PERSONALITY AND ATTITUDES TOWARDS RISK AS PREDICTORS OF CAREER SUCCESS AND LABOUR MARKET OUTCOMES

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How could I possibly forget about you? Your forbearance gave me so much strength.

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CHAPTER 1: INTRODUCTION

Social scientists have long recognised the importance of individuals' predisposition and attitudinal traits as drivers of career choices and labour market outcomes (Li et al., 2015). For example, scholarly work in the management and organizational psychology literature provides ample evidence on how personality traits influence individuals' career choice and success (Yang & Chau, 2016; Turban et al., 2017). Studies find that certain positive personality traits such as extraversion and conscientiousness are associated with higher earnings (Nyhus & Pons, 2005) and higher job satisfaction on average (Lapierre & Hackett, 2007). In contrast, less desirable personality traits such neuroticism are associated with lower job satisfaction (Tokar & Subich, 1997; Judge & Larsen, 2001) and reduce the chances of pursuing a successful career (Semeijn, Van der Heijden, & De Beuckelaer, 2018). Similarly, studies link personality to risk-taking attitudes to explain economic and workplace behaviours (Nicholson et al., 2005; Lee, Ashton, & Shin, 2005).

More recently, the notion that personality and attitudinal traits influence labour market choices and behaviours has also gained wider acceptance among economists (Almlund, et al., 2011; Dohmen et al., 2010; Dohmen et al., 2011). This is associated with a paradigm shift from mainstream economics towards behavioural economics, which is underpinned by the idea that theoretical insights from psychology explain many economic decisions and individuals' general well-being (Kahneman, 2003). As such, insights drawn from social comparison (Festinger, 1954) and set point (Brickman & Campbell, 1971) theories have spurred a resurgence of research effort on the role of reference values, relative income, socioeconomic status and benchmarking as potentially important drivers of individuals' workplace choices and behaviours (for a review, see Layard, Mayraz, & Nickell, 2010).

The aim of this thesis is to contribute to this line of research by providing additional empirical evidence on how personality, attitudes towards risk and social comparisons influence individuals' career choices and outcomes. Specifically, the thesis seeks to find answers to four questions, which remain unresolved in the existing literature. The first question relates to the ongoing status vs. income debate (Di Tella et al., 2010) about whether individuals' wellbeing is driven mostly by income or by social status. In an effort to resolve the Easterling paradox, pointing to a weak or non-existent link between income and happiness, numerous empirical studies have used large-scale survey data to identify the antecedents of happiness and life satisfaction (Clark, Frijters, & Shields, 2008). Although status is singled out as one of the reasons for the weak link between income and happiness, there is considerable disagreement among researchers about the universality of such findings, which tend to be very context specific (Kaiser & Vendrik, 2019). Chapter 3 of the thesis sheds additional light to this controversy by exploring whether status is positively associate with life satisfaction in the context of individuals' career and occupational choice. One should expect that higher occupational prestige paves the way to a happier life. Yet, the findings suggest that, after controlling for income, the relationship between occupational prestige and life satisfaction is more complex than commonly assumed. In fact, the findings point to the existence of a curvilinear relationship between occupational prestige and life satisfaction, which is consistent with the predictions of social comparison theory (Festinger, 1954), under which people compare themselves to others. More specifically, the presence of a curvilinear relationship between occupational prestige and life satisfaction lends support to Medvec, Madey, & Gilovich (1995) silver medalist hypothesis of social comparison. Employees in moderately prestigious occupations report satisfaction scores that are lower than those reported by employees in either low prestige or high prestige occupations. Nonetheless, there is no evidence that higher occupational prestige increases the life satisfaction of female employees, which is

not surprising given well-documented gender differences in labour market attachment, career goals, and work orientations (Ngo et al., 2014). Thus, in an attempt to find some answers to the question of whether pursuing a prestigious career is likely to lead to a happier life, the thesis underscores the predicament of the 'miserable middle', i.e. the unhappy employees in middle prestige occupations. In a broader context, a main implication of such a finding is that a job or career is not necessarily the defining driver of individuals' wellbeing.

Accepting that employees are not solely defined by their job, then the second question that the thesis attempts to address is what other factors influence job satisfaction and, more broadly, life satisfaction. To offer some answers, Chapter 4 explores the determinants of job and life satisfaction, as subjective measures of career success, through the lens of personal traits. Two main traits that have attracted much attention in careers and wellbeing research are personality and willingness to take risks. Using large-scale survey data for Britain, the thesis offers additional empirical evidence on the impact of personality traits and willingness to take risks on job and life satisfaction and whether such an impact differs from their impact on pay, an objective measure of career success. One of the primary considerations is whether willingness to take risks exerts an influence on career success, which is independent of the influence of personality. This presents the possibility that willingness to take risk is an individual trait, which is distinct from the Big-Five personality traits. The findings confirm the prediction of the dispositional theory (Allport, 1927) that the expression of core personality traits, such as openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism influence key career outcomes. Controlling for these five personality traits, the analysis shows that willingness to take risks is positively associated with both earnings and life satisfaction but has no statistically significant effect on job satisfaction. In contrast, there is no evidence that willingness to take risks is associated, in a statistical sense, with job satisfaction, although personality does. These effects are robust to controlling for sociodemographic

characteristics and to using alternative estimation methods. Broadly, the emerging associations between dispositional traits and career outcomes are qualitatively similar for both genders. There is some evidence, nonetheless, that the effect of risk attitude on earnings and life satisfaction is quantitatively stronger for male employees than it is for female employees. Therefore, it emerges that although willingness to take risks is correlated with personality traits, it exerts an independent influence on earnings and life satisfaction. As such, it is important to treat personality and willingness to take risks as distinct traits so that their influence on career choices and outcomes is not conflated.

Yet, although the thesis confirms the importance of individuals' willingness to take risks as a driver of career choices and outcomes, there is a possibility that willingness to take risks is not necessarily the cause of career outcomes. Instead, individuals who are willing to take risks self-select themselves into certain occupations through a labour market sorting mechanism, which poses the question of whether its importance as a driver of career outcomes is overstated. Chapter 5 of the thesis provides some partial answers to this question by considering how individuals' willingness to take risks affects earnings in the specific context of performance-related pay. Performance-related pay provides a natural setting for exploring whether risk loving individuals earn more on average than fixed-salary workers because they self-select themselves into performance-related pay jobs. The analysis in Chapter 5 finds no evidence of selection bias, which implies that individuals do not self-select into performance-related pay. However, there is evidence of endogeneity in that individuals who are willing to take risks enjoy higher earnings in jobs that offer performance-related pay schemes. Performance-related pay has gained popularity in the UK, with many businesses striving to provide incentives to their employees to improve productivity and performance (Booth & Frank, 1999; Bajorek & Bevan, 2015). However, estimates of the quantitative effect of performance-related pay on earnings and productivity are imprecise and unreliable (Gerhart &

Fang, 2014). By incorporating willingness to take risks into the estimation procedure, the analysis of Chapter 5 allows getting more precise estimates of the wage premium associated with performance-related pay schemes. The findings are consistent with the predictions of flow theory (Csikszentmihalyi, 1990; Ilies et al., 2017), which states that individuals learn through experience or hands-on-learning to obtain a sense of knowing for the activity at hand and a sense of control.

Finally, Chapter 6 examines the question of whether personality influences individuals' decision to follow hybrid entrepreneurship as a career choice. Entrepreneurship has been extensively studied as an alternative form of employment, which offers various pecuniary and non-pecuniary benefits, not found in wage employment (Van Praag & Versloot, 2007). The entrepreneurship literature has also examined extensively the association between personality and the decision to start a new business venture (Baum, Frese, & Baron, 2014). However, there is no research specifically on the link between personality and hybrid entrepreneurship. By definition, hybrid entrepreneurship entails an engagement with a business venture while individuals continue employment as wage employees (Folta, Delmar, & Wennberg, 2010). The analysis in chapter 6 establishes an association between individuals' personality traits and the decision to become hybrid entrepreneurs and how it affects their subjective well-being. The findings support the dispositional theory (Allport, 1927), suggesting that personality can have specific life or job outcomes.

Together, the thesis makes several distinct contributions to the existing literature. First, it contributes to the careers literature by highlighting the importance of occupational prestige as a driver of life satisfaction. Life satisfaction is accepted in the existing literature as a subjective measure of career success (Shockley et al., 2016). Finding that a prestigious occupation does not necessarily increase life satisfaction raises the possibility that happiness could be the cause of career success and not the other way around (Boehm &

Lyubomirsky, 2008; Abele, Hagmaier, & Spurk, 2016). Second, the thesis contributes to the career literature by providing new evidence on how personality traits influence objective and subjective measures of career success, including pay, job satisfaction and life satisfaction. The findings are consistent with those of previous studies on how personality influences individual workplace behaviour and career choices (Penny, David, & Witt, 2011; Wille, De Fruyt, & Feys, 2013). Third, the thesis introduces employees' willingness to take risks as an added driver of career success. The empirical analysis shows that willingness to take risk has a positive effect on pay and life satisfaction, even after controlling for personality traits. Therefore, it emerges that although risk attitude is correlated with personality traits, it exerts an independent influence on earnings and life satisfaction. In contrast, there is no evidence that willingness to take risks is associated, in a statistical sense, with job satisfaction, although personality does. Such findings also contribute to recent debates in behavioural economics and social psychology about how dispositional traits influence workplace decisions, behaviours, and well-being (Borghans et al., 2008; Ferguson, Heckman, & Corr, 2011).

The thesis also contributes directly to the labour economics and entrepreneurship fields by considering individuals' willingness to take risks in the context of performance-related pay (PRP) and their decision to pursue hybrid entrepreneurship as a career choice. The link between performance-related pay and worker productivity has been debated extensively among labour economists and policymakers (Lazear, 2000; Gielen, Kerkhofs, & Van Ours, 2010). A central theme is this debate is that only employees who are willing to take risks self-select themselves into performance-related pay jobs (Cadsby, Song, & Tapon, 2007). Most of the existing empirical studies treat risk attitude as an unobservable individual trait (Jacobs, Hartog, & Vijverberg, 2009). Failure to control for such a trait biases the results on the link between PRP and productivity. The analysis in this thesis exploits unique information

on individuals' willingness to take risks, which is available in the UKHLS, to revisit how PRP impacts on productivity and other labour market outcomes.

In addition, the thesis contributes to the entrepreneurship literature by using personality traits to analyse empirically individuals' decision to engage in hybrid entrepreneurship. Although previous work in entrepreneurship has explored personality traits as drivers of entrepreneurial ventures, little evidence exists demonstrating research on whether personality influences individuals' choice of hybrid entrepreneurship. Hybrid entrepreneurship is often considered a stepping-stone towards entrepreneurship for individuals who are not prepared to aim for such a venture on a full-time basis straight away. Openness to new experiences is associated with high levels of life satisfaction for those individuals who follow hybrid entrepreneurship as an alternative form of employment.

Finally, the thesis supports the social comparison theory, dispositional theory and flow theory. Individuals determine their own social status based on how they stack up against others in order to gain evaluations about their skills and abilities. According to social comparison theory those in the mode of occupational status are prone to have more prominent tendencies to change their positions compared to others, while those at the far end are more likely to have a weaker tendency for that, which is what has been found. In dispositional theory traits are relatively stable and show individual heterogeneity. These play a role in influencing human behaviour and it is interesting to observe how these influence life and job outcomes such as being in hybrid entrepreneurship, being satisfied with job, life or report higher income. The last theory to include in this thesis is flow theory. Flow theory has documented to improve performance and self-esteem. This work identifies how this is applied in performance-related schemes.

The thesis is organised as follows. Chapter 2 reviews the literature on how personality and attitudes towards risk influence career and labour market outcomes. Chapter 3 investigates the link between occupational prestige and life satisfaction. Chapter 4 examines how personality and risk attitudes affect pay, job satisfaction and life satisfaction. Chapter 5 focuses on risk attitudes and performance-related pay. Chapter 6 explores the effect of personality and risk attitudes on individuals' decision to follow hybrid entrepreneurship. Chapter 7 discusses and reflects on the main findings.

CHAPTER 2: PERSONALITY AND ATTITUDES TOWARDS RISK IN CAREERS RESEARCH

The main aim of this chapter is to review previous work on the role of personality and attitudes towards risk as drivers of career success and labour market outcomes. The review starts with a reflective account of the notion of career success. Then, a discussion of the relationship between occupational prestige and life satisfaction follows, which sets the context for the empirical analysis of chapter 3. This is followed by a discussion of existing studies on the role of personality and risk attitudes in influencing pay, job satisfaction and life satisfaction. This discussion provides the context and theoretical background for the analysis of chapters 4 and 5. A review of the entrepreneurship literature and the role of personality provides the background for the analysis of hybrid entrepreneurship in chapter 6.

2.1. The notion of career success

Career success, as a multi-dimensional concept, is a defining dimension of an individual's identity, and it is associated with a multitude of positive outcomes for individuals and organisations (Gunz & Heslin, 2005; Arthur, Defillipi, & Lindsay, 2008, Colakoglu, 2011). Previous studies show, for example, that a successful career impacts positively on objective and subjective measures of individuals' well-being, including health (Russo, Guo, & Baruch, 2014), longevity (Kern et al., 2014) and life satisfaction (Pan & Zhou, 2013). To understand the mechanisms leading to such positive results, researchers have offered various explanations, depending on how they conceptualise the notion of career success. Those who equate career success to the build-up of financial wealth (Byrne, Dik, & Chiaburu, 2008) propose that higher-

income improves longevity because it eases access to quality healthcare. Researchers who believe that career success is about gaining nonfinancial rewards emphasise job satisfaction (Verbruggen et al., 2015) and occupational prestige (Zhan, 2015) as important drivers of an individual's well-being or life satisfaction.

Indeed, there are different views among scholars on what career success is (Heslin, 2003; Hall, 2004; Hall & Chandler, 2005; Heslin, 2005; Dries, Pepermans, & Carlier, 2008; Abele, Spurk, & Volmer, 2011; Hogan, Chamorro-Premuzic, & Kaiser, 2013; Lo Presti, Pluviana, & Briscoe, 2018). Studies define career success based on psychological outcomes and feelings arising from one's work experiences (Judge et al., 1999; Seibert, Crant, & Kraimer, 1999; Seibert, Kraimer, & Crant, 2001; Park, 2010; Ganzach & Pazy, 2015). Fu (2010) defines career success as career satisfaction, capturing the overall happiness experienced through one's choice of career. The importance of career satisfaction lies in its potential link to career commitment, which researchers identify as involvement with one's occupation (Mueller, Wallace, & Price, 1992). Earlier work by Judge et al. (1995) defines career success as the evolving sequence of a person's work achievements, irrespective of whether they are measured objectively or subjectively. Admittedly, cultural values, including lateral or hierarchical values (Nabi, 1999) influence objective components of career success such as pay and monetary rewards. Yet, subjective components, such as job and life satisfaction, cannot be neglected. This is because they offer an opportunity to detect important career outcomes, which cannot be assessed objectively (Gattiker & Larwood, 1986; Mainiero & Sullivan, 2005; Abele & Spurk, 2009). Subjective career success reflects individuals' view of their own success or self-evaluations of their career and life overall (du Toit & Coetzee, 2012). The relative weights individuals assign to objective, and subjective aspects of career success differ across countries and cultures. For example, unlike evidence based on western countries, evidence on non-western countries suggests that employees and managers alike

prioritise objective over subjective career outcomes. Yet, this dichotomy between western vs non-western culture alone does not capture the complexities and nuances observed in other national or cultural contexts (Ituma et al., 2011). Ituma et al. (2011) specify the underpinnings of career success and find evidence of achieving financial stability, social standing, advancement and expertise as the dominant factors in a non-western context. This assumption conforms to earlier classifications of tangible outcomes in the form of pay, skills and ascendancy (Jaskolka, Beyer, & Trice, 1985). Subjective appraisals of career achievements, such as career satisfaction, a sense of identity, and personal fulfilment, have overtaken pay and promotion as essential metrics of career success (Sturges, 1999; Hofmans, Dries, & Pepermans, 2008).

2.2. Occupational prestige and life satisfaction

Many employees intrinsically link career success to life success and overall life satisfaction (Sturges, 1999). This raises the question of whether a prestigious occupation necessarily leads to a satisfying life. To find some answers to this question, scholarly work explores the benefits associated with higher occupational prestige and its effect on life satisfaction, beyond the effect of financial rewards. Studies find, for example, that aiming for a high-status occupation helps individuals to gain social approval and to engage with others of similarly high socioeconomic status (Mani & Mullin, 2004; Rege, 2008). Similarly, individuals in prestigious occupations face a reduced risk of exposure to work-related stress (Moen et al., 2013), which impacts positively on job satisfaction, reduces work-life conflict, and boosts life satisfaction overall. However, advancement to a higher prestige occupation is also associated with increased costs. Research shows that although taking up a higher-level role impacts

positively on many job facets, including income, job security, and overall job satisfaction, it has a damaging effect on employees' mental health (Johnston & Lee, 2013). Equally, it is shown that high-prestige occupations are often associated with shift work, longer hours, and increased work-life conflict (Moen et al., 2013). Dierdorff & Morgeson (2013) argue that rewards in higher-status roles depend on performance, which often depends on upholding successfully social networks. However, building and preserving such social networks are likely to aggravate work-life conflict. Finally, higher-status roles usually require managing people and being responsible for others in a team, which is stressful and has a detrimental spillover effect on other domains of an employee's life (Dierdorff & Ellington, 2008).

The costs and benefits associated with advancing to higher prestige occupations often interact in a sophisticated way, which results in a curvilinear relationship between occupational prestige and life satisfaction. It is possible, for example, that employees in moderate prestige occupations experience lower life satisfaction not only compared to employees in low prestige occupations but also compared to those in high prestige occupations. Such a pattern is consistent with the silver medalist hypothesis (Medvec, Madey, & Gilovich, 1995), whereby high achievers are unhappy because they fail to be the most successful. Medvec, Madey, & Gilovich (1995) propose that silver medalists compare themselves to the gold medal winners, whereas the bronze medalists consider the alternative of not getting a medal at all. Thus, it is hypothesised that employees in moderately prestigious occupations are unhappy because they compare themselves to those holding the most prestigious occupations. On the other hand, employees in occupations at the lower end of the occupational prestige scale are happier because they consider themselves fortunate to be in employment. Chapter 3 tests this hypothesis of the presence of possible nonlinearities in the relationship between occupational prestige and life satisfaction using British data.

2.3 Social comparison theory and hypothesis development

Social comparison theory (Festinger, 1954) appears when the comparer notices similarities or differences from the target of comparison. Social comparison is unavoidable in everyday life (Collins, 1996). People compare themselves with others in a variety of dimensions such as personality, wealth, lifestyle (Wheeler & Miyake, 1992) and physical attractiveness (Tiggemann & McGill, 2004). Social comparison theory is characterized by two dimensions. In specific, by downward comparison and by upward comparison (Gerber et al., 2018). Downward comparison appears when the target of comparison is a less fortunate than the comparer to feel better or relieved (Wills, 1981). Upward comparison is comparing oneself with those who are superior or more capable than oneself (Collins, 1996). Wills (1981) and Wood (1989) asserted that downward comparisons boost self-evaluations. Gerber et al. (2018) performed a meta-analysis to find an upward comparison, which is also supported by Jang et al. (2016)'s work on Facebook social comparison. Upward comparison can provoke negative psychological responses such as anxiety (Gibbons & Gerrard, 1989), depression when compared to other people with better body (Lee et al., 2014) or better careers (Haferkamp & Kramer, 2011).

However, Wheeler & Miyake (1992) seem to suggest that upward comparison decreases subjective well-being, whereas downward comparison increase it. Future direction can follow Guimond et al. (2007) who seem to suggest that universal social comparison process across cultures should not be assumed. However, in order to understand how people, behave we need to explore how far they see they can pull it through. Exposure to upward targets may increase self-evaluations of competence and motivation when individuals believed in the possibility of change in their status (Lockwood & Kunda, 1997), thus enhancing assimilation or perceived identification. Under this argument, people will typically tend to compare with

whom they feel psychologically close. If this is correct, then individuals in low status occupations will tend to feel more satisfied with themselves because they compare with likeminded people. Similarly, high-status individuals will fare well, because there is only a downward comparison. On the contrary, people in medium status occupation will tend to compare upwards, thus increasing their dissatisfaction. Suls et al. (2002) suggest that contrast and assimilation are important in understanding individual behaviour. For that reason, several hypotheses are generated. Are medium status occupation generate assimilations? Are low status occupations generate assimilation or high-status occupation generate assimilations?

Hypothesis 1: Individuals in low prestige occupations are expected to assimilate with people from a similar background and thus tend to have high levels of satisfaction.

Hypothesis 2: Individuals in high prestige occupations are expected to exhibit a downward social comparison thus having high levels of satisfaction.

Hypothesis 3: Individuals in medium prestige occupations are expected to exhibit an upward social comparison thus having low levels of satisfaction.

Hypothesis 4: individuals in medium prestige occupations are expected to exhibit a downward social comparison thus having high levels of satisfaction.

2.4 Personality and willingness to take risk as drivers of career and labour market outcomes

The association between personality and career success has been studied extensively (Seibert, Crant, & Kraimer, 1999; Seibert & Kraimer, 2001; Hartog, Ferrer-i-Carbonell, & Jonker, 2002; Semeijn, van der Heijden, & De Beuckelaer, 2018). Research shows that

individuals with low emotional stability, low extraversion and low conscientiousness are less likely to receive opportunities for advancement (Boudreau, Boswell, & Judge, 2001). Thus, they face high levels of stress, which is damaging to their well-being (Ng & Feldman, 2014). Individuals who are open to experiences enjoy greater career satisfaction, which allows them to explore new skills and to be innovative (Furnham et al., 2002). Furnham et al. (2002) find that conscientiousness and job satisfaction are significant predictors of career success, while Hurtz & Donovan's (2000) results point out that personality traits have a contextual influence on performance.

Mueller & Plug (2006) argue that personality traits are correlated with work-related preferences, which explains why they find non-agreeableness, emotional stability, and openness to be positively correlated with wages for men. For women, it is conscientiousness and openness that are positively correlated with wages. In a similar vein, Manning & Swaffield (2008) and Schäfer & Schwiebert (2018) argue that personality traits explain gender differences in wages. Exploring the effect of personality traits on wage growth and the gender wage gap, Schäfer & Schwiebert (2018) find that conscientiousness, emotional stability and extraversion have a statistically significant impact on wages. Their decomposition analysis shows that the gender wage differential is the result of gender differences in conscientiousness and emotional stability.

Before the advent of the Big Five Model, there was a limited application of personality assessments within work organisations (Guion & Gottier, 1965). However, increasingly, researchers accepted the existence of a link between the Big Five personality traits and performance (Barrick & Mount, 1991). A strand of this more recent work on personality focuses specifically on its role as a determinant of individuals' career and labour market choices (Seibert & Kraimer, 2001; Sutin et al., 2009; Fletcher, 2013). Empirical studies explore, for example, how the Big Five personality traits are correlated with earnings (Nyhus

& Pons, 2005; Mueller & Plug, 2006; Heineck, 2011), job satisfaction (Judge, Heller, & Mount, 2002) and life satisfaction (Schimmack et al., 2004; Loundsbury et al., 2004; Soto & Luhmann, 2013). Studies also show the lack of desirable personality traits and, occasionally, personality disorders, such as narcissistic, anti-social, or obsessive-compulsive behaviour, lead to adverse workplace outcomes (Ettner, Maclean, & French, 2011). Bozionelos (2004) finds that individuals scoring high in neuroticism interpret their work-related experience negatively, thus impeding their career accomplishment. This hurts career success.

Individuals reporting high scores on extraversion, agreeableness and openness are more prone to alter their opinion after receiving new information in specific context and circumstances. Specifically, extraverts and individuals who are open to experiences are affected by adverse framing effects, agreeable individuals are affected by positive ones, while neurotic and conscientious individuals are less affected by framing effects (Nielsen, 2016). This implies that responses from extraverts, agreeable individuals, or those open to experiences are contingent on their external environment influences (news, friends, family, co-workers, and employer).

The conventional analytical approach adopted by previous studies in organisational psychology is to treat personality as a bundle of productive attributes, which have the potential to improve career and labour market decisions. This approach is consistent with the trait theorists' viewpoint that personality predisposes individuals to display certain types of behavioural patterns when exposed to different stimuli (McCrae & Costa, 2008). This approach treats risk-taking attitude as an added personality dimension, not incorporated into the Big-Five taxonomy (Paunonen & Jackson, 1996). Using ten different data sets, Paunonen & Jackson (1996) find that certain items in the broader Jackson Personality Inventory (JPI) are sufficiently independent and they do not need to be included in the Big Five model. Therefore, these items can define separate factors on their own domains. Willingness to take risks is one of those

factors, along with Energy Level and Value Orthodoxy. Contemporary personality theorising highlights the importance of impulsive behaviour and fearlessness (Corr, 2016).

Satchell et al. (2018) distinguish between prosocial risk-taking associated with fearlessness, while traits associated with impulse relate more to antisocial risk-taking. Another approach is to treat risk-taking tendency as a characteristic deeply rooted in the Big Five OCEAN model (Nicholson et al., 2005). Adopting this latter perspective, researchers confirm that there is a theoretical as well as an empirical link between the Big Five personality traits and individuals' propensity to take risks. One of the most robust findings in this subject is that conscientious individuals are less prone to take risks (Lee, Ogunfowora, & Ashton, 2005). Boyce et al. (2016) provide further evidence that conscientiousness is a strong predictor of loss aversion in the financial domain. A similarly robust finding is that individuals who score high in neuroticism are less likely to take risks (Lauriola & Levin, 2001). By contrast, extroverts foster a need to achieve, to prove themselves, and to influence others, which makes them more prone to risk-taking (Furnham & Christoforou, 2007). Likewise, openness impacts positively on risk-taking in social domains, while agreeableness is weakly linked to risk-taking (Weller & Tikir, 2011). Saks & Shore (2005) and Le et al. (2014) put forward similar arguments by exploring the link between risk attitudes and career choices. Saks & Shore (2005) stress the importance of family wealth in determining the nature of this link by showing that family wealth mitigates the idiosyncratic risk associated with earnings volatility in certain occupations. According to Saks & Shore (2005), this allows individuals from wealthier families to aim for educational investments leading to riskier career paths such as business, sales or entertainment instead of careers with stable incomes such as education, engineering, and healthcare.

2.5 Trait theory and hypothesis development

Traits are defined simply as stable dispositions describing individual differences in human behaviour and sometimes connote causal status (Deary, 2009). According to Matthews (2009), there is enough convergence of psychometric measurement models, including the five-factor model (FFM) for building consensus on personality structure. On top of that, psychophysiological studies, employing brain-imaging methods, demonstrate that major traits are having a biological basis (Kennis et al., 2013). Behaviour genetics on heritability of traits is consistent with psychobiological accounts (Turkheimer et al., 2014). Traits predict various consequential life outcomes, supporting applications including personnel selection, clinical guidance and educational interventions (Ozer & Benet-Martinez, 2006). Traditional personality theory from Eysenck (1967) supposes that individual differences in cortical arousal directly impact performance. To understand trait theory, we need to make a distinction between levels of theorizing associated with biological and social-cognitive underpinnings for personality.

This distinction is expressed as one between temperament and personality, where temperament refers to basic biological differences evident in early childhood and personality is acquired patterns of thought, behaviour and socialisation built on the temperamental platform (McCrae et al., 2000). This has serious implications for the role of basic neural and cognitive processes in skill acquisition, the role of self-knowledge in supporting acquisition and learning of skills and the dependence of various forms of person-situation interaction on individual differences in skill. Based on this rational risk appears to be a missing trait that drives human behaviour or life and labour outcomes. By looking at risk it is possible to explore genetic and environmental influences which have been neglected such as acquiring status, acquiring resources, making sense of our lives and achieving success, happiness or satisfaction.

Hypothesis 5: Individuals are expected to report a positive relationship between risk and life satisfaction.

Hypothesis 6: Individuals are expected to report a positive relationship between risk and income.

Hypothesis 7: Individuals are expected to report a positive relationship between risk and job satisfaction.

Hypothesis 8: Risk, and the five-factor model (FFM) are expected to impact individuals jumping into hybrid entrepreneurship.

Besides its potential link with personality, willingness to take risks is a strong predictor of future achievement. Individuals who are willing to take risks are in higher quality jobs (Fellner & Maciejovsky, 2007). Bonin et al. (2007) argue that efficient sorting in the labour market helps to match individuals who are willing to take the risk to high-risk occupations. They further attribute the positive correlation between earnings and occupational risk to compensating wage differentials, whereby individuals who are willing to take risks choose to work in riskier occupations, with more volatile earnings. Employees in riskier occupations, however, need to be compensated with a risk premium added to their earnings.

In contrast, individuals who are less inclined to take risks will be in lower pay occupations. Studies in the human resources and labour economics literature that evaluate the relative merits of performance-related pay schemes explore the association between willingness to take risks and choice of risky occupations (Gerhart & Fang, 2014). The primary consideration in most of these studies is that ignoring sorting and endogeneity effects when assessing the benefits of performance-related pay schemes results in misleading conclusions and policy recommendations. Chapter 5 investigates the role of willingness to take risks in influencing the efficacy of performance-related pay.

2.6 Flow theory and hypothesis development

Positive psychology (Selingman & Csikszentmihalyi, 2000) aim to study positive experiences and find ways of improving human functioning, performance and well-being. The self-rewarding subjective experience is formulated by the self-perceived challenge of the situation and the self-perceived skills of the person (Moneta & Csikszentmihalyi, 1996). Stavrou et al. (2015) have argued that task orientation and feeling more skilful are important elements for individuals to get into flow. Despite the flow theory has been encouraged in the sport environment (Csikszentmihalyi, 1992) to achieve peak performance (Jackson & Roberts, 1992) an important correlate is perceived ability (Jackson et al., 1998; 2001). In an occupational context it has been applied by Demerouti (2006) suggesting that flow at work positively relates to job performance. Flow can be even more important than achieving a better income (Csikzentmihalyi, 1999). Learning a new skill can help achieve this flow (Csikszentmihalyi & LeFevre, 1989), which helps individual become immersed in what they do (Bakker, 2005). The theory of flow is important within an occupational context, because it can be stretched as far as work goals, stimulating personal grow, and development and reducing job demands, which increase burnout (Demerouti et al., 2001). To achieve high in-role performance, employees will have to experience flow in activities that serve goals of the organisation. But there is a question remaining. How individuals are exhibiting voluntary behaviour during non-flow experiences and is risk the linking mechanism that helps individuals in building their personal resources?

Hypothesis 9: Self-selection (less flow) is expected to exist among individuals.

Hypothesis 10: Risk (or flow from coping after being selected) is expected to positively impact individual performance-related pay and thus income.

Much empirical support for the definite link between personality traits is also found in the entrepreneurship literature. Existing scholarly work underscores the importance of entrepreneurship as a driving force behind economic growth (Wennekers & Thurik, 1999). According to van Praag & Versloot (2007), entrepreneurship leads to economic growth through innovation, employment growth, and competition. Traced back to Kihlstrom & Laffont (1979), the idea that more risk-loving individuals create wealth and increase earnings underpins much of the research scholarship in the entrepreneurship field. The strong association between the increase in a country's wealth and entrepreneurship/self-employment is testament to the importance of entrepreneurial activity for growth and prosperity (Noorderhaven et al., 2004).

However, because of the risky nature of entrepreneurial ventures, people often decide to engage in entrepreneurial ventures while in salaried employment. That is, instead of becoming full-time entrepreneurs, individuals engage in hybrid entrepreneurship. The notion of hybrid entrepreneurship is not new and has been formerly known as part-time business activity (Smallbone & Welter, 2001), with Burke, FitzRoy, & Nolan (2008) contributing beyond the wageworker and entrepreneurship dichotomy. Thorgren et al. (2016) define hybrid entrepreneurship as a transitional, stepping-stone stage from full-time salaried employment to full-time entrepreneurship. They further argue that age is a contributing factor in the decision to engage in hybrid entrepreneurship. Younger and older cohorts are the ones who are more willing to engage in hybrid entrepreneurship compared to full-time entrepreneurs who exhibit an inverted U-shaped relationship with age. Sectoral differences are also significant to consider. For example, Schulz, Urbig, & Procher (2017) argue that hybrid entrepreneurs in the high technology sector face different challenges than hybrid entrepreneurs in other sectors. Folta, Delmar, & Wennberg (2010) and Solesvik (2017) further support the view that hybrid entrepreneurs are a diverse group.

The diversity of motives to engage in hybrid entrepreneurship is a manifestation of the high degree of heterogeneity across hybrid entrepreneurs. Individuals become hybrid entrepreneurs to accumulate start-up capital, to be their own boss, gain market knowledge, preserve social networks while keeping a stable income stream (Tornikoski, Viljamaa, & Varamäki, 2015; Dzomonda & Fatoki, 2018). Petrova (2012) highlights the need to gain access to barrier-protected industries as the primary motivation for pursuing hybrid entrepreneurship. Additionally, hybrid entrepreneurship can help individuals adopt new technologies, which is the pathway to long-run growth (Baker & Nelson, 2005; Meoli & Vismara, 2016). Petrova (2010) argues that hybrid entrepreneurship helps individuals establish their understanding of their real entrepreneurial ability while maintaining their living standards.

Hybrid entrepreneurs are a distinct group from multiple jobholders. Schulz, Urbig, & Procher (2017) find that on average, those who engaged in hybrid entrepreneurship achieve higher earnings compared to those who have multiple jobs. Besides, their business ventures survive longer (Raffiee & Feng, 2014). Yet, some of the motives for holding dual jobs and deciding to become hybrid entrepreneurs are often similar. Workers move in and out of dual job-holding positions when there is a discrepancy between actual and desired hours of work (Paxson & Sicherman, 1996). Other reasons include the need to supplement their income and the wish to make the transition into a portfolio career (Wu, Baimbridge, & Zhu, 2009). Panos, Pouliakas, & Zangelidis (2014) find that those who face financial constraints are more likely to choose an occupation similar to their primary job. They propose that moonlighting is a conduit that helps individuals get new skills, expertise and human capital spill-over effects acting as a stepping-stone for new careers, mainly related to self-employment. Individuals also prefer hybrid entrepreneurship over a second paid employment, or full-time employment, because of the sunk costs, such as lost pension rights, associated with leaving paid employment (Folta, Delmar, & Wennberg, 2010).

Many studies that examine entrepreneurial start-up or survival further highlight the role personality traits of would-be entrepreneurs plays (Caliendo, Fossen, & Kritikos, 2009; Guerra & Patuelli, 2016). Studies link the Big-Five personality traits to entrepreneurial decision making and success (Holland & Shepherd, 2013). For example, studies find that *Conscientiousness* has a positive impact on entrepreneurial success, while *Neuroticism* and *Extraversion* are less important (Ciavarella et al., 2004). Caliendo, Fossen & Kritikos (2014) find that *Openness* and *Extraversion* influence the decision to enter self-employment.

Yet, personality traits alone are not enough to embark on an entrepreneurial venture. Thorgren, Nordstrom, & Wincent (2014) show that individuals' choice to combine their wage work with a side business is motivated mainly by passion, affecting time allocation to wage work or entrepreneurship (Burmeister-Lump, Levesque & Schade, 2012). Van Praag & Cramer (2001) claim that ability is also necessary to acquire new knowledge and to gain access to niche markets. Kim, Aldrich, & Keister (2006) show that advanced education and managerial experiences are the key determinants of entrepreneurial entry. This implies that a founder's idea, which may be rudimentary and vague in the early stages, can be developed in detail as time is devoted, without having to abandon wage employment. Lazear (2004) believes that the founders of new businesses must assemble human, information and financial as well as physical capital. Then, they need to combine all these resources, coordinate them, develop the entire business process, design the product and implement a business plan. This requires investment in a broad skillset that makes them jacks of all trades and subsequently hard to move into wage employment, which often requires skills specialisation. Thus, it is essential to control for such demographic and other socioeconomic factors before identifying the impact of personality on entrepreneurship. Chapter 6 closes the gap in this literature by providing some of the first evidence on the role of personality traits in influencing individuals' decision to become hybrid entrepreneurs.

CHAPTER 3: OCCUPATIONAL PRESTIGE AND LIFE SATISFACTION

3.1. Introduction

This chapter aims to assess the importance of occupational prestige as a potentially strong predictor of life satisfaction. As hypothesised in section 2.2. above, employees in moderately prestigious occupations report lower satisfaction scores than those in high-prestige or those in low-prestige occupations. To test this hypothesis, the analysis estimates the effect of occupational prestige on life satisfaction, using data from the British Household Panel Survey (BHPS). The underlying assumption is that the self-reported life satisfaction scores in the BHPS represent a reliable, validated proxy for individuals' overall quality of life. Although previous studies explore how careers influence life satisfaction, they have mainly focus on income, without paying much attention to occupational prestige (Pan & Zhou, 2013). Previous studies focusing on occupational prestige treat it as a dependent variable (Klein, 2016; Huang & Western, 2011). In this chapter, the analysis treats occupational prestige as an explanatory variable to provide some answers to the question of whether the pursuit of a high prestige occupation paves the road to a satisfying life.

3.2. Theoretical background and hypotheses

Social comparison theory (Festinger, 1954) appears when the comparer notices similarities or differences from the target of comparison. Social comparison is unavoidable in everyday life (Collins, 1996). People compare themselves with others in a variety of dimensions such as personality, wealth, lifestyle (Wheeler & Miyake, 1992) and physical attractiveness (Tiggemann & McGill, 2004). Social comparison theory is characterized by two dimensions.

In specific, by downward comparison and by upward comparison (Gerber et al., 2018). Downward comparison appears when the target of comparison is a less fortunate than the comparer to feel better or relieved (Wills, 1981). Upward comparison is comparing oneself with those who are superior or more capable than oneself (Collins, 1996). Wills (1981) and Wood (1989) asserted that downward comparisons boost self-evaluations. Gerber et al. (2018) performed a meta-analysis to find an upward comparison, which is also supported by Jang et al. (2016)'s work on Facebook social comparison. Upward comparison can provoke negative psychological responses such as anxiety (Gibbons & Gerrard, 1989), depression when compared to other people with better body (Lee et al., 2014) or better careers (Haferkamp & Kramer, 2011).

However, Wheeler & Miyake (1992) seem to suggest that upward comparison decreases subjective well-being, whereas downward comparison increase it. Future direction can follow Guimond et al. (2007) who seem to suggest that universal social comparison process across cultures should not be assumed. However, in order to understand how people, behave we need to explore how far they see they can pull it through. Exposure to upward targets may increase self-evaluations of competence and motivation when individuals believed in the possibility of change in their status (Lockwood & Kunda, 1997), thus enhancing assimilation or perceived identification. Under this argument, people will typically tend to compare with whom they feel psychologically close. If this is correct, then individuals in low status occupations will tend to feel more satisfied with themselves because they compare with likeminded people. Similarly, high-status individuals will fare well, because there is only a downward comparison. On the contrary, people in medium status occupation will tend to compare upwards, thus increasing their dissatisfaction. Suls et al. (2002) suggest that contrast and assimilation are important in understanding individual behaviour. For that reason, several

hypotheses are generated. Are medium status occupation generate assimilations? Are low status occupations generate assimilation or high-status occupation generate assimilations?

Hypothesis 1: Individuals in low prestige occupations are expected to assimilate with people from a similar background and thus tend to have high levels of satisfaction.

Hypothesis 2: Individuals in high prestige occupations are expected to exhibit a downward social comparison thus having high levels of satisfaction.

Hypothesis 3: Individuals in medium prestige occupations are expected to exhibit an upward social comparison thus having low levels of satisfaction.

Hypothesis 4: individuals in medium prestige occupations are expected to exhibit a downward social comparison thus having high levels of satisfaction.

3.3. Methodology

3.3.1. Sample

The empirical analysis draws on data from twelve waves of the British Household Panel Survey (BHPS), for the period 1997-2008. The BHPS is a longitudinal survey, which started in 1991 surveying 10,300 individuals in about 5,500 households. The survey response rate in wave one is 88.9 per cent, which drops to 87.3 per cent by wave ten and 84.2 per cent by wave eighteen (Taylor et al., 2010); thus there is some evidence of sample attrition. The core questionnaire covers a broad range of topics, such as income, socioeconomic values, market behaviour, health status, education, household composition, and demographics. Such sociodemographic characteristics control for individual heterogeneity, to mitigate for the influence of culture,

upbringing, and personal values on the weight people place on career success when they evaluate their quality of life (Senik, 2014).

The analysis sample includes 6,035 male and 5,516 female full-time employees who report more than 25 usual weekly hours of work. The main reason for restricting the sample to only those in full-time employment is to limit the influence of employment status on life satisfaction. The data allows following employees for one or more interviews in the period 1997-2008. Data from waves before 1997 are not included in the analysis because information on life satisfaction is not available before 1997.

3.3.2. Measures

Life satisfaction

Respondents in the BHPS are asked a question on '*satisfaction with your life overall'*. Responses are reported on an ordinal scale one to seven, where a value of one corresponds to '*not satisfied at all*' and a value of seven for '*completely satisfied*'. Table 3.1 shows the distribution of life satisfaction responses. About 9.31 per cent of female employees is completely satisfied with their lives.

In comparison, only 7.88 per cent of male employees are completely satisfied. The median satisfaction score is six for both genders. This single-item life satisfaction scale is used extensively in the existing literature, and its reliability and validity are well established (Diener, Tai, & Oishi, 2013). It is accepted as a good measure of individual well-being, reflecting a holistic evaluation of one's life situation (Lucas & Donnellan, 2007). There is also evidence that life satisfaction is correlated with other measures of well-being, which are conceptually different, reflecting a hedonic evaluation of one's current circumstances (Clark, 2015).

Occupational prestige

The primary variable of interest is occupational prestige, which is measured by the CAMSIS (Cambridge Social Interaction and Stratification Scale) scale. The scale is based on data from the office of National Statistics (ONS) longitudinal survey and assigns a prestige scale score to all three-digit occupational unit groups. Stewart et al. (1973) are the first to introduce CAMSIS. Prandy & Lambert (2003) revised the scale to be consistent with the 1990 Standard Occupational Classification (SOC). The scale is continuous, taking values from 0 to 100, with a mean 50 and a standard deviation of 15. Higher values imply higher occupational and socioeconomic status (Prandy & Jones, 2001). Empirical evidence shows that higher CAMSIS scores are associated with higher income, higher job satisfaction and lower mortality rates (Feinstein & Hammond, 2004). The CAMSIS classification of prestige is used to answer various research questions across countries (Jarman, Blackburn, & Racko, 2012). Kilpi-Jakonen, Vilhena, & Blossfeld (2015) review country studies that use CAMSIS to consider adult education, upward mobility, and social inequality, for example. Jarman, Blackburn, & Racko (2012) use the CAMSIS occupational stratification scale to explore gender occupational segregation across fifteen industrialised countries.

Table 3.1: The Distribution of Life Satisfaction

	Females		Males	
Life Satisfaction	Count	%	Count	%
Not Satisfied at all	98	.42	96	.33
2	371	1.59	419	1.45
3	1,268	5.44	1,484	5.12
Neutral	3,363	14.42	3,918	13.53
5	7,771	33.33	10,361	35.78
6	8,274	35.49	10,400	35.91
Completely Satisfied	2,171	9.31	2,282	7.88
Total	23,316	100	28,960	100

Notes: Based on BHPS 1997-2008 data.

Socio-demographic characteristics

Gender

There is a consensus among social scientists that the notion of occupational prestige is gender-specific (Buser, Niederle, & Oosterbeek, 2014). For a start, in comparison to men, women's labour market attachment is weaker, mostly because of motherhood (Gangl & Ziefle, 2009). Scholarly work further attributes the lower occupational and labour market status of women to be more risk-averse than men (Charness & Gneezy, 2012). This explains partially why women earn less than men and why they are disproportionately overrepresented in low-pay occupations. Hoobler, Lemmon, & Wayne (2014) propose an alternative explanation for why women are underrepresented in high prestige careers. Their main argument is that women are often reluctant to take up managerial positions.

On the other hand, studies identify discrimination, barriers to accessing certain occupations, and glass ceilings as obstacles that prevent females from advancing to managerial, leadership or other higher prestige roles (Christofides, Polycarpou, & Vrachimis, 2013; Newman, 2016;

Jones et al., 2017). The impact of gender differences in life satisfaction is well documented (Moksnes & Espnes, 2013; Chui & Wong, 2016; Joshanloo, 2018). Women have different preferences than men about the weights they assign to market work and family life (Karkoulian, Srour, & Sinan, 2016). They have different priorities when they confront potential trade-offs between these two domains. In many occasions, the choice between happy work life and happy family life depends on how much income or prestige they are willing to trade in exchange for a more satisfying work-life balance. Mainly, women have different work orientation than men, placing less emphasis on pecuniary rewards, paying instead more attention to non-pecuniary rewards (Zou, 2015).

Age

Weber et al. (2015) consider the role of ageing on life satisfaction, noting the challenge associated with measuring life satisfaction accurately. In their analysis, they adopt a vignette approach to control for differences in benchmarking among survey participants when reporting their life satisfaction. They find that even after controlling for this, older respondents are more likely to report lower levels of life satisfaction than younger participants are. Such findings are consistent with those of earlier studies on the link between age and life satisfaction (Blanchflower & Oswald, 2008).

Marital status

Marriage reinforces the potentially positive influence of occupational prestige on life satisfaction, as marital partners share both cultural values and economic resources from their union. Demographic research documents the prevalence of assortative mating in marriage markets, whereby individuals of similar characteristics marry each other (Greenwood et al.,

2014). Occupation is one such characteristic, which brings people together in marriage, perhaps more so than education or socio-economic status (Mansour & McKinnish, 2014).

Children

Having children increases time demands for parents, thus increasing work-life conflict (Bennett, Beehr, & Ivanitskaya, 2017). Being in a professional or managerial occupation aggravates such work-life conflict, as time demands at work are usually higher in these roles (Grzywacz, Almeida, & McDonald, 2002). This leads to higher stress and negative moods at work, which can spill over into home life, thus having a damaging effect on life satisfaction in general. In contrast, employees who are not facing work-related stress foster positive emotions that improve well-being in their life domain. Empirical studies on work-family conflict support the spillover hypothesis between the work and life domains, although they accept that cultural values moderate the strength of such a spillover effect (Georgellis & Lange, 2012).

Education

The association between education and life satisfaction is complex. According to Frey & Stutzer (2002), education boosts income, and it helps individuals adapt to changing environments, but it also raises aspiration levels. In general, individuals fail to predict the real returns accurately to education in terms of gains in life satisfaction, setting high expectations that are difficult to realise. The frustration associated with unrealised potential explains the negative effect of education on life satisfaction. Psychological research does suggest that education is one of the most common regrets people have, as it creates opportunities, which are not exploited fully (Roese & Summerville, 2005). Another explanation for this seemingly paradoxical negative effect of education on life satisfaction is that there is an asymmetry in the

returns to education in terms of extrinsic and intrinsic rewards. Often, employees overemphasise extrinsic work orientations, including higher pay, and pay less attention to intrinsic orientations or life satisfaction in general (Zou, 2015).

Other controls

Other controls include health, company size, region, and time, used as explanatory variables in previous empirical studies of life satisfaction (Proto & Rustichini, 2015; Ngoo, Tey, & Tan, 2015). Poor health affects life satisfaction negatively. In part, this is because of the role it plays on limiting satisfaction directly as well as indirectly by infusing individuals with a sense of pessimism (Angelini et al., 2012). Controlling for firm size captures the potential influence of firm - and organisational-level factors, including the organisational support and family-friendly policies. Such policies are designed to lessen work-life conflict. In general, employees in large organisations enjoy better working conditions and have access to a greater range of company benefits. Regional differences in economic conditions, the demographic composition of the workforce, as well as cultural variations, are linked to geographical differences in life satisfaction (Bonini, 2008). Controlling for the year of the survey captures potential variation in life satisfaction as the economy moves through the political and economic business cycles (Di Tella. MacCulloch, & Oswald, 2003). The list of controls also includes commuting time, whether on permanent contract, and job tenure. Commuting time has a detrimental effect on the utility that individuals get from work (Frey & Stutzer, 2014). Frey & Stutzer (2014) find that people fail to account adequately for the negative well-being impact of commuting when accepting jobs because of higher salary offers. Frey & Stutzer (2014) argue that people are unhappy in the longer term as they adapt quickly to higher earnings, but not to commuting. Job tenure is associated with a declining job and life satisfaction (Clark, Georgellis, & Sanfey,

2012). Employees on permanent contracts are facing less job insecurity than those on temporary contracts and therefore more likely to report higher life satisfaction scores (De Cuyper & De Witte, 2011).

3.3.3. Analytic approach

The analytic approach is based on the estimation of life satisfaction regressions using ordered probit models. Because of the ordered, categorical nature of the dependent variable, i.e. life satisfaction, the ordered probit model is preferred to the standard ordinary least squares model (see McKelvey & Zavoina, 1975). The main advantage of the ordered probit model is that it explains more of the variance of the standardised coefficients over the coefficients from an ordinary least squares model. Appendix 3.5.2 describes the ordered probit model in more detail.

In the context of the present analysis the main equation to be estimated is:

$$(LIFESAT)_{it} = \beta\, Z_{it} + \gamma\, ln(w_{it}) + \delta\, (Occupational\ Status)_{it} + e_{it}, \qquad (3.1)$$

where *LIFESAT* is life satisfaction, Z_{it} is the vector of independent variables and controls, and $ln(w_{it})$ is the earnings of individual *i* at time *t*. Appendix 3.5.1 shows the definitions and sample means of all variables. β, γ, and δ are coefficients to be estimated. The main coefficient of interest δ captures the effect of occupational prestige on life satisfaction. To estimate equation (3.1), the analysis treats the data as a repeated cross-section and clusters the standard errors to account for within-person variation in life satisfaction. Besides capturing potential business cycle effects on life satisfaction, the inclusion of year dummies as controls accounts for

inflation in earnings over the years. Because of the potentially strong influence of gender as a moderator of the relationship between occupational prestige and life satisfaction, a separate analysis is performed for men and women.

3.4. Results

Table 3.2 displays the results of the ordered probit estimation. Columns (1) and (2) present the estimated coefficients of the baseline satisfaction model for men and women, respectively, controlling for firm, personal, and demographic characteristics only. Earnings have a positive effect on life satisfaction for all employees. For male employees, an increase of earnings ($ln\ w_{it}$) by one unit increases the ordered log-odds of being in a higher life satisfaction category by 0.181. The corresponding coefficient for women is 0.092. These estimates are broadly consistent with earlier studies that find earnings to be positively correlated with measures of life satisfaction (del Mar Salinas-Jiménez, Artés, & Salinas-Jiménez, 2013).

Table 3.2: The Effect of Occupational Prestige on Life Satisfaction Estimates (Ordered Probit Results)

	(1) Males	(2) Females	(3) Males	(4) Females	(5) Males	(6) Females
Occupational prestige / 100			- .325	- .401	-5.237**	-1.825
			(.664)	(.746)	(.228)	(.814)
(Occupational Status)^2 / 100					.585**	.141
					(.250)	(.260)
Ln (Wage)	.181***	.092***	.185***	.098***	.182***	.098***
	(.026)	(.030)	(.027)	(.031)	(.027)	(.031)
Permanent Contract	.154***	- .024	.154***	- .025	.160***	- .024
	(.049)	(.044)	(.049)	(.044)	(.049)	(.044)
Job Tenure	.009*	.016**	.009*	.016**	.009*	.015**
	(.005)	(.007)	(.005)	(.007)	(.005)	(.007)
Commuting Time	- .001***	- .002***	- .001***	- .002***	- .001***	- .002***
	(.000)	(.001)	(.000)	(.001)	(.000)	(.001)
FIRM SIZE						
Firm Size (0 – 49)	(.000)	(.001)	(.000)	(.001)	(.000)	(.001)
	.000	.084**	.000	.085**	- .001	.084**
Firm Size (50 – 99)	(.034)	(.035)	(.034)	(.035)	(.034)	(.035)
	- .030	.069*	- .030	.069*	- .033	.067*
Firm Size (100 – 199)	(.040)	(.041)	(.040)	(.041)	(.040)	(.041)
	- .064	.028	- .064	.029	- .066*	.027
Firm Size (200 – 499)	(.039)	(.041)	(.039)	(.041)	(.039)	(.041)
	- .079***	.023	- .079***	.022	- .080***	.022
Firm Size (500 – 999)	(.037)	(.041)	(.037)	(.041)	(.037)	(.041)
	- .027	.088**	- .028	.087**	- .027	.087**
Usual Working Hours	(.041)	(.044)	(.041)	(.044)	(.041)	(.044)
	.003	- .001	.003	- .001	.003	- .001
	(.002)	(.002)	(.002)	(.002)	(.002)	(.002)
REGION						
Midlands &West	.015	.028	.015	.028	.014	.028
	(.027)	(.029)	(.027)	(.029)	(.027)	(.029)
London & South East	- .106***	- .033	- .106***	- .033	- .105***	- .033
	(.031)	(.031)	(.031)	(.031)	(.031)	(.031)

Table 3.2: The Effect of Occupational prestige on Life Satisfaction Estimates (Ordered Probit Results) - *Continued*

EDUCATION						
Degree	- .349***	- .152*	- .340***	- .142	- .351***	- .144
	(.073)	(.088)	(.075)	(.091)	(.075)	(.091)
Other Higher Degree	- .328***	- .213***	- .321***	- .205***	- .323***	- .204***
	(.055)	(.063)	(.057)	(.065)	(.057)	(.065)
Teaching Qualification	- .269**	- .173*	- .262**	- .165*	- .266**	- .163
	(.115)	(.098)	(.115)	(.100)	(.115)	(.100)
Other Higher Qualification	- .249***	- .168***	- .246***	- .164***	- .238***	- .160***
	(.049)	(.058)	(.050)	(.058)	(.050)	(.059)
Nursing Qualification	- .579***	- .391***	- .573***	- .387***	- .563***	- .380***
	(.183)	(.104)	(.183)	(.104)	(.182)	(.105)
A Level	- .274***	- .182***	- .271***	- .178***	- .262***	- .174***
	(.052)	(.061)	(.053)	(.062)	(.053)	(.062)
GCSE	- .165***	- .196***	- .164***	- .193***	- .159***	- .189***
	(.052)	(.059)	(.052)	(.059)	(.052)	(.059)
Commercial Qualification	.189	- .079	.191	- .075	.200	- .070
	(.419)	(.090)	(.419)	(.090)	(.419)	(.090)
CSE Scottish	- .123+	- .043	- .122+	- .042	- .124*	- .040
	(.072)	(.092)	(.072)	(.092)	(.072)	(.092)
Apprenticeship	- .089	- .364	- .089	- .361	- .083	- .356
	(.104)	(.516)	(.104)	(.516)	(.104)	(.517)
Other Qualification	.226	.022	.226	.025	.223	.028
	(.153)	(.213)	(.153)	(.213)	(.153)	(.214)
Age	- .087***	- .056***	- .087***	- .056***	- .087***	- .056***
	(.007)	(.008)	(.007)	(.008)	(.007)	(.008)
Age (squared)	1.043***	.571***	1.044***	.573***	1.042***	.572***
	(.087)	(.103)	(.087)	(.103)	(.087)	(.103)
MARITAL STATUS						
Married	.201***	.313***	.201***	.314***	.200***	.314***
	(.034)	(.035)	(.034)	(.035)	(.034)	(.035)

Table 3.2: The Effect of Occupational prestige on Life Satisfaction Estimates (Ordered Probit Results) - *Continued*

Separated	- .185***	- .197***	- .186***	- .198***	- .189***	- .197***
	(.072)	(.070)	(.072)	(.070)	(.072)	(.070)
Divorced	.039	- .023	.039	- .023	.037	- .023
	(.050)	(.048)	(.050)	(.048)	(.050)	(.048)
Widowed	- .050	- .030	- .051	- .031	- .053	- .030
	(.185)	(.114)	(.185)	(.114)	(.184)	(.114)
Number of Children	- .025**	- .055***	- .025**	- .055***	- .025**	- .055***
	(.013)	(.016)	(.013)	(.016)	(.013)	(.016)
HEALTH						
Excellent Health	1.515***	1.135***	1.515***	1.135***	1.514***	1.136***
	(.112)	(.106)	(.112)	(.106)	(.112)	(.106)
Very Good Health	1.123***	.799***	1.122***	.799***	1.122***	.800***
	(.110)	(.104)	(.110)	(.104)	(.111)	(.105)
Good Health	.739***	.415***	.739***	.414***	.738***	.415***
	(.111)	(.105)	(.111)	(.105)	(.111)	(.105)
Fair health	.381***	.064	.380***	.064	.380***	.064
	(.109)	(.108)	(.109)	(.108)	(.109)	(.108)
Year Dummies	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Pseudo R^2	.04	.04	.04	.04	.04	.04
X^2	1,507.25	1,240 .76	1,510 .69	1,240.76	1,517.95	1,241.47
P-value	.00	.00	.00	.00	.00	0.00
Log Likelihood	-39,920.06	-33,252.41	-39,919.75	-33,252.10	-39,913.35	-33,251.76
Number of Clusters	6,035	5,516	6,035	5,516	6,035	5,516
Sample Size	28,960	23,316	28,960	23,316	28,960	23,316

*Notes: *, ** and *** denote significance at the 10%, 5% and 1% respectively; Standard errors in parentheses; Reference categories: firm size >1000 employees, region North & Scotland, poor health, single (never married), no qualifications.*

As the results show, life satisfaction is U-shaped in age – declining progressively until middle age, recovering in later life. Compared to single individuals (the reference category), those married are generally more satisfied with life. Separation has a significant negative effect on life satisfaction. Children reduce working parents' life satisfaction as they impose added strain

on resources and worsen the work-life conflict. The effect of children on life satisfaction is quantitatively twice as strong for working mothers (β =-.055) as it is for working fathers (β =-.025). Not surprisingly, compared to poor health (the reference category) good health is strongly associated with higher life satisfaction, which is one of the most consistent findings in the subjective well-being literature (Sabatini, 2014). Employees with higher educational qualifications are less satisfied with their life compared to those with no qualifications (the reference category). This is consistent with arguments about the role of education in raising individuals' aspirations (Roese & Summerville, 2005) and influencing their work orientations towards higher pay at the expense of intrinsic rewards (Zou, 2015).

The findings in Table 3.2 also reveal that male employees who are on permanent contracts are more satisfied with their lives compared to those on temporary contracts. This is indicative of the sense of well-being workers gain from employment security. However, this effect disappears for female employees, for whom the nature of the employment contract has no statistically significant influence on their life satisfaction. Both male and female employees enjoy higher life satisfaction with increasing job tenure, which is explained by the accumulation of tenure-related seniority benefits. There are few clear patterns about the influence of firm size and region on life satisfaction. However, firm size has a positive impact on females. For women, working in organisations with less than 1,000 employees has a weak positive impact on life satisfaction. The results suggest that working in small and medium-size organisations has only a weak negative effect on life satisfaction for males. Male employees in London and the South East report lower life satisfaction than employees in other regions.

Columns (3) and (4) display the estimated coefficients of the life satisfaction equation when occupational prestige is included in the list of regressors. The estimated coefficients suggest (β = -.325; β = -.401) that there is no evidence of a statistically significant, linear effect of occupational prestige on life satisfaction. Thus, it emerges that occupational prestige is not

associated with higher life satisfaction when pay and skill, proxied by education, are considered. However, when adding a quadratic term for occupational prestige in columns (5) and (6), there is evidence of a non-linear relationship, at least for men. The estimated coefficients in column (5), (β = -.537 and β = .585), suggest that there is a curvilinear, U-shape relationship between occupational prestige and life satisfaction. The same U-shape relationship emerges for females, although it is not statistically significant at conventional levels of significance. Broadly, the estimated models in columns (5) and (6) support the hypothesis of a curvilinear relationship between occupational prestige and life satisfaction, which is moderated by gender.

3.5. Conclusion

The aim of the analysis in this chapter was to test the hypothesis that the association between occupational prestige and life satisfaction is a curvilinear one. The findings, based on data from the BHPS, support this hypothesis, which lends support to Medvec et al.'s (1995) silver medalist theory of social comparison. Male employees in moderate prestige occupations report satisfaction scores that are lower than those reported by employees in either low prestige or high prestige occupations. Nonetheless, there is no evidence that higher occupational status increases the life satisfaction of female employees. The findings inform the current debate in the careers and social science literature on whether occupational prestige is a stronger predictor of happiness than income. The significance of the findings and their relevance for policy and practice are discussed in more detail in Chapter 7 of the thesis.

3.6. Appendix

3.6.1. Descriptive Statistics

Table 3.A1: Variable Definitions and their Means

Variable name	Definitions	Mean female)	Mean (male)
Age	Age in years	37.5	38.4
Age (squared)	Age in years squared	1.5	1.6
Marital status			
Married	Dummy variable, 1=for married, 0=for never married	.48	.56
Separated	Dummy variable 1=for separated, 0=for never separated	.03	.02
Divorced	Dummy variable, 1=for divorced, 0=for never divorced	.10	.07
Widowed	Dummy variable, 1=for widowed, 0=for never widowed	.02	.006
Single (never married)	Dummy variable, 1=for single, 0=for other	.40	.30
Number of Children	Number of children	.40	.60
Education			
Degree	Dummy variable, 1=for having a higher education degree, 0=for not having a higher education degree	.03	.04
Other Higher Qualification	Dummy variable, 1=for having other higher degree, 0=for not	.30	.30
Nursing Qualification	Dummy variable, 1=for having nursing qualification, 0=for not	.02	.001
A level	Dummy variable, 1=for having A level, 0=for not	.10	.10
GCSE	Dummy variable, 1=for having GCSE, 0=for not	.20	.20
Commercial Qualification	Dummy variable, 1=for having commercial qualification, 0=for not	.03	.002
CSE Scottish	Dummy variable, 1=for having cse scot qualification, 0=for not	.03	.05
Teaching Qualification	Dummy variable, 1=for having a teaching qualification, 0=for other	.03	.01
Apprenticeship	Dummy variable, 1=for apprenticeship, 0=for not	.001	.014
Other Qualification	Dummy variable, 1=for having other qualification, 0=for not	.004	.005
No Qualification	Dummy variable, 1=for not having any qualification, 0=for other	.08	.09
Health Status			
Excellent Health	Dummy variable, 1=for having excellent health, 0=for other	.30	.30
Very Good Health	Dummy variable, 1=for very good health, 0=for other	.50	.50
Good Health	Dummy variable, 1=for good health, 0=for other	.20	.20
Fair Health	Dummy variable, 1=for fair health, 0=for other	.05	.0
Poor Health	Dummy variable, 1=for having poor health, 0=for other	.007	.005
Regions			
Midlands & West	Dummy variable, 1=for belonging in Midlands, 0=for other	.30	.40
North & Scotland	Dummy variable, 1=for belonging in North, 0=for other	.40	.40
London & South East	Dummy variable, 1=for belonging in London, 0=for other	.30	.20
Employment			
Ln (Wage)	The logarithm of hourly wage	2.07	2.26
Permanent Contract	Dummy variable, 1=for having a permanent contract, 0=for not	.80	.80
Job Tenure	Number of days with the current employer	1638.6	1902.1
Commuting Time	Minutes spent travelling to work	23.4	26
Firm Size (0 – 49)	Dummy variable, 1=if firm size 49 employees or less, 0=for other	.50	.40
Firm Size (50 – 99)	Dummy variable, 1=if firm between 50 and 99 employees, 0=for other	.10	.10
Firm Size (100 – 199)	Dummy variable, 1=if firm between 100 and 199 employees, 0=for other	.10	.10
Firm Size (200 – 499)	Dummy variable, 1=if firm between 200 and 499 employees, 0=for other	.10	.20
Firm size (500 – 999)	Dummy variable, 1=if firm between 500 and 999 employees, 0=for other	.60	.80
Usual hours	Number of hours usually worked per week	35.8	39.1
Life Satisfaction	Categorical variable, 1=for not satisfied at all, 7=for completely satisfied	5.2	5.2
Occupational Status	Integer variable with minimum value .55 and maximum 98.44	42.0	34.2

3.6.2. The Ordered Probit Model

Formally, ordered probability models are derived by defining a latent variable z that is used for modelling ordinal ranking data and typically specified as a linear function for each observation such that:

$$z = \beta X + \varepsilon \qquad (3A.1)$$

where X is a vector of variables determining the discrete ordering for observation n, β is a vector of estimable parameters, and ε is a random disturbance. Using this equation the observed ordinal data y for each observation or response from the people in my survey are defined as:

$$y = 1 \qquad if\ z \leq \mu_0 \qquad (3A.2)$$

$$y = 2 \qquad if\ \mu_0 < z \leq \mu_1 \qquad (3A.3)$$

$$y = 3 \qquad if\ \mu_1 < z \leq \mu_2 \qquad (3A.4)$$

…

Here μ are estimable parameters often referred to as thresholds that define y, corresponding to integer ordering. Assuming that ε is normally distributed with zero mean and variance equal to one, the μ parameters are estimated jointly with the model parameters β. The estimation problem becomes one of determining the probability P of specific ordered responses for each observation:

$$P(y = 1) = \Phi(-\beta X) \qquad (3A.5)$$

$$P(y = 2) = \Phi(\mu_1 - \beta X) - \Phi(-\beta X) \qquad (3A.6)$$

$$P(y = 3) = \Phi(\mu_2 - \beta X) - \Phi(\mu_1 - \beta X) \qquad (3A.7)$$

…

Where $\Phi(.)$ is the cumulative normal distribution:

$$\Phi(\mu) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{u} e^{-\frac{1}{2}w^2} dw \qquad (3A.8)$$

and μ_2 and μ_1 represent the upper and lower thresholds for outcome 3A. The respective likelihood function over the population of all observations N is:

$$L(y|\beta_1, \dots, \beta_N, \mu_2, \dots, \mu_{I-1}) = \prod_{n=1}^{N} \prod_{i=1}^{I} [\Phi(\mu_\iota - \beta X_n) - \Phi(\mu_{\iota+1} - \beta X_n)]^{\delta_{in}} \qquad (3A.9)$$

where I is the highest integer is ordered response, N the highest observation of the population and δ_{in} is equal to 1, if the observed discrete outcome for observation n is 1 and zero otherwise. The above equation leads to the log-likelihood of:

$$LL = \sum_{n=1}^{N} \sum_{i=1}^{I} \delta_{in} \ln [\Phi(\mu_\iota - \beta X_n) - \Phi(\mu_{\iota+1} - \beta X_n)] \qquad (3A.10)$$

Maximising the above log-likelihood function is subject to the constraint $0 \leq \mu_1 \leq \mu_2 \dots$. In terms of evaluating the effect of individual estimated parameters in ordered probability models, a positive value of β implies that an increase in the value of x_i will unambiguously increase the probability of the highest ordered discrete category results and unambiguously decrease the probability of the lowest ordered discrete category results. A practical difficulty with ordered probability models is associated with the interpretation of intermediate or interior categories (such as $y = 1, y = 2$, etc), which seems to depend on the location of thresholds.

CHAPTER 4: PERSONALITY, WILLINGNESS TO TAKE RISKS AND CAREER SUCCESS

4.1. Introduction

This chapter investigates how individuals' self-reported willingness to take risks influences earnings, job satisfaction, and life satisfaction. Existing studies employ these three constructs as measures of career success (Ng et al., 2005). The analysis uses information on individuals' attitudes toward risk and personality from the UK Household Longitudinal Study (UKHLS). The availability of such information is a main advantage of the UKHLS, making it suitable for the purpose of this chapter. Information on a willingness to take risks is available in wave one of the UKHLS. In this chapter, willingness to take risks is treated as a time-invariant characteristic, as a dispositional trait, which is not based on visceral or temporal factors. Information on the Big-Five personality traits is available in wave 3 of the UKHLSthe , personality traits are treated as time invariant. Although the debate about the stability of personality traits is ongoing, research finds that personality is a time-invariant characteristic for those over the age of twenty-five and in stable employment (Cobb-Clark & Schurer, 2012). The main aim of this analysis in this chapter is to test whether willingness to take risks exerts a separate influence on earnings, job satisfaction and life satisfaction than that of personality traits. It is hypothesised that individuals who are more willing to take risks enjoy higher earnings than those who are risk averse. It is also expected that willingness to take risks is positively associated with job satisfaction and life satisfaction.

Before continuing with investigating how risk-taking attitudes influence career success, factor analysis is employed to decide whether willingness to take risks can be classified as a trait within the Big Five taxonomy. Existing evidence points to a strong correlation between

risk attitudes and personality (Nicholson et al., 2005). At the same time, research shows that attitudes towards risk are influencing career and workplace behaviours, independently of personality or demographic characteristics (Bonin, et al., 2007). Then, the analysis continues with the estimation of Mincer–type earnings equations (Mincer, 1958). These earnings equations include willingness to take risks as an independent variable, and the Big Five personality of openness, conscientiousness, extraversion, agreeableness, and neuroticism. After exploring the impact of risk and personality on earnings, separate multivariate regression analyses are performed to estimate their impact on job satisfaction and life satisfaction. The focus of the chapter is to determine whether the career and labour market effects under consideration can be attributed to individuals' willingness to take risks or whether they are mostly pre-determined by personality.

4.2. Theoretical background and hypotheses

Traits are defined simply as stable dispositions describing individual differences in human behaviour and sometimes connote causal status (Deary, 2009). According to Matthews (2009), there is enough convergence of psychometric measurement models, including the five-factor model (FFM) for building consensus on personality structure. On top of that, psychophysiological studies, employing brain-imaging methods, demonstrate that major traits are having a biological basis (Kennis et al., 2013). Behaviour genetics on heritability of traits is consistent with psychobiological accounts (Turkheimer et al., 2014). Traits predict various consequential life outcomes, supporting applications including personnel selection, clinical guidance and educational interventions (Ozer & Benet-Martinez, 2006). Traditional personality theory from Eysenck (1967) supposes that individual differences in cortical arousal

directly impact performance. To understand trait theory, we need to make a distinction between levels of theorizing associated with biological and social-cognitive underpinnings for personality.

This distinction is expressed as one between temperament and personality, where temperament refers to basic biological differences evident in early childhood and personality is acquired patterns of thought, behaviour and socialisation built on the temperamental platform (McCrae et al., 2000). This has serious implications for the role of basic neural and cognitive processes in skill acquisition, the role of self-knowledge in supporting acquisition and learning of skills and the dependence of various forms of person-situation interaction on individual differences in skill. Based on this rational risk appears to be a missing trait that drives human behaviour or life and labour outcomes. By looking at risk it is possible to explore genetic and environmental influences which have been neglected such as acquiring status, acquiring resources, making sense of our lives and achieving success, happiness or satisfaction.

Hypothesis 5: Individuals are expected to report a positive relationship between risk and life satisfaction.

Hypothesis 6: Individuals are expected to report a positive relationship between risk and income.

Hypothesis 7: Individuals are expected to report a positive relationship between risk and job satisfaction.

4.3. Methodology

4.3.1. Sample

The sample is derived from the first five waves of the Understanding Society, UK Household Longitudinal Study (UKHLS), which spans the period 2011 to 2015. The UKHLS replaced the British Household Panel Survey (BHPS) in 2009/10 to provide a nationally representative stratified sample of around 30,000 households. Information on earnings, job satisfaction, life satisfaction, employment status, and other socio-demographic characteristics is collected for more than 40,000 individuals in each wave using face-to-face interviews or self-completion questionnaires. I restrict the sample to private and public sector employees between the age of 18 and 65. I further restrict the sample to include only those in full-time employment who report more than 34 usual weekly hours of work. Further dropping observations with missing data yields a final sample of 31,804 and 39,995 person-year observations for males and females respectively.

4.3.2. Measures

Personality traits

In wave three of the UKHLS, respondents were asked to self-complete a personality questionnaire with 15 items. The questionnaire included this statement: "*The following questions are about how you see yourself as a person. Please choose the number which best describes how you see yourself, using a scale from 1 to 7 where 1 means 'does not apply to me at all', and 7 means 'applies to me perfectly'.* The 15 items were as follows: *I see myself as someone who: (i) is sometimes rude to others; (ii) does a thorough job; (iii) is talkative; (iv) worries a lot; (v) is original, comes up with new ideas; (vi) has a forgiving nature; (vii) tends to be lazy; (viii) is outgoing, sociable; (ix) gets nervous easily; (x) values artistic, aesthetic experiences; (xi) is considerate and kind to almost everyone; (xii) does things efficiently; (xiii)*

is reserved; (xiv) is relaxed, handles stress well; and (xv) has an active imagination." Based on the Five-Factor Model (FFM) of personality (Costa & McCrae, 1992a; Costa & McCrae, 1992b), the responses to these questions were combined to create measures of the Big Five traits of openness, conscientiousness, extraversion, agreeableness, and neuroticism. Hahn, Gottschling, & Spinath (2012) confirm the validity and reliability of these measures.

Willingness to take risks

In wave one, respondents were asked to respond to the question: "*Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?*" The responses were on a Likert scale from 0 to 10, with 0 for '*Avoid taking risks*' and 10 for '*Fully prepared to take risks*'. Dohmen et al. (2011) use a similar, direct measure of individual willingness to take the risk, which is available in the German Socio-Economic Panel (GSOEP). They show that such a subjective measure of risk is a valid predictor of actual risky behaviour, by conducting two studies. First, they use the GSOEP sample, a representative sample of nearly 22,000 individuals who self-report their willingness to take the risk, to approximate the distribution of risk attitudes in the population. To further validate this measure as a good predictor of actual risk-taking behaviour, they use an experimental design, based on a representative sample of 450 individuals. In a second study, Bonin et al. (2007) use GSOEP data to show that willingness to take risk explains how a sorting mechanism in the labour market allocates employees who are more prone to take risks into riskier jobs, i.e. jobs with a higher earnings volatility.

Job satisfaction

Job satisfaction is measured on a Likert scale from 1 to 7, with 1 representing complete dissatisfaction and 7 representing complete satisfaction. The measure is based on responses to

the question: "*all things considered, which number best describes how satisfied or dissatisfied you are with your present job overall?*" The validity and reliability of such a single-item job satisfaction measure are well established in social science and management research (Nagy, 2002).

Life satisfaction

As in Chapter 3, life satisfaction is an ordinal variable, constructed from responses to the question: "*Please tick the number which you feel best describes how dissatisfied or satisfied you are with your life overall"*, with value 1 for entirely dissatisfied and 7 for completely satisfied.

4.3.3. Analytic approach

The analysis starts with the estimation of logistic regression models to assess the propensity to take risk for various socio-economic groups. These estimates are shown in Table 4.1. Then, the analysis proceeds with the estimation of maximum likelihood factor analysis to investigate whether the willingness to take risks could be classified as part of the big five personality traits (see Table 4.2). The focus of the investigation in this chapter is to estimate the effect of personality and risk on earnings, job satisfaction and life satisfaction. To this end, the analytic approach is based on the estimation of multivariate regression models for earnings (*EARN*), job satisfaction (*JS*), and life satisfaction (*LS*). More specifically, to account for the longitudinal nature of the data, random effects models are estimated of the following form:

$$(EARN)_{it} = \beta_x X_{it} + \beta_R (RISK)_i + \beta_F (FFM)_i + e_i + w_{it}, \quad (4.1)$$

$$(JS)_{it} = \gamma_x X_{it} + \gamma_R (RISK)_i + \gamma_F (FFM)_i + u_i + \eta_{it}, \quad (4.2)$$

$$(LS)_{it} = \delta_x X_{it} + \delta_R (RISK)_i + \delta_F (FFM)_i + v_i + \zeta_{it} \quad (4.3)$$

Equation (4.1) implies that the earnings of individual *i* at time *t*, $(EARN)_{it}$, are determined by her risk-taking attitude $(RISK)_i$ and her Five-Factor Model $(FFM)_i$ of personality. Both RISK and FFM are treated as time-invariant. The vector *X* includes time-varying exogenous control variables, which are shown to influence earnings in the existing literature. These variables include standard socio-demographic and firm characteristics, such as age, gender, education, health, number of children, marital status, and firm size. To control for any cyclical effects and for inflation in earnings, the vector X also includes year dummy variables. Regional dummy variables are also included. The means of all variables are shown in Appendix 4.5.1. Similarly, Equation (4.2) implies that the job satisfaction of individual *i* at time *t* is a function of risk-taking attitude and personality traits. Although job satisfaction is an ordinal categorical variable, I treat it as a cardinal variable to estimate Equation (4.2) as a random effects panel model. A reason for assuming cardinality is because it renders results that are easier to interpret. Besides, as Ferrer-i-Carbonell & Frijters (2004) emphasise, cardinal and ordinal analyses of job satisfaction produce very similar results. Following the same reasoning, cardinality is imposed on the dependent variable, when estimating the life satisfaction model of Equation (4.3). The terms e_i, u_i, and v_i are individual-specific, time-invariant components of the error terms. The terms w_{it}, η_{it} , ζ_{it} are error components, which vary across both the cross-sectional and time dimensions. Because the primary focus of chapter 4 is to evaluate the effect of risk attitude and personality, both of which are time-invariant, a fixed-effects panel specification is

ruled out in favour of the random effects specification. For the random-effects model to produce unbiased estimates, the error terms must not be correlated with the explanatory variables. For more details on the estimation methods in this chapter, see the technical appendices 4.5.1-4.5.4.

4.4. Results

The distribution of willingness to take risks across different socioeconomic groups is shown in Table 4.1. More specifically, Table 4.1. shows the estimated odds ratios of how much risk employees are willing to accept in comparison to the benchmark reference point of zero risks. Starting with the agricultural sector, the odds ratios in column (1) reveal that agricultural employees are in favour of the base reference of not willing to take risks. The coefficients for risk indicate in column (2) show that non-manual foremen are reluctant to take risks. In column 3, non-manual junior employees, in contrast, are generally more willing to take the risk as the odds ratios for categories 8, 9, and 10 are statistically significant. Employees in the personal services sector (in column 4) exhibit a high willingness to take risks. The same is true for semiskilled manual workers (in column 10). Managers are generally willing to take risks, reporting a preference for risk categories 7 and 8 over the benchmark. The same is true for professional employees, semiskilled manual workers and unskilled manual workers. The picture in terms of willingness to take risk is more mixed in the case of non-manual employees. Taken together, the odds ratios in Table 4.1 help identify clusters of risk attitudes across these socioeconomic groups, which sets the context for the analysis of the effect of risk on earnings, job and life satisfaction that follows.

Table 4.1: The odds ratio of risk per socioeconomic group (N: 18,505)

Risk	Agricultural	Non-manual Foreman	Non-manual Junior	Personal Service	Manager Large firms	Manager Small Firms	Professional Employees	Skilled Manual	Semi-skilled Manual	Unskilled Manual	Non-manual
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	0.000	0.780	1.072	1.410	0.512	0.512*	1.141	1.086	0.869	0.922	0.883
2	1.485	1.176	1.177	0.994	0.632	1.050	1.268	0.745	0.653	0.854	1.272
3	1.114	1.880*	1.598*	1.525	1.350	1.181	2.446**	1.058	1.307	0.883	1.855**
4	0.000	1.769*	1.375	1.500	0.304	1.300	1.215	0.958	0.926	0.831	1.317
5	0.946	1.005	0.985	0.922	0.966	0.930	0.924	0.859	0.948	0.740	0.951
6	0.938	0.997	0.753*	0.728	0.107	1.011	1.473*	0.513**	0.544**	0.728	1.111
7	0.446	1.142	0.855	0.949	1.819**	1.513**	1.400*	0.815	0.687*	0.538**	1.321*
8	0.258	0.807	0.734*	0.535**	1.779**	1.625**	1.450*	0.935	0.695*	0.481**	1.120
9	0.713	1.069	0.604*	0.304**	1.500	1.512	0.783	0.409**	0.432**	0.492	0.809
10	0.594	0.965	0.438**	0.434*	0.758	0.833	0.580	0.894	0.924	0.983	0.623*

Notes: * $p<0.05$; ** $p<0.01$

Table 4.2 summarises the results of performing maximum likelihood factor analysis. The main aim is to ascertain whether the willingness to take the risk can be classified as one of the Big Five dimensions of personality. Factor analysis, as a statistical technique for data reduction, allows creating a linear combination of observed personality and willingness to take risk into a latent variable that captures employees' dispositional traits. The results in Table 4.2 show, based on 9,661 observations that the first three assigned factors explain the majority of the cumulative variation. Specifically, factor 1 explains 57% of the cumulative variation and includes all Big Five personality traits. Risk-taking attitude belongs in factor 1.

Table 4.2. Summary of the extracted factors

Extracted Factor	Eigenvalue	% Total Variance	Cumulative % Variance
1	1.10915	0.5673	0.5673
2	0.51623	0.2640	0.8313
3	0.32981	0.1687	1.0000

Variable	Factor 1	Factor 2	Factor 3	Uniqueness
Agreeableness	0.3774	0.4290		0.6707
Conscientiousness	0.4313	0.3993		0.6444
Extraversion	0.4057			0.8145
Neuroticism	-0.3163		0.4067	0.7239
Openness	0.6473			0.4549
Risk-Taking Attitude	0.3117	-0.3316		0.7365

The results of the random-effects model for male employees are shown in Table 4.3. Columns (1)-(3) report the estimated coefficients for the baseline specification of the earnings, job satisfaction, and life satisfaction equations. The baseline specification contains only the control variables in vector *X*, that is only socio-demographic and firm characteristics. The results show that most coefficients have the expected sign and they are consistent with those found in previous empirical work. In column (1), earnings increase with age at a decreasing rate. Consistent with the predictions of the human capital theory, education has a positive effect on earnings. Equally, there is a positive correlation between good health and earnings. Compared to employees in large firms of more than 1000 employees (the reference category), employees in smaller firms earn less. Column (2) displays the estimated coefficients of the job satisfaction equation. Job satisfaction is U-shaped in age, and it is positively associated with good health. There is also some weak evidence that education has a negative impact. In column (3), life satisfaction results are comparable to those in the existing literature. It is worth noting,

however, the negative influence of marital separation and children in the household on life satisfaction.

In columns (4)-(6) of Table 4.3, risk-taking attitude and the FFM personality traits are incorporated in the regression analysis. These results are based on the assumption, which is supported by the factor analysis, that risk-taking attitude is treated similarly as one of the FFM personality traits. The estimated coefficients confirm the presence of a strong association between personality and careers. Agreeableness is negatively associated with earnings but positively associated with job satisfaction and life satisfaction. Conscientiousness exerts a consistently positive influence on all three outcomes, while neuroticism exerts a negative influence. Although extraversion is not linked to earnings in a statistically significant way, it is positively linked to job satisfaction and life satisfaction. Openness, on the other hand, impacts positively on earnings but not on job or life satisfaction.

Furthermore, the results shed light on the extent to which risk-taking attitude predicts the three career outcomes under consideration. Based on these results, individuals' willingness to take risks has a positive influence on earnings, suggesting that, in some sense, it pays to be a risk-taker. The effect of risk-taking attitude on life satisfaction is also positive. In contrast, there is no evidence of a statistically significant association between willingness to take risks and job satisfaction.

Table 4.3: The Effect of Risk-taking Attitude and Personality on Career Outcomes for Male Employees (Random Effects Model)

	EARN	JS	LS	EARN	JS	LS
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.066***	-0.034***	-0.049***	0.064***	-0.031***	-0.045***
	(0.003)	(0.007)	(0.007)	(0.003)	(0.007)	(0.007)
Age Squared	-0.665***	0.424***	0.573***	-0.649***	0.378***	0.511***
	(0.030)	(0.087)	(0.079)	(0.030)	(0.086)	(0.077)
Married	0.047	0.022	-0.017	0.038	-0.057	-0.129
	(0.064)	(0.196)	(0.177)	(0.064)	(0.193)	(0.171)
Single	-0.011	-0.098	-0.266	-0.017	-0.148	-0.342**
	(0.064)	(0.196)	(0.177)	(0.064)	(0.193)	(0.171)
Separated	-0.017	0.005	-0.434**	-0.025	-0.078	-0.543***
	(0.066)	(0.206)	(0.187)	(0.066)	(0.202)	(0.181)
Divorced	0.016	-0.060	-0.278	0.007	-0.142	-0.390**
	(0.065)	(0.199)	(0.180)	(0.064)	(0.196)	(0.174)
Widowed	0.014	0.187	-0.195	0.005	0.106	-0.313
	(0.076)	(0.235)	(0.213)	(0.076)	(0.231)	(0.206)
Number of Children	0.007*	0.021*	-0.026**	0.007*	0.020*	-0.028***
	(0.004)	(0.012)	(0.011)	(0.004)	(0.012)	(0.011)
Degree	0.593***	-0.082	0.102*	0.582***	-0.033	0.164***
	(0.022)	(0.062)	(0.057)	(0.023)	(0.062)	(0.055)
Other Higher Degree	0.385***	-0.074	0.049	0.373***	-0.041	0.083
	(0.024)	(0.067)	(0.060)	(0.024)	(0.066)	(0.059)
Other Qualification	0.112***	-0.128*	-0.032	0.111***	-0.102	-0.001
	(0.024)	(0.069)	(0.063)	(0.024)	(0.068)	(0.061)
A Level	0.321***	-0.135**	0.037	0.312***	-0.109*	0.064
	(0.022)	(0.062)	(0.057)	(0.022)	(0.061)	(0.055)
GCSE	0.179***	-0.147**	0.025	0.173***	-0.121*	0.052
	(0.022)	(0.063)	(0.057)	(0.022)	(0.062)	(0.055)
Excellent Health	0.071***	0.680***	1.196***	0.065***	0.585***	1.081***
	(0.017)	(0.066)	(0.065)	(0.017)	(0.066)	(0.064)
Very Good Health	0.062***	0.548***	1.050***	0.059***	0.485***	0.977***
	(0.016)	(0.065)	(0.063)	(0.016)	(0.064)	(0.062)
Good Health	0.046***	0.396***	0.802***	0.044***	0.359***	0.761***
	(0.016)	(0.064)	(0.063)	(0.016)	(0.064)	(0.062)
Fair Health	0.024	0.204***	0.450***	0.024	0.191***	0.439***
	(0.016)	(0.065)	(0.064)	(0.016)	(0.065)	(0.063)
Firm Size (0-49)	-0.219***	-0.046	-0.083***	-0.218***	-0.045	-0.082***
	(0.011)	(0.033)	(0.030)	(0.010)	(0.032)	(0.029)
Firm Size (50-99)	-0.141***	-0.122***	-0.086**	-0.141***	-0.119***	-0.082**
	(0.012)	(0.040)	(0.037)	(0.012)	(0.039)	(0.036)
Firm Size (100-199)	-0.144***	-0.068*	-0.048	-0.145***	-0.067*	-0.053
	(0.012)	(0.040)	(0.037)	(0.012)	(0.039)	(0.036)
Firm Size (200-499)	-0.118***	-0.087**	-0.030	-0.118***	-0.076**	-0.018
	(0.012)	(0.038)	(0.035)	(0.012)	(0.038)	(0.034)
Firm Size (500-999)	-0.093***	-0.143***	-0.051	-0.092***	-0.132***	-0.039
	(0.013)	(0.045)	(0.042)	(0.013)	(0.044)	(0.041)
Agreeableness				-0.021***	0.071***	0.040***
				(0.005)	(0.012)	(0.010)
Conscientious				0.014***	0.076***	0.062***
				(0.005)	(0.012)	(0.011)
Extraversion				0.002	0.051***	0.076***
				(0.004)	(0.010)	(0.009)
Neuroticism				-0.016***	-0.118***	-0.157***
				(0.004)	(0.009)	(0.008)
Openness				0.011***	-0.002	-0.007
				(0.004)	(0.011)	(0.009)
Risk-taking attitude				0.011***	0.001	0.010***

Table 4.3: The effect of Risk-taking attitude and Personality on career outcomes for male employees - Continued

				(0.001)	(0.004)	(0.003)
Chi2	5,145.65	485.52	1,306.53	5,309.96	930.69	2,171.78
P	0.00	0.00	0.00	0.00	0.00	0.00
N	31,807	31,807	30,192	31,807	31,807	30,192

Notes: * p<0.1; ** p<0.05; *** p<0.01; t-statistics in parentheses; Reference categories: Legally recognised civil partnership, No educational qualifications, firm size more than 1000 employees; all estimations include the year and regional dummy variables as controls.

Table 4.4 displays the corresponding results for female employees. The first three columns of Table 4.4 show that socio-demographic characteristics have a similar influence on the three career outcomes for females as they have for males. The main notable gender difference is about the effect of marital status and children. Marital status and children are more strongly correlated with the three outcomes under consideration than they are in the case of male employees. Turning attention to personality, the coefficients in column (4) indicate that extraversion is a stronger predictor of earnings than conscientiousness. This finding is in sharp contrast to the finding for males showing that conscientiousness has a stronger effect. The influence of other personality traits is similar to that found using the male employee sample. Being agreeable has a negative impact on earnings, but a positive impact on job satisfaction and life satisfaction. Neuroticism is negatively associated with all three outcome variables. Openness to experiences impacts positive on earnings, but it does not have any statistically significant effect on job or life satisfaction. Finally, willingness to take risks has a positive impact on earnings and life satisfaction, but not with job satisfaction.

Table 4.4: The effect of Risk-taking attitude and Personality on career outcomes for female employees (Random-effects model)

	EARN	JS	LS	EARN	JS	LS
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.059***	-0.018***	-0.039***	0.058***	-0.024***	-0.048***
	(0.002)	(0.007)	(0.007)	(0.002)	(0.007)	(0.006)
Age Squared	-0.616***	0.259***	0.441***	-0.606***	0.300***	0.512***
	(0.026)	(0.080)	(0.078)	(0.026)	(0.079)	(0.076)
Married	-0.063	-0.202	-0.036	-0.062	-0.199	-0.040
	(0.041)	(0.134)	(0.131)	(0.041)	(0.132)	(0.127)
Single	-0.093**	-0.282**	-0.291**	-0.095**	-0.271**	-0.296**
	(0.040)	(0.134)	(0.131)	(0.040)	(0.132)	(0.128)
Separated	-0.104**	-0.258*	-0.482***	-0.104**	-0.259*	-0.497***
	(0.042)	(0.141)	(0.138)	(0.042)	(0.139)	(0.135)
Divorced	-0.104**	-0.289**	-0.297**	-0.104**	-0.291**	-0.311**
	(0.041)	(0.136)	(0.132)	(0.041)	(0.134)	(0.129)
Widowed	-0.120**	-0.211	-0.352**	-0.120**	-0.225	-0.386***
	(0.047)	(0.153)	(0.149)	(0.047)	(0.151)	(0.146)
Number of Children	-0.028***	0.057***	-0.037***	-0.028***	0.050***	-0.044***
	(0.003)	(0.010)	(0.010)	(0.003)	(0.010)	(0.010)
Degree	0.661***	-0.237***	0.104**	0.642***	-0.224***	0.088*
	(0.018)	(0.052)	(0.051)	(0.018)	(0.052)	(0.050)
Other Higher Degree	0.427***	-0.190***	0.010	0.411***	-0.193***	-0.020
	(0.019)	(0.054)	(0.053)	(0.019)	(0.054)	(0.052)
Other Qualification	0.118***	-0.065	-0.070	0.114***	-0.073	-0.088
	(0.020)	(0.060)	(0.059)	(0.020)	(0.059)	(0.057)
A Level	0.307***	-0.166***	-0.034	0.296***	-0.173***	-0.061
	(0.018)	(0.053)	(0.052)	(0.018)	(0.052)	(0.050)
GCSE	0.205***	-0.159***	-0.068	0.197***	-0.159***	-0.081
	(0.018)	(0.052)	(0.051)	(0.018)	(0.052)	(0.049)
Excellent Health	0.056***	0.663***	1.280***	0.052***	0.599***	1.190***
	(0.014)	(0.055)	(0.056)	(0.014)	(0.055)	(0.056)
Very Good Health	0.042***	0.542***	1.084***	0.039***	0.503***	1.030***
	(0.014)	(0.054)	(0.055)	(0.014)	(0.054)	(0.054)
Good Health	0.023*	0.400***	0.842***	0.022	0.380***	0.817***
	(0.014)	(0.054)	(0.055)	(0.014)	(0.053)	(0.054)
Fair Health	0.014	0.207***	0.453***	0.013	0.209***	0.456***
	(0.014)	(0.055)	(0.056)	(0.014)	(0.055)	(0.055)
Firm Size (0-49)	-0.197***	0.074**	-0.070**	-0.195***	0.086***	-0.051*
	(0.009)	(0.029)	(0.029)	(0.009)	(0.029)	(0.028)
Firm Size (50-99)	-0.147***	-0.020	-0.057	-0.146***	-0.004	-0.035
	(0.011)	(0.036)	(0.035)	(0.011)	(0.036)	(0.035)
Firm Size (100-199)	-0.109***	-0.001	-0.057	-0.107***	0.009	-0.039
	(0.011)	(0.038)	(0.037)	(0.011)	(0.037)	(0.036)
Firm Size (200-499)	-0.088***	-0.126***	-0.089**	-0.088***	-0.109***	-0.069**
	(0.011)	(0.037)	(0.036)	(0.011)	(0.036)	(0.035)
Firm Size (500-999)	-0.045***	-0.106**	-0.050	-0.043***	-0.088**	-0.025
	(0.013)	(0.043)	(0.042)	(0.013)	(0.042)	(0.041)
Agreeableness				-0.028***	0.078***	0.042***
				(0.004)	(0.011)	(0.011)
Conscientious				0.006	0.067***	0.084***
				(0.004)	(0.011)	(0.010)
Extraversion				0.010***	0.023***	0.038***
				(0.003)	(0.008)	(0.008)
Neuroticism				-0.012***	-0.102***	-0.152***
				(0.003)	(0.008)	(0.007)
Openness				0.008**	-0.014	-0.009
				(0.003)	(0.009)	(0.008)

Table 4.4: The effect of Risk-taking attitude and Personality on career outcomes for female employees - Continued

Risk-taking attitude				0.006***	-0.003	0.006**
				(0.001)	(0.003)	(0.003)
Chi2	6,953.30	706.37	1,946.81	7,129.43	1,108.77	2,813.78
P	0.00	0.00	0.00	0.00	0.00	0.00
N	39,599	39,599	37,737	39,599	39,599	37,737

Notes: * $p<0.1$; ** $p<0.05$; *** $p<0.01$; t-statistics in parentheses; Reference categories: Legally recognised civil partnership, No educational qualifications, firm size more than 1000 employees; All estimations include the year and regional dummy variables as controls.

By way of a robustness check, we revisit the assumption of the random effects model that the error terms in equations (1)-(3) are not correlated with the explanatory variables. Although the random-effects model allows me to estimate the effect of the time-invariant personality and risk-taking traits, there is a possibility that this assumption is violated. This is because omitted variables, captured by the error terms, are potentially correlated with the explanatory variables. If this is the case, the random-effects model will yield biased results. To check the robustness of the results, we make use of the Hausman & Taylor (1981) method, which produces efficiently estimated coefficients for the time-invariant variables, based on the assumption that certain regressors are correlated with the individual-level error component, but not with the idiosyncratic error (see appendix 4.5.4 for details). Following Hausman & Taylor (1981), the three career outcomes are treated as time-varying endogenous variables. The Big Five personality and risk-taking traits are time-invariant exogenous variables. Chapter 4 assumes that the remaining controls are exogenous and time-varying. The results of this estimation are shown in Table 4.5. The results are reassuringly similar to those based on the estimation of the random effects. Risk-taking attitude continues to have a positive effect on both earnings and life satisfaction for both genders. The association between risk-taking attitude and job satisfaction remains not statistically significant.

Table 4.5: Hausman-Taylor estimator for error-components models

Males	JS	LS	LS	EARN	EARN
Time-Variant Endogenous					
EARN	0.176***	0.142***			
JS			0.113***		0.009***
			(0.006)		(0.001)
LS				0.007***	
				(0.001)	
Time-Invariant Exogenous					
Agreeableness	0.076***	0.043***	0.031***	-0.021***	-0.022***
	(0.013)	(0.012)	(0.011)	(0.006)	(0.006)
Conscientiousness	0.072***	0.059***	0.053***	0.015**	0.014**
	(0.014)	(0.012)	(0.012)	(0.006)	(0.006)
Extraversion	0.051***	0.075***	0.070***	-0.001	-0.001
	(0.011)	(0.010)	(0.009)	(0.005)	(0.005)
Neuroticism	-0.119***	-0.156***	-0.145***	-0.016***	-0.015***
	(0.011)	(0.009)	(0.009)	(0.005)	(0.005)
Openness	-0.004	-0.006	-0.005	0.013**	0.013**
	(0.012)	(0.010)	(0.010)	(0.005)	(0.005)
Risk-taking attitude	-0.002	0.009**	0.010***	0.011***	0.011***
	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)
N	31,807	30,192	30,192	30,192	31,807
Females	JS	LS	LS	EARN	EARN
Time-Variant Endogenous					
EARN	0.084***	0.047**			
	(0.024)	(0.024)			
JS			0.095***		0.004***
			(0.006)		(0.001)
LS				0.002	
				(0.001)	
Time-Invariant Exogenous					
Agreeableness	0.081***	0.043***	0.034**	-0.029***	-0.029***
	(0.013)	(0.015)	(0.015)	(0.005)	(0.005)
Conscientiousness	0.068***	0.085***	0.079***	0.007	0.006
	(0.013)	(0.015)	(0.015)	(0.005)	(0.005)
Extraversion	0.022**	0.038***	0.036***	0.009**	0.009**
	(0.010)	(0.011)	(0.011)	(0.004)	(0.004)
Neuroticism	-0.101***	-0.155***	-0.145***	-0.013***	-0.013***
	(0.009)	(0.010)	(0.010)	(0.004)	(0.004)
Openness	-0.014	-0.010	-0.009	0.010**	0.010**
	(0.010)	(0.012)	(0.012)	(0.004)	(0.004)
Risk-taking attitude	-0.003	0.007	0.008*	0.007***	0.007***
	(0.004)	(0.004)	(0.004)	(0.002)	(0.002)
N	39,599	37,737	37,737	37,737	39,599

Notes: * $p<0.1$; ** $p<0.05$; *** $p<0.01$; t-statistics in parentheses; Reference categories: Legally recognised civil partnership, No educational qualifications, firm size more than 1000 employees; All estimations include the year and regional dummy variables as controls.

4.5. Conclusion

Chapter 4 provides evidence that employees' willingness to take risks is associated with higher earnings and greater satisfaction with life, even after controlling for personality traits. Hence, it emerges that although risk attitude is correlated with personality traits, it exerts an independent influence on earnings and life satisfaction. In contrast, the investigation provides evidence that predisposition to take risks is associated with job satisfaction, independently of the effect of personality. These effects are robust to controlling for sociodemographic characteristics and to using alternative estimation methods. Broadly, the emerging associations between dispositional traits and career outcomes are qualitatively similar for both genders. There is some evidence, nonetheless, that the effect of risk attitude on earnings and life satisfaction is quantitatively stronger for male employees than it is for female employees.

4.6. Appendix

4.6.2. Descriptive Statistics

Table 4.A1: Descriptive statistics

Variable	N	Mean	Max	Min
EARN	71,406	2.47	9.02	0
JS	71,406	5.25	7	1
LS	67,929	5.17	7	1
Age	71,406	42.18	65	18
Age Squared	71,406	1.90	4.225	0.32
Married	71,406	0.57	1	0
Single	71,406	0.29	1	0
Separated	71,406	0.02	1	0
Divorced	71,406	0.10	1	0
Widowed	71,406	0.01	1	0
Number of Children	71,406	0.94	7	0
Degree	71,406	0.32	1	0
Other Higher Degree	71,406	0.14	1	0
Other Qualification	71,406	0.07	1	0
A level	71,406	0.22	1	0
GCSE	71,406	0.21	1	0
Excellent Health	71,406	0.20	1	0
Very Good Health	71,406	0.40	1	0
Good Health	71,406	0.29	1	0
Fair Health	71,406	0.10	1	0
North East	71,406	0.04	1	0
North West	71,406	0.11	1	0
Yorkshire Humber	71,406	0.08	1	0
East Midlands	71,406	0.07	1	0
Midlands	71,406	0.08	1	0
East of England	71,406	0.09	1	0
London	71,406	0.11	1	0
South East	71,406	0.12	1	0
South West	71,406	0.08	1	0

Wales	71,406	0.07	1	0
Scotland	71,406	0.10	1	0
Year 1	71,406	0.15	1	0
Year 2	71,406	0.21	1	0
Year 3	71,406	0.26	1	0
Year 4	71,406	0.18	1	0
Year 5	71,406	0.18	1	0
Firm Size (0-49)	71,406	0.45	1	0
Firm Size (50-99)	71,406	0.12	1	0
Firm Size (100-199)	71,406	0.11	1	0
Firm Size (200-499)	71,406	0.12	1	0
Firm Size (500-999)	71,406	0.07	1	0
Firm Size (1000 or more)	71,406	0.14	1	0
Agreeableness	71,406	5.62	7	1
Conscientiousness	71,406	5.61	7	1
Extraversion	71,406	4.62	7	1
Neuroticism	71,406	3.56	7	1
Openness	71,406	4.59	7	1
Risk-taking attitude	71,406	3.24	10	0

4.6.3. Logistic regression

When the intent is to model binary outcomes as a function of predictor variables, logistic regression is an appropriate method. For logistic regression, the dependent is the probability that the resulting outcome indicates the presence of a condition. That is a variable indicator variable coded as 1 or 0.

The logarithmic of odds represents a logit transformation, where the logit is a function of covariates that:

$$Y_i = logit(P_i) = \ln\left(\frac{P_i}{1 - P_i}\right) = \beta_0 + \beta_1 X_{1,\iota} + \beta_2 X_{2,1} + \cdots \qquad (4A.1)$$

where betas are the model constant and the unknown parameters corresponding with the explanatory variables chis. The explanatory variables can be both continuous and discrete variables. The beta parameters are estimated with the use of maximum likelihood methods. The difference with the ordinary least square method is that in the latter, the beta parameters are estimated through minimisation. The principle behind maximum likelihood is that different populations generate different samples. So, any sample is more likely to come from some populations than others. If a random sample of y_i is drawn, there is a parameter β that is most likely to generate the sample. The sample mean β_a associated with distribution A is much more likely to generate the sample from that distribution rather than distribution B. Maximum likelihood estimation seeks the set of parameters that are most likely to have generated the observed data y_i among all possible betas. That makes a joint density of observing the sample data from a statistical distribution with parameter vector β, such that:

$$f(X_1, X_2, \dots, \beta) = \prod_{i=1}^{n} f(x_i, \beta) = L(\beta|X) \qquad (4A.2)$$

The likelihood function for the regression model is given by:

$$L = (2\pi\sigma^2)^{-\frac{n}{2}} e^{\left[-\frac{1}{2\sigma^2}\Sigma_{i=1}^{n}\left(Y_i - X_i^T\beta\right)^2\right]} \qquad (4A.3)$$

Taking the log of the likelihood function to form the log-likelihood equation yields:

$$Ln(L) = -\frac{n}{2}\ln(2\pi) - \frac{n}{2}\ln(\sigma^2) - \frac{1}{2\sigma^2}\left(\sum_{i=1}^{n}(Y_i - X_i^T\beta)^2\right) \qquad (4A.4)$$

Maximising the above function with respect to β and σ^2, reveals a solution for the estimates of the betas[1] that is equivalent to ordinary least square estimates. The difference is that the maximum likelihood estimates are borne out of asymptotic theory, which means that as the sample size increases, the estimates are consistent. Because however, betas are derived from the joint distribution it is needed to specify the family distribution a priori.

Once the parameters are estimated, they are employed to estimate the probability outcome that takes the value 1 as a function of covariates using:

[1] $\hat{\beta} = (X^T X)^{-1} X^T Y$

$$P_i = \frac{e^{(\beta_0+\beta_1 X_{1,\iota}+\beta_2 X_{2,1}+\cdots)}}{1+e^{(\beta_0+\beta_1 X_{1,\iota}+\beta_2 X_{2,1}+\cdots)}} \qquad (4A.5)$$

Factor analysis

The empirical aim of the analysis is to reduce the number of N variables to a smaller set of parsimonious $K < N$ variables. The objective is to describe the covariance among many variables in terms of a few unobservable factors. Factor analysis relies on the correlation matrix. Typically, there should be a theoretically motivated reason that some variables measure an underlying phenomenon, rather than simply feed all variables with the intention to uncover real dimensions in the data. The factor analysis model is formulated by expressing the X_i as linear functions, such that:

$$\begin{array}{rcccc} X_1-\mu_1 = & \lambda_{11}\Phi_1+\lambda_{12}\Phi_2+ & \cdots & +\varepsilon_1 \\ X_2-\mu_2 = & \lambda_{21}\Phi_1+\lambda_{22}\Phi_2+ & \cdots & +\varepsilon_2 \\ X_3-\mu_3 = & \lambda_{31}\Phi_1+\lambda_{32}\Phi_2+ & \cdots & +\varepsilon_3 \\ \vdots & \vdots & \vdots & \vdots \end{array} \qquad (4A.6)$$

wherein a matrix formation, the factor analysis model, is given as:

$$(X-\mu)_{Nx1} = \lambda_{NxK}\Phi_{Kx1} + \varepsilon_{Nx1} \qquad (4A.7)$$

with Φ depicting factors, λ the factor loadings with ε being associated with the X_i. Factor interpretation typically means assigning names to each factor. The correlation matrix, let us call it Σ, above is decomposed as:

$$\Sigma = \lambda \Phi \lambda' + \psi \qquad (4A.8)$$

where ψ represents the diagonal matrix of uniqueness. The unrotated form assumes uncorrelated common factors $\Phi = I$. The decomposition is performed by an eigenvector calculation. An estimate is found for uniqueness ψ, and then the columns of λ are computed as the leading eigenvectors, scaled by the square root of the appropriate eigenvalue. The loadings could be rotated. The factor rotation method determines the type of factor analysis model, orthogonal or oblique. Factor loadings that are either close to 1 or 0 are sought. When the factor loading is close to 1, this suggests that a variable X_i is largely influenced by the Φ_i. On the contrary, when the factor loadings are close to 0, this suggests a minimal to none influence from the Φ_i to the X_i. The varimax method for conducting orthogonal rotation tends to maximise the sum of variances of the factor loadings. The oblique method relaxes the restriction of uncorrelated factor loadings, resulting in factors that are nonorthogonal and helps get a better interpretable structure. The interpretation of factor analysis is straightforward. Variables that have high factor loadings are thought to be highly influential in describing the factor, whereas variables with low factor loadings are less influential in describing the factor. Inspection of the variables with high factor loadings on a specific factor is used to uncover structure or commonality among variables. The rotation method minimises a scalar-valued criterion function $c(AT)$ with respect to the set of orthogonal matrices $T'T = I$ or $c(A(T')^{-1}$with respect to the normal matrix $diag(T'T) = 1$. In the present chapter the

equamax orthogonal rotation is used which had been firstly derived from the Crawford & Ferguson (1970) family:

$$c(\lambda) = \frac{1-\kappa}{4}\langle \lambda^2, \lambda^2(11' - I)\rangle + \frac{\kappa}{4}\langle \lambda^2, (11' - I)\lambda^2\rangle \qquad (4A.9)$$

where $\langle \lambda^2, \lambda^2(11' - I)\rangle$, is the trace of the matrix $\lambda(11' - I)$ defined as $tr[\lambda^{2'}\lambda^2(11' - I)]$ and $\langle \lambda^2, (11' - I)\lambda^2\rangle$ is the trace of the matrix $\lambda^{2'}(11' - I)\lambda^2$, which are basically the sum of diagonal elements of the respective matrixes, with:

$$k = \frac{f}{2\pi} \qquad (4A.10)$$

Yet, the equamax could also be derived from the oblimin family, as suggested by Jennrich (1979). Specifically:

$$c(\lambda) = \frac{1}{4}\langle \lambda^2, \left\{I - \frac{\gamma}{\rho}11'\right\}\lambda^2(11' - I)\rangle \qquad (4A.11)$$

For

$$\gamma = \frac{\rho}{2} \qquad (4A.12)$$

4.6.4. One-way error component model – fixed effects panel data

Panel or pooled data combine cross-sectional and time-series characteristics. The modelling of panel data raises new specification issues such as heterogeneity, which if not explicitly accounted for, may lead to model parameters that are inconsistent or meaningless. Panel data are vulnerable to cross-sectional distortions, such as heteroscedasticity, time-series distortions and serial correlation. Heterogeneity bias (Hausman & Taylor, 1981), refers to the differences across cross-sectional units that may not be appropriately reflected in the available data. If heterogeneity across cross-sectional units is not accounted for in a statistical model, estimated parameters are biased because they capture part of the heterogeneity. Serial correlation of the disturbance terms occurs in time-series when the disturbances associated with observations in one time period are dependent on disturbances from prior time periods, which is exacerbated by a high degree of temporal correlation in the cumulative effects of omitted variables. Serial correlation does not affect the unbiasedness of consistency of the variables, but their efficiency, which is reflected in the estimates of the standard errors. When these are small, they are causing a bias in the t-statistics, thus increasing the likelihood of rejecting the correct null hypothesis. Heteroscedasticity refers to the variance of the disturbances not being constant across observations. The most common way to account for model heterogeneity is to introduce variable-intercept models across individuals or time often called one-way models and across both individuals and time often called two-way models.

The analysis employs the one-way error correction model. The variable-intercepts model assumes that the effects of omitted variables may be individually unimportant but are collectively significant and thus are considered to be a random variable that is independent of included independent variables. Because heterogeneity effects are assumed to be constant for

given cross-sectional units or different cross-sectional units during one time period, they are absorbed by the intercept term. Formally, it is:

$$Y_{it} = a + \beta X_{it} + u_{it} \qquad (4A.13)$$

where i refers to the cross-sectional units and t refers to the time periods, α is the intercept scalar, β is the coefficient parameter vector and X_{it} is the variable matrix. For disturbances, it is:

$$u_{it} = \mu_i + c_{it} \qquad (4A.14)$$

where μ_i is the unobserved cross-sectional specific effect and $c_{\iota\tau}$ are random disturbances. In the combination of the above equations the fixed-effects model is derived:

$$Y_{it} = a + \beta X_{it} + \mu_i + c_{\iota t} \qquad (4A.15)$$

On which ordinary least squares, which provide best linear unbiased estimators for a, β and μ_i. The ordinary least squares are run in the following equation:

$$\left(Y_{it} - \bar{Y}_i + \bar{\bar{Y}}\right) = \alpha + \left(X_{it} - \bar{X}_i + \bar{\bar{X}}\right)\beta + (c_{\iota t} - \bar{c}_i + \bar{\bar{c}}) + \bar{\mu} \qquad (4A.16)$$

where:

$$\bar{Y}_i = \sum_{t=1}^{T} \frac{Y_{it}}{T} \qquad (4A.17)$$

so similarly:

$$\bar{\bar{Y}} = \sum_{i}^{N} \sum_{t}^{T} \frac{Y_{it}}{NT} \qquad (4A.18)$$

One severe limitation of the fixed-effects specification is that the model suffers from a glaring shortcoming in that it requires the estimation of many parameters and the associated loss of degrees of freedom. This shortcoming is generally avoided if the μ_i is considered to be random variables independent of c_{it} and X_{it}, as well as X_{it} is independent of c_{it}. That is an appropriate specification if several cross-sectional units are randomly drawn from the large population. However, because Moulton (1986) argues that the assumption of independent errors is usually incorrect for random-effect models, staying with fixed effects is more appropriate. The fixed-effects model has a considerable virtue in that it does not assume that the individual effects are uncorrelated with the regressors $E(c_{it}|X_{it}) = 0$, as is assumed by the random-effects model. When it is assumed that individual effects are uncorrelated with the regressors then the effect is a downward bias in the estimated parameters (Chamberlain, 1978).

With the intent of identifying potential correlations between the individual effects and the regressors, Hausman (1978) devised a test to examine the null hypothesis of no correlation between the individual effects and X_{it}. Hausman's test is not a tool for conclusively deciding between the fixed and random-effects specifications. A rejection of the null hypothesis of no correlation suggests the possible inconsistency of the random-effects model and the possible preference for a fixed-effects specification. The test assumes that under the null hypothesis

both a least squares dummy variable estimator and a general least squares estimator are consistent and asymptotically efficient, whereas under the alternative hypothesis the general least square estimator is biased and inconsistent for β, but the least squares dummy variable remains unbiased and consistent. The test statistic that will determine if the null hypothesis will be accepted or rejected is:

$$h = \hat{d}'[VAR(\hat{d})]^{-1}\hat{d} \qquad (4A.19)$$

with:

$$\hat{d} = \hat{\beta}_{GLS} - \hat{\beta}_{LSDV} \qquad (4A.20)$$

also, the assumption that:

$$Cov(\hat{\beta}_{GLS}, \hat{d}) = 0 \qquad (4A.21)$$

Sometimes it is not possible to have a balanced panel dataset. Instead, an unbalanced data set is often the case, which refers to cases where cross-sectional units or individuals are not observed over the entire sample period. However, in this case, despite missing values lead to less elegant expressions for estimators, in terms of computational complexity they do not constitute significant problems because the fixed-effects estimator offers a somewhat more significant sampling variance (Wansbeek & Kapteyn, 1989).

4.6.5. Hausman-Taylor estimator

The Hausman-Taylor estimator is basically an error correction model with the following form:

$$Y_{it} = \beta_1 X_{1it} + \beta_2 X_{2it} + \delta_1 Z_{1i} + \delta_2 Z_{2\iota} + \mu_i + c_{it} \qquad (4A.22)$$

where X_{1it} is the vector of exogenous time-varying variables assumed to be uncorrelated with μ_i and c_{it}, X_{2it} is the vector of endogenous time-varying variables assumed to be possibly correlated with μ_i and orthogonal with c_{it}. Additionally, Z_{1i} is the exogenous time-invariant vector of variables assumed as well to be uncorrelated with the two error terms, while $Z_{2\iota}$ is the endogenous time-invariant vector of variables possibly correlated with μ_i and orthogonal to c_{it}.as far as the error terms, μ_i is the random error component and c_{it} is the idiosyncratic error component. Because X_{2it} and $Z_{2\iota}$ are correlated with the μ_i, the fixed effect estimator removes the μ_i before estimating betas by mean-differencing the data. The result is not very promising. In the process of removing the random error disturbance, the within-estimator eliminates the zetas, thus making it impossible to receive any delta parameter estimators. That problem is solved with the Hausman-Taylor estimator. Hausman & Taylor (1978) suggest an instrumental variable estimator for the model above. Based on their methodology they used the reduced equation instead:

$$\tilde{Y}_{it} = \hat{\beta}_1 \tilde{X}_{1it} + \hat{\beta}_2 \tilde{X}_{2it} + \tilde{c}_{it} \qquad (4A.23)$$

where

$$\tilde{Y}_{it} = Y_{it} - \bar{Y}_{it}, \qquad (4A.24)$$

$$\tilde{X}_{1it} = X_{1it} - \bar{X}_{1it}, \tag{4A.25}$$

$$\tilde{X}_{2it} = X_{2it} - \bar{X}_{2it}\ and \tag{4A.26}$$

$$\tilde{c}_{it} = c_{it} - \bar{c}_{it} \tag{4A.27}$$

The within estimator cannot yet estimate the δ_1, and δ_2. To obtain an estimate of the idiosyncratic error component, σ_c^2 as:

$$\hat{\sigma}_c^2 = \frac{RSS}{N - n} \tag{4A.28}$$

where the nominator above is the residual sum of squares from the within regression and N is the total number of observations in the sample. Using the results above:

$$\bar{d}_{it} = \bar{Y}_{it} - \hat{\beta}_1 \bar{X}_{1it} - \hat{\beta}_2 \bar{X}_{2it} \tag{4A.29}$$

where $\bar{Y}_{it}$, $\bar{X}_{1it}$ and $\bar{X}_{2it}$ contain the panel means of these variables in all observations. Now regressing $\bar{d}_{it}$ on Z_{1i} and $Z_{2\iota}$ using X_{1it} and Z_{1i} as instruments, provides consistent estimates for the deltas called $\hat{\delta}_1$ and $\hat{\delta}_2$. Now to obtain the variance of the random effect σ_c^2. To this end, the value for my error term estimator is needed:

$$\hat{c}_{it} = \left(Y_{it} - \hat{\beta}_1 X_{1it} - \hat{\beta}_2 X_{2it} - \hat{\delta}_1 Z_{1i} - \hat{\delta}_2 Z_{2\iota}\right) \quad (4A.30)$$

In order to estimate:

$$s^2 = \frac{1}{N}\sum_{i=1}^{N}\sum_{t=1}^{T}(\frac{1}{T}\sum_{t=1}^{T}\hat{c}_{it})^2 \quad (4A.31)$$

For the unbalanced panel in chapter 5, it is crucial to have:

$$\operatorname*{plim}_{n\to\infty} s^2 = \bar{T}\sigma_\mu^2 + \sigma_c^2 \quad (4A.32)$$

with

$$\bar{T} = \frac{N}{\sum_{i=1}^{N}\frac{1}{T}} \quad (4A.33)$$

Now the consistent estimate for μ_i's variance is derived from:

$$\sigma_\mu^2 = (s^2 - \hat{\sigma}_c^2)(\bar{T})^{-1} \quad (4A.34)$$

Next, the above variances are plugged on a new construct estimator $\hat{\theta}_i$:

$$\hat{\theta}_i = 1 - \left(\frac{\hat{\sigma}_c^2}{\hat{\sigma}_c^2 + T\sigma_\mu^2} \right)^{\frac{1}{2}} \qquad (4A.35)$$

The $\hat{\theta}_i$ is vital for the standard random-effects general least squares transform on each variable given by:

$$\ddot{Y}_{it} = \beta_1 \ddot{X}_{1it} + \beta_2 \ddot{X}_{2it} + \delta_1 \ddot{Z}_{1i} + \delta_2 \ddot{Z}_{2\iota} + \mu_i + c_{it} \qquad (4A.36)$$

where

$$\ddot{Y}_{it} = Y_{it} - \hat{\theta}_i \bar{Y}_{it}, \qquad (4A.37)$$

$$\ddot{X}_{1it} = X_{1it} - \hat{\theta}_i \bar{X}_{1it}, \qquad (4A.38)$$

$$\ddot{X}_{2it} = X_{2it} - \hat{\theta}_i \bar{X}_{2it}, \qquad (4A.39)$$

$$\ddot{Z}_{1it} = Z_{it} - \hat{\theta}_i \bar{Z}_{1it}, \qquad (4A.40)$$

$$\ddot{Z}_{2it} = Z_{it} - \hat{\theta}_i \bar{Z}_{2it}, \qquad (4A.41)$$

CHAPTER 5: WILLINGNESS TO TAKE RISKS AND SELECTION INTO PERFORMANCE RELATED PAY

5.1. Introduction

This chapter examines the effect of Performance Related pay (PRP) on wages for a sample of British employees. There is an extensive literature on how performance-related pay (PRP) is associated positively with increased earnings (Seiler, 1984; Brown, 1992; Ewing, 1996; Booth & Frank, 1999; Lazear, 1986; Paarsch & Shearer, 2000; Shearer, 2004; Pekkarinen & Riddel, 2008). The main explanation for such a link is that individuals are drawn to PRP jobs by the incentives and opportunities they offer for earning higher income in exchange of more effort (Rynes, Gerhart, & Minette, 2004). Successful PRP schemes rely on employees' extrinsic motivation and how performance is tied to rewards and punishments in a way that aligns the interests of employees and the employers (Deckop, Mangel, & Cirka, 1999).

The arguments for introducing PRP schemes are based on their well-documented link to productivity and organisational performance (Gielen, Kerkhofs, & Van Ours, 2010). However, one of the main issues in empirical studies that try to establish the link between PRP and performance is the endogeneity of PRP schemes (McNabb & Whitfield, 2007). Endogeneity posits the question of whether PRP improves productivity and performance or whether PRP is determined by factors related to productivity and performance. Ignoring the endogeneity of PRP when assessing its effect on productivity produces biased and misleading results. Because of the volatility of earnings associated with PRP schemes, only individuals who are willing to take risks are likely to opt-out for such schemes. Occasionally, when firms introduce PRP compensation schemes without employees being able to opt-out, their impact on productivity and wages is weakened (Boselie, Paauwe, & Jansen, 2001). To control for the

possible endogeneity of PRP schemes, empirical studies treat risk attitudes and other individual characteristics as unobserved variables and employ statistical techniques to mitigate their effects (e.g. instrumental variables). Damiani, Pompei, & Ricci (2016) examine the issue of PRP endogeneity and wages for Italian firms. The endogenous variable in PRP and the instrument is a dummy variable for high or low volatility for the firm sales over three years. However, although PRP is an endogenous variable, the real effect remains latent until an unbiased regressor acts as a valid instrument. In this case, the literature hints what a suitable instrument for PRP would be, suggesting there is a positive relationship between risk attitudes and performance-related pay (Cornelissen, Heywood, & Jirjahn, 2011). Frederiksen (2013) accounts for the heterogeneity of earnings growth, which is determined by effort and ability. Unlike previous studies that treat risk attitude as an unobserved variable, the analysis in this chapter uses a measure of individuals' willingness to take risk, which is available in the UKHLS.

5.2. Theoretical background and hypotheses

Positive psychology (Selingman & Csikszentmihalyi, 2000) aim to study positive experiences and find ways of improving human functioning, performance and well-being. The self-rewarding subjective experience is formulated by the self-perceived challenge of the situation and the self-perceived skills of the person (Moneta & Csikszentmihalyi, 1996). Stavrou et al. (2015) have argued that task orientation and feeling more skilful are important elements for individuals to get into flow. Despite the flow theory has been encouraged in the sport environment (Csikszentmihalyi, 1992) to achieve peak performance (Jackson & Roberts, 1992) an important correlate is perceived ability (Jackson et al., 1998; 2001). In an occupational

context it has been applied by Demerouti (2006) suggesting that flow at work positively relates to job performance. Flow can be even more important than achieving a better income (Csikzentmihalyi, 1999). Learning a new skill can help achieve this flow (Csikszentmihalyi & LeFevre, 1989), which helps individual become immersed in what they do (Bakker, 2005). The theory of flow is important within an occupational context, because it can be stretched as far as work goals, stimulating personal grow, and development and reducing job demands, which increase burnout (Demerouti et al., 2001). To achieve high in-role performance, employees will have to experience flow in activities that serve goals of the organisation. But there is a question remaining. How individuals are exhibiting voluntary behaviour during non-flow experiences and is risk the linking mechanism that helps individuals in building their personal resources?

Hypothesis 9: Self-selection (less flow) is expected to exist among individuals.

Hypothesis 10: Risk (or flow from coping after being selected) is expected to positively impact individual performance-related pay and thus income.

5.3. Methodology

5.3.1. Sample

Chapter 5 makes use of the UK Household Longitudinal Survey (UKHLS), an extensive representative survey of people living in the UK, which captures information about people's social and economic circumstances, attitudes and behaviour of many themes such as family, education, finance, employment, health and well-being. The Economic and Social Research Council (ESRC) is the primary funding body for the US as well as other confounding public bodies. The sample consists of 13,922 full-time employees between the age of 10 and 65. The

sample consists of those who started their job before 2016. The range of starting year is between 1961 and 2011.

5.3.2. Measures

Performance-related pay

In waves 2, 4, and 6 of the UKHLS, respondents are asked whether their performance is assessed by performance-related pay (PRP) as part of an agreed payment scheme. Responses are coded 1 if the payment is determined by a PRP scheme and 0 otherwise.

Willingness to take risks

The first wave of the UKHLS contains a question measuring individual risk attitude on a 10-point scale from 0 “not willing to take any risks” to 10 “fully committed to taking risks”.

Earnings

Earnings are measured by the hourly usual gross pay, calculated as follows: Hourly earnings= [(Usual monthly gross pay) x 12/52]/(Usual weekly hours of work).

Other control variables

Other controls include age, gender, marital status, education, children, firm size, region and health status.

5.3.3. Analytic approach

Chapter 5 estimates the following model of equations (5.1 - 5.3) using the Heckman method for correcting sample selection bias (Heckman, 1976; Heckman, 1979).:

$$\ln(wage) = (PRP)\omega_0 + x_{1i}\omega_{01} + u_1 \qquad \text{(Regression equation)} \qquad (5.1)$$

Wages are observed if:

$$\gamma_0 + (PRP)\gamma_1 + x_{1i}\gamma_2 + u_2 > 0 \qquad \text{(Selection equation)} \qquad (5.2)$$

where u_1 and u_2 have correlation ϱ (rho), while the standard error of the residual is reported as untransformed σ (sigma). The selectivity effect (lambda) is reported as follows:

$$\lambda = \varrho\sigma \qquad \text{(Selectivity effect)} \qquad (5.3)$$

The estimated lambda effect value is 0.149 (Table 5.1) and depicts that the data do not suffer from sample selection bias, which is equally as saying that the correlation of the error term between the regression and selection equation is not significant.

As there is no evidence of sample selection bias, the analysis proceeds with the estimation of two-stage least square (2SLS) instrumental variable regression approach (Basmann, 1957) to investigate the effect of endogeneity of logarithmic value of wages:

$$\ln(wage) = (PRP)\beta_1 + x_{1i}\beta_2 + \varepsilon_i \quad (5.4)$$

$$(PRP) = x_{1i}\Pi_1 + (Willingness\ to\ take\ risks)\Pi_2 + e_i \quad (5.5)$$

where ln $(wage)$, is the wages variable for the *i*th observation, PRP represents the performance-related pay and the instrumental variable x_{1i} represents the exogenous regressors. Appendix 5.5.2 provides a description of the two-stage least squares methodology.

5.4. Results

Model (1) in Table 5.2 confirms the positive relationship between risk and performance-related pay when they are considered as exogenous variables. However, the exogeneity assumption of PRP might be violated if individuals adopt a reward system based on productivity performance. PRP is treated as endogenous and is correlated with the error term in model (2). Analogous results have been obtained by replicating the estimated strategy in model (3). The difference between model (2) and (3) is that in model (2) risk is an instrument, while in model (3) risk is both an instrument and an exogenous variable. In models (2) and (3), the effect of PRP on wages is stronger than that in model (1).

Table 5.1: Instrumental variables of logarithmic wage equation estimates

Ln(Wage)		Heckman Selection Model	
	GLM	Step-1 Estimate	Step-2 Estimate
Risk	0.015*** (0.002)	-	-0.011 (0.713)
Performance related pay	0.155** (0.011)	0.156*** (0.000)	-0.070 (0.711)
Number of children	-0.022*** (0.005)	-0.022*** (0.000)	-0.076 (0.309)
Male	0.192*** (0.008)	0.203*** (0.000)	0.044 (0.762)
Age	0.059*** (0.003)	0.058*** (0.000)	0.086* (0.087)
Age squared	-0.603** (0.035)	-0.599*** (0.000)	-1.125** (0.042)
Union	0.112*** (0.008)	0.110*** (0.000)	0.167 (0.336)
Married	0.087** (0.042)	0.085** (0.024)	0.272 (0.506)
Single	0.029** (0.042)	0.029 (0.445)	0.429 (0.360)
Civil partnership	0.137* (0.071)	0.133** (0.078)	4.170 (-)
Separated	0.011** (0.046)	0.011 (0.810)	-0.253 (0.585)
Divorced	0.037** (0.043)	0.041 (0.300)	0.255 (0.564)
Excellent health	0.135** (0.033)	0.149*** (0.000)	4.446 (-)
Very good health	0.116** (0.032)	0.124*** (0.000)	0.245 (0.504)
Good health	0.060** (0.032)	0.067 (0.037)	0.264 (0.473)
Fair health	0.004** (0.034)	0.008 (0.807)	0.185 (0.634)
Degree	0.636** (0.018)	0.650*** (0.000)	-0.011 (0.967)
Other higher degree	0.415** (0.019)	0.428*** (0.000)	-0.112 (0.681)
A level	0.312** (0.018)	0.322*** (0.000)	0.267 (0.361)
GCSE	0.197** (0.017)	0.206*** (0.000)	0.189 (0.488)
Other qualification	0.115** (0.020)	0.119*** (0.000)	-0.112 (0.681)
Firm size (0 – 49)	-0.246** (0.013)	-0.247*** (0.000)	-0.218 (0.388)
Firm size (50 – 99)	-0.173** (0.015)	-0.175*** (0.000)	-0.104 (0.736)
Firm size (100 – 199)	-0.152** (0.016)	-0.152*** (0.000)	0.175 (0.649)
Firm size (200 – 499)	-0.142** (0.015)	-0.144*** (0.000)	0.247 (0.526)
Firm size (500 – 999)	-0.075** (0.018)	-0.079*** (0.000)	-0.218 (0.513)
North East	-0.040** (0.022)	-0.035 (0.195)	4.074 (-)
North West	0.005** (0.018)	0.009 (0.683)	-0.128 (0.751)
Yorkshire Humber	-0.029** (0.020)	-0.023 (0.310)	0.158 (0.739)
East Midlands	-0.025** (0.020)	-0.019 (0.391)	-0.081 (0.848)
Midlands	0.016 (0.019)	0.021 (0.366)	-0.165 (0.684)
East of England	0.075** (0.020)	-0.081*** (0.000)	-0.216 (0.848)
London	0.118** (0.020)	0.123*** (0.000)	0.075 (0.862)
South East	0.100** (0.019)	0.107*** (0.000)	-0.168 (0.645)
South West	0.011** (0.020)	0.019 (0.405)	0.199 (0.680)
Wales	-0.049** (0.022)	-0.046* (0.080)	-0.256 (0.557)
Scotland	0.008 (0.020)	0.014 (0.542)	0.185 (0.695)
Constant	0.506* (0.081)	0.582*** (0.000)	1.047 (0.421)
Lambda			0.149 (0.830)
Rho			0.337
Sigma			0.443
Number of observations	12731	12731	12757

* p<0.1; ** p<0.05; *** p<0.01; t-statistics in parentheses.

Table 5.2

Instrumental variables of logarithmic wage equation estimates

Ln(Wage)	Model (1) PRP and willingness to take risks as exogenous	Model (2) PRP and willingness to take risks as instruments	Model (3) PRP as an instrument and willingness to take risks as exogenous and an instrument
Willingness to take risks	0.016*** (0.002)	-	0.010*** (0.003)
Performance related pay	0.163*** (0.011)	2.008*** (0.256)	1.776*** (0.242)
Number of children	-0.020*** (0.005)	0.007 (0.009)	0.004 (0.008)
Male	0.193*** (0.008)	0.098*** (0.021)	0.103*** (0.019)
Age	0.059*** (0.003)	0.043*** (0.006)	0.045*** (0.005)
Age squared	-0.598*** (0.035)	-0.370*** (0.069)	-0.403*** (0.063)
Union	0.102*** (0.008)	0.125*** (0.017)	0.123*** (0.015)
Married	0.085** (0.042)	0.111 (0.069)	0.109* (0.063)
Single	0.030 (0.043)	0.116 (0.072)	0.105 (0.066)
Civil partnership	0.135* (0.072)	0.320** (0.141)	0.300** (0.129)
Separated	0.009 (0.046)	0.079 (0.082)	0.070 (0.075)
Divorced	0.031 (0.043)	0.075 (0.072)	0.068 (0.066)
Excellent health	0.132*** (0.033)	0.065 (0.061)	0.067 (0.055)
Very good health	0.113*** (0.032)	0.035 (0.060)	0.041 (0.054)
Good health	0.059* (0.032)	-0.001 (0.059)	0.003 (0.054)
Fair health	0.003 (0.034)	-0.059 (0.062)	-0.053 (0.057)
Degree	0.655*** (0.018)	0.456*** (0.047)	0.473*** (0.043)
Other higher degree	0.423*** (0.019)	0.330*** (0.041)	0.335*** (0.038)
A level	0.315*** (0.018)	0.164*** (0.043)	0.177*** (0.040)
GCSE	0.201*** (0.017)	0.131*** (0.039)	0.135*** (0.035)
Other qualification	0.120*** (0.020)	0.071 (0.043)	0.074* (0.039)
Firm size (0 – 49)	-0.249*** (0.013)	-0.126 (0.029)	-0.141*** (0.027)
Firm size (50 – 99)	-0.175*** (0.015)	-0.096*** (0.031)	-0.104*** (0.029)
Firm size (100 – 199)	-0.155*** (0.016)	-0.119*** (0.030)	-0.124*** (0.028)
Firm size (200 – 499)	-0.144*** (0.015)	-0.167*** (0.029)	-0.163*** (0.026)
Firm size (500 – 999)	-0.074*** (0.018)	-0.115*** (0.034)	-0.108*** (0.031)
Constant	0.534*** (0.081)	0.629*** (0.143)	0.567***(0.123)
Number of observations	12751	12731	12731

* p<0.1; ** p<0.05; *** p<0.01; t-statistics in parentheses.

5.5. Conclusion

The evidence presented here suggests that the endogeneity of performance-related pay causes substantial bias in the estimation of wage premia. Adding a variable for measuring individuals'

willingness to take risks as an instrument result sin as substantial change in the wage premium. Compared to model (1), which is similar what the literature has reported, models (2) and (3) measure the wage premium of PRP more accurately. More specifically, the findings imply that previous studies based on model (1) underestimate the effect of PRP on wages.

5.6. Appendix

5.6.1. Descriptive Statistics

Table 5. A1: Descriptive statistics

Variables	Mean	Standard deviation	Number of obs.
Risk	5.433	2.435	13378
Wage (logarithm)	2.442	0.561	13339
Performance related pay	0.171	0.377	13357
Number of children	0.926	1.034	13378
Male	0.428	0.495	13378
Age	42.063	11.361	13378
Age squared	1.898	0.962	13378
Union	0.304	0.460	13378
Married	0.578	0.494	13378
Single	0.283	0.450	13378
Civil partnership	0.004	0.059	13378
Separated	0.027	0.162	13378
Divorced	0.098	0.297	13378
Widowed	0.011	0.106	13378
Excellent health	0.197	0.398	13374
Very good health	0.396	0.489	13374
Good health	0.290	0.454	13374
Fair health	0.100	0.300	13374
Poor health	0.017	0.129	13374
Degree	0.316	0.456	13376
Other higher degree	0.150	0.465	13376
A level	0.209	0.407	13376
GCSE	0.205	0.404	13376
Other qualification	0.073	0.260	13376
No qualification	0.049	0.216	13376
Firm size (0 – 49)	0.454	0.498	13363
Firm size (50 – 99)	0.117	0.322	13363
Firm size (100 – 199)	0.103	0.304	13363
Firm size (200 – 499)	0.123	0.328	13363
Firm size (500 – 999)	0.069	0.254	13363
Firm size (1000 or more)	0.134	0.340	13363

5.6.2. Two-stage least squares simultaneous equation estimation

There are two broad classes of simultaneous-estimation techniques: the single equations estimation methods, and systems estimation methods. A two-stage least squares falls under the first category. Interrelated systems of equations create a potentially severe estimation problem if a correlation between regressors and disturbances, in an ordinary least square context, is present because not all independent variables are fixed in random samples. One or more independent variable is endogenously leading to inaccurate ordinary least squares estimates. The consequence of ignoring endogeneity is erroneous inferences. Imagine two equations:

$$\left\{\begin{matrix} Y_1 = \beta_1 Z_1 + \alpha_1 X + \lambda_1 Y_2 + \varepsilon_; \\ Y_2 = \beta_2 Z_2 + \alpha_2 X + \lambda_2 Y_1 + \varepsilon_2 \end{matrix}\right\} \qquad (5A.1)$$

The most common natural point is to consider a reduced form solution, by solving two equations and two unknowns to arrive at reduced forms substituting one equation on the other. That way, the endogenous variables Y_1 and Y_2 are to be replaced by their exogenous determinants and then when ordinary least squares is performed (or as it is commonly called indirect least squares when a reduced form has been applied). The underlying parameters in reduced-form models are challenging to undermine due to the lack of information. The problem is identified as model identification. A simplistic approach to solve identification is the instrumental variable approach. This approach simply replaces the endogenous variables on the right-hand side of the equations in the system with an instrumental variable. That variable is highly correlated with the endogenous variable it replaces and is not correlated to the disturbance term. Although this approach yields consistent parameter estimates, the problem is how to find suitable instruments. For that reason, the standard method is to choose a two-stage

least squares, which is an extension of the instrumental variables and seeks the best instrument for the endogenous variable in the equation system. Stage 1 regresses each endogenous variable on all exogenous variables and stage 2 uses regression estimated values from stage 1 as instruments and estimates each equation using ordinary least squares. One of the limitations of a two-stage least square model is the existence of a contemporaneous disturbance-term correlation. The effect is cross-equational and is usually solved in a three-stage least squares.

CHAPTER 6: PERSONALITY AND HYBRID ENTREPRENEURSHIP

6.1. Introduction

This chapter aims to investigate empirically the association between personality traits and hybrid entrepreneurship. Based on data from the UKHLS, the empirical analysis estimates probit models to assess the propensity of individuals to engage in hybrid entrepreneurship ventures. Then, the analysis estimates a Structural Equation Model (SEMS) to examine how the decision to become hybrid entrepreneurs affects individuals' job and life satisfaction.

6.2. Theoretical background and hypotheses

Traits are defined simply as stable dispositions describing individual differences in human behaviour and sometimes connote causal status (Deary, 2009). According to Matthews (2009), there is enough convergence of psychometric measurement models, including the five-factor model (FFM) for building consensus on personality structure. On top of that, psychophysiological studies, employing brain-imaging methods, demonstrate that major traits are having a biological basis (Kennis et al., 2013). Behaviour genetics on heritability of traits is consistent with psychobiological accounts (Turkheimer et al., 2014). Traits predict various consequential life outcomes, supporting applications including personnel selection, clinical guidance and educational interventions (Ozer & Benet-Martinez, 2006). Traditional personality theory from Eysenck (1967) supposes that individual differences in cortical arousal directly impact performance. To understand trait theory, we need to make a distinction between

levels of theorizing associated with biological and social-cognitive underpinnings for personality.

This distinction is expressed as one between temperament and personality, where temperament refers to basic biological differences evident in early childhood and personality is acquired patterns of thought, behaviour and socialisation built on the temperamental platform (McCrae et al., 2000). This has serious implications for the role of basic neural and cognitive processes in skill acquisition, the role of self-knowledge in supporting acquisition and learning of skills and the dependence of various forms of person-situation interaction on individual differences in skill. Based on this rational risk appears to be a missing trait that drives human behaviour or life and labour outcomes. By looking at risk it is possible to explore genetic and environmental influences which have been neglected such as acquiring status, acquiring resources, making sense of our lives and achieving success, happiness or satisfaction.

Hypothesis 8: Risk, and the five-factor model (FFM) are expected to impact individuals jumping into hybrid entrepreneurship.

6.3. Methodology

6.3.1. Sample

The data are from the 2014 wave of the UKHLS survey. The sample includes individuals who are 18 to 65 years of age. The main advantage of using the UKHLS data is because it contains information on individuals' type of employment and whether they have multiple jobs. The definitions and distribution of different types of employment are summarised in Tables 6.1 and 6.2.

Table 6.1: Distribution of Employment Mode by Gender for the Year 2014

	Male		Female	
	Frequency	Percentage	Frequency	Percentage
Employee	120	20.58%	235	27.17%
Self-employed	145	24.87%	141	16.30%
Second Job Holder	136	23.33%	302	34.91%
Employed at 1st job & Self-employed at 2nd	5	0.86%	0	0%
Self-Employed at 1st job and Employed at 2nd	167	28.64%	183	21.16%
Self-Employed on 1st and 2nd job	10	1.72%	4	0.46%

Table 6.2: Proposed Employment Taxonomy

Taxonomy	Definition
Employee	An individual who exchanges his labour for monetary rewards
Self-employed	An individual who is working for oneself rather than somebody else
Multiple Job Holder	An individual who has more than one regular job
Hybrid Entrepreneur Type I	An individual who has a regular job and working for himself
Hybrid Entrepreneur Type II	An individual who is working for himself and somebody else
Multiple Entrepreneur	An individual who is establishing multiple companies

6.3.2. Measures

Hybrid entrepreneurship

To determine whether individuals are hybrid entrepreneurs, information on employment status is used. An individual could be an employee, self-employed, an employee in both the first and second occupation, self-employed in the first occupation and employed in the second, employed in the first job and self-employed in the second occupation or self-employed on both

primary and secondary occupation. Employees with two salaried jobs are classified as multiple jobholders (MJH). Those with wage employment as a first job and self-employment as a second job are classified as hybrid entrepreneurs of type I (HETI). Individuals who are self-employed in their primary job and salaried employees in their second are classified as hybrid entrepreneurs type II (HETII), and those in multiple entrepreneurships as multiple entrepreneurs (ME) – see Table 6.2. Because only a small percentage of the entire sample is representing hybrid entrepreneurs of type I, and multiple entrepreneurs in the present sample (see Table 6.1), the focus on the analysis is on Hybrid Entrepreneurs Type II.

The Big-Five Personality Traits

Personality traits are captured by a multi-item questionnaire introduced in the UKHLS in 2014. The measure is the same as the one in the BHPS data. Responses to each personality trait question are reported on a 7-point Likert-type scale ranging from 1 (does not apply to me at all) to 7 (applies to me perfectly). *Openness to Experience (OE)* is based on how respondents see themselves as either (a) being original, come up with ideas (b) value artistic, aesthetic experience (c) and have an active imagination. *Conscientiousness* captures how respondents see themselves as (a) doing a thorough job, (b) tend to be lazy (c) doing things efficiently. *Extraversion* captures whether respondents are (a) talkative (b) outgoing, sociable (c) reserved. *Agreeableness* summarises whether respondents (a) are sometimes rude to others (b) have a forgiving nature (c) are considerate and kind. *Neuroticism* captures whether respondents (a) worry a lot (b) get nervous easily (c) are relaxed, handles stress well.

Job satisfaction

Job satisfaction is measured on a Likert scale from 1 to 7, with 1 representing complete dissatisfaction and 7 representing complete satisfaction. The measure is based on responses to the question: "*all things considered, which number best describes how satisfied or dissatisfied you are with your present job overall?*"

Life satisfaction

Life satisfaction is an ordinal variable, constructed from responses to the question: "*Please tick the number which you feel best describes how dissatisfied or satisfied you are with your life overall"*, with value 1 for wholly dissatisfied and 7 for completely satisfied.

Other controls

Additional controls are used to mitigate possible problems with sample selection bias (see Table 6A.3 for descriptive statistics). A brief justification for including these controls is presented below.

Age. Research shows that the propensity to enter entrepreneurship is linked to age (Levesque & Minniti, 2006). Yet, the evidence is mixed. Earlier work by Evans & Leighton (1989) finds that the probability of entering self-employment is independent of age, contrary to popular wisdom.

Gender. According to the literature, there are marked differences in self-employment entry between male and female entrepreneurs (Georgellis & Wall, 2005; Santos, Roomi, & Liñán,

2016). Blanchflower (2000) finds that the rate for female entrepreneurship is low in OECD countries compared to men who report a higher likelihood to become founders. Delmar & Davidsson (2000) argue that what matters is the effect of other variables, and not the gender per se, affecting the choice of becoming self-employed. For example, limited access to resources or hard to find financing opportunities due to gender biases are critical impediments to female entrepreneurship.

Marital Status. Hundley's (2000) results support the proposition that self-employment provides both married men and women with greater scope to adjust their household's needs. The results do not point to any pronounced effect on whether marital status affects the likelihood of self-employment entry. Among the self-employed, only female entrepreneurs had seen their earnings decrease after marriage (Simoes, Crespo, & Moreira, 2016).

Education. Robinson & Sexton (1994) finds that years of schooling increase the probability of becoming an entrepreneur. The effect of schooling on the propensity to become an entrepreneur is stronger than the effect of labour market experience. Davidsson & Honig (2003) concur with the previous literature to suggest that nascent Swedish entrepreneurs, who are better educated are more prone to discover start-up opportunities.

Industrial sector. Many entrepreneurs start a business in sectors where they have prior experience (Liang & Goetz, 2016). Entrepreneurs choose business when it is easy to get started and does not demand much investment in capital or know-how acquisition such as high-tech industries, building an oil refinery or starting a shipping company. The Energy, Engineering,

and Manufacturing sectors are challenging to enter compared to construction, agriculture, logistics, and finance (Taylor, 1996; Georgellis & Wall, 2000).

Earnings. Taylor (1996) demonstrates that those who self-select into self-employment have higher expected earnings over employees with the same characteristics. However, this positive selection bias with earnings is not new and has been reported by Rees & Shah (1986), as well as Gill (1988), both using data from the UK. More recent evidence points to a weal link between earnings and self-employment transitions (Dillon & Stanton, 2017). Yet, there is some scepticism about how accurate measure of entrepreneurial earnings is. Astebro & Chen (2014) argue that this "earning less" entrepreneurial puzzle is subject to measurement error, rather than real, due to underreporting of income. That is further supported by Blau (1987) who hypothesises that individuals who can underreport income are more likely to enter self-employment.

6.3.3. Analytic approach

The analysis is based on the estimation of a Structural Equation Model (SEM) of equations (6.1) - (6.3). For a summary of SEM models, see Appendix 6.5.2.

$$Hybrid\ Entrepreneurship\ Type\ II = \beta_0 + \beta_1\ (Personality) + \beta_2 \mathrm{Z} + \varepsilon \qquad (6.1)$$

$$Life\ Satisfaction = b_0 + b_1 Hybrid\ Entrepreneurship\ Type\ II + e \qquad (6.2)$$

$$Job\ Satisfaction = b_0 + b_1 Hybrid\ Entrepreneurship\ Type\ II + e \quad (6.3)$$

In this model, the endogenous variables are the *Hybrid Entrepreneurship Type II*, *Job Satisfaction* and *Life Satisfaction*. The vector of exogenous variables *Z* includes age, log (wage), marital status, education. *Personality* traits are also exogenous. This is a recursive model because it includes only unidirectional effects, that is: causal flows in one direction and do not include reciprocal causation or feedback loops.

6.4. Results

The hybrid entrepreneurship type II variable in equation (6.1) is an indicator of whether individuals are willing to enter employment when they are already in self-employment. Contrary to intuition and what the literature suggests so far, those entering into hybrid entrepreneurship are those who are already satisfied with their lives, open to new ideas and actively seeking more excitement (Table 6.3).

Table 6.3: Propensity to be in Employment, Self-employment, Multiple Job Holding (MJH) and Hybrid Entrepreneurship Type II (HTII) - Males

Variables	Employee	Self-employed	MJH	HTII
Age	-0.210 (0.158)	0.232* (0.114)	-0.155 (0.115)	0.137 (0.102)
Age squared	2.056 (1.851)	-2.191* (1.230)	1.433 (1.329)	-0.815 (1.147)
Wage (ln)	-0.728 (0.562)	0.747** (0.320)	0.421 (0.286)	-0.516 (0.265)
Single	2.957*** (1.001)	-0.170 (0.637)	-1.526** (0.601)	0.687 (0.572)
Married	3.543*** (0.800)	-0.909* (0.467)	-1.843*** (0.555)	0.135 (0.420)
Degree	-0.743 (0.759)	0.500 (0.888)	-1.939*** (0.709)	1.332 (0.823)
Agreeableness	0.480 (0.297)	0.361** (0.160)	-0.555*** (0.175)	0.139 (0.165)
Conscientiousness	-0.158 (0.237)	-0.514*** (0.182)	0.323* (0.172)	0.237 (0.167)
Extroversion	0.101 (0.169)	-0.060 (0.116)	0.071 (0.142)	-0.065 (0.141)
Neuroticism	-0.232 (0.142)	-0.234 (0.122)	-0.102 (0.150)	0.168 (0.120)
Openness	-0.255 (0.211)	-0.201 (0.156)	-0.358*** (0.138)	0.525*** (0.156)
Life satisfaction	0.178 (0.233)	-0.271** (0.123)	-0.037 (0.117)	0.516*** (0.145)
Job Satisfaction	-0.020 (0.179)	0.301** (0.148)	-0.071 (0.124)	-0.247 (0.115)
Constant	4.436 (3.825)	-4.592 (3.926)	8.400*** (3.219)	-10.966*** (3.321)
Likelihood	-40.79	-64.91	-59.41	-64.29

Note: coefficients are reported in the cells above with t-statistics on the parentheses, while the p-values indicate the level of statistical significance: * for p<0.1; ** for p<0.05; and ** for p<0.01; In the model above I have controlled for marital status, health status, different level of education, regions within the UK and various occupations. All the control variables are in dummy variables.

However, that effect is restricted only to male individuals and not for females (Table 6.4).

Table 6.4: Propensity to be in Employment, Self-employment, Multiple Job Holding (MJH) and Hybrid Entrepreneurship Type II (HTII) – Females

Variables	Employee	Self-employed	MJH	HTII
Age	0.012 (0.060)	0.008 (0.124)	0.007 (0.059)	0.049 (0.076)
Age squared	-0.157 (0.699)	-0.281 (1.399)	0.186 (0.674)	-0.713 (0.894)
Wage (ln)	-0.087 (0.221)	-1.288*** (0.474)	0.293 (0.209)	0.082 (0.225)
Single	1.030* (0.577)	-2.724*** (0.894)	0.178 (0.576)	-0.918 (0.623)
Married	0.184 (0.548)	-0.897 (0.775)	0.233 (0.527)	-0.661 (0.552)
Degree	-0.421 (0.541)	1.336 (0.894)	-0.198 (0.576)	0.031 (0.545)
Agreeableness	-0.094 (0.103)	0.268 (0.193)	-0.019 (0.098)	0.051 (0.136)
Conscientiousness	0.201* (0.105)	-0.543*** (0.196)	0.088 (0.103)	-0.239* (0.124)
Extroversion	0.048 (0.073)	-0.185* (0.108)	-0.086 (0.079)	0.117 (0.080)
Neuroticism	-0.093 (0.072)	0.055 (0.109)	0.046 (0.068)	-0.010 (0.081)
Openness	0.063 (0.076)	-0.171 (0.120)	-0.086 (0.075)	0.123 (0.083)
Life satisfaction	-0.043 (0.063)	-0.143 (0.098)	0.027 (0.061)	0.040 (0.072)
Job Satisfaction	-0.071 (0.067)	-0.020 (0.124)	0.111 (0.068)	-0.012 (0.074)
Constant	-1.080 (1.936)	7.038** (3.411)	-1.961 (2.166)	-1.124 (2.170)
Likelihood	-146.19	-59.45	-156.12	-109.82

Note: coefficients are reported in the cells above with t-statistics on the parentheses, while the p-values indicate the level of statistical significance: * for p<0.1; ** for p<0.05; and ** for p<0.01. In the model above, I have controlled for marital status, health status, different level of education, regions within the UK and various occupations. All the control variables are in dummy variables.

In order to test this hypothesis, chapter 6 takes into account a recursive model for both male (Table 6.5) and female individuals (Table 6.6).

Table 6.5: Males Recursive Model

	Employee	Self-Employed	MJH	HETII
Age	-0.004 (0.003)	0.001 (0.003)	-0.001 (0.002)	0.005* (0.003)
Wage (Ln)	-0.059 (0.042)	0.115** (0.049)	0.037 (0.042)	-0.091* (0.053)
Married	-0.027 (0.061)	0.051 (0.061)	-0.093 (0.059)	0.047 (0.064)
Degree	-0.016 (0.055)	-0.068 (0.063)	-0.025 (0.058)	0.079 (0.066)
Agreeableness	0.026 (0.023)	0.020 (0.032)	-0.069** (0.032)	0.022 (0.030)
Conscientiousness	-0.032 (0.028)	-0.030 (0.030)	0.009 (0.025)	0.042 (0.031)
Extroversion	0.010 (0.023)	-0.029 (0.024)	0.012 (0.022)	-0.007 (0.025)
Neuroticism	-0.012 (0.022)	-0.015 (0.021)	0.007 (0.022)	0.009 (0.023)
Openness	-0.027 (0.023)	-0.024 (0.026)	-0.028 (0.026)	0.083*** (0.030)
Constant	0.716** (0.286)	0.281 (0.278)	0.628** (0.287)	-0.537** (0.264)
		Job Satisfaction		
Employee	-0.068 (0.224)			
Self -employed		0.404** (0.184)		
MJH			-0.368 (0.232)	
HETII				-0.087 (0.214)
Constant	5.308*** (0.102)	5.183*** (0.111)	5.368*** (0.100)	5.317*** (0.103)
		Life satisfaction		
Employee	0.328* (0.193)			
Self-employed		-0.300 (0.220)		
MJH			-0.227 (0.222)	
HETII				0.360** (0.173)
Constant	5.132*** (0.104)	5.284*** (0.097)	5.249*** (0.099)	5.102*** (0.112)
		Residual Variances		
Employee	0.160*** (0.015)			
Job Satisfaction	1.896*** (0.200)	1.865*** (0.195)	1.876*** (0.197)	1.895*** (0.198)
Self-employed		-0.188*** (0.013)		
MJH			0.155*** (0.015)	
HTII				0.184*** (0.013)
Life Satisfaction	1.816*** (0.200)	1.816*** (0.200)	1.826*** (0.204)	1.808*** (0.198)
Likelihood	-4,037.23	-4,053.52	-4,032.33	-4,052.62
N	232	232	232	232

Note: coefficients are reported in the cells above with t-statistics on the parentheses, while the p-values indicate the

Table 6.6: Females Recursive Model

	Employee	Self-Employed	MJH	HETII
Age	-0.001 (0.003)	0.001 (0.002)	0.004 (0.003)	-0.004* (0.002)
Wage (Ln)	-0.057 (0.045)	-0.056 (0.036)	0.034 (0.050)	0.074* (0.043)
Married	-0.129** (0.051)	0.050 (0.038)	0.049 (0.053)	0.045 (0.044)
Degree	-0.170*** (0.052)	0.165*** (0.047)	-0.037 (0.059)	0.045 (0.054)
Agreeableness	-0.035 (0.028)	0.013 (0.021)	0.013 (0.030)	0.005 (0.027)
Conscientiousness	0.041 (0.028)	-0.029 (0.021)	0.007 (0.029)	-0.018 (0.024)
Extroversion	0.024 (0.019)	-0.009 (0.017)	-0.006 (0.023)	-0.004 (0.017)
Neuroticism	-0.010 (0.019)	-0.007 (0.012)	0.018 (0.020)	-0.003 (0.017)
Openness	0.000 (0.021)	-0.003 (0.014)	-0.029 (0.022)	0.026 (0.018)
Constant	0.517* (0.278)	0.312 (0.189)	0.073 (0.190)	0.156 (0.293)
		Job Satisfaction		
Employee	-0.298 (0.186)			
Self -employed		0.038 (0.215)		
MJH			0.190 (0.174)	
HETII				0.147 (0.184)
Constant	5.344*** (0.093)	5.241*** (0.090)	5.183***	5.217*** (0.095)
		Life satisfaction		
Employee	-0.058 (0.172)			
Self-employed		-0.147 (0.253)		
MJH			-0.005 (0.174)	
HETII				0.212 (0.180)
Constant	5.077*** (0.098)	5.077*** (0.085)	5.059***	5.015*** (0.093)
		Residual Variances		
Employee	0.204*** (0.010)			
Job Satisfaction	2.196*** (0.186)	2.216*** (0.190)	2.208***	2.213*** (0.188)
Self-employed		0.107*** (0.012)		
MJH			0.217***	
HTII				2.114*** (0.162)
Life Satisfaction	2.121*** (0.164)	2.119*** (0.163)	2.121***	2.114*** (0.162)
Likelihood	-5,828.57	-5,723.95	-5,839.88	-5,783.57
N	329	329	329	329

Note: coefficients are reported in the cells above with t-statistics on the parentheses, while the p-values indicate the

The results show that openness to experience is the only statistically significant predictor of hybrid entrepreneurship. The results also show that hybrid entrepreneurs are satisfied with their

lives, but there is no evidence of being more satisfied with their jobs. There is evidence; however, that openness to new experiences, ideas and cultures is having an indirect effect on life satisfaction through hybrid entrepreneurship type II.

6.5. Conclusion

Although hybrid entrepreneurship has been one of the main ways for individuals to engage with entrepreneurial ventures, it has not attracted as much attention in the literature compared to entrepreneurship as a sole activity. Most of the empirical entrepreneurship scholarship focuses on the monetary and non-monetary costs and benefits associated with employment to entrepreneurship transitions as a binary choice (Georgellis, Sessions, & Tsitsianis, 2007; Guerra & Patuelli, 2016). One of the main findings emerging in this literature is that transitions into entrepreneurship are risky, involve high costs and are not necessarily associated with high incomes (Daly, 2005). Daly (2015) argues that any potential increase in the earnings of entrepreneurs after the transition is driven mainly by an increase in working hours. Hybrid entrepreneurship provides the means to mitigate the financial costs of entrepreneurship, at least in the early stages of a venture (Harrison, Mason, & Girling, 2004). Hybrid entrepreneurship is an appealing career choice for individuals with personality that allows them to explore new career opportunities, without having to incur excessive financial risks. This chapter reveals that openness to new experiences is a statistically significant driver of hybrid entrepreneurship. Individuals who follow this career path enjoy high levels of life satisfaction.

6.6. Appendix

6.6.1. Descriptive Statistics

Table 6.A1: Variable Means by Gender and Employment (N=551)

		Hybrid Entrepreneur		Self-Employed		Employee	
Variable	Definition	Female	Male	Female	Male	Female	Male
Age		40.449	40.855	41.316	42.289	40.457	38.558
Age Squared		1.771	1.804	1.842	1.927	1.793	1.655
Openness	Level of openness to new experiences	4.92	5.414	4.768	5.152	4.523	4.794
Neuroticism	Level of endurance in stressful situation	3.693	3.368	3.736	3.265	3.719	3.264
Extroversion	Level of communication ease	5.080	4.575	4.991	4.561	4.855	4.589
Conscientiousness	Level of hard work	5.747	5.517	5.667	5.509	5.785	5.411
Agreeableness	Level of feeling at ease with different	5.840	5.483	5.782	5.512	5.795	5.454
Degree	1 if highest degree is Bachelor's	0.444	0.398	0.459	0.436	0.298	0.364
Other Higher Qualification	1 if having obtained a Master's or PhD	0.043	0.155	0.141	0.125	0.155	0.117
A Level	1 if completed A Level	0.203	0.243	0.179	0.200	0.243	0.271
GCSE	1 if completed GCSE	0.177	0.146	0.153	0.171	0.205	0.171
Other Qualification	1 if having other qualification	0.043	0.044	0.047	0.046	0.052	0.053
No Qualification	1 if no qualification pursued	0.004	0.013	0.021	0.022	0.046	0.023
Excellent Health	1 if reported an excellent health	0.264	0.244	0.256	0.224	0.214	0.267
Very Good Health	1 if reported very good health	0.443	0.385	0.409	0.405	0.395	0.385
Good Health	1 if reported a moderate level of health	0.179	0.249	0.255	0.271	0.274	0.259
Fair Health	1 if reported satisfactory level of health	0.099	0.103	0.064	0.086	0.100	0.079
Poor Health	1 if reported a poor level of health	0.014	0.019	0.014	0.014	0.017	0.009
Widowed	1 if widowed	0.021	0	0.016	0.004	0.017	0.004
Divorced	1 if divorced	0.098	0.079	0.125	0.068	0.116	0.059
Separated	1 if separated	0.038	0.039	0.025	0.018	0.028	0.025
Civil Partnership	1 if in civil partnership	0.009	0	0.011	0.009	0.004	0.002
Married	1 if in a marriage, 0 otherwise	0.474	0.496	0.497	0.572	0.478	0.490
Single	1 if still single	0.359	0.386	0.326	0.329	0.357	0.419
Wage		12.91	15.231	13.153	15.736	11.007	14.354
LnWage		2.388	2.551	2.395	2.585	2.241	2.420
Number of Children	Number of children taking care	0.889	0.789	0.939	0.869	0.918	0.656
Job Satisfaction	Importance of job satisfaction (1-7)	5.315	5.041	5.278	5.137	5.328	5.165
Hours of Work	Hours of work per week	26.858	35.316	25.417	34.809	24.957	33.096

North East	0.021	0.026	0.026	0.028	0.039	0.037
North West	0.077	0.057	0.080	0.067	0.090	0.079
Yorkshire Humber	0.513	0.088	0.055	0.068	0.069	0.055
East Midlands	0.064	0.079	0.069	0.085	0.085	0.079
Midlands	0.103	0.066	0.066	0.067	0.074	0.074
East of England	0.137	0.092	0.122	0.086	0.088	0.095
London	0.111	0.193	0.128	0.128	0.088	0.126
South East	0.192	0.153	0.186	0.161	0.134	0.133
South West	0.137	0.114	0.114	0.115	0.099	0.085
Wales	0.034	0.035	0.046	0.051	0.074	0.064
Scotland	0.051	0.075	0.078	0.081	0.103	0.098
Northern Ireland	0.021	0.022	0.028	0.062	0.057	0.075
Governmental Occupation	0.004	0.013	0.016	0.012	0.017	0.02
Administrative Finance	0.065	0.008	0.037	0.011	0.038	0.010
Administrative Records	0.030	0.004	0.019	0.015	0.023	0.02
Administrative Communication	0	0	0.001	0	0.001	0.002
Administrative General	0.039	0	0.040	0.009	0.041	0.011
Secretarial Occupation	0.052	0	0.052	0.007	0.039	0.008
Agricultural Trade	0.004	0.009	0.001	0.012	0.000	0.006
Welding	0	0	0	0.003	0.001	0.003
Metal Machining	0	0.009	0	0.014	0.000	0.016
Vehicle Trade	0	0.022	0.001	0.008	0	0.011
Construction Trade	0	0.022	0	0.023	0	0.019
Building Trade	0	0.009	0	0.007	0	0.002
Textile Trade	0	0	0	0	0.000	0
Printing Trade	0	0	0.001	0.001	0.001	0
Food Preparation Trade	0.008	0.013	0.005	0.008	0.015	0.012
Skilled Trade NEC	0.004	0.004	0.001	0.003	0.000	0.001
Healthcare Services	0.052	0.022	0.053	0.017	0.086	0.045
Childcare Services	0.087	0.013	0.065	0.012	0.104	0.013
Animal Care Services	0.004	0	0.004	0	0.001	0
Leisure Occupations	0.004	0.022	0.005	0.010	0.009	0.016
Hairdressers	0.030	0	0.017	0	0.006	0
Housekeeping	0.009	0	0.004	0.010	0.008	0.006
Personal Services	0	0	0	0.002	0	0
Sales Assistants	0.035	0.027	0.063	0.026	0.072	0.055
Sales Related	0.008	0	0.006	0.007	0.005	0.003

Customer Related	0.013	0.013	0.017	0.004	0.019	0.009
Process Operative	0	0.013	0.001	0.006	0.003	0.019
Plant Operative	0	0.004	0.001	0.013	0.002	0.016
Assemblers	0	0.013	0.004	0.005	0.007	0.009
Construction Operatives	0	0.004	0	0.004	0	0.009
Transport Driver	0	0.018	0.003	0.036	0.003	0.039
Machine Driver	0	0.004	0	0.006	0	0.001
Elementary Agricultural	0	0	0.001	0.005	0.001	0.004
Elementary Construction	0	0.027	0	0.012	0	0.014
Elementary Process Plant	0.004	0.004	0.004	0.007	0.005	0.003
Elementary Storage	0	0.009	0.004	0.015	0.004	0.006
Elementary Administration	0.004	0.018	0.004	0.012	0.001	0.013
Elementary personal Services	0.026	0.009	0.034	0.017	0.059	0.048
Elementary Cleaning	0.013	0.009	0.019	0.013	0.049	0.027
Elementary Security	0.009	0.009	0.008	0.012	0.032	0.018
Elementary Sales	0.004	0.004	0.007	0.002	0.006	0.010
Senior Managers	0	0.004	0.004	0.002	0.005	0.007
Production Managers	0.013	0.022	0.004	0.030	0.003	0.017
Functional Managers	0.035	0.045	0.035	0.047	0.014	0.031
Quality Care Managers	0.009	0.004	0.004	0.003	0.000	0.003
Financial officials	0.009	0.031	0.011	0.012	0.009	0.012
Storage Managers	0.004	0.013	0.004	0.017	0.003	0.014
Security officers	0	0.004	0	0.009	0	0.003
Health Service Managers	0.013	0.009	0.009	0.005	0.009	0.009
Managers Farming	0	0.009	0	0.001	0	0
Managers Hospitality	0.017	0.009	0.008	0.011	0.007	0.017
Managers Service Industry	0.009	0.013	0.012	0.011	0.008	0.009
Science Professionals	0.009	0.004	0.006	0.005	0.001	0.003
Engineering Professional	0	0.004	0.001	0.013	0	0.012
Information Tech Professional	0.013	0.013	0.004	0.024	0.001	0.012
Health Professional	0.026	0.018	0.037	0.033	0.008	0.012
Teaching Professional	0.108	0.121	0.109	0.108	0.078	0.089
Research professional	0	0.009	0.002	0.012	0.004	0.005
Legal Professional	0.009	0	0.011	0.004	0.004	0.001
Business Professional	0.017	0.018	0.012	0.024	0.004	0.006
Architect	0	0.004	0.001	0.013	0.001	0.009
Public Servant	0.017	0.009	0.009	0.011	0.013	0.010

Librarian	0	0	0.006	0.002	0.002	0.001
Engineering Technician	0.004	0.022	0.008	0.009	0.005	0.014
Draughtsperson	0	0	0	0.005	0.000	0.002
IT Servant	0	0.018	0.001	0.012	0	0.007
Health Associate	0.009	0.004	0.032	0.005	0.073	0.022
Therapist	0.043	0.009	0.039	0.007	0.007	0.001
Social Welfare Professional	0.039	0.013	0.028	0.012	0.025	0.023
Protective Servant	0.004	0.049	0.003	0.023	0.004	0.023
Artistic Occupations	0.004	0.013	0.006	0.002	0.001	0.002
Design Associate	0.004	0.018	0.009	0.020	0.000	0.004
Media Associate	0	0.018	0.009	0.015	0.002	0.005
Sport Occupation	0.004	0.004	0.009	0.006	0.008	0.018
Transport Professional	0	0	0	0.004	0	0.007
Legal Associate	0.009	0.004	0.005	0.005	0.001	0.001
Finance Associate	0.022	0.027	0.015	0.015	0.008	0.014
Sales Associate	0.026	0.031	0.022	0.020	0.011	0.02
Conservation Associate	0	0	0	0.004	0.001	0
Public Associate	0.013	0.018	0.023	0.015	0.013	0.018

6.6.2. Structural Equation Models

Structural Equation Models (SEM) are widely used in the management and broader social science literature (Byrne, 2016). They are a tool designed to deal with several difficult modelling challenges, including cases in which some variables are unobservable or latent and are measured using one or more exogenous variables. These variables are exogenous variables to the unobservable variable, but endogenous to the rest of the model. This endogeneity issue means that one variable could potentially influence the other variables in the model. When measurement errors in independent variables are incorporated into a regression equation, the variances of the measurement errors in the regressors are transmitted into the model error, thereby inflating the model error variance. This outcome has deleterious effects on standard errors of coefficient estimates and goodness of fit criteria such as the F-ratio and R-squared measures. In a regression model setting, it generates biased parameter estimates. This kind of problem is resolved by applying the structural equation model framework, which explicitly incorporates measurement errors into the modelling framework and accommodates latent variables as dependent variables.

A typical structural equation model has two components. A measurement model and a structural model. The measurement model is concerned with how well the exogenous variables measure the latent variables. The structural model, on the other hand, is concerned with how well the model variables relate to one another. A structural equation model allows for direct, indirect and associative relationships to be explicitly modelled unlike regressions, which implicitly measure associations. An association is a double-headed arrow relationship; a direct relationship is a unidirectional influence of one variable to the other, and an indirect relationship is when one variable affects another through a third variable. Like factor analysis,

the structural equation model relies on information contained in the variance-covariance matrix. Observed variables are measured, whereas unobserved variables are latent variables as in the factor analysis model above, which represented the underlying constructs. Unobserved variables include error terms and reflect the portion of the latent variable not explained by their observed counterparts. In this framework, there is the risk that the number of model parameters sought will exceed the number of model equations needed to solve them. Thus, there is a need to distinguish between fixed and free parameters. The researcher sets fixed parameters and free parameters are estimated from the data. The variance-covariance matrix from the combination of fixed and free parameters will be compared with the variance-covariance matrix from the observed data in order to assess model fit. Equations (6A.1) and (6A.2) represent a linear regression model with two independent variables that covary such that:

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon_1 : \ Model\ A \tag{6A.1}$$

$$\begin{Bmatrix} Y_2 = \beta_0 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_2 \\ X_4 = \beta_0 + \beta_5 X_3 + \varepsilon_3 \end{Bmatrix} : \ Model\ B \tag{6A.2}$$

Here, the variable X_4 serves as both an exogenous and endogenous variable. Depending on how the path is drawn in the development processes of the structural equation model, the variance-covariance matrix S will be modified accordingly. The variance-covariance matrix S is an unstructured estimator of the population variance-covariance matrix Σ. It is safe to hypothesise then that a structural equation model is a function of Q unknown structural parameters in the parameter vector θ, thus generating the implied variance-covariance matrix $\Sigma(\theta)$.

$$\Sigma(\theta) = GI - \beta^{-1}\gamma\Phi\gamma^{T}I - \beta^{-1^{T}}G^{T} \qquad (6A.3)$$

where $\Phi = cov[\varepsilon, \varepsilon^{T}]$ here represents the exogenous factor covariance matrix, and G is the selection matrix containing either 0 or 1. To select the observed variables from all dependent variables in η. All exogenous variables are collected into a vector η, while endogenous variables are collected in vector ξ, such that:

$$\eta = \beta\eta + \gamma\xi + \varepsilon \qquad (6A.4)$$

Based on the generalisation of Bentler & Weeks (1980). Here, the beta coefficient is a parameter matrix for the dependent variables and gamma coefficient is the parameter matrix for the independent variables. Model identification in structural equation modelling can represent serious challenges. As explained above, there are Q unknown parameters, in the parameter vector θ, which must be solved. Two conditions must be met. Firstly, the number of simultaneous equations must be equal to or greater than the number of unknown model parameters. Secondly, each free model parameter must be identified. Only when the structural equation model is specified and identified it is appropriate to proceed in obtaining parameters. These are obtained by using the discrepancy function criterion, where differences between the sample variance-covariance matrix and the implied variance-covariance matrix are minimised. The discrepancy function is:

$$F = F\left(S, \Sigma\left(\hat{\theta}\right)\right) \qquad (6A.5)$$

Depending on the varying distributional assumptions, a different estimation method will be employed in a structural equation model. In the current chapter, a maximum likelihood discrepancy function is employed:

$$F_{MLE} = \ln[|\Sigma(\theta)|] + tr[\Sigma(\theta)^{-1}S] - \ln(|S|) - P \qquad (6A.6)$$

where tr, the trace, is defined by the sum of the element in the main diagonal of a square matrix, and $P^* = P(P-1)/2$ is the number of independent equations used to solve for the unknown parameters θ.

CHAPTER 7: DISCUSSION

The present thesis aimed to explore how personality and attitudes towards risk influence individuals' success in careers and the labour market. This line of inquiry follows a growing volume of scholarly work in social sciences, which is based on the premise that psychological factors are strong predictors of individuals' observed choices and behaviours (Kajonius & Carlander, 2017). Based on large-scale longitudinal data for Britain, the empirical analyses in chapters 3-6 of the thesis produced results which inform our understanding of how psychological factors influence career outcomes.

The findings emerging from the analysis in chapter 3 confirm that the association between occupational prestige and life satisfaction is more complicated than commonly thought. Although occupational prestige is positively associated with life satisfaction, this relationship is a curvilinear one. Employees in low occupational prestige occupations report higher life satisfaction than those in occupations in the middle of the occupational prestige scale. Similarly, employees in high occupational prestige occupations also report higher life satisfaction than those in occupations in the middle of the occupational prestige scale. An explanation for this U-shaped relationship between occupational prestige and life satisfaction is based on the silver medal effect (Medvec, Madey, & Gilovich, 1995). The silver medallist effect implies that high achievers (silver medallists) are often unhappy because they are not as successful as the highest achievers (gold medallists). Chapter 3 argues that those employed in occupations of average prestige are less satisfied with their lives because they compare themselves to those holding the most prestigious occupations. Those at the lower end of the occupational prestige spectrum enjoy higher levels of satisfaction because they consider themselves fortunate to be in employment. Nonetheless, such a curvilinear relationship is only

statistically significant for men. For women, higher occupational prestige is not necessarily associated with greater satisfaction with life.

The main finding in chapter 4 is that employees' willingness to take risks is associated with higher earnings and greater satisfaction with life, even after controlling for personality traits. Therefore, although risk attitudes are correlated with personality traits, they exert an independent influence on earnings and life satisfaction. In contrast, there is no evidence that predisposition to take risks is associated, in a statistical sense, with job satisfaction, although personality does. Chapter 5 finds that controlling for individuals' willingness to take risks improves the accuracy of estimates of the wage premium associated with performance-related pay schemes. Not controlling for the endogeneity of performance-related pay causes a substantial bias in the estimation of wage premia. Finally, chapter 6 confirms the importance of personality, particularly openness to new experiences, as a strong predictor of hybrid entrepreneurship.

7.1. Theoretical Contribution

These findings are significant and contribute to the existing literature in several ways. One way to evaluate the findings in chapter 3 is to consider whether they offer answers to the question of pursuing a prestigious career as a path to a happier life. Recognising the well-documented multi-dimensionality of a career as a concept, the analysis in chapter 3 breaks new ground by focusing on occupational prestige. To capture the notion of a happy life, the analysis uses self-reported life satisfaction scores. The assumption is that they provide a holistic evaluation of one's life that goes beyond the hedonic appraisal of the day-to-day of one's experiences (Peterson, Park, & Seligman, 2005). After controlling for earnings and other socio-

demographic characteristics, the findings answer the above question in that there is evidence of a positive link between occupational prestige and life satisfaction.

Nevertheless, the nonlinearity of this relationship highlights its complexity and contextual nature. Such nonlinearities and the fact that men in middle-prestige occupations are the least happy have not been addressed in previous studies. Thus, the analysis of chapter 3 is one of the first to underscore the importance of revisiting the well-being of the forgotten 'miserable middle'.

Another way to view the results of chapter 3 is under the prism of the earnings vs prestige debate. This debate has attracted extensive attention in the behavioural social science and subjective well-being literature (Cummins, 2000; Howell & Howell, 2008; Di Tella, Haisken-De New, & MacCulloch, 2010; Clark, 2018). There is an ongoing scholarly discussion in this literature about whether occupational prestige is a stronger predictor of happiness than income. Since Easterlin (1995) questioned the conventional wisdom that income could buy happiness, researchers have considered the possibility that occupational prestige matters more than income for individuals' happiness (Di Tella, New, & MacCulloch, 2010; Luhmann, Schimmack, & Eid, 2011; Pan & Zhou, 2013). While current findings underscore the significant association of earnings with life satisfaction for both men and women, the association between occupational prestige and life satisfaction is a more nuanced one. Yet, the link between earnings and life satisfaction is stronger for males than it is for women. At the same time, men derive utility from higher occupational status, although in a non-monotonic fashion, while women do not. These findings imply that females' satisfaction with life is a complex endeavour, which transcends other aspects of work and family life, beyond earnings and occupational prestige. The documented stronger association between children and life satisfaction for women, compared to men, alludes to work-family considerations, which are more salient for working mothers than they are for working fathers. This finding is consistent

with existing empirical research uncovering significant gender differences in labour market attachment, career aspirations, and work orientations (Zou, 2015; Chui & Wong, 2016). It is also consistent with existing research suggesting that gender plays an important role, with job status, in influencing well-being at work and work-family conflict (Rollero, Fedi, & De Picolli, 2015).

The finding in chapter 4, confirming the strong association between personality and job satisfaction is consistent with previous findings in psychology and management (Judge, Heller, & Mount, 2002; Templer, 2012). Such evidence concurs with the emerging view that job satisfaction is partially dispositional in nature (Judge & Larsen, 2001; Furnham et al., 2002). It is an indication of the need for a more refined analysis of how dispositional traits influence employees' workplace attitudes and perceptions. Similarly, it is important to reflect with greater scrutiny on the argument that dispositional traits determine career outcomes. Individuals who do not have desirable personality traits, such as conscientiousness or extraversion, are usually less successful (Ng et al., 2005). However, there is no consensus about the effect of other dispositional traits on career success. A dominant view in the existing literature is that job satisfaction is a catch-all variable, capturing the effect of earnings as one of the potentially essential job attributes (Clark, 1996; Green & Tsitsianis, 2005).

For this reason, it is considered to be a suitable proxy for job quality. This depends on individuals' values of what is essential for them in a job. The Hausman-Taylor robustness checks in chapter 4 reveal that even when treating earnings as an endogenous variable in a job satisfaction estimation, the differential influence of personality and willingness to take risks is still evident. Based on these findings, it is safe to conclude that the list of dispositional traits that influence career success could be extended to include a willingness to take risks. This is important in leadership. Leadership research links the inclination of individuals to aim for managerial or leadership roles to personality traits (Judge et al., 2002). Although researchers

confirm the importance of personality as a driver for taking up managerial roles, they do not go far enough to explore willingness to take risks as a potentially strong predictor (Georgellis & Sankae, 2016).

The analysis in chapter 4 informs recent debates in the fields of behavioural economics, social psychology, and subjective well-being. Specifically, it highlights the role of personality in influencing workplace outcomes, behaviours, and well-being (Borghans et al., 2008; Ferguson et al., 2011). Further, by accounting for the role of personality and willingness to take risks in influencing earnings, chapter 4 provides a psychological explanation to the existing explanations of earnings determination. Traditional explanations are based mainly on the human capital model, which upholds the importance of educational investment, job tenure, and labour market experience as main predictors. Ample empirical evidence, based on Mincer-type earnings regression analyses, supports this conjecture. One of the challenges, however, of estimating the returns to education using regression analyses is how to control for the potential bias arising from the unobserved individual ability. Chapter 4 shows that the inclusion of time-invariant dispositional traits, such as personality and risk attitude, in the earnings equation partially mitigates the unobserved ability bias problem. This is based on the assumption that personality is correlated with ability, which finds some support in the empirical literature (Ackerman, & Heggestad, 1997). Therefore, accounting for personality explains a significant part of the variation in earnings, which would otherwise be attributed to unobserved ability. The same argument applies for willingness to take risks, which is a time-invariant trait, correlated with the ability to do the job (Dohmen et al., 2010).

The analysis in chapter 5 makes a direct contribution to the labour economics and the ongoing debate about whether performance-related pay schemes increase productivity and earnings (Gielen, Kerkhofs, & Van Ours, 2010; Lucifora & Origo, 2015). The main difficulty in assessing the effectiveness of performance-related pay schemes is how to measure such an

effect best and how to deal with possible biases in the measures. The analysis of chapter 5 contributes directly to this area of inquiry by using willingness to take risk, as reported in the UKHLS data, to provide more accurate estimated of the effect of PRP on earnings.

The findings of chapter 6 contribute directly to the entrepreneurship literature by using personality traits to analyse empirically individuals' decision to engage in hybrid entrepreneurship. To the best of my knowledge, this is the first study to directly test the effect of personality on the propensity of individuals to engage in hybrid entrepreneurship and its effect on life satisfaction. Hybrid entrepreneurship is often considered a stepping-stone towards entrepreneurship for individuals who are not prepared to start such a venture on a full-time basis straight away. Individuals who are open to new experiences enjoy high levels of life satisfaction by choosing hybrid entrepreneurship as an alternative form of employment.

7.2. Practical and policy implications

These findings offer new insights that further our understanding of the antecedents of career and labour market success and have important implications for policy and practice. The lesson learned from the analysis of chapter 3 is the pursuit of a prestigious occupation is associated with higher life satisfaction but not in a linear fashion. This highlights the complexity of designing productive career planning policies. Such policies need to consider gender differences in the weights individuals assign to working life relative to other life domains. However, they also need to consider what the notion of career success means for individuals with different positions on the socio-economic spectrum. The notion of career success is likely to be determined by social norms, which are prevalent in most societies and are influencing work values and career choices. For example, Fortin (2005) confirms that, across most OECD

countries, such norms reinforce women's role as homemakers, while they reinforce men's role as breadwinners, thus explaining the observed differences in patterns of labour force participation. In such a context, it is not too surprising that reaching a higher occupational prestige has a stronger influence on life satisfaction for men than it has for women.

Chapter 4 implies that accounting for personality and attitudes towards risk explains variation in earnings, which would otherwise be attributed to unobserved heterogeneity, such as the unobserved ability. The results further reinforce the view that it is vital to include such predispositional variables in job and life satisfaction regression estimations. Such findings highlight the limits of the HR function to influence employees' subjective evaluations of their job quality or workplace circumstances. Yet, the HR function needs to implement practices that activate employees' positive dispositional traits to improve well-being, motivation, and performance. Although managers cannot change their employees' personalities, they can encourage behaviours associated with certain personality traits, which are consistent with employees' pursuit to reach their potential. The findings have further practical implications for organisational policies, human resource practices, and career development initiatives. By confirming earlier findings on the role of personality as a determinant of job satisfaction, the study highlights the difficulty that HR managers face to influence employees' subjective evaluations of their job quality or workplace circumstances. Employee well-being has gained increased prominence among HR managers, which is critical for achieving organisational objectives (Alfes, Shantz, & Truss, 2012; Linz & Semykina, 2012; Guest, 2017). At the same time, the findings highlight the opportunities for organisations to activate employees' positive dispositional traits to improve well-being, motivation, and performance. Typically, organisations manage employees' personality and attitude toward risk during the recruitment stage. In this way, they ensure that recruits have the dispositional traits that will enable them to utilise their strengths and resources efficiently in their future role (Newman & Lyon, 2009).

Besides, although managers cannot change their employees' personalities, they can encourage behaviours associated with certain personality traits, which are consistent with employees' pursuit to reach their potential. According to Trait Activation Theory (TAT), individual differences are expressed only in response to trait-relevant situational cues (Tett & Burnett, 2003). For example, organising a social event provides employees with a setting for displaying extraverted behaviour. If extraversion is a positive trait that organisations wish to activate, then it is necessary to provide sufficiently strong cues for those low in extraversion to manifest extraverted behaviour. The rationale for such initiatives is that even when dispositional factors influence job satisfaction, organisations can prioritise interventions that enable employees to activate their positive dispositional traits. Designing personalised developmental plans that allow employees to activate such traits is likely to lead to tangible benefits for employee well-being and subsequently productivity. In light of the differential effect of risk dispositions on the three primary career outcomes explored in this chapter, it can be argued that introducing personalised developmental plans is even more critical. Such plans need to consider the relative weights employees place on job attributes in different organisational settings. Organisational culture, supportive environment, and the type of the organisation - whether profit, non-profit, volunteering or government - can inform the design of such developmental initiatives.

The main policy and practical implication of chapter 5 is that even risk-averse employees are found in jobs that offer PRP schemes. This raises two questions. First, how long a risk-averse individual will remain in a PRP scheme? Are there any adaptation channels that can affect risky behaviour? Does a PRP scheme increase individuals' willingness to take risks? Finally, the findings in chapter 6 imply that policymakers need to consider the diversity across hybrid entrepreneurs. A common approach adopted by policymakers is to consider entrepreneurs as passive recipients affected only by the social context, rather than the role of entrepreneurs themselves as change agents who bring institutional change (Welter &

Smallbone, 2011). Understanding the nature of hybrid entrepreneurship and the motives of individuals to become hybrid entrepreneurs is essential for designing effective programmes to encourage such activity. A general effort to deregulate entry into specific sectors could promote hybrid entrepreneurship ventures. To this end, it is essential for example to reconsider stringent entry regulation affecting the time to register a new business, which subsequently reduces start-ups and job creation in high-technology industries (Ciccone & Papaioannou, 2007). Removing barriers to firm entry can boost low technology industries that operate at the margin (Branstetter et al., 2014). Schulz et al. (2017) find that deregulation has a positive effect on hybrid entrepreneurship.

7.3. Limitations

The findings of this thesis need to be evaluated in light of some limitations. First, the introduction of occupational prestige as the main driver of life satisfaction in chapter 3 is novel and has merits. Although it is challenging to identify universally accepted measures of occupational prestige, the use of the CAMSIS scale in this study addresses this concern. This opens possibilities for further exploration of the importance and the complexity of the relationship between career success and individual well-being. Yet, alternative measures could always be used in future work as they become available. For example, other similar socio-economic stratification scales, such as the Hope-Goldthorpe scale, could be used in future work as a way of robustness check. Another limitation of the analysis in chapter 3 is that it presents an overall evaluation of the relationship between occupational prestige and life satisfaction. However, a more disaggregated investigation of the determinants of life satisfaction within specific occupational prestige groups deserves more attention in future work. Existing research does allude to differences in the factors affecting individual well-being across occupations.

Studies find that a lack of control and work overload is a significant source of stress for workers (Sohail & Rehman, 2015). More work is also needed to explore the role of gender in shaping the link between occupational prestige and life satisfaction. The analysis in chapter 3 is one of the first attempts to explore how the presence of a curvilinear relationship between occupational prestige and life satisfaction is moderated by gender. Yet, several questions regarding the role of gender remain unanswered and could form the basis for future investigations. One such question is how human capital investment, on-the-job training, and organisational tenure interact with occupational prestige to influence women's life satisfaction (Baruch, 2006; Emslie & Hunt, 2009). A similar line of inquiry could explore how organisational sponsorship and the availability of stepping-stone positions in clearly defined career paths affects women's chances to advance in managerial or leadership positions. Gender differences in occupational prestige and life satisfaction could be further explored for specific cultural and institutional settings. Although the analysis in this thesis is limited to a British-specific CAMSIS scale of occupational status, it is vital to exploit the availability of alternative CAMSIS scales, developed for other countries. This will allow for cross-country comparisons of the effect of occupational prestige on life satisfaction. Given the importance of cultural values in influencing how occupational success affects people's well-being (Ollier-Malaterre, & Foucreault, 2017), such cross-country comparisons deserve more attention.

As in chapter 3, the empirical analysis in chapter 4 also uncovers gender differences both in terms of personality traits and attitudes toward risk. However, admittedly, the analysis provides answers to the question of whether dispositional traits are responsible for explaining the relative standing of females in career achievement compared to men. While researchers argue that females are less willing to take risks compared to males, they do not fully explain why they opt for careers with lower but less volatile earnings streams (Charness & Gneezy, 2012; Leuze & Strauß, 2016). An alternative, complementary explanation is that females have

different work orientations than males, assigning differential weights to pecuniary vs non-pecuniary rewards (Zou, 2015). Zou (2015) argues that women value flexible working and social interaction more than earnings or promotion opportunities. Nevertheless, the question of whether gender differences in work orientations can be attributed to gender differences in dispositional traits remains unanswered and deserves further attention in future work.

Similarly, not providing a more refined analysis that accounts for organisational context is indeed a limitation of the analyses in both chapters 3 and 4. Providing a more refined analysis that accounts for the organisational context could also help address the limitations of the analysis in chapter 5. A way to extend the analysis of chapter 5 is to explore in more detail differences in the incidence of performance-related pay and its association with life satisfaction. Performance-related pay, by its nature, is associated with earnings volatility, attributed to reasons outside employees' control, such as illness or adverse market conditions. Under such circumstances, the pressure to maintain satisfactory levels of performance to support a stable stream of target income is damaging to work-life balance and individual well-being. Future empirical work can partially remedy these pitfalls by performing separate analyses by sector or type of organisation using the UKHLS. Ideally, matched employee-employer data across different organisational settings could be used to fully account for the moderating influence of organisational culture. Finally, the analysis of personality and hybrid entrepreneurship in chapter 6 could be extended to account for a more detailed investigation of the dynamics of hybrid entrepreneurship. This requires the use of longitudinal data. The current analysis is based on one cross-section of the UKHLS. As more waves of the UKHLS data become available, tracing individuals' decisions to engage in hybrid entrepreneurship over a sufficiently long period of time will be possible. The analysis could also be extended to consider other personality-related, cognitive or other attitudinal traits beyond the Big Five.

CONCLUSION

The line of inquiry in this thesis follows a growing volume of scholarly work in social sciences, which is based on the premise that psychological factors are strong predictors of individuals' observed choices and behaviours. Based on this premise, numerous empirical studies explaining career and labour market outcomes have extended the list of predictors in their analyses to include such psychological variables, which are usually self-reported and subjective. At the same time, careers researchers have continued to debate what career success means to different people and how to best measure it. Increasingly, scholars in this field have come to the realisation that subjective evaluations of career success, such as job satisfaction, life satisfaction, and perceptions of status, are valid and to a great extent accurate. Yet, the evidence on the complex interactions and associations between psychological predictors and subjective measures of careers success is mixed and mostly contextual. The present thesis contributed to this literature by adding fresh evidence on the link between psychological factors, such as personality and attitudes towards risk, and alternative measures of career success, in the context of the British labour market.

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