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THE EFFECT OF PAY CUTS ON PSYCHOLOGICAL WELL-BEING AND JOB SATISFACTION

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ABSTRACT

One of the main economic outcomes of the recent great recession was the decrease of labour earnings in many countries. The relevant literature indicates that earnings and other socioeconomic predictors can influence psychological well-being. The same holds true for job satisfaction. This chapter tests the effect of pay cuts on the psychological well-being and job satisfaction. The data used in this chapter was drawn from the 5th European Survey on Working Conditions which focuses on European countries. The methodological tools for analyzing the data are the ordinary least-squares (OLS) regression, the Probit regression, and the marginal effects method. The results point to a negative statistical significant effect of pay cuts (decrease labour earnings) on psychological well-being. The results also indicate that pay cuts have a negative statistical significant impact on job satisfaction.

Keywords: Pay cuts, job satisfaction, psychological well-being

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INTRODUCTION

One of the main characteristics of the Great Recession of 2008 was the reduction of labour earnings in many countries for a substantial number of employees. Although, this was particularly the case for European countries like Ireland, Spain, Portugal and Greece, other countries also experienced this trend (Jenknins et al, 2013). Apart from the obvious effects of pay cuts on purchasing power and living standards, falling labour earnings also affect psychological well-being and job satisfaction (for studies focusing on the link of earnings to well-being, see Sloane & Williams, 2000; Helliwell, 2003; Gasper, 2005; Clark, Frijters, & Shields, 2008; Studger, & Frey, 2010). Understanding the employees' well-being is important because working exhibits a substantial psychological dimension for self-identity and sense of purpose. Furthermore, it contributes substantially to overall subjective well-being from a duration weighted perspective given that adults spend an average of about 33.6 hours per week at work (Kahneman et al., 2004; Tay & Harter, 2013). In addition, health and well-being at work are key dimensions of the overall European strategies for growth, competitiveness and sustainable development. It can be argued that low levels of health and job satisfaction are linked to falling worker productivity and to lower potential longevity and quality of life. In addition, work related stress is the focus of increased attention, as it can lead to incapacity for work (World Health Organization, 2011; Eurofound, 2012).

In order to reinforce the above, employees with high levels of psychological well-being and job satisfaction tend to be more productive, confident and motivated, make higher quality decisions, show greater flexibility and originality, are more mentally and physically healthy and are less likely to engage in a variety of harmful and unhealthy behaviors (such as smoking, drinking alcohol, unhealthy eating). Moreover, high levels of psychological well-being and job satisfaction are related to low levels of sickness absence, injury related absenteeism, accident frequencies and labour turnover (see for

instance, Furnham, 2005; Cabrita & Perista, 2006; Drakopoulos & Grimani, 2013a). Hence, improving psychological well-being of a workforce has social and economic effects, since it brings benefits for both the employees and the organization and influences individual's social behavior, employment relations and productive performance in the workplace (Danna & Griffin, 1999; Lyubomirsky et al., 2005; Grant et al., 2007; Panos & Theodossiou, 2007).

Psychological well-being has been defined as a combination of feeling good (hedonic perspective) and functioning effectively (eudaimonic perspective). The hedonic component is concerned with subjective experiences of pleasure while eudaimonic component is concerned with fulfillment and the realization of human potential and actualization (Deci & Ryan, 2008; Steptoe et al., 2008; Huppert, 2009). High levels of psychological well-being at workplace allow employees to flourish and achieve their full potential for the benefit of themselves and their organization (Grant et al., 2007).

Job satisfaction is generally defined as an employee's attitude toward the job and the job situation. In particular, Robbins et al. (2003) define job satisfaction as the difference between the rewards employees receive and the reward they believe they should receive. Thence, the higher this discrepancy, the lower job satisfaction will be. This deterioration causes deceleration of the work, job success and job productivity, and increases occupational accidents and complaints (Brooke & Price, 1989; Iverson & Deery, 1997; Lum et al., 1998; Kilic & Selvi, 2009).

This paper tests the above idea by employing data drawn from the 5th European Survey on Working Conditions (2010). The structure is as follows: Section 2 will present an extensive literature survey concerning psychological well-being and job satisfaction and their relationship to labour earning changes. The following sections will concentrate on the data and the empirical methodology as well as the research findings. A conclusion will close the section.

LITERATURE REVIEW

Aristotle has been cited as the first written source of the idea that all human action is implicitly motivated by a desire to increase individuals' subjective well-being or eudaimonia, which referred to specific psychological experiences that were seen as the essence of a good life. He believed that only ethical actions were successful in achieving this goal. Modern Rational choice theory suggests that revealed preferences imply motivation which means that individuals who strive for money, believe (at some conscious or unconscious level) that it will increase their happiness (Ahuvia, 2008). Similarly, the employees' psychological well-being in the workplace is an important concern and it deserves detailed study. Psychological well-being refers to an overall, long-term state of well-being that includes both cognitive and affective components (Ahuvia & Friedman, 1998; Malka & Chatman, 2003). In addition, psychological well-being essentially stresses pleasant emotional experience and can be treated as two independent dimensions which are called pleasure and arousal. Competence, autonomy, aspiration and self-esteem are also aspects which determine the level of an individual's affective well-being as they tend to be valued as indicators of good mental health (Danna & Griffin, 1999).

Job satisfaction which is commonly conceptualized as a positive emotional state resulting from an assessment of an individuals' job experience, relates to many personal and work related outcomes, such as health, life satisfaction, intentions to stay in the job and contextual performance (Locke, 1969; Brown & Lent, 2005; Gyekye, 2005). The correlations are relatively small considering that the outcomes are complex and influenced by a number of factors such as physical, chemical, socio-psychological and biological. Moreover the distribution of job satisfaction is negatively skewed which means that people generally tend to be satisfied with their job (Brown & Lent, 2005). Job

satisfaction is also closely related to individual performance and efficiency and it is greatly affected by personal and job characteristics. Several theories and models have been developed to explain the level of employees' job satisfaction. According to the literature, workplace, work role stressors, motivating factors, success, income, perceived risk of job loss, safety perception were some of the main characteristics which influence job satisfaction (Benson & Dundis, 2003; Barling et al., 2003; Fairbrother & Warn, 2003; Brown & Lent, 2005; Gyekye, 2005; Christen et al., 2006; Fischer & Sousa-Poza, 2009; Zatzick & Iverson, 2011; Bonsang & van Soest, 2012; Gyekye et al., 2012).

Many studies have suggested that greater income is associated with greater life satisfaction (see for instance: Easterlin, 1995; Helliwell, 2003). The same positive relationship seems to exist between income and job satisfaction (Sloane & Williams, 2000; Grund and Sliwka 2007). There is also recent evidence from psychology that high levels of income are associated with lower levels of psychopathology (e.g., Wood, Boyce, Moore, & Brown, 2012). Given these findings, it is reasonable to assume that wage cuts would have the opposite effects on life and job satisfaction and on psychological well-being. However, there is no much relevant work examining the effects of wage cuts on these variables. One plausible explanation for this, might be that until the Great Recession of 2008 nominal wage cuts was a rare phenomenon in most western countries. On a theoretical level, the concept of loss-aversion which implies that "losses loom larger than gains" seems to be relevant in this context. The concept originated by Kahneman & Tversky, (1979), and it has since been shown to be useful in a range of real-world contexts (for example, Camerer, 2000). In particular, under experimental conditions a loss is typically estimated to have twice the influence on decisions as equivalent gains (Novemsky & Kahneman, 2005). One of the few papers that have employed this idea in the subjective well-being framework found that experienced falls in income have a larger impact on well-being than equivalent income gains (Boyce et al, 2014). Another recent paper indicated mixed results concerning the

presence of loss aversion, and suggests that the relationship between pay growth and job satisfaction is less steep for cuts than for raises (Smith, 2013). This work aims to provide some additional insights into these relationships.

EMPIRICAL ANALYSIS

Data and Participants

The data used in this chapter was drawn from the 5th European Survey on Working Conditions¹, which aimed to provide a comprehensive picture of the everyday reality of men and women at work. The research was conducted in the first half of 2010 (face to face interviews) and contains data from thirty three European countries and Turkey. The target sample size of 1000 interviews was set for most countries. The participants were adults (aged 18 to 65), were in employment at the time of the survey and were selected by the method of multi-stage stratified random sample. They responded to a questionnaire of about 44 minutes duration, comprising of 89 questions relating to issues such as working time duration and organization, work organization, learning and training, physical and psychosocial risk factors, health and safety, work-life balance, worker participation, earnings and financial security, as well as work and health.

The questionnaire data of interest included psychological well-being, job satisfaction and labour earning changes variables. It also included type of occupation (four dummy variables: High skilled clerical, low skilled clerical, high skilled manual, low skilled manual), previous occupational status (seven dummy variables: Employed with an indefinite contract, employed with a fixed term contract, employed with a temporary employment agency contract, employed, unemployed, in education or training, other) and working hours per week. In terms of countries, the sample consisted of thirty four

¹ Further information on the project can be found at www.eurofound.europa.eu/surveys/ewcs/index.htm.

dummy variables: Albania, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Kosovo, Latvia, Lithuania, Luxembourg, Former Yugoslav Republic of Macedonia or FYROM, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom. Finally, the data contained personal variables such as age and age squared, gender and educational level (three dummy variables: None & primary education, secondary, including lower, upper & post secondary education and tertiary, including advanced level of tertiary education (see Table 1 and Table 2).

The psychological well-being (PWB) variable covers five positively worded items, related to positive mood (good spirits, relaxation), vitality (being active and waking up fresh and rested) and general interests (being interested in things), all experienced over the previous two weeks. Each of the five items is rated on a 6-point Likert scale from 1 (= at no time) to 6 (= all of the time). In addition, of the five scores created an index, which was linearized by using z-scores transformation. The negative values of the z-scores were transformed into positive and the natural logarithm (ln) was estimated. Reliability and validity estimations were conducted prior to index variable construction. The internal consistency approach (Cronbach's α) was employed in order to assess the reliability of the scale. According to the results, the Cronbach's α of the psychological well-being scale was 0.8814. This suggests that the internal reliability of the scale is high, since an instrument with an internal consistency coefficient of 0.80 (scale total) or higher is considered to be adequate (Cronbach, 1951; Nunnally, 1978). The validity of the scale was assessed by construct validity, using factor analysis. The results are considered to be satisfactory, since the loadings were far from 0 and uniqueness less than 0.50. In addition, job satisfaction was measured by self-reports ("*On the whole, are you satisfied with working conditions in your main paid job?*"), using a 1-4 Likert scale (1 was "very satisfied" and 4 was "not at all satisfied"). Subsequently, two grouped scale points were

created, combining the first two scale points (1 and 2: Satisfied) and the last two (3 and 4: Not satisfied). The labor earning changes variable was assessed reporting a change in their salary comparing their current situation with that of a year ago (three dummy variables: Pay cuts (decrease labor earnings), no change labor earnings, increase labor earnings).

Table 1. Definitions of variables

Variables/ Definitions	
Ln Psychological well-being	France = 1, otherwise = 0
Job Satisfaction (satisfied = 1, not at all satisfied = 0)	Ireland = 1, otherwise = 0
Males = 1, Females = 0	Italy = 1, otherwise = 0
Age (18 – 65 years)	Luxembourg = 1, otherwise = 0
Age ²	Netherlands = 1, otherwise = 0
Primary Education = 1, otherwise = 0	UK = 1, otherwise = 0
Secondary Education = 1, otherwise = 0	Bulgaria = 1, otherwise = 0
Tertiary Education = 1, otherwise = 0	Cyprus = 1, otherwise = 0
Low skilled manual = 1, otherwise = 0	Czech republic = 1, otherwise = 0
Low skilled clerical = 1, otherwise = 0	Estonia = 1, otherwise = 0
High skilled manual = 1, otherwise = 0	Hungary = 1, otherwise = 0
High skilled clerical = 1, otherwise = 0	Latvia = 1, otherwise = 0
Working hours per week (1 – 84)	Lithuania = 1, otherwise = 0
Pay cuts (decrease labor earnings) = 1, otherwise = 0	Malta = 1, otherwise = 0
No change labor earnings = 1, otherwise = 0	Poland = 1, otherwise = 0
Increase labor earnings = 1, otherwise = 0	Romania = 1, otherwise = 0
Belgium = 1, otherwise = 0	Slovakia = 1, otherwise = 0
Denmark = 1, otherwise = 0	Slovenia = 1, otherwise = 0
Germany = 1, otherwise = 0	Turkey = 1, otherwise = 0
Spain = 1, otherwise = 0	Croatia = 1, otherwise = 0
Finland = 1, otherwise = 0	Norway = 1, otherwise = 0
Austria = 1, otherwise = 0	FYROM = 1, otherwise = 0
Portugal = 1, otherwise = 0	Albania = 1, otherwise = 0
Greece = 1, otherwise = 0	Kosovo = 1, otherwise = 0
Sweden = 1, otherwise = 0	Montenegro = 1, otherwise = 0

Empirical Methodology

In the econometric models which will be employed in this chapter, psychological well-being and job satisfaction will be the dependent variables. Both are determined by a number of variables including labor earning changes. The methodological tool for analyzing psychological well-being data is the ordinary least-squares (OLS) regression. The job satisfaction variable is binary, which implies that the weak assumptions of the linear regression model are not satisfied, giving very misleading results. Therefore, the Probit regression model has been suggested as more appropriate (see for instance, Greene, 1993). Moreover, because of the lack of interpretation of the coefficients in the Probit regression, the marginal effects method will be utilized, estimating the partial effects on the predicted probabilities. The marginal effects methodology is employed in order to interpret the statistical output substantively and also to report standard errors and discrete changes (Williams, 2008; Green & Hensher, 2010).

Before we proceed to the report of the results, we should also mention a limitation of the present study that needs to be acknowledged. The limitation concerns the survey instrument employed, which was a self-reporting measure of psychological well-being and job satisfaction. This implies that the information presented by the participants is based upon their subjective perceptions. Although participants were assured of confidentiality, it is possible that they either over- or underreported their level of psychological well-being and job satisfaction. However, self-reporting measures are widely used in many similar contemporary empirical studies (for instance, see Fordyce, 1988; Danna & Griffin, 1999; Charness & Grosskopf, 2001; Senik, 2005; Kahneman & Krueger, 2006).

Results

In line with the theoretical part and with our discussion of the empirical methodology section, our equation of interest is:

$$PWB_i = \alpha_0 + \alpha_1 LE_i + \alpha_2 X_i + \varepsilon_i \quad (1)$$

It is assumed that the psychological well-being is determined by a variety of factors. These factors are: LE is the labor earning changes (three dummy variables: Pay cuts (decrease labor earnings), no change labor earnings, increase labor earnings), which is the basic independent variable; X is a vector of other individual socioeconomic variables, such as *age*, *age*², *gender*, *education level*, *type of occupation*, *hours of work*, *country dummy variables*, assumed to influence psychological well-being (Ferrer-i-Carbonell, 2005; Panos & Theodossiou, 2007; Dolan et al., 2008). The α and β are the associated coefficients, and ε_j is a normally distributed error term.

Table 2. Summary statistics of variables

Variables	<i>Mean</i>	<i>SD</i>
Ln Psychological well-being	1.046	0.525
Job Satisfaction	0.794	0.403
Pay cuts (decrease labor earnings)	0.199	0.399
No change labor earnings	0.535	0.498
Males	0.511	0.499
Age	41.088	11.385
Age ²	1817.864	943.852
Primary Education	0.057	0.233
Secondary Education	0.644	0.478
Working hours	39.292	11.992
Low skilled manual	0.181	0.384
Low skilled clerical	0.430	0.495
High skilled manual	0.156	0.363
Belgium	0.082	0.274
Bulgaria	0.022	0.149
Czech Republic	0.022	0.147
Denmark	0.029	0.168
Germany	0.053	0.224
Estonia	0.022	0.147
Spain	0.022	0.147
France	0.073	0.261
Ireland	0.023	0.152
Italy	0.027	0.164
Cyprus	0.024	0.153
Latvia	0.023	0.151
Lithuania	0.020	0.143
Luxemburg	0.019	0.136
Hungary	0.025	0.158
Malta	0.022	0.149
Netherlands	0.026	0.159
Austria	0.020	0.140
Poland	0.028	0.167
Portugal	0.021	0.145
Romania	0.022	0.147
Slovenia	0.036	0.187
Slovakia	0.023	0.153

Table 2. (Continued)

Variables	<i>Mean</i>	<i>SD</i>
Finland	0.026	0.160
Sweden	0.025	0.157
UK	0.029	0.168
Croatia	0.026	0.161
FYROM	0.026	0.159
Turkey	0.051	0.220
Norway	0.027	0.164
Albania	0.022	0.147
Kosovo	0.023	0.150
Montenegro	0.020	0.141
Observations	32839	

The results of the OLS regression models (with robust standard errors (Table 3, column A) reveal a negative statistical significant effect of pay cuts (decrease labor earnings) on psychological well-being. Most of the predictors exhibited significant relationship to (ln) psychological well-being at 1% or 5% level. The predicted value is higher for males, which implies that women's psychological well-being is worse than that of men. With regards to age, a negative relationship with psychological well-being is revealed. In addition, individuals of high skilled clericals and tertiary education have higher psychological well-being. Moreover, working hours are associated with a decrease in the levels of psychological well-being. Greece being the omitted country seems to have higher psychological well-being compared to most of the European countries.

As has been mentioned in the empirical methodology section, the other equation of interest is:

$$JS_i = b_0 + b_1 LE_i + b_2 X_i + \varepsilon_i \quad (2)$$

As before, it is assumed that work-related stress, the ordinal dependent variable (scale points 1-5) is determined by a variety of factors: LE is the labor earning changes

(three dummy variables: Pay cuts (decrease labor earnings), no change labor earnings, increase labor earnings), which is the basic independent variable; X is a vector of other individual socioeconomic variables, such as *age*, age^2 , *gender*, *education level*, *type of occupation*, *hours of work*, *country dummy variables*, assumed to influence psychological well-being (Dolan et al., 2008). The a and b are the associated coefficients, and ε_j is a normally distributed error term.

Table 3. Dependent variable - Ln Psychological well-being: OLS model (column A); Dependent variable - Job Satisfaction: Probit model (column B), Marginal effects after Probit model (column C)

Variables	(A) OLS model		(B) Probit model		(C) Marginal effects	
	Ln Psychological well-being		Job Satisfaction			
Pay cuts	-0.109**	10.77	-0.541**	20.37	-0.162**	18.50
No change	0.003	0.53	-0.125**	5.70	-0.032**	5.73
Males	0.076**	12.17	0.118**	6.49	0.031**	6.48
Age	-0.010**	5.83	-0.011*	2.19	-0.003*	2.19
Age ²	0.00009**	4.35	0.0001*	2.53	0.00004*	2.53
Primary Education	-0.096**	5.14	-0.197**	4.72	-0.056**	4.41
Secondary Education	-0.007	1.01	-0.081**	3.48	-0.021**	3.52
Working hours	-0.001**	3.66	-0.003**	4.73	-0.0009**	4.73
Low skilled manual	-0.116**	10.51	-0.528**	17.37	-0.159**	15.74
Low skilled clerical	-0.032**	4.38	-0.185**	7.17	-0.049**	7.11
High skilled manual	-0.046**	4.44	-0.398**	12.53	-0.117**	11.45
Belgium	-0.016	0.95	0.648**	11.61	0.129**	16.44
Bulgaria	-0.155**	5.19	0.279**	4.14	0.064**	4.80
Czech Republic	-0.184**	7.36	0.376**	5.44	0.083**	6.72
Denmark	0.112**	6.66	1.064**	12.85	0.164**	29.22
Germany	0.002	0.14	0.677**	11.27	0.131**	16.90
Estonia	-0.012	0.56	0.431**	6.23	0.092**	8.01
Spain	0.115**	5.95	0.447**	6.35	0.095**	8.26
France	-0.039*	2.27	0.282**	5.21	0.066**	5.94
Ireland	0.126**	5.87	0.965**	12.36	0.155**	25.55
Italy	-0.114**	4.78	0.310**	4.72	0.071**	5.57
Cyprus	-0.084**	3.01	0.671**	9.13	0.127**	14.22
Latvia	-0.116**	4.71	0.428**	6.35	0.092**	8.12

Table 3. (Continued)

Variables	(A) OLS model		(B) Probit model		(C) Marginal effects	
	Ln Psychological well-being		Job Satisfaction			
Lithuania	-0.177**	6.72	0.257**	3.78	0.060**	4.32
Luxemburg	-0.027	1.17	0.607**	7.67	0.118**	11.38
Hungary	-0.154**	6.59	0.277**	4.24	0.064**	4.91
Malta	0.051*	2.44	0.588**	7.93	0.116**	11.52
Netherlands	0.032	1.48	0.787**	10.10	0.140**	17.50
Austria	-0.021	0.94	0.789**	9.67	0.139**	16.95
Poland	-0.083**	3.51	0.582**	8.63	0.116**	12.38
Portugal	-0.067**	2.67	0.556**	7.53	0.112**	10.66
Romania	-0.048	1.94	0.458**	6.61	0.097**	8.67
Slovenia	-0.105**	4.67	0.147*	2.48	0.036**	2.66
Slovakia	-0.071**	3.27	0.425**	6.23	0.091**	7.96
Finland	0.055**	3.23	0.734**	9.77	0.134**	16.06
Sweden	0.059**	3.21	0.529**	7.09	0.108**	9.79
UK	-0.060*	2.52	0.882**	11.55	0.150**	21.78
Croatia	-0.115**	5.14	0.316**	4.91	0.072**	5.81
FYROM	-0.029	1.15	-0.021	0.35	-0.006	0.35
Turkey	-0.215**	9.36	-0.021	0.38	-0.005	0.37
Norway	0.054**	2.70	0.825**	10.47	0.144**	18.75
Albania	-0.156**	6.13	-0.169**	2.61	-0.047*	2.45
Kosovo	0.071**	3.11	-0.259**	3.94	-0.076**	3.60
Montenegro	-0.044*	1.96	0.119	1.76	0.029	1.86
Constant	1.417**	36.92	1.201**	10.19		
Observations	32839		32839		32839	
R ²	0.059					
Pseudo R ²			0.097			
y					0.818	

Note: Robust t-statistics (for OLS) and z-statistics (for Probit and marginal effects after Probit) in parentheses. * Significant at 5%; ** significant at 1%.

The results of Probit model (with robust standard errors (Table 3, column B) are not straightforward (see also Greene, 1993). We can identify the significance of the variables but neither the signs nor the magnitude of the coefficients are informative about the

results, and this makes the direct interpretation of coefficients fundamentally ambiguous. Therefore, we will report the marginal effects for better interpretation.

The empirical results (Table 3, column C) indicate that pay cuts have a negative statistical significant impact on job satisfaction. Most of the predictors exhibited significant relationship to job satisfaction at 1% or 5% level. In addition, high educated and high skilled clerical male workers have higher levels of job satisfaction. Age and working hours are negatively correlated to job satisfaction. With respect to Greece, job satisfaction levels are significantly lower compared to most of the European countries.

CONCLUSION

Falling labour earnings were observed in many countries since the Great Recession. Given that there is not much work on this important issue, the main aim of this chapter was to investigate the way that falling labour earnings affect the workers' psychological well-being and job satisfaction. The chapter utilized a large sample to test the above relationships by using data from thirty three European countries and Turkey. In particular, the results indicate that pay cuts have a highly significant negative effect on the psychological well-being and job satisfaction. This implies that pay cuts reduce workers' psychological well-being and job satisfaction compared to those whose pay does not change or increase.

Although the relevant literature is not very extensive, some prior empirical research on psychological well-being and job satisfaction in general provides some insights regarding the main variables (see Smith, 2013; Boyce et al, 2014). Our results indicate that males demonstrated higher levels of psychological well-being than females. Previous evidence on gender differences in their associations with psychological well-being has been inconsistent. Available literature implies that women tend to report

higher happiness (for instance, Dolan et al., 2008; Huppert, 2009; Drakopoulos & Grimani, 2013b) but worse scores on mental health assessment scales (Alesina et al, 2004), although a few studies report no gender differences (for instance, Louis & Zhao, 2002). On the other hand, Stevenson and Wolfers (2009) study showed that measures of subjective well-being indicate that women's happiness has declined both absolutely and relative to men. One of the main explanations for these results might be that women may simply find the complexity and increased pressure in their modern lives to have come at the cost of happiness.

Furthermore, our findings point to a negative relationship between age and psychological well-being, which is consistent with other studies such as Van Praag et al. (2003) and Drakopoulos & Grimani (2013a). Many papers on the determinants of happiness and well-being, suggest a U-shaped relationship between age and well-being where the youngest and the oldest are happiest while the middle age groups are the least happy (Drakopoulos & Grimani, 2013b). One explanation here has to do with the higher expectations of the younger age group compared to older individuals (Clark and Oswald, 1994; Gerdtham and Johannesson, 2001). In addition, tertiary education and high skilled clerical were related to the highest psychological well-being and job satisfaction (see for instance: Drakopoulos & Grimani, 2013a). A negative relationship was also found between working hours and psychological well-being, implying that individuals who have longer work hours report lower psychological well-being. The evidence is consistent with other empirical work such as Galay (2007). Finally, psychological well-being is higher for Greece while job satisfaction is lower compared to most of the European countries.

The above empirical findings link psychological distress issues to financial loss, and this is consistent with other available studies. In spite of these indications, many companies have nonetheless been slow to adopt innovative mental health management practices in the workplace (Williams, 2003). Thus in terms of policy issues, rising

psychological well-being not only benefits the employees themselves, but it can also save companies substantial costs, since employees will show up for work and be more efficient and productive in their work environment.

REFERENCES

- Ahuvia, A. (2008). If money doesn't make us happy, why do we act as if it does? *Journal of Economic Psychology*, 29(4), 491-507.
- Ahuvia, A. C., & Friedman, D. C. (1998). Income, consumption, and subjective well-being: Toward a composite Macromarketing Model. *Journal of Macromarketing*, 18(2), 153-168.
- Alesina, A., Di Tella, R., & MacCulloch, R. (2004). Inequality and happiness: Are Europeans and Americans different? *Journal of Public Economics*, 88(9), 2009-2042.
- Barling, J., Kelloway, E. K., & Iverson, R. D. (2003). High-quality Work, Job Satisfaction and Occupational Injuries. *Journal of Applied Psychology*, 88(2), 276-283.
- Benson, S. G., & Dundis, S. P. (2003). Understanding and motivating health care employees: Integrating Maslow's hierarchy of needs, training and technology. *Journal of Nursing Management*, 11(5), 315-320.
- Bonsang, E., & van Soest, A. (2012). Satisfaction with job and income among older individuals across European countries. *Social Indicators Research*, 105(2), 227-254.
- Boyce, C., Wood, A. Banks, J., Clark, A., & Brown, G. (2014). Money, Well-being and Loss Aversion: Does an Income Loss have a Greater Effect on Well-being than an Equivalent Income Gain? *Centre for Economic Performance Occasional Paper*, No.39.
- Brooke, P., & Price, J. (1989). The determinants of employee absenteeism: An empirical test of causal model. *Journal of Occupational Psychology*, 62, 1-19.
- Brown, S. D., & Lent, R. W. (2005), *Career development and counseling: Putting theory and research to work*. New Jersey: John Wiley & Sons.
- Cabrita, J., & Perista, H. (2006). *Measuring job satisfaction in surveys: Comparative analytical report*, Dublin: Eurofound.

- Camerer, C. (2000). Prospect theory in the wild: Evidence from the field. In D. Kahneman & A. Tversky (Eds.), *Choices, Values, and Frames*. (pp. 288-300). Cambridge: Cambridge University Press.
- Charness, G., & Grosskopf, B., (2001). Relative payoffs and happiness: An experimental study. *Journal of Economic Behavior & Organization*, 45(3), 301-328.
- Christen, M., Iyer, G., & Soberman, D. (2006). Job Satisfaction, Job Performance, and Effort: A Reexamination Using Agency Theory. *Journal of Marketing*, 70(1), 137-150.
- Clark, A. E., & Oswald, A. J. (1994). Unhappiness and unemployment. *Economic Journal*, 104(424), 648-659.
- Clark, A., Frijters, P., & Shields, M. (2008). Relative income, happiness and utility: An explanation for the Easterlin paradox and other puzzles. *Journal of Economic Literature*, 46(1), 95-124.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334.
- Danna, K., & Griffin, R. W. (1999). Health and well-being in the workplace: A review and synthesis of the literature. *Journal of Management*, 25(3), 357-384.
- Deci, E. L., & Ryan, R. M. (2008). Hedonia, eudaimonia, and well-being: An introduction. *Journal of Happiness Studies*, 9(1), 1-11.
- Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology*, 29(1), 94-122.
- Drakopoulos, S.A., & Grimani, K., (2013a). Injury-related Absenteeism and Job Satisfaction: Insights from Greek and UK Data. *The International Journal of Human Resource Management*, 24(18), 3496-3511.
- Drakopoulos, S.A., & Grimani, K. (2013b). *Maslow's Needs Hierarchy and the Effect of Income on Happiness Levels*. In *The Happiness Compass: Theories, Actions and*

- Perspectives for Well-being, F. Sarracino (ed), New York: Nova Science Publ., pp. 295-309.
- Easterlin, R. A. (1995). Will raising the income of all increase the happiness of all? *Journal of Economic Behavior & Organization*, 27(1), 35-47.
- Eurofound (2012). *Health and well-being at work: A report based on the fifth European Working Conditions Survey*, Dublin.
- Fairbrother, K., & Warn, J. (2003). Workplace dimensions, stress and job satisfaction. *Journal of Managerial Psychology*, 18(1), 8-21.
- Ferrer-i-Carbonell, A., (2005). Income and well-being: An empirical analysis of the comparison income effect. *Journal of Public Economics*, 89(5), 997-1019.
- Fischer, J. A., & Sousa-Poza, A. (2009). Does job satisfaction improve the health of workers? New evidence using panel data and objective measures of health. *Health Economics*, 18(1), 71-89.
- Fordyce, M. (1988). A review of research on the happiness measures: A 60 s index of happiness and mental health. *Social Indicators Research*, 20(4), 355–381.
- Furnham, A. (2005). *The psychology of behaviour at work*. The individual in the organization. New York: Psychology Press.
- Galay, K. (2007). *Patterns of Time Use and Happiness in Bhutan: Is there a link between the two?* Visiting Research Fellows Series No. 432, Institute of Developing Economies, Japan External Trade Organization.
- Gaspar, D. (2005). Subjective and objective well-being in relation to economic inputs: Puzzles and responses. *Review of Social Economy*, 63(2), 177-206.
- Gerdtham, U., & Johannesson, M., (2001). The relationship between happiness, health, and socio-economic factors: Results based on Swedish microdata. *The Journal of Socio-economics*. 30(6), 553-557.

- Grant, A. M., Christianson, M. K., & Price, R. H. (2007). Happiness, health or relationships? Managerial practices and employee well-being tradeoffs. *Academy of Management Perspectives*, 21(3), 51-63.
- Green, W. H., & Hensher, D. A. (2010). *Modeling Ordered Choices: A primer*. Cambridge: Cambridge University Press.
- Greene, W. (1993). *Econometric Analysis*. Second Ed., New York: Macmillan Publishing Company.
- Grund, C., & Dirk S. (2007). Reference-dependent preferences and the impact of wage increases on job satisfaction: Theory and evidence. *Journal of Institutional and Theoretical Economics*, 163(2), 313-335.
- Gyekye, S. A. (2005). Workers' Perception of Workplace Safety and Job Satisfaction. *International Journal of Occupational Safety and Ergonomics*, 11(3), 291-302.
- Gyekye, S. A., Salminen, S., & Ojajarvi, A. (2012). A theoretical model to ascertain determinants of occupational accidents among Ghanaian industrial workers. *International Journal of Industrial Ergonomics*, 42, 233-240.
- Helliwell, J. (2003). How's life? Combining individual and national variables to explain subjective well-being. *Economic Modelling*, 20(2), 331-360.
- Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Applied Psychology: Health and Well-being*, 1 (2), 137-164.
- Iverson, R. D., & Deery, M. (1997). Turnover culture in the hospitality industry. *Human Resource Management Journal*, 7(4), 71-82.
- Jenkins, S. P., Brandolini, A., Micklewright, J., & Nolan, B. (2013) *The Great Recession and the Distribution of Household Income*, Oxford: Oxford University Press,
- Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well-being. *Journal of Economic Perspectives*, 20(1), 3-24.

- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-291.
- Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A., (2004). Toward National Well-Being Accounts. *The American Economic Review*, 94(2), 429-434.
- Kilic, G., & Selvi, M. S. (2009) The effects of occupational health and safety risk factors on job satisfaction in hotel enterprises. *Ege Akademik Bakış/Ege Academic Review*, 9(3), 903-921.
- Locke, E. A. (1969). What is job satisfaction? *Organizational Behavior and Human Performance*, 4(4), 309-336.
- Louis, V. V., & Zhao, S. (2002). Effects of family structure, family SES and adulthood experiences on life satisfaction. *Journal of Family Issues*, 23(8), 986-1005.
- Lum, L., Kervin J., Clark, K., Reid, F., & Sirola, W. (1998). Explaining nursing turnover intent: Job Satisfaction, Pay Satisfaction, or Organizational Commitment? *Journal of Organizational Behavior*, 19, 305-320.
- Lyubomirsky, S., King, L., & Diener, E. (2005), The Benefits of Frequent Positive Affect: Does Happiness Lead to Success? *Psychological Bulletin*, 131(6), 803-855.
- Malka, A., & Chatman, J. A. (2003). Intrinsic and extrinsic work organizations as moderators of the effect of annual income on subjective well-being: A longitudinal study. *Personality and Social Psychology Bulletin*, 29(6): 737-746.
- Novemsky, N., & Kahneman, D. (2005). The boundaries of loss aversion. *Journal of Marketing Research*, 42(2), 119-128.
- Nunnally, J. (1978). *Psychometric theory*. New York: McGraw Hill.
- Panos, G. A., & Theodossiou, I. (2007). *Earnings Aspirations and Job Satisfaction: The Affective and Cognitive Impact of Earnings Comparisons*. Aberdeen: Business School Working Paper Series.
- Robbins, S., Odendaal, A., & Roodt, G. (2003). *Organizational behaviour: Global and Southern African perspectives*. South Africa: Pearson Education.

- Senik, C. (2005). Income distribution and well-being: What can we learn from subjective data? *Journal of Economic Surveys*, 19(1), 43-63.
- Sloane, P. J., & Williams, H. (2000). Job satisfaction, comparison earnings and gender. *Labour*, 14(3), 473-502.
- Smith, J. (2013). Pay Growth, Fairness and Job Satisfaction: Implications for Nominal and Real Wage Rigidity. *Warwick Economic Research Papers*, No 1009.
- Steptoe, A., O'Donnell, K., Marmot, M., & Wardle, J. (2008). Positive affect, psychological well-being, and good sleep. *Journal of Psychosomatic Research*, 64, 409-415.
- Stevenson, B., & Wolfers, J. (2009). *The paradox of declining female happiness*, National Bureau of Economic Research, working paper.
- Studger, A., & Frey, B. (2010). *Recent advances in the economics of individual subjective well-being*. Discussion Paper 04/10, Center of Business and Economics (WWZ), University of Basel.
- Tay, L., & Harter, J. K. (2013). Economic and labour market forces matter for worker well-being. *Applied Psychology: Health and Well-being*, 5(2), 193-208.
- Van Praag, B. M. S., Frijters, P., & Ferrer-i-Carbonell, A. (2003). The anatomy of subjective well-being. *Journal of Economic Behavior & Organization*, 51(1), 29-49.
- Williams, C., (2003). Sources of workplace stress. *Perspectives on Labour and Income*, 4(6), 5-12.
- Williams, R., (2008). *Ordinal regression models: Problems, solutions, and problems with the solutions*, German State User Group Meetings, available at: <http://www.stata.com/meeting/germany08/GSUG2008-Handout.pdf>.
- Wood, A. M., Boyce, C. J., Moore, S. C., & Brown, G. D. A. (2012) An evolutionary based social rank explanation of why low income predicts mental distress: A 17 year cohort study of 30,000 people. *Journal of Affective Disorders*, 136(3), 882-888.

World Health Organization (2011). *Impact of economic crisis on mental health*.

Denmark: WHO Publications.

Zatzick, C., & Iverson, R. (2011). Putting employee involvement in context: A cross-level model examining job satisfaction and absenteeism in high-involvement work systems. *The International Journal of Human Resource Management*, 22(17), 3462-3476.