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Working Paper
Happiness and Work

IZA Discussion Papers, No. 8435

Provided in Cooperation with:
IZA – Institute of Labor Economics

Suggested Citation: Krause, Annabelle (2014) : Happiness and Work, IZA Discussion Papers, No. 8435, Institute for the Study of Labor (IZA), Bonn

This Version is available at:
<https://hdl.handle.net/10419/102322>

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IZA DP No. 8435

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August 2014

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ABSTRACT

Happiness and Work^{*}

The relationship between happiness and work is subject to an ever growing empirical literature in economics. The analyses are mostly based on large-scale survey data to measure subjective well-being. Whereas one large strand of research investigates the effect of job loss and becoming unemployed, another field of study focuses on the determinants of job satisfaction evolving around employment conditions, self-employment, and potential public sector satisfaction premiums. A smaller part of the literature investigates potential driving effects of happiness on labor market outcomes. This article will give an overview about the most significant subareas of research and the empirical literature in economics to date.

JEL Classification: I31, J28, J60, J64

Keywords: work, unemployment, self-employment, employment conditions, anticipation and adaptation effects, happiness, life satisfaction, job satisfaction, subjective well-being

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^{*} This manuscript was prepared for the *International Encyclopedia of Social and Behavioral Sciences 2nd Edition*. I would like to thank Derek Stemple for helpful comments. All remaining errors are my own.

1 Introduction

The economic research community has experienced a steep rise in the interest of analyzing individual happiness over the past two decades. Also frequently termed (life) satisfaction or subjective well-being, this field of research aims to detect information about subjective utility. Thereby, it constitutes a complementary approach to the common way in economics of measuring utility through revealed preferences or in other words, observable choices made by the individual (Frey and Stutzer, 2002).¹ The pioneering work of Easterlin (1974) challenged the standard focus on income as the sole measure for human utility by detecting the fact that while people in the same country with higher incomes are happier than those with less income, increasing national income per person over time is not accompanied with a growing average level of happiness, at least in countries where basic needs are met. Next to this growing attention of academic researchers, policymakers are also eager to find out whether gross domestic product (GDP) alone still represents a reasonable measure of societal progress. The Stiglitz–Sen–Fitoussi Commission on the Measurement of Economic Performance and Social Progress initiated by the former French president Nicolas Sarkozy in 2008 is a prominent example of this recent development (Stiglitz et al., 2009). The Commission explicitly recommended to take into account both objective and subjective dimensions of well-being given that there appears to be an increasing gap between what people actually find important for their well-being and the information contained in the GDP level.

Parallel to this relationship between happiness and income, the question of whether and how work is related to individual happiness takes up another large fraction of the literature on happiness economics. This may not be surprising as work constitutes a significant part of people’s (everyday) life. However, new classical economic theory constitutes work as a necessary evil and unemployment is seen as voluntary. According to this theory, individuals choose to be unemployed because they prefer receiving unemployment benefits and enjoy leisure time as compared to a dissatisfying wage and the time spent working. They choose to work if the offered wage exceeds a certain threshold, which enables an increase in consumption with the higher income received. In contrast, social psychologists claim employment possesses non-pecuniary values as well. As early as the 1930’s, the classic study “Mienthal”, which observed an unemployed community in Austria, revealed unemployment to have detrimental effects for individuals leading to passive resignation (Jahoda et al., 2009) by cutting their social relationships, removing their structured daily routine and lacking the feeling of contributing to society. Likewise, Layard (2011) identifies work to be the third most important factor (out of seven) affecting happiness and claims that while work generates utility gains through increased income and the related consumption possibilities, most people also attach non-pecuniary meanings to work.

When trying to understand the relationship between happiness and work, two key questions evolve: first, is having a job important at all and second, what factors contribute to job satisfaction in the case that individuals do work? While the first question may have been already touched upon in the former paragraph, there are several sub questions related to it, which refer to what actually happens when people lose their job and how this may differ according to certain conditions. While the subsequent section will address these exact questions, Section 3 will cover the literature related to job conditions and job satisfaction. Section 4 turns to the small literature

¹ I use the terms happiness, subjective well-being and life satisfaction interchangeably in this paper, as with most economists, see, e.g., Frey and Stutzer (2002). However, as they are separable constructs, I will use the exact term when citing empirical research.

on how happiness is affecting certain labor market outcomes, thereby acknowledging the fact that happiness not only constitutes an outcome of behavior. Section 5 concludes.²

2 Without Work: is that bad and why?

To detect whether being without work is an issue for individuals, a large empirical literature in economics has investigated the relationship between unemployment and subjective well-being.³ These studies are usually based on large-scale survey data from different countries that measure how satisfied the individual is with his or her life, how happy the individual is currently or provides an index of mental distress by using the General Health Questionnaire (GHQ) which consists of 12 questions related to mental health. These sorts of measures pose some challenges for an accurate analysis. Unobserved individual specific factors may have an influence on answering behavior, thus omitted variable bias may arise. If these unobserved factors are time invariant however, the use of longitudinal or panel data may help to overcome these problems. The focus would then lie on *intra*-person and not *inter*-person comparisons. Moreover, there is evidence of measures such as interview ratings, peer reports and the average daily ratio of pleasant to unpleasant moods that show a strong convergence to self-reports (e.g., Diener and Lucas, 2000). Other objective validity has been shown through, e.g., brain-science data (Urry et al., 2004).

2.1 Individual and General Unemployment

The wide consensus that emerged from the literature on the effect of unemployment on subjective well-being is the detection of a detrimental effect across several datasets and countries. One of the early economic studies includes for example Clark and Oswald (1994). They use one cross-section of the British Household Panel Study (BHPS) to estimate ordered probit regressions using the GHQ mental health scale. Their findings indicate a strong negative, statistically significant correlation between unemployment and mental health, which appears larger than between any other characteristic and mental health. Whereas these results are prone to be biased with respect to the true direction of causality, they set the stage for a number of studies dedicated to a similar question. Numerous studies have used the German Socio-Economic Panel (GSOEP) for the analysis of the question of the effect of unemployment on happiness. Two early ones include Gerlach and Stephan (1996) and Winkelmann and Winkelmann (1998) that both use several waves to detect a causal effect of unemployment on life satisfaction. By using fixed effects regressions, it is possible to look at the *change* in life satisfaction scores if an individual enters unemployment as opposed to simply comparing employed and unemployed individuals given that there could also be selection of rather unhappy individuals into unemployment. Both studies confirm the negative impact of an unemployment incidence on life satisfaction, even after controlling for income. The non-pecuniary costs of unemployment appear to be large (Winkelmann and Winkelmann, 1998). These results provide some evidence against the hypothesis that it is a selection of the unhappy individuals into unemployment. Kassenboehmer and Haisken-DeNew (2009) provide more recent evidence based on GSOEP data and focus on exogenous entries into unemployment to

² I acknowledge that there are far more studies related to the topics covered in this article, and probably also other more detailed questions are investigated, but space is limited and I intend on giving an overview of the most prominent notions and literature strands in economics.

³ Darity and Goldsmith (1996) provide an overview on studies reporting harmful effects of unemployment from the (social) psychological literature.

detect a clearer causal effect of involuntary unemployment. They approximate the latter by using company closings as an exogenous unemployment shock and investigate whether these company closings, voluntary unemployment such as quitting and wanting to look for another job, as well as being fired exhibit differential effects on life satisfaction. The findings indicate strong negative effects, specifically for women, of company closures, well above the overall effect of unemployment in general, in the year of entry into unemployment. The authors interpret these results as *prima facie* evidence of reduced outside work options, large investments in firm-specific human capital or a family constraint. For men, the reason for unemployment does not translate into a differential impact on life satisfaction.

A study that extends the literature to more detailed evidence on the effect of unemployment on happiness includes Knabe et al. (2010). They use the Day Reconstruction Method to combine time use data and measures of emotional affect. Thereby, one is able to detect experienced utility, or in other words to get an approximation of the emotions and feelings individuals experience while performing an activity. Around 1,000 employed and unemployed individuals were interviewed and asked to keep a diary on how they use their time during a specific day, their emotions during all these activities, their general life satisfaction and life circumstances. Unemployed and employed individuals can then be compared with respect to all these different domains. The study confirms previous results concerning the lower life satisfaction levels of unemployed individuals. Moreover, there is evidence that the unemployed feel less happy while performing similar activities to the employed. However, given that the unemployed have more time to perform more enjoyable activities compared to being at work, which is associated with rather negative feelings, they are able to compensate this gap in experienced utility by the amount of time the employed do not have. Therefore, average experienced utility does not differ between the unemployed and the employed.

While most studies focus on the incidence on individual unemployment, Di Tella et al. (2001) investigate how individuals' life satisfaction levels vary with their country's inflation and general unemployment rate. For the analysis, they use several waves of cross-sections from the Eurobarometer for twelve different European countries. A two-step procedure is conducted by first estimating microeconomic life satisfaction regressions for each country and calculating the mean residual life satisfaction for each nation in each year. The latter then serves as the dependent variable in a second step to represent a life satisfaction measure that is not explained by personal characteristics. This measure is then regressed on three-year moving averages of inflation and unemployment rates for each country. Both factors exhibit negative statistically significant effects on life satisfaction. Moreover, unemployment has an even stronger effect, whereas individuals would trade off a 1-percentage-point increase in the unemployment rate for a 1.7-percentage-point increase in the inflation rate.

2.2 No Adaptation to Unemployment

Maybe becoming unemployed represents a brief shock for the individual, but over time people get used to it. For example, Clark et al. (2008) show that individuals adapt to many major life events, observed in terms of life satisfaction scores. These include events such as marriage, divorce, widowhood, and the birth of a child. Even though these events partly exert strong effects on life satisfaction – widowhood in particular – individuals do adapt to all of them. Interestingly, unemployment represents an exception. Even after five years of being unemployed, life satisfaction scores have not recovered (however, a little for females). The results of several fixed-effects regressions investigating anticipation and adaptation effects with

GSOEP data confirm the detrimental effect of unemployment. Importantly, this effect is not a short term shock, but a long-lasting issue.

2.3 Scarring Effects of Unemployment

If individuals do not adapt to being unemployed, do those people who are employed, but have experienced unemployment in the past, have different well-being levels from those who have never experienced unemployment? Using GSOEP data, Clark et al. (2001) investigate this hypothesis. Fixed effects conditional logit regressions show that indeed, employed individuals with past unemployment experience report lower life satisfaction scores than those without unemployment experience. This finding is interpreted as the ‘scarring’ effect of unemployment. It appears to be an experience that individuals do not forget. Knabe and Rätzel (2011) examine the reasons for this finding. Again, the rich dataset of the GSOEP is used, and fixed effects ordered logit estimations are performed. Interestingly, they show that past unemployment mostly exhibits an effect on current well-being before controlling for future employment prospects and individual fixed effects, including time invariant personality traits. The findings suggest only weak evidence of an effect of past unemployment on the life satisfaction levels of the employed and the unemployed when future employment prospects are taken into account. However, the fear of becoming unemployed in the future appears to have a strong negative effect on life satisfaction. Whereas on the one hand, low job security exhibits a negative effect for the employed, insecure reemployment prospects exert a decrease in life satisfaction for the unemployed. A large part of the *scarring* effect of unemployment may therefore also be described as a *scaring* effect.

2.4 Unemployment and the Social Norm

Individuals usually do not react only upon their own situation but also compare themselves to the people around. Fulfilling certain expectations is an important factor in this regard, which leads to the question of how social norms may influence the effect of unemployment on happiness. Working can be seen as an essential social norm in many societies for individuals who are of working age. One could therefore assume that individuals who become unemployed in an environment with many other unemployed individuals are not as negatively affected as those who turn into a sort of “outsider”. A study using BHPS data tests this hypothesis (Clark, 2003). The findings from fixed effects regressions on mental well-being scores from the General Health Questionnaire (GHQ-12) reveal a confirmation of the hypothesis: unemployed individuals, especially men, suffer less when the regional unemployment rate is higher, when the partner is also unemployed and when the unemployment rate of other adults in the household is higher. Whereas the results make intuitive sense at first glance, in particular the findings on the household level may have gone the exact other way. If the partner already is unemployed, then the individual’s unemployment exerts even higher – especially financial – pressure on the household and may actually even make those individuals suffer more. However, these results seem to confirm a rather robust channel of a social norm effect.

2.5 Unemployment and Identity

It has been shown that unemployment causes a drop in well-being that goes beyond the material loss of income. Moreover, the creation of unemployment benefit systems in modern welfare states already contributes to moderate the income loss. In this context, a small strand of the literature investigates the relationship between unemployment and a person’s identity as a channel for the drop in well-being. In other words, the individual’s perception of ‘self’ may be

threatened upon entry into unemployment. Hetschko et al. (2014) provide an example of an analysis investigating changes in life satisfaction when individuals move from unemployment to retirement. This study uses GSOEP data and performs a difference-in-difference analysis by comparing both unemployed and employed individuals moving into retirement and their potential changes in life satisfaction scores. The findings suggest a clear increase in life satisfaction for those who move to retirement from unemployment, whereas this effect is not found for those who were employed before retirement. The interpretation of this finding relates to the reinstallation of the social norm of not working when being retired compared to not working when being unemployed. The authors refer to this as positive identity effects upon retirement, thus individuals change their feeling of belonging to the new category of 'retirement age'.

3 With Work: What's important?

3.1 Employment Conditions

While there seems to be a clear positive effect of being employed on subjective well-being, one should furthermore understand how certain job characteristics impact job satisfaction given the individual is actually employed. It is highly probable that while employment itself is important for life satisfaction, different employment conditions may exert differential effects on the specific satisfaction with the job. Cornelißen (2009) investigates exactly this relationship between job characteristics and job satisfaction and moreover, the impact of low job satisfaction scores on job search efforts. Using GSOEP data and conducting fixed effects regressions, relations with colleagues and supervisors, task diversity and job security are identified as main determinants of job satisfaction. Moreover, fringe benefits, the net wage, independence, influence, learning opportunities, and the subjective probability of promotion are also positive, statistically significant determinants of job satisfaction. Further regressions show that job satisfaction is a strong predictor of job search. Job search efforts increase with lower job satisfaction, which makes intuitive sense. However, this influence appears weaker with higher tenure, at a higher age, and in the public sector. Finally, the higher job search probability is shown to be an important determinant of the probability of a job change.

3.2 Promotions

Most careers do not remain static, but rather workers receive certain promotions from time to time. The a priori hypothesis about the direction of the effect of promotions on workers' well-being is unclear. On the one hand, workers may enjoy the higher wage, greater authority and control, more challenging tasks and other privileges related to the new job status and therefore experience an improvement in their well-being. On the other hand, a promotion may be accompanied by more stress through added responsibility and longer working hours. The net effect of promotions on well-being is therefore an empirical question. A relatively recent article examines this effect of job promotions on workers' health and happiness. While several studies have focused on the effect of promotions on job satisfaction, Johnston and Lee (2013) additionally investigate the effect on certain job attributes including job satisfaction as well as on (mental) health and life satisfaction. Moreover, by introducing dummy variables indicating certain time periods before and after the occurrence of a promotion, the study allows for anticipation and adaptation effects. Potential anticipation and selection effects include: changes in well-being resulting from changes in behavior to receive a promotion such as working longer

hours, from workers becoming informed about a future promotion, as well as healthier workers having higher chances of being promoted. Using several waves of the Household, Income and Labour Dynamics in Australia (HILDA) survey, the authors estimate a number of regressions on different subjective dependent variables. While they do not find any evidence for anticipation effects, workers indicate increased security, control, a fairer perception of pay, but also more stress and longer working hours one or two years after the promotion. Moreover, job satisfaction is significantly higher after the promotion. However, three years after the promotion, and despite still earning a higher wage and having more control in the job, the positive feelings vanished. The study did not find any significant effects on general health or life satisfaction, but negative effects on mental health two years after the promotion, which are primarily driven by anxiety-type feelings. In sum, the authors inquire as to why workers strive to be promoted as their well-being is not largely influenced and because there appears to be a negative effect on mental health. A missing argument at this point could be individuals' higher aspirations and the desire for change even though the resulting effect on well-being is unknown and may not be clearly positive.

3.3 Self-Employment

A so far neglected here, but important characteristic of a job is the type of employment the worker is engaged in. More specifically, are there differences in job satisfaction depending on whether the worker is self-employed or a regular employee? A large literature is dedicated to this question. One relatively robust result implies that self-employed workers report higher job and life satisfaction (see, e.g., Blanchflower and Oswald (1998) for one of the early contributions in the economics literature). The conventional interpretation of this finding is the greater autonomy that the self-employed enjoy, or in other words "being one's own boss", resulting in higher job satisfaction. However, as Blanchflower and Oswald (1998) note, the selection of happier, more optimistic or cheerful people into self-employment may present another interpretation, especially when considering cross-sectional data.

Up to the current date, there have been a number of contributions in the literature that focus on more specific questions regarding self-employment and happiness, e.g., trying to shed light on the apparent satisfaction gap between the self-employed and the regular employed. For example, Millán et al. (2013) differentiate between the impact of self-employment on job satisfaction in terms of type of work and job satisfaction in terms of job security compared to paid employees. They use several waves from the European Community Household Panel (ECHP) to estimate generalized ordered logit models. Their results suggest that while the self-employed are more satisfied with the type of work they do, paid employees are more satisfied in terms of job security. These results appear intuitive. However, it seems important to investigate changes in satisfaction measures depending on the status before the transition into self-employment. Individuals who move to self-employment out of unemployment may differ from those who move to self-employment out of regular employment. While the former may see self-employment as a necessity, the latter may rather view it as an opportunity. Binder and Coad (2013) investigate these questions with data from the BHPS using a matching approach to better identify treatment and control groups. Their main results show that those individuals who exit regular employment to become self-employed experience a significant increase in their life satisfaction compared to those staying in regular employment, with the effect even increasing between year one and two of self-employment. When comparing those moving from unemployment to self-employment with those moving from unemployment to regular employment, no difference in life satisfaction scores were found.

Hanglberger and Merz (2011) find contrasting results to the ones presented so far. They offer a further explanation of the difference between self-employed and regular employed by focusing on anticipation and adaptation effects. They use data from the GSOEP to estimate several fixed-effects regressions. The results show large negative anticipation effects preceding the change from regular employment to self-employment and a large improvement in the level of job satisfaction upon becoming self-employed. However, this increase diminishes after three years, in other words individuals adapt to being self-employed. Furthermore, the negative anticipation effects were found for any job change, in particular changing jobs within regular employment as well. The authors conclude that in the long run, the self-employed are not more satisfied than regular employees. These results of course challenge many of the previous findings in the literature and show how important the data structure and quality as well as the type of methodology are for the analysis. It will surely be necessary to perform similar analyses with different datasets and for different countries. Moreover, as many authors note, the group of self-employed is very heterogeneous, including for example farmers and free-lancers. Heterogeneous subgroup effects are therefore important to take into account.

3.4 Public and Private Sector

Besides employment-specific conditions, promotions and the importance of the distinction between regular and self-employment, sector-specific conditions are another essential source for differences regarding job satisfaction. Particular attention in this regard has been paid to the difference between working in the public or private sector. Several studies found employees in the public sector on average to be more satisfied than those in the private sector (see, e.g., Luechinger et al., 2008 with a focus on life satisfaction). A recent article by Danzer (2013) aims to disentangle the channels of worker sorting and sector-specific job characteristics. In order to do that, she uses a natural experiment, namely the massive privatization process in post-Soviet countries, in particular in Ukraine. The instrumental variable approach is based on the exogenous probability of working in the private sector in post-Soviet Ukraine based on pre-transition job characteristics. The data for the analysis stem from the Ukrainian Longitudinal Monitoring Survey (ULMS), a nationally representative panel dataset. The results suggest a positive public sector job satisfaction gap even after correcting for self-selection. Moreover, a certain part of this public sector premium with respect to satisfaction can be explained by differences in fringe benefits. However, a significant share of the satisfaction gap still remains unexplained, which may be related to job and time flexibility, differences in wage compression across sectors, and perceived job and income uncertainty.

4 Satisfaction as a Driver of Labor Market Outcomes

While the majority of studies in the area of happiness and work treat the specific well-being variables as an outcome, there is also a small strand emerging that aims to detect potential driving effects of happiness. Examples in the economics literature evolve mainly around the connection of happiness, job search and labor market outcomes. For example, as already discussed above, Cornelißen (2009), amongst other things, investigates the effect of job satisfaction on job search.

Furthermore, Clark et al. (2008) use twenty years of GSOEP data to investigate the anticipation and adaptation effects of certain life events on well-being. They include individual fixed effects in the estimations, which help to pick up actual anticipation effects rather than

selection. Their findings indicate that future unemployment reduces current well-being, which they interpret as a lead or anticipation effect. Clark (2003) and Mavridis (2010) both use BHPS data to investigate how the drop in mental well-being (GHQ score) affects the future unemployment probability. While Clark (2003) uses a simple probit model, Mavridis (2010) estimates a duration model. The findings suggest that those individuals with a higher drop in mental well-being upon becoming unemployed are less likely to remain unemployed one year later. Moreover, they are more likely to have a shorter unemployment duration. These results relate to the fact that those individuals who are hurt more severely from unemployment are the ones who exert more effort to exit unemployment. Clark (2003) moreover finds that those with a higher drop in their mental well-being score were more likely to have looked for work over the past week. In contrast, Gielen and van Ours (2014) find that the drop in life satisfaction upon unemployment entry does not stimulate job finding. They use GSOEP data and also estimate a hazard model. Three factors may induce the different findings: first, Clark (2003) and Mavridis (2010) do not allow the job finding rate to be influenced by unobserved heterogeneity; second, Mavridis (2010) pools women and men; and third, the subjective well-being measures are different. Moreover, Gielen and van Ours (2014) do not find the drop in life satisfaction to affect post-unemployment job quality. Finally, Krause (2013) examines the effect of an unemployed individuals' life satisfaction on future labor market outcomes. The study uses rich survey data from 2007 to 2009 of entrants into unemployment in Germany (the IZA Evaluation Dataset S) to calculate residual happiness. This residual displays higher (or lower) satisfaction levels than would be predicted by a number of demographic and socioeconomic characteristics. Subsequently, the effect of residual happiness on labor market outcomes is analyzed. Moreover, by accounting for the individual's labor market history and information about future job prospects, worries about reverse causality bias can be reduced. The findings indicate a statistically significant inverted U-shaped effect of residual happiness on the future reemployment probability and reentry wage, where the effect on wages even seems to have a cubic shape. Further investigation offers three mechanisms. First, happiness is mainly a predictor for exit into self-employment; second, only the male unemployed experience an effect of happiness upon reemployment; and third, the concept of "locus of control" and the personality traits of neuroticism and extraversion are main drivers of the baseline effect on regular reemployment and are able to explain the effect on reemployment for males. The non-linear effects on wages and self-employment are robust to the inclusion of personality traits. These results may give rise to the notion of an optimal level of happiness, which is not necessarily the highest, at least in terms of achievement outcomes.

Even though endogeneity concerns with respect to happiness make it difficult to detect causal effects of happiness as a driver, these few studies show that with the aid of panel data and the constructions of a measure of the drop in happiness upon some event as well as the possibility to control for several sources of bias can help to reduce potential worries. Moreover, it is important to show that happiness may in some cases exhibit a potential source of motivation for behavior. One study circumvents the endogeneity issue by the conduction of an experiment. Here, happiness increases are exogenously induced for one randomly chosen group but not the other (Oswald et al., 2009). The treatment consists of short comedy movies, whereas the control group either watches no movie or a neutral movie. The results show that higher happiness (or positive affect) increases productivity for a paid task.

5 Conclusions

An ever growing literature is engaged in questions that revolve around the relationship between work and subjective well-being. One large strand of research investigates the extensive margin by analyzing the effect of losing the job and becoming unemployed. Another important field of study focuses on the determinants of job satisfaction revolving around employment conditions, self-employment, and potential public sector satisfaction premiums. A smaller part in the literature investigates potential driving effects of happiness with respect to labor market outcomes.

Work proves to be a very important determinant for people's well-being. The most obvious evidence for this statement is the detrimental negative effect that individuals experience upon becoming unemployed, which goes beyond a pure income loss effect. Losing one's identity, purpose in society, and contacts to others are identified as main reasons for this non-pecuniary cost of unemployment. Whereas these determinants are essential for the overall satisfaction with life, it has been shown that people experience rather negative emotional affect while working. Moreover, the unemployed are able to make up for the stronger negative emotional affect experienced during an activity compared to the employed with the time the unemployed have for enjoyable activities throughout the day. These results contribute to a more sophisticated view of the unemployed individual's subjective well-being. Importantly, the overall life satisfaction gap between the unemployed and the employed is not questioned by these latter results and remains crucial.

Regarding job satisfaction determinants, five patterns emerge from the literature: 1) relations with colleagues and supervisors, task diversity and job security are main determinants of job satisfaction; 2) job satisfaction predicts job search effort; 3) a promotion affects job satisfaction positively only in the short-term; 4) the self-employed seem to report higher job satisfaction scores which is probably related to greater autonomy; and 5) there seems to be a satisfaction premium in the public sector. Even though some studies lack a clear test of causality and a few others challenge these existing views, the majority of evidence seems to confirm these five patterns. Following these findings as well as Stiglitz et al. (2009), it altogether appears as if happiness research constitutes a valuable complementary source of utility measurement for both academia and policy.

Future research using high quality data structures and advanced methodologies may be able to shed light on certain contradictory results. Panel data emerge as important to take into account difficulties when working with subjective well-being data, such as individual unobserved heterogeneity. Although identifying a clear natural experiment that relates to subjective well-being is not an easy task, a more frequent use of natural experiments or other external shocks such as in, e.g., Danzer (2013) may constitute another potential direction for future research to overcome certain obstacles when comparing subjective well-being data between different groups.

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