

# Unemployment and Subjective Well-being Among the Youth: Evidence from a Longitudinal Study in Poland

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## Abstract

The main aim of this paper is to investigate the impact of becoming unemployed on the well-being of young people. Particularly, we examine to what extent this relationship is moderated by the local unemployment rate. To address this topic, we use a longitudinal dataset: Social Diagnosis: Objective and Subjective Quality of Life in Poland (2005-2015).

Using a fixed effect model, we find that young individuals who lost a job feel worse off than their counterparts who remained employed, and that these effects differ by gender, with men being more susceptible to changes in the employment status. Moreover, we show that the impact of unemployment on the well-being of men is the smaller, the higher the unemployment rate is. However, contrary to expectations, this effect is driven by the decreasing well-being of employed men and not by a decline in the distress level of unemployed men when aggregate unemployment grows.

**Key words:** unemployment, subjective well-being, youth, longitudinal data.

## I. Introduction

In this paper, we address the issue of the relationship between both: the individual and aggregated labour market situation and the subjective well-being of young people. In light of the growing concern about deteriorating mental health and well-being (European Pact for Mental Health, 2008), especially during the new economic realities (WHO, 2015), it is important to identify the association between the labour market situation and the subjective well-being of young people and provide empirical evidences.

This paper builds on previous empirical studies, which analysed the impact of job loss and the local unemployment rate on subjective well-being. Unexpected life events such as job loss could depress subjective well-being. Losing a job can mean not only a significant decrease in income but also a loss of non-monetary benefits associated with work, such as time structure, social contacts or clearly defined life goals. However, the assessment of individual unemployment also involves comparing to the labour market situation of the reference group. In a society with strong work ethics, staying without work can be seen as a breach of the social norm. On the one hand, the local unemployment rate is considered to proxy the strength of the social norm to work: the more unemployment there is, the weaker the impact of becoming unemployed on subjective well-being (e.g. Clark, 2003). On the other hand, there is a competing explanation: a higher unemployment rate means bleak labour market prospects and poor chances for finding a new job; thus, it might strengthen the negative impact of individual unemployment on well-being. Therefore, not only do we analyse the subjective well-being of unemployed versus employed youth, but we also investigate the moderating role of the regional unemployment rate.

Minimal research attention has been previously directed toward the analysis of these issues among young people, therefore, our paper fills this gap. The novelty of our paper also lies in analysing a post-transition country, while the majority of studies look at Western European and

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Anglo-Saxon countries. To the best of our knowledge, there is no evidence of the moderating role of the unemployment rate on the impact of job loss among youth in a post-transition country.

In addition, we analysed the situation of women and men separately. Previous findings indicate that men are more vulnerable to changes in the labour market situation (e.g. Angelescu, 2008; Artazcoz et. al., 2004). Men more often assign central importance to employment than women, who perform alternative roles, which might be substitutes to employment (Cinamon & Rich, 2002). Also, due to the gender pay gap, the job loss of men translates into more detrimental changes in the financial situation of households and other dependent household members, which could reinforce negative feelings of job loss especially in the case of the main breadwinner. Furthermore, there are different social expectations towards men's and women's employment (Van der Meer, 2014), which lead us to conduct analysis separately by gender.

We take advantage of the longitudinal character of data and estimate individual fixed effect models that solve the problem of unobserved heterogeneity present in cross-sectional studies.

In sum, we address the following research questions: First, what are the effects of individual unemployment on the well-being of youth? Second, do the effects among youth differ between men and women? Finally, how does the local unemployment rate moderate these effects?

The paper is organised as follows: Section II vividly reviews the literature on subjective well-being and individual unemployment, the moderating role of regional unemployment and gender differences in this respect. In Section III, we describe data and the methodology adopted to address our research questions. Section IV presents the results, while section V summarises and concludes.

## II. Literature and hypotheses

### Individual unemployment and subjective well-being

A large volume of literature discusses the theories behind the negative relationship between unemployment and well-being. Jahoda's functional theory of employment still remains the most influential among them. According to Jahoda (1981), besides visible outcomes such as remuneration, employment also has other latent functions that are beneficial for a person's well-being (e.g., time structure, social contact, shared experiences and goals, activity). The lack of employment deprives people of these beneficial functions and via this channel decreases their well-being (for more theories linking unemployment and well-being see e.g. Ezzy (1993), McKee-Ryan, Song, Wanberg, & Kinicki (2005)). According to van der Meer (2014), unemployment influences the individual's well-being via three channels. First, unemployment deprives a person of stimulation and comfort that comes with the job, which are measured by job satisfaction and income. Second, a job and income define the social status of a person, and people in general prefer to take higher positions within society, while the social status of an unemployed person is rather low. Last, most people desire social approval, and having a job means adhering to the social norms to work. There is a vast amount of empirical literature on the detrimental consequences of job loss for well-being (e.g. Winkelmann (2009), Clark, Knabe, & Rätzl (2010) for Germany, Theodossiou (1998) for Britain, Ervasti & Venetoklis (2010) for 21 EU countries). Clark and Oswald (1994) show for Great Britain, that the negative effect of the unemployment on well-being is larger than the effect of divorce or separation.

The few existing studies focusing on youth investigate the effects in Western economies. For example, the influence of short and long-term unemployment on youth well-being and the mitigating impact of manpower programs were examined by Korpi (1997) for Sweden. His results indicate that participation in manpower programs improves the well-being of unemployed youth and makes it indistinguishable from the well-being of employed youth, while unemployment benefits do not have such a beneficial impact (when comparing the unemployed with and without benefits). This suggests that employment and activities similar to employment are important

factors of youths' well-being, not necessarily their financial situation. Clark and Oswald (1994) show that the well-being of young people (under age 30) is less affected by unemployment than the well-being of older people. A plausible explanation is that young people are more often unemployed than prime age workers, thus it is easier for them to accept such a situation. On the contrary, the meta-analysis by Paul and Moser (2009) suggests that the relation between age and psychological distress connected with unemployment is rather U-shaped, thus youth and the elderly are more vulnerable than the prime age population, although this effect is not stable among analysed studies.

### **Moderating effect of unemployment rate on subjective well-being**

Are these negative effects moderated by the local unemployment rate? There are two opposite theoretical arguments about the direction of the impact. On the one hand, the local unemployment rate can be considered as a proxy for social norms to work. The lower the unemployment rate, the stronger the norm to work. Such an approach implies that an individual's own unemployment impacts their well-being less when there is a higher level of unemployment among the reference group/relevant others (Clark, 2003). The underlying mechanism assumes that well-being is a proxy for utility and that the main sources of unemployed individuals' utility are benefits and leisure time. When the norm to work is strong, the unemployed might enjoy leisure time less, as they can be subject to social sanctions for deviating from the norm (Stutzer & Lalive, 2004). Also, the concept of adaptive preferences, first introduced by Elster (1982), predicts that an individual's own unemployment impacts their well-being less when there is a higher level of unemployment among the reference group, but with a different causal mechanism. Adaptive preferences assume that people adjust their aspirations to feasible possibilities (Elster, 1982). When work is more difficult to find, people downgrade this inaccessible option and, consequently, job loss has a smaller impact on their subjective well-being. Moreover, when the unemployment rate is high, job loss may be easier attributed to external factors resulting in less guilt and shame for unemployment, thus moderating its negative effects.

On the other hand, the higher unemployment rate might strengthen the negative impact of individual unemployment on well-being, as it indicates poor labour market prospects and lower chances of finding a new position. Therefore, it is often noted that a higher unemployment rate lowers the well-being of the whole workforce, also of those in employment (e.g. Turner, 1995; Clark, 2003). This effect might be due to the increasing subjective job insecurity and the weakening bargaining power of workers when the surrounding unemployment rate grows.

Studies examining the effects of the regional unemployment rates within a country find a positive effect of unemployment rates on individual experiences of unemployment, as predicted by social norm, and adaptive preferences interpretations (Clark, 2003; Clark et al., 2010; Stutzer & Lalive, 2004), no effect at all (Dooley, Catalano, & Rook, 1988; Oesch & Lipps, 2013; Strandh, Novo, & Hammarström, 2011) or even a negative effect (Turner, 1995). On the other hand, when analysed on the country level, the unemployment rate either does not interact with personal unemployment experiences in terms of well-being (Eichhorn, 2013) or exacerbates its negative consequences on well-being (Calvo, Mair, & Sarkisian, 2015). A meta-analysis by McKee-Ryan et al. (2005) finds no relation between the unemployment rate at the time of the study and the effects of unemployment on well-being.

Very few studies have analysed the moderating role of the unemployment rate on the well-being and health of unemployed youth (see: Scanlan & Bundy, 2009 for an exception). Australian data show that the unemployed aged 18-24 report poorer mental health during a period of low unemployment compared to a period of high unemployment. The major drawback of the study is its methodology - a comparison of means - which does not control for neither observed nor unobserved heterogeneity.

Most of the literature concentrates on Western Europe and Anglo-Saxon countries, and the research on post-transition countries is limited, although their socio-economic situation is specific. On the

one hand, these countries experience on average higher unemployment rates, and after transition unemployment became a relatively common phenomenon, suggesting that the norm to work may be weaker. On the other hand, there are also cultural differences. The negative effect of unemployment on well-being could be intensified with very strong social norms inherited from communism, an era when the non-working people were stigmatised (Selezneva, 2011). During the times of communism and central planning economy, employment was the obligation of each able-bodied citizen. For example, in Poland every secondary school or university graduate received a work order and could not resign from work for 2-3 years (Act of 7 March 1950..., 1950). There was also massive propaganda against people evading work. The lack of employment without any good cause indicated a lack of willingness to work and “leading antisocial parasitic way of life” (Porket, 1995, p. 34). Therefore, unemployed faced social ostracism and legal consequences (Porket, 1995).

To the best of our knowledge, there are only two studies on the moderating role of the unemployment rate on the individual experience of unemployment in post-transition countries. Using panel data for Russia, Eggers et al. (2006) find that the regional unemployment rate increases the well-being of both the employed and the unemployed, with the effect stronger for unemployed. The authors discuss the unusual effect for the employed in terms of the change of expectations: when individuals' reference groups fare worse in a troubled economy, people lower their standards and appreciate more what they have, reporting being better off than in times of higher unemployment. The methodology of this analysis differs from earlier contributions by employing split-sample regressions for the employed and unemployed. The analysis of Kazakhstan (Kalyuzhnova & Kambhampati, 2008) looks at three different years interpreted as different stages of economic transition. Authors show that the higher regional unemployment rate increases the well-being of both the unemployed and employed at the beginning of the market reforms and during their maturity, while in the post-reform period the unemployment rate has a positive impact only on the well-being of the employed. It would be worthwhile to gather more empirical evidence to see which effect prevails, as there are different scenarios of transition in these countries.

For Poland, Angelescu (2008) analyses the levels of well-being in 1990 and 1999. She shows that the well-being of Poles was lower in 1999 compared to 1990, but the difference disappears when employment status and marital status are accounted for. According to the results of her pooled analysis, being unemployed has a detrimental effect on subjective well-being. Unfortunately, this study did not investigate whether the effect of individual unemployment on well-being differs between 1990 when the unemployment rate was low and 1999 when it was much higher.

### **Gender differences in response to unemployment**

Many studies indicate that men and women respond differently to unemployment. This may be the result of different social norms and expectations towards genders (Van der Meer, 2014). The World Bank report on gender equality and development (World Bank, 2011) confirms such conclusions. The qualitative study shows that having a job is still the basic determinant of a man's position in the society. Having a high-quality job and above-average income makes a man a good husband and increases his self-esteem, while the lack of work disturbs these feelings and leads to frustration. In many cultures, expectations towards women are different. Women can be successful as mothers and wives, not necessarily as employees, and their position in their families gives them comfort. Artazcoz et al. (2004) show that being married and having children are protective factors for unemployed women's well-being but not for men's. In the case of unemployed men, being married even has an opposite effect.

The fact that negative effects of unemployment are different for women and men is also a result of cultural determinants, as was shown by Strandh et al. (2013). In more traditional gender regimes, unemployment has a stronger negative connection with mental health among men than among women. In countries where gender roles are more equal this difference does not occur. Poland and other post-transition countries have rather traditional gender roles. In the aforementioned study on Poland, Angelescu (2008) shows that men are more affected by unemployment than women in terms of well-being. Similar conclusions for other post-transition countries are derived

from Selezneva's review (Selezneva, 2011). Also, in declarations work is less important for women than for men in Poland. According to the European Values Study (2008), 58.9% of men attach high importance to work while for women it is 53.6%. This gender gap (5.3 pp.) is above the average for EU countries (4.1 pp.). There are also more women than men in Poland who do not consider work as a meaningful part of their life.<sup>1</sup>

A similar conclusion about gender differences could be drawn from Jahoda's theory (Jahoda, 1981). The author emphasises that work can take different forms than just employment, in the sense that other forms of engagement that are not regular work, such a household tasks, can also provide the beneficial functions of employment.

Based on the above arguments, we formulate the following hypotheses:

**Hypothesis 1:** *Becoming unemployed depresses the individual subjective well-being of youth.*

**Hypothesis 2:** *Becoming unemployed affects men more severely than women.*

**Hypothesis 3:** *A high local unemployment rate mitigates the impact of an individual's own unemployment on well-being.*

**Hypothesis 4:** *The mitigating effect of the local unemployment rate on own unemployment impact on well-being is stronger for men.*

### III. Research design

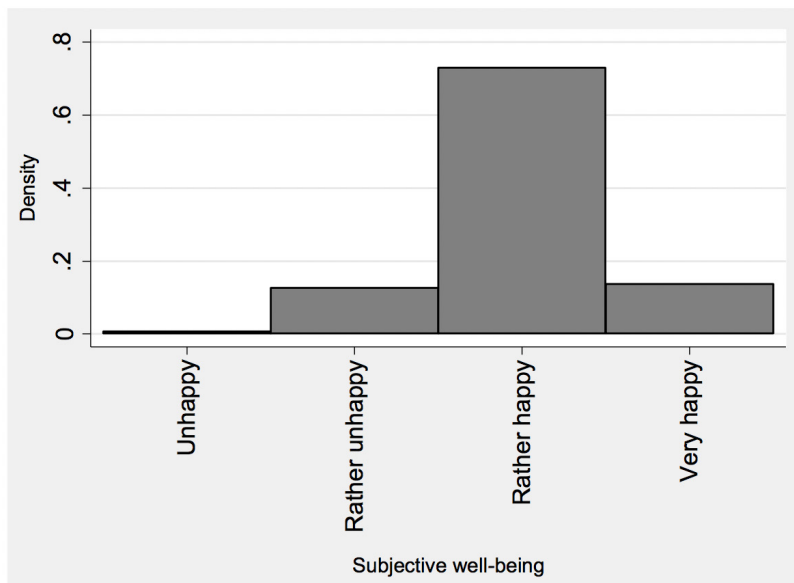
#### **Data**

We draw on the most comprehensive dataset on well-being in Poland – The Social Diagnosis: Objective and Subjective Quality of Life in Poland (Social Diagnosis ... ,2015). This biennial household panel collects information about the economic and financial situation of households, as well as its members. Individuals aged 16 and above are interviewed individually, providing information about their labour market experiences, health, psychological well-being, lifestyle, engagement in arts and cultural events. Each round of the study also consists of special thematic, *ad hoc* modules. In order to avoid seasonal effects, the field work is conducted in the spring, and the panel is refreshed in each wave with new households sampled. Our analysis uses data from six waves collected in 2005-2015. The sample is restricted to individuals aged 18-35, who in the first observance already finished their education and were employed or searching for work. The age limit for all waves lies between 18 and 35 years old. This means that all individuals in the first wave (2005) are of a minimum age of 18 and a maximum age of 25 years old if they participate in all six waves, or of the maximum age of 33 if they participate in two waves. The adoption of such an age limit is related to the transition from education into the labour market, which predominantly happens after completing secondary or vocational school at the age of 18/19 or after finishing tertiary education at the age of 24. By applying such a broad age limit, we also reflect trends in postponing and delaying the transition to adulthood observed in Poland, with young people delaying procreation decisions and family formation till the age of 30. This trend is also taken into consideration by policy makers in several EU countries, where the age of 35 is used as the limit in the definition of youth. As stated in the comparative report of national legislation toward youth in Europe, “Difficult inclusion of young people into labour market is usually seen as the main reason to prolonging youth age. Consequently, it may be expected that more and more European countries would keep up with this trend, moving the upper limit further towards 35 or even 40 years for some policy areas.” (Perovic, 2015, p.4).

<sup>1</sup> Calculation based of European Values Study 2008, accessed on the 15/02/2018 from <http://zacat.gesis.org/webview/index.jsp?object=http://zacat.gesis.org/obj/fCatalog/Catalog5>

## Measures

Our dependent variable is individual self-reported subjective well-being, based on the question, ‘*Considering all, how would you assess your current life - would you say you are...*’ with answers ranging from 1 (unhappy) to 4 (very happy). The way the question is constructed differs from the standard, widely used definitions. One of its weaknesses is that while the question itself refers mostly to the concept of life satisfaction, answers are related to life happiness. However, both conform to the general definition suggested by Diener, Suh, Lucas, & Smith (1999), according to which subjective well-being is a very wide concept. Consistently with this approach, our question measures the pleasant effect of well-being – individuals’ instant evaluation of life events (e.g., joy, elation, pride, affection, happiness). The distribution of this variable is presented in Figure 1. The majority of respondents declare that they are rather happy.



**Figure 1:** Distribution of the dependent variable “*Considering all, how would you assess your current life - would you say you are*”

**Note:** Pooled sample, n=8035.

*Source:* Own calculation based on The Social Diagnosis. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download in July 2017].

Our key independent variable is binary and defined on the basis of the current labour market status: 1 for those who are unemployed and 0 for those employed. The analysis focuses on the individuals active in the labour force. We decided to exclude the inactive population due to the huge heterogeneity of this group. Among the inactive group, we have those who are in full-time education, so unable to work, people with serious health issues, so as well excluded from the labour market, people who care for others (children, other family members), and those who are not willing to work. Many diversified motivations are behind the decisions of those groups to be away from the labour market, and the impact of their employment status on well-being constitutes a separate topic for further analysis, not addressed in this paper.

In a pooled person-wave sample, there are 19% of the unemployed, and this level varies by year, with the highest share of the unemployed in 2005 (29%) and the lowest in 2015 (15%). There are also visible gender differences: there are 23% of unemployed women compared to 16% of unemployed men (more details in Figure A. 1 in the appendix). It is important to mention here that unemployed young people have the same access to unemployment benefits as prime age workers,

however, in Poland the basic condition for receiving unemployment benefits is at least one year of work with at least minimum remuneration, during which social contributions were paid. These conditions might be difficult to meet for younger workers, who more often have temporary jobs, internships, short-time job placement, or are entering the job market for the first time.

**Table 1:** Descriptive statistics

	Total		Men		Women	
	Mean	sd	Mean	sd	Mean	sd
Subjective well-being	3.00	0.54	2.99	0.54	3.00	0.54
Unemployed	0.19	0.40	0.16	0.37	0.23	0.42
NUTS2 unemployment share	8.16	2.14	7.42	1.91	8.88	2.10
Nr of friends	6.77	6.77	7.38	7.61	6.17	5.76
Age	28.48	4.49	28.21	4.57	28.75	4.39
Age squared	831.13	251.33	816.39	254.85	845.57	247.01
Married	0.44	0.50	0.37	0.48	0.50	0.50
Lost a close person	0.16	0.37	0.15	0.36	0.17	0.37
Seriously ill	0.04	0.20	0.03	0.18	0.05	0.22
Civic engagement	0.10	0.30	0.11	0.31	0.09	0.29
Religious activity	2.10	2.15	1.86	2.14	2.34	2.15
Number of observations	8035		3976		4059	

**Note:** Pooled sample, N=8063.

*Source:* Own calculation based on The Social Diagnosis. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download in July 2017].

Another important independent variable is the regional unemployment rate by gender. We proxy it by a gender specific regional share of unemployed in the working age population, provided by the Polish Statistical Office<sup>2</sup>, at NUTS2 level (*województwo*), as data on the unemployment rate is not available by region. This share is slightly lower than the unemployment rate in our sample, as it covers the whole working age population, not only youth, as in our dataset, and it uses a much larger denominator – working age population instead of just economically active population. However, the yearly and gender trends in both indicators are the same (Figure A.1). Correspondingly to our sample, the highest share of unemployed was observed in 2005, with higher unemployment among women. The regional unemployment share varies from 7% to 14% for women, and from 6% to 11% for men.

We also control for several time-varying, personal characteristics and events, which could affect subjective well-being in the given year of the study, such as: age, marital status, number of close friends, a loss of a close person in the current year, and serious illness in the current year (Table 1). Marital status is a binary measure defined 0 for single and 1 for married individuals. As some changes in life circumstances are related to distressful events such as a death in the network of close family or friends or serious health problems are confirmed to be negatively associated with subjective well-being (Suh, Diener, & Fujita, 1996), and they are included in all specifications as binary indicators. Based on previous empirical evidence, which confirmed the positive relationship between community involvement and subjective well-being (Helliwell & Putnam, 2004), we also control for membership in nongovernmental organisations, as well as for engagement in religious activities, which is also positively related to subjective well-being (Dolan, Peasgood, & White, 2008). Time-invariant controls include education and gender (in the full sample specification only). However, due to the application of an interaction effect only in the fixed term model, they are not directly controlled for in the main specification.

<sup>2</sup> Variable: Share of the registered unemployed persons in the population in the working age by sex, accessed on the 02/08/2017 from <https://bdl.stat.gov.pl>.

### Method

To address the first and the second hypotheses, the following specification is used:

$$Y_{it} = \alpha_i + \beta_1 U_{it} + \beta_2 R_{it} + \gamma' X_{it} + \mu_t + \varepsilon_{it} \quad (1)$$

To test the third and the fourth hypotheses, we include interaction terms between own employment status and the regional unemployment rate:

$$Y_{it} = \alpha_i + \beta_1 U_{it} + \beta_2 R_{it} + \beta_3 (U_{it} * R_{it}) + \gamma' X_{it} + \mu_t + \varepsilon_{it} \quad (2)$$

, where:

- $Y_{it}$  represents the well-being of an individual  $i$  at time  $t$ ,
- $\alpha_i$  represents the individual fixed effect,
- $U_{it}$  is a binary indicator of being unemployed (versus employed),
- $R_{it}$  is a measure of regional unemployment share,
- $X_{it}$  is a set of individual control variables,
- $\mu_t$  is a wave indicator,
- $\varepsilon_{it}$  represents an error term

Both specifications are estimated using hybrid models (Allison, 2009) with additionally clustered standard errors on a regional level. This is one of the methods that takes advantage of longitudinal aspects of data and bears both the characteristics of fixed effects and random effects models, measuring the same individuals over a few years. This approach has an advantage over simple cross-sectional regressions. Most of all, it allows for the estimation of the real effect of change of variable of interest on the change of dependent variable in the give time span, not only association, as in the case of cross-sectional data.

This approach allows us to check if the individual change in labour market status translates into changes in individual subjective well-being, and how the changes in regional unemployment rates moderate the effect of job loss on well-being. Second, by adding time-invariant variables such as education we can also assess their relation to changes in subjective well-being. As argued by Allison (2009), the hybrid method offers considerable advantages over simple fixed effect estimator, allowing for estimation of both time-variant and time-invariant covariates. This approach allows for decomposing the time-varying predictors into two components: the first one describing the fixed effects estimates within-person variation and the second one capturing the random effects between persons estimates variation (which are equal to random intercept model coefficients, based on the weighted average between and within estimates), both used as predictors in the model (Schunck et al., 2013). The within-person estimator depicts the relationship between a predictor and an outcome. Its interpretation is straightforward: if a predictor varies across time, the outcome decreases or increases by one unit (for a continuous variable). In contrast, the between estimator represents the effect of the variation of the predictor on the outcome across respondents.

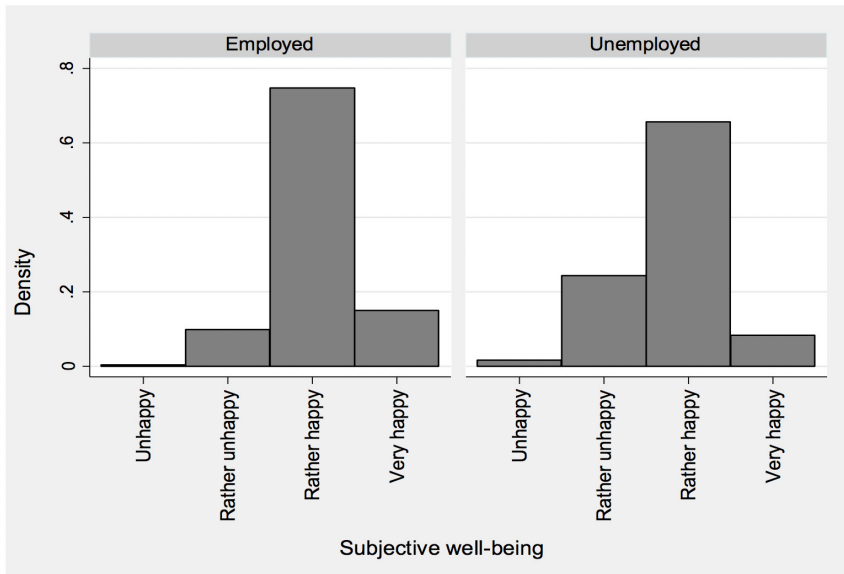
We treat our dependent variable as a cardinal one, which allows us to apply linear methods. This is a common practice in life satisfaction and well-being estimations (Clark et al., 2010; Oesch & Lipps, 2013).



## IV. Results

Before moving to the multivariate analysis in a longitudinal setting, we first checked if the distribution of the subjective well-being varies by employment status. In accordance with our expectations, Figure 2 indicates that unemployed young people more often report being unhappy and rather unhappy than their working counterparts. The opposite can be said about positive well-being, which is higher among the employed than the unemployed youth.

We then use the advantage of observations of the same individual over several years to calculate the mean subjective well-being score, conditional on a labour market status change between two consecutive waves (which in our data means a 2-year period).



**Figure 2:** Subjective well-being by employment status

**Note:** Pooled sample, employed n=6969, unemployed n=1634.

*Source:* Own calculation based on The Social Diagnosis. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download in July 2017].

Using longitudinal data, Table 2 compares the change in the subjective well-being of two groups: those who stayed in employment and those who lost their job. Those who remained employed in the two consecutive waves had on average higher subjective well-being in the initial year, and it increased in the consecutive wave. The opposite can be said about those who become unemployed: not only did they have lower subjective well-being while still in employment, but their subjective well-being also decreased with job loss. We observe the same pattern for both genders. These results indicate that a simple comparison of employed versus unemployed individuals, as in a cross-sectional setting, can be biased by the presence of certain selection.

**Table 2:** Average level of subjective well-being by changes of labour market status and gender

	TOTAL			MEN			WOMEN		
	T	T+2	DIFF	T	T+2	DIFF	T	T+2	DIFF
EMP→EMP	3,034	3,057	0,023	3,032	3,055	0,023	3,038	3,059	0,021
EMP→UNEMP	2,920	2,750	-0,170	2,929	2,728	-0,201	2,913	2,774	-0,139

*Source:* Own calculation based on The Social Diagnosis. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download in July 2017].

This descriptive finding is in line with our expectations based on theory and previous research. However, it is a raw effect, without accounting for other personal time variant characteristics and conditions of local labour markets. Therefore, we moved forward to econometrical multivariate analysis. We estimated six regressions, presented in Table 3. Model 1 refers to the first specification, and Model 2 refers to the second specification with the interaction effect. Both specifications are estimated on the total population and on men and women separately. We first present the coefficients from within estimation (fixed effect) and then from between individuals' estimation (random effect).

Results from within estimation in model 1 indicate that when they become unemployed young individuals have on average 0.14 (which is 1/4 of standard deviation) lower well-being, compared to the moment when they work, all others constant. Thus, hypothesis 1 can be confirmed. To give an idea of the effect's size, the detrimental effect of unemployment on well-being outweighs the beneficial impact of getting married (0.10) and is similar to that of becoming seriously ill. As discussed in the theoretical part, there are several channels via which job loss affects subjective well-being. One of them is income, which is argued to have a positive although diminishing impact on well-being (Clark, Frijters, & Shields, 2006). The loss of personal earnings due to unemployment also translates into a loss of relative income, which is strongly associated with subjective well-being. Our model does not account for income, as our goal is to estimate the whole effect of becoming unemployed on well-being, also partly driven by income loss. When income is controlled for, the coefficient of change of labour market status is treated as if the income remains *ceteris paribus*, so assuming that job loss does not involve an income change. As a sensitivity check, we have estimated models with a proxy for household income<sup>3</sup> (results are reported in Table A.1 in the Appendix.). According to our expectations, when income proxy is taken into account the negative impact of becoming unemployed on subjective well-being diminishes slightly but remains significant (the coefficient changes from 0.136 to 0.126). Also, the effect of local unemployment share on individual subjective well-being is significant and does not differ qualitatively from the main specification. As even after controlling for family income the detrimental effect of unemployment is persistent, it suggests that a part of the observed effect is also related to the non-financial aspects of job loss, as predicted by the functional theory of Jahoda (1981), described in the previous part of this paper.

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<sup>3</sup> Proxy of household income is a dummy variable indicating those households in which the income is sufficient to cover all basic needs.

**Table 3:** Impact of unemployment and unemployment share on subjective well-being: mixed effects coefficients

	(1) Total	(2) Total	(3) Men	(4) Men	(5) Women <sup>4</sup>	(6) Women
<b>Within individual estimates</b>						
Unemployed	<b>-0.136***</b> (0.025)	<b>-0.333***</b> (0.073)	<b>-0.180***</b> (0.031)	<b>-0.404***</b> (0.096)	<b>-0.100*</b> (0.046)	-0.189 (0.152)
NUTS2 unemployment	<b>-0.014*</b> (0.007)	<b>-0.018**</b> (0.007)	<b>-0.022**</b> (0.007)	<b>-0.026***</b> (0.007)	-0.005 (0.012)	-0.007 (0.012)
Unempl.# NUTS2 unempl.		<b>0.023**</b> (0.008)		<b>0.029*</b> (0.013)		0.010 (0.015)
Nr of friends	0.003 (0.002)	0.003 (0.002)	0.004 (0.002)	0.004 (0.002)	0.002 (0.002)	0.002 (0.002)
Age	0.060* (0.029)	0.059* (0.029)	0.038 (0.049)	0.037 (0.049)	0.074* (0.034)	0.074* (0.034)
Age squared	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001* (0.001)	-0.001* (0.001)
Married	0.096** (0.032)	0.095** (0.032)	0.133** (0.048)	0.133** (0.048)	0.065 (0.049)	0.064 (0.049)
Lost a close person	-0.028* (0.012)	-0.028* (0.012)	-0.076*** (0.022)	-0.076*** (0.021)	0.013 (0.022)	0.013 (0.022)
Seriously ill	-0.143** (0.049)	-0.140** (0.049)	-0.187* (0.087)	-0.181* (0.087)	-0.111** (0.037)	-0.111** (0.036)
Civic engagement	0.018 (0.023)	0.017 (0.023)	0.010 (0.045)	0.009 (0.045)	0.024 (0.032)	0.024 (0.032)
Religious activity	0.014** (0.005)	0.014** (0.005)	0.018** (0.006)	0.018** (0.006)	0.011 (0.007)	0.011 (0.007)
<b>Between individual estimates (only time invariant)</b>						
Men	-0.011 (0.011)	-0.011 (0.011)				
Basic vocational and lower	-0.055** (0.020)	-0.055** (0.020)	-0.046* (0.024)	-0.047* (0.023)	-0.069* (0.027)	-0.069* (0.027)
Post-secondary and tertiary	0.099*** (0.019)	0.099*** (0.020)	0.094** (0.029)	0.094** (0.029)	0.107*** (0.028)	0.107*** (0.028)
Constant	3.842*** (0.254)	3.842*** (0.240)	4.195*** (0.419)	4.171*** (0.415)	3.573*** (0.561)	3.580*** (0.548)
Observations	8035	8035	3976	3976	4059	4059
Number of individuals	3844	3844	1951	1951	1893	1893

Standard errors in parentheses, \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Reference Base category: for unemployed: employed; for married: single, divorced, or widowed; for men: women; for education: general secondary education.

Source: Own calculation based on The Social Diagnosis. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download in July 2017].

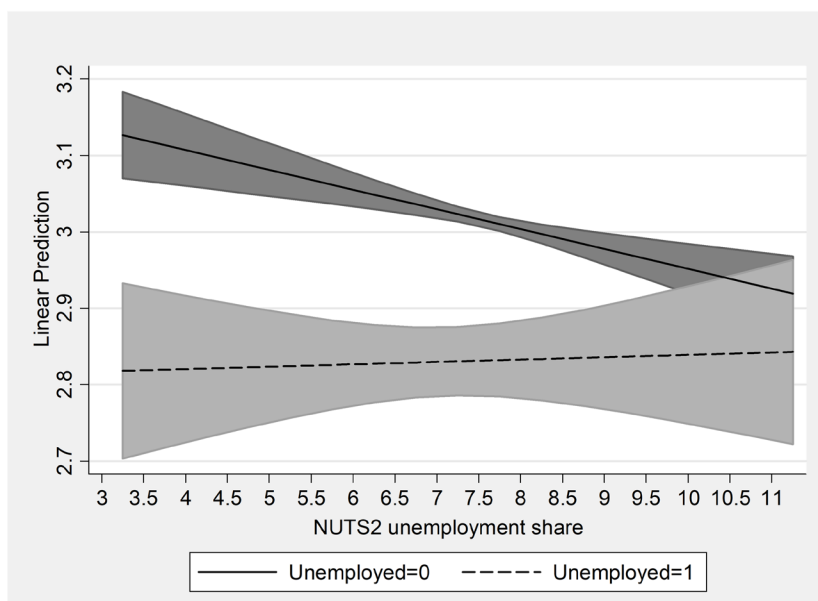
In line with hypothesis 2, the detrimental effect of becoming unemployed on subjective well-being is larger among men, while it is smaller and statistically insignificant for women (see Models 3 and 5). Gender differences in attitudes, beliefs, aspiration and societal roles could be the potential explanation of this result. This result seems to confirm the norm that men in Poland are seen as the main breadwinners and income providers, so their labour market situation influences

<sup>4</sup> There are visible gender differences in the statistical significance of estimated coefficients. In the regression done on the subsample of women, only four explanatory variables are statistically significant, however the overall F-test for the model indicates that our variables are jointly significant at 0.0003 level.

their perception of self-worth and well-being more than women. In fact, there are differences in attitudes toward employment in our sample, where 53% of young men considered work to be the most important condition of a successful, happy life, while only 40% of young women agreed with this statement.

We also find evidence that subjective well-being is affected by changes in the local labour market. An increase by 1 p.p. in the regional unemployment share in working age population diminishes well-being by 0.014 for the overall population (Model 1) and by 0.22 for men (Model 3), with no statistically significant evidence for women (Model 5).

To test hypothesis 3 and hypothesis 4, we estimated models with an interaction term between the level of regional unemployment share and individual employment status (specification 2). Our results (Models 2, 4 and 6) reveal that this interaction effect is positive and statistically significant for the total population and men. Looking at the specific results for men (Model 4), subjective well-being of employed decreases by 0.026 when regional unemployment share grows by 1 p.p., while the well-being of the unemployed is not affected by the regional unemployment change ( $\beta_2 + \beta_3 = 0.003$ ). Figure 3 illustrates the predicted values of subjective well-being for unemployed and employed men at different NUTS-2 unemployment levels. These findings contradict hypotheses 3 and 4 and suggest that the impact of aggregated unemployment on the well-being of unemployed men is smaller the higher the unemployment rate is, but this effect is driven by the decreasing well-being of employed men and not by a decline in the distress level of unemployed men. There are also differences in the response to regional unemployment rates between women and men, but only among employed individuals.



**Figure 3:** Linear prediction of subjective well-being by employment status and the regional unemployment share for men

Source: Own calculation based on The Social Diagnosis. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download in July 2017].

For employed men, the higher the local unemployment the lower their subjective well-being is. Most likely they perceive it as a threat to their current job. As shown by Clark (2010), the impact of local unemployment on employees' well-being is heterogeneous and depends on the assessment of their labour market security.

Other controls used in the specification confirm our expectations based on the theoretical background and previous empirical findings. Age, marital status, health, and religious activities are among important determinants of changes in subjective well-being. Moreover, the analysis of the time-invariant variables indicates that the higher the educational level of an individual the more satisfied with his/her life he/she is. The coefficient of gender (Models 1,2) is statistically insignificant due to the adoption of local unemployment share by gender, so the effect of gender is already captured by this variable. Since they led to different conclusions, models done separately for men and women confirmed gender differences in the subjective well-being and the gender variation in the scope and strength of influence of the labour market situation.

## V. Summary and Conclusions

This article complements previous research on the effects of unemployment on subjective well-being and the moderating role of the local unemployment rate (e.g. Clark, 2003; Oesch & Lipps, 2013; Strandh et al., 2011) focusing on young people.

Using the most recent waves of The Social Diagnosis dataset (2005-2015), we find that becoming unemployed depresses the individual's subjective well-being of youth in Poland. This result indicates that the young generation in Poland still values work highly and attaches a high importance to employment, similarly to that reported for the working age population in Western countries. Our results are also gender specific, indicating that young men are more affected by a job loss than young women (the effect is smaller by almost a half for women), which is in line with most previous empirical evidence and confirms the existence of traditional gender roles in Poland.

Moreover, we show that the impact of becoming unemployed on men's well-being decreases when the regional unemployment rate increases. However, unlike expectations, this effect is driven by the decrease in the well-being of employed men and not by a decline in the distress level of unemployed men. The results of the negative impact of the regional unemployment rate on those in employment are in line with previous findings from Western economies (Novo, Hammarström, & Janlert, 2001). Novo et al. (2001) claim that the health effect of high unemployment may be associated with growing pessimism about the future and inferior financial prospects. Brenner & Mooney (1983) argue that an increase in the unemployment rate reduces job security and increases stress related to the potential risk of a job loss. Others argue that during high unemployment, more people accept undesirable job offers with lower remuneration, which leads to distress and dissatisfaction (Catalano & Dooley, 1983). An additional perspective is provided by Clark et al. (2008), who claimed that the effect of aggregate unemployment on subjective well-being differs not only by the employment status, but rather by the employment opportunities and job prospects.

All these expectations are in line with the theoretical approach suggested by Blanchard (Blanchard, 2016; Blanchard & Giavazzi, 2001). According to this approach, the individual and collective bargaining power of workers is influenced by the aggregate unemployment rate. When the unemployment rate is high or is growing, it is harder for workers to change a job, while it is easier for an employer to find a new worker. Such a situation translates into the weaker bargaining power of workers, with all adverse consequences: lower wages, less favourable working conditions, less opportunities for promotion, and, as a result, lower job satisfaction and a decline in the overall well-being.

The negative impact of the regional unemployment rate on the well-being of those in employment contradicts, however, the evidence from post-transition countries where an increase of regional unemployment rates translated into a higher well-being of employed (Eggers et al., 2006; Kalyuzhnova & Kambhampati, 2008). One possible explanation for this disparity between the results for Russia and Kazakhstan and our results for Poland might be that there are country disparities with regard to the stage of transition and economic situation. While in the former studies the investigated economies were currently in transition, our study uses more recent data from 2005-2015, when the Polish economy was much more stable.

In sum, a job lost causes a decline in the subjective well-being of both young men and young women in Poland. Moreover, aggregate unemployment decreases the well-being of employed men, with no effect on women. Those results have important policy implications, showing that unemployment affects the psychological health not only of the person directly affected but also of those who are in employment. Therefore, when assessing the societal costs of unemployment, the effects of aggregate unemployment should be accounted for. For that reason, policies aimed at bringing young people back to work should provide more incentives and help in searching more intensively for a new job, while also providing interventions aimed at strengthening the bargaining power of those in employment.

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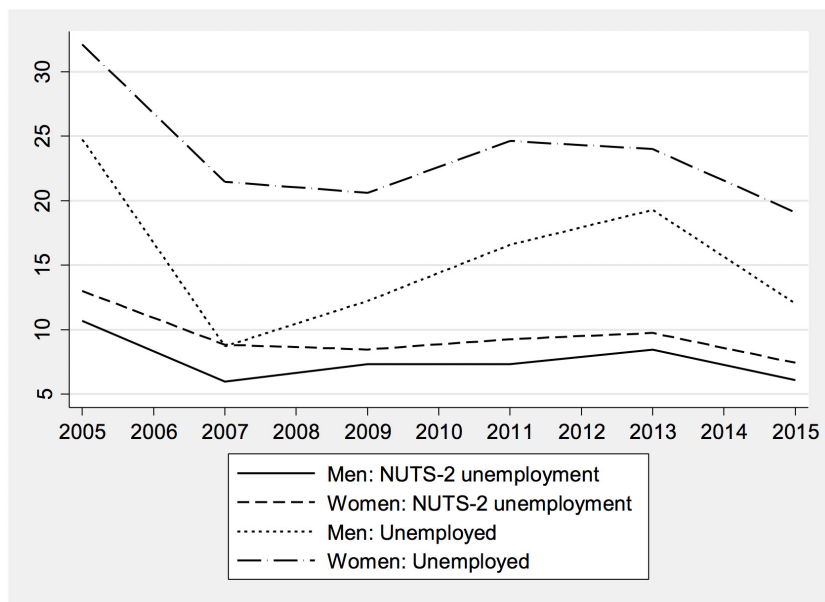
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## Appendix



**Figure A.1:** Regional unemployment share among aged 16-64 (NUTS2 unemployment) and unemployment rate in our sample (18-35 years old) by gender and year

Source: Own calculations based on: Diagnoza społeczna. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download at July 2017] and data accessed on the 02/08/2017 from <https://bdl.stat.gov.pl> [Share of the registered unemployed persons in the population in the working age by sex].

**Table A.1:** Impact of unemployment and unemployment share on subjective well-being: mixed effects coefficients (income accounted for)

	(1) Total	(2) Total	(3) Men	(4) Men	(5) Women	(6) Women
<b>Within individual estimates</b>						
Unemployed	-0.126*** (0.024)	-0.335*** (0.070)	-0.167*** (0.029)	-0.403*** (0.100)	-0.091* (0.043)	-0.201 (0.138)
NUTS2 unemployment	-0.011 (0.007)	-0.015* (0.007)	-0.019** (0.007)	-0.024*** (0.007)	-0.001 (0.012)	-0.004 (0.012)
Unempl.# NUTS2 unempl.		0.025** (0.008)		0.031* (0.013)		0.012 (0.013)
Nr of friends	0.003 (0.002)	0.003 (0.002)	0.004 (0.002)	0.004 (0.002)	0.003 (0.002)	0.003 (0.002)
Age	0.050 (0.031)	0.049 (0.031)	0.033 (0.051)	0.032 (0.051)	0.060 (0.037)	0.060 (0.037)
Age squared	-0.001 (0.001)	-0.001 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Married	0.099** (0.030)	0.097** (0.030)	0.136** (0.048)	0.135** (0.049)	0.067 (0.047)	0.067 (0.047)
Lost a close person	-0.031* (0.013)	-0.031* (0.013)	-0.080*** (0.022)	-0.079*** (0.022)	0.011 (0.024)	0.011 (0.024)
Seriously ill	-0.142** (0.048)	-0.139** (0.048)	-0.185* (0.088)	-0.178* (0.088)	-0.111** (0.034)	-0.110** (0.034)
Civic engagement	0.012 (0.023)	0.012 (0.023)	0.000 (0.044)	-0.001 (0.043)	0.022 (0.031)	0.022 (0.031)
Religious activity	0.014** (0.005)	0.014** (0.005)	0.019** (0.006)	0.019** (0.006)	0.011 (0.006)	0.011 (0.006)
Sufficient income	0.098*** (0.022)	0.100*** (0.022)	0.103*** (0.028)	0.105*** (0.028)	0.099*** (0.025)	0.101*** (0.025)
<b>Between individual estimates (only time invariant)</b>						
Men	-0.006 (0.011)	-0.006 (0.011)				
Basic vocational and lower	-0.035 (0.020)	-0.035 (0.020)	-0.028 (0.024)	-0.028 (0.024)	-0.047 (0.027)	-0.046 (0.027)
Post-secondary and tertiary	0.075*** (0.018)	0.075*** (0.018)	0.072* (0.028)	0.072* (0.028)	0.082** (0.027)	0.082** (0.027)
Constant	3.698*** (0.228)	3.700*** (0.215)	4.008*** (0.426)	3.988*** (0.423)	3.470*** (0.553)	3.480*** (0.543)
Observations	7965	7965	3943	3943	4022	4022
Number of individuals	3833	3833	1947	1947	1886	1886

Standard errors in parentheses, \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . Reference Base category: for unemployed: employed; for married: single, divorced, or widowed; for men: women; for education: general secondary education.

Source: Own calculations based on: Diagnoza społeczna. Integrated database. [www.diagnoza.com](http://www.diagnoza.com) [download at July 2017] and data accessed on the 02/08/2017 from <https://bdl.stat.gov.pl> [Share of the registered unemployed persons in the population in the working age by sex].