBE2-45ED-9C66-870027B077D0/87554/LopezNovalPugno_abstractRome2013.pdf
Mora, T., & Ferrer-i-Carbonell, A. (2009). The Job Satisfaction Gender gap among young recent university graduates: Evidence from Catalonia. The Journal of Socio-Economics, 38(4), 581-589. doi:10.1016/j.socec.2009.02.003
Mortimer, J. T., Finch, M. D., & Maruyama, G. (1988). Work experience and job satisfaction: Variation by age and gender Work Experience and Psychological Development through the Life Span (P. D. Baltes and 0. G. Brim, Jr., Eds.), (pp. 109-155): Academic Press.
Mortimer, J. T., & Lorence, J. (1989). Satisfaction and involvement: Disentangling a deceptively simple relationship. Social Psychology Quarterly, 52(4), 249-265.
OECD. (2013). OECD Guidelines on Measuring Subjective Well-being. doi:http://dx.doi.org/10.1787/9789264191655-en
OECD. (2015). OECD Better Life Index. Retrieved from http://www.oecdbetterlifeindex.org/topics/life-satisfaction/
Onrec.com. (2015). Employees leave for a better work life balance. Retrieved from http://www.onrec.com/ news/statistics-and-trends/employees-leave-for-a-better-work-life-balance
Pallant, J. (2005). SPSS SURVIVAL MANUAL - A step by step guide to data analysis using SPSS for Windows (2nd ed.). Sydney: Allen & Unwin.
Robbins, S. (1995). Organizational behavior management. Tehran: Business studies and researches institute., 1.
Robertson, T. The Effects of Autonomy on Job Satisfaction. Retrieved from http://work.chron.com/effects-autonomy-job-satisfaction-14677.html
Rode, J. C. (2004). Job satisfaction and life satisfaction revisited: A longitudinal test of an integrated model. Human Relations, 57(9), 1205-1230. doi:10.1177/0018726704047143
Ross, C. E., & Reskin, B. F. (1992). Education, Control at Work, and Job Satisfaction. Social Science Research, 21, 134-^148.
Rydland, L. T., Arnesen, S., & Ostensen, A. G. (2007). Contextual data for the European Social Survey. Retrieved from Bergen: http://www.europeansocialsurvey.org/docs/methodology/ESS_context_sources.pdf
Tabachnik, B. G., & Fidell, L. S. (2001). Using multivariate statistics (4th ed.). New York: HarperCollins.sie