

The role of unemployment on depressive symptoms amongst adults living in the Netherlands

Depressive symptoms - unemployment - type of work - gender - social causation theory - depression



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Abstract

This study examines the influence of unemployment on depressive symptoms in adults living in the Netherlands. It is examined whether unemployed people experience more depressive symptoms than employed people and it is examined whether the found result was moderated by gender and type of work using three different hypotheses. The analyses were based on data from the Longitudinal Internet studies for the Social Sciences (LISS), administered by CentERdata. The results indicate that unemployment positively affects depressive symptoms and that this effect is stronger for blue-collar workers than for white-collar workers, consistent with what was hypothesized. Evidence for the effect of unemployment on depressive symptoms being stronger for women was also found, contradicting the third hypothesis. The social causation theory is supported with unemployment as a social factor.

Introduction

In the Netherlands 18,7% of adults have experienced a depressive episode at least once in their lifetime, and per year 1 out of 20 adults experience a depressive episode (Trimbos-Instituut, 2017, p.24). The number of people having suffered a depressive episode during the pandemic from 2020 and 2021 is expected to be even higher, as the COVID-19 pandemic and lockdown regulations negatively impacted mental health (Rossi, Socci, Talevi, Mensi, Niolu, Pacitti, & Di Lorenzo, 2020). Depression is a common illness that negatively affects a person's feelings, actions and behaviour. A depressive episode causes either a constant feeling of sadness or a loss of interest in activities once enjoyed, or both (American Psychiatric Association, 2013). A depressive episode can have serious consequences for the patient and for society, especially when the episode is severe. Depression is paired with a loss of interest or pleasure in activities and people with depressive symptoms often experience weaker social functioning (Wells et al., 1989). Depression can therefore have a big influence on the social life of a person. Long term depression can even have physical health outcomes and is a risk factor for coronary artery disease and decreased bone mineral density (Dinan, 1999).

A combination of the high prevalence, the individual burden of disease and the risk of disease have led depression to cost 183.000 healthy life years on a yearly basis in the

Netherlands (Trimbos-Instituut, 2013, p. 10). Depression negatively affects human functioning and limits a person's capabilities in work, family and education. The societal economic consequences of depression in the Netherlands in the age groups 18-64 is 3,98 billion euros per year. An estimated 85% of these costs are derived from production losses due to sick leave and 15% of these costs are going directly to health care (Smit, Cuijpers, Oostenbrink, Batelaan, de Graaf & Beekman, 2006). On top of that, depressed people are at risk of commencement or worsening of multiple physical diseases, increasing the costs of health care for depressed patients even more (Smit et al., 2006). The total societal costs of depression are expected to be higher in 2020 and 2021, as mental health was negatively affected by COVID-19 and lockdown regulations (Rossi et al., 2020).

According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), a person suffers from a Major Depressive Episode when they experience at least 5 depressive symptoms within 2 weeks and at least one of them is anhedonia (the loss of interest in activities once enjoyed or a reduced ability in experiencing pleasure) or a depressive mood. The other symptoms of a Major Depressive Episode are sleep problems, fatigue, concentration problems, suicidal thoughts, reduced appetite, feelings of worthlessness or guilt, or retardation (Tolentino & Schmidt, 2018). This definition of a Major Depressive Episode used by DSM-5 will be used to define depression and all the symptoms described by them will be considered to be depressive symptoms in this article.

According to the National Health Service (NHS) the most prevalent causes for clinical depression (another term for Major Depression, same as Major Depressive Episode) are stressful events including bereavement, relationship breakdowns and financial insecurity. Other causes include personality (character and personality traits, family history (genotype), giving birth (hormonal and physical changes), substance abuse, loneliness, stress and illness (NHS, 2019).

Becoming unemployed influences many common causes of depression described by the NHS. When someone becomes unemployed they may experience financial insecurity, loneliness due to the loss of contact with former colleagues, as well as stress induced by a loss of income, and even a decrease in self-esteem (Turner, 1995). A person that is unemployed is therefore likely at higher risk of suffering a depressive episode. In order to better understand the mechanics and causes of depression it is beneficial to explore a possible relationship between unemployment and depressive symptoms. To explore this relationship

the following research question will be used: 'How does unemployment affect depressive symptoms amongst adults living in the Netherlands?'

As the relationship between unemployment and depression is likely complex, analysis for potential moderators is considered to be vital. As depression can be influenced by cognitive functioning and hormones, and cognitive functioning and hormones differ between men and women (Afifi, 2007), different outcomes for the effect of unemployment on depressive symptoms are expected between genders. It is only logical to assume that mental health outcomes differ for men and women, as gender differences in mental health are present in many mental health issues (Afifi, 2007).

Unemployed people with different previous jobs, different prior income and different skills would not have the same difficulty in finding a new job (Weaver, 1975), would not experience the same financial strain (Ervasti & Venetoklis, 2010) and would not experience the same amounts of stress (Paul & Moser, 2009). People with prior white-collar jobs are usually more skilled and had earned a higher income, implying that they would have less difficulty in reemployment, would experience fewer financial strain and would experience less stress than blue-collar workers. It is expected that the type of work done by a now unemployed person affects the effect of unemployment on depressive symptoms, and that the effect of unemployment on depressive symptoms is stronger for blue-collar workers.

To test the research question and to measure the effects of the hypothesized moderators data will be assessed from the Longitudinal Internet studies for the Social Sciences (LISS), administered by CentERdata (Tilburg University, The Netherlands).

Theory

A potential mechanism that could explain the relation between unemployment and depressive symptoms is the social causation hypothesis. The social causation hypothesis claims that social causes can lead to problems in mental health (Hudson, 2005; Mossakowski, 2014). According to the social causation hypothesis, the prevalence of mental disorders is higher in groups with low socioeconomic status due to a higher prevalence of negative environmental or social factors, like unemployment, social disadvantage or poverty. These types of environmental factors lead to stress, which in turn leads to a higher chance of developing mental illness (Avasthi, 2016). When someone becomes unemployed they may experience

financial insecurity, loneliness and stress (Turner, 1995). Thus, becoming unemployed should lead to a social causation effect, where social factors lead to problems in mental health and the commencement or worsening of depressive symptoms. In this study, unemployment is the social factor and the social causation effect influences depressive symptoms.

Another theory that is quite similar to the social causation hypothesis, but psychologically orientated, is the Basic Psychological Needs Theory (BPNT), which is part of the Self-Determination Theory (Deci & Ryan, 1985). BPNT elaborates on evolved psychological needs and the mental health effects of these needs not being met. BPNT claims that mental health is predicated by the psychological needs of autonomy, competence and relatedness. Any factor that influences one of these psychological needs indirectly influences mental health. The Work-related Basic Need Satisfaction Scale (W-BNS) was derived from BPNT (Broeck, Vansteenkiste, De Witte, Soenens & Lens, 2010). Broeck et al. studied the effects of employment on the levels of autonomy, competence and relatedness and found that employment satisfies all of these psychological needs. This implies that a lack of employment would cause that these psychological needs are no longer fulfilled or are filled in a weaker sense than with employment, resulting in weaker mental health. BPNT is similar to the social causation theory in the sense that social factors influence mental health, but differentiates itself by stating that psychological needs not being met due to unemployment results in weaker mental health, instead of negative environmental factors. However, both theories agree that being unemployed negatively affects mental health.

From a behaviorist perspective, the reinforcement contingencies theory states that depression may arise from a loss of decently rewarding contingencies. According to behaviorism, positive behavior is rewarded with positive reinforcement and this ensures that positive behavior is repeated (Skinner, 1974). When the consequences of an action are good they are likely to be repeated and when the consequences of an action are bad they are unlikely to be repeated. However, when positive behavior is no longer perceivably adequately rewarded they become less frequent or nonexistent. The loss or decrease of positive behavior may result in the lack of responsiveness and arousal, which is associated with depression (Matthews, 1977). One potential cause of the loss or decrease of positive reinforcement is the loss of a reinforcing event, such as losing an important and rewarding role like a job. When someone becomes unemployed they lose a reinforcer and the individual starts interpreting their behavior as meaningless, because of the lack of positive consequences (Matthews,

1977). Thus, derived from the reinforcement contingencies theory, unemployment causes decreased amounts of positive reinforcement which can result in feelings of meaninglessness and the lack of arousal and responsiveness, that in turn leads to a depressive episode. However, not everyone that becomes unemployed automatically experiences a depressive episode. Self-regulation theory is a sub-theory of the reinforcement contingencies theory that offers a self defense mechanism for the lack of environmental positive reinforcement. Self-regulation theory acknowledges self-implemented reinforcers as well as environment-dependent reinforcers (Matthews, 1977). A person can evaluate their behavior and control their actions, followed by a self-induced mental positive or negative reinforcement (reward or punishment). An example of self-implemented reinforcement may be mood hormones. Examples of environmentally implemented reinforcement include salary, confidence and status. According to the reinforcement contingencies theory, someone who loses their job would likely experience a depressive episode. Self-regulation theory explains why this is not always the case. To simplify to its basic essentials: the reinforcement contingencies theory implies that unemployment would result in less rewarding factors, which via psychological processes may result in a depressive episode. The self-regulation theory explains that rewarding factors can be self-implemented via cognitive processes and don't always need to come externally, and offers an explanation for exceptions to the working of the reinforcement contingencies theory.

Prior research on the relationship between depression and unemployment found varying results. An American study about the reciprocal direction of the effects of unemployment on depression found support for a direct effect of unemployment on depressive symptoms, but not an effect of depressive symptoms on unemployment (Dooley, Catalano & Wilson, 1994). Dooley et. al. indicated that a low power of the study may be the cause and that depressive symptoms can still play a role in becoming unemployed. This same reciprocal effect was studied in a more recent longitudinal study, which found no evidence for an effect of unemployment on depression amongst men, but found evidence for the effect amongst women (Bubonya, Cobb-Clark & Ribar, 2019). This study also found support for a positive effect of clinical depression on unemployment, meaning that severely depressed people are at higher risk of becoming unemployed (Bubonya, Cobb-Clark & Ribar, 2019). The year the data was gathered may play a role in the difference between the findings of the two studies. Perhaps depression was not a dealbreaker for job certainty in 1994 but it has become one in modern times, where competition for work is higher.

A meta-analytical study, consisting of 237 cross-sectional and 87 longitudinal studies found significant differences for mental health factors between unemployed people and employed people (Paul & Moser, 2009). For depression specific, Paul & Moser find a medium effect of unemployment on depression ($d=0.50$), indicating the average effect strength of unemployment on depressive symptoms across 130 studies (Paul & Moser, 2009, p. 271). The results of this meta-analytical study indicate a very high possibility of an actual causal relationship between unemployment and depression.

Based on the results of Paul & Moser and Dooley et al., it is expected that a causal relationship of unemployment on depressive symptoms will also be found in this study. Thus, it is hypothesized that unemployment positively affects depressive symptoms amongst adults.

Moderator analyses by Paul & Moser for the effect of unemployment on mental health demonstrates that men, long-term unemployed people and people with blue-collar-jobs were more distressed by unemployment than women and people with white-collar jobs (2009). This indicates that the causal effect of unemployment on mental health is stronger for men, for people with blue-collar jobs and for people suffering long-term unemployment. This implies that moderating factors in a causal relationship between unemployment and depressive symptoms are gender, length of unemployment and type of work. This of course relies on the assumption that distress and depressive symptoms have comparable mechanisms with unemployment. The expected moderating effect of type of work might be further explained by the social causation theory. As people with white-collar jobs usually have more human capital, income and financial resources and overall a higher socioeconomic status (Burbidge & Robb, 1985) they are less likely to be depressed in general than blue-collar workers (Hudson, 2005). Moreover, it is deductible that unemployment will cause less stress in people with former white-collar jobs as they have built up more financial resources and human capital (Burbidge & Robb, 1985). Thus, it is expected that the effect of unemployment on depressive symptoms is stronger for blue-collar workers than for white-collar workers.

Bubonya et al. also found that unemployment only had an effect on depression for women. This opposes the findings of Paul & Moser, who found that men were more distressed by unemployment than women. Thus, it remains uncertain whether or not gender has a moderating effect in the relationship between depression and unemployment and, if so, which

gender is more affected. As explained by Afifi, gender is crucial in studies on mental health (2007), and is therefore an important factor in the relationship between unemployment and depressive symptoms. The moderator analysis by Paul & Moser was executed on the relationship between unemployment and mental health, instead of unemployment and depression. It is a possibility that both studies are correct, and that men would experience more overall mental distress from unemployment but not necessarily more depressive symptoms in general.

Unemployment is differentially associated with the self-esteem of men and women. The self-esteem of men are more likely to be affected by unemployment than the self-esteem of women. As self-esteem is found to be a mediating variable in the relationship between unemployment and depression (Álvaro, Garrido, Pereira, Torres & Barros, 2019), it is likely that depressive symptoms in men are more affected by unemployment than in women.

Unemployment affected men's self-esteem significantly more than it affected women's self-esteem (Álvaro et al., 2019). As low self-esteem is associated with depression (NHS, 2019), and self-esteem is found to be a mediator for the effect of unemployment on depression, it is expected that the effect of unemployment on depressive symptoms is stronger for men than for women.

Overview Research question and hypotheses

RQ: How does unemployment affect depressive symptoms amongst adults living in the Netherlands?

H1: Unemployment has a positive effect on depressive symptoms.

H2: The effect of unemployment on depressive symptoms is stronger for blue-collar workers, type of work has a moderating value.

H3: The effect of unemployment on depressive symptoms is stronger for men, gender has a moderating value.

Method

For this study existing data from the LISS panel (Longitudinal Internet studies for the Social Sciences) will be used. The LISS panel is the principal component of the MESS project. LISS consists of 5,000 households, containing a total of approximately 7,500 individuals, drawn by a true probability sample from the population register by Statistics Netherlands (LISS panel, n.d.). The first sample was taken in 2007, the second in 2009, a special immigrant sample in 2010, a third sample in 2011 and a fourth in 2013. The LISSpanel contains data from people living in the Netherlands from at least 16 years old. As this is not a longitudinal study, only data from wave 11 will be used. This is also to avoid a dataset where the same respondents answered questions multiple times. Wave 11 was gathered in 2018 and consists of 11.416 respondents. Some of the initial respondents will need to be filtered out of the data, when they do not match the research population or have too many missing values. Respondents younger than 18 and people older than 65 will be filtered out. The research population concerns adults of working age and not the elderly or teenagers. Students also do not match the research population as an unemployed student can attend school five days a week and therefore would not be comparable with other unemployed people, so they too will be filtered out.

For this study a set of variables have been chosen and created from the LISSdata. To answer the research questions several things will be measured using data and variables from the LISS panel. First of all, demographics of the respondents must be measured to judge the representivity of the data and get a general overview of the research sample. Secondly, it must be measured whether or not a respondent is unemployed or not. Type of work is measured as a moderating factor, as well as gender. Thirdly, depression must be measured. As there are no questions about diagnosed depression in the LISSdata and a lot of depressed people roam undiagnosed, it has been chosen to measure depressive symptoms instead. The methodology of measuring depressive symptoms is based on a published study about the prevalence and risk factors of depressive symptoms amongst adolescents, that used the Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition (DSM-III-R) criteria for depression (Saluja, Iachan, Scheidt, Overpeck, Sun & Giedd, 2004). Saluja and colleagues used a survey with 2 items on depression. The first item had respondents indicate if they ever felt sad, down, blue or depressed almost every day for 2 or more consecutive weeks in the past year. The second item had the respondents answer 10 yes or no statements

about what they experienced when they felt sad or depressed that were created by the researchers themselves and based on the criteria for depression from DSM-III-R.

This 10-statement second item was based on 7 out of 9 criteria described by DSM-III-R, as Saluja and colleagues felt that retardation and fatigue would be hard to assess without clinical examination.

The criteria for depression have not changed between DSM-III-R and DSM V, thus for this study the newest version of the DSM will be used. The term for depression has been changed to depressive episode in the latest versions but the definition and criteria remain unchanged. The new name better indicates the temporary nature of depression. The operationalisation of depressive symptoms used by Saluja et al. shall be roughly followed. The DSM considers someone to be depressed when someone experiences either a depressed mood or a loss of pleasure (anhedonia), and a total of at least 5 out of 9 symptoms described by the DSM. These symptoms are: a depressed mood, anhedonia, sleep problems, fatigue, concentration problems, suicidal thoughts, reduced appetite, feelings of worthlessness or guilt, or retardation. Using the LISS data 7 out of 9 of these symptoms shall be measured. The symptoms that will not be used to measure depressive symptoms are suicidal thoughts and reduced appetite. As changes in appetite can have both physical and mental reasons, appetite can not be used as an indicator for mental health in a study that used a survey. Suicidal thoughts can not be used to measure depressive symptoms, as LISS has no data on that, probably due to the sensitive nature of the symptom. A scale of the other 7 depressive symptoms will be made to simplify analyses. All of the used depressive symptoms were separately measured and recreated into dummy variables that indicate whether or not a person has suffered a symptom. All the dummy variables were put into a scale of the sum of the experienced depressive symptoms. The new variable for overall depressive symptoms was created with a 7-point scale where a score of 0 indicates 0 experienced depressive symptoms and a score of 7 indicates 7 experienced depressive symptoms.

DSM V describes that someone must experience either a depressive mood or anhedonia to be diagnosed with a depressive episode, implying that not all depressive symptoms have the same value in diagnosis. However, as this study does not seek to diagnose depressed people and is only interested in depressive symptoms, different depressive symptoms will not be valued differently.

For the sake of analysis, employment will be operationalised with a yes or no question, ignoring the duration and cause of unemployment. Type of work will be operationalised using a categorical variable where respondents are asked to indicate their profession in 1 of 9 categories. These categories are agrarian work, unskilled-, skilled- or supervisory manual labour, mental service work, intermediate supervisory- or academics profession, higher supervisory- or academic profession. White-collar workers are usually service employees who rarely perform physical labour, whereas blue-collar workers perform plentiful physical labour. Thus, respondents performing agrarian or other manual labour are considered blue-collar workers and people who perform services are considered white-collar workers. A dummy variable of the two types of workers will be created. Gender is also operationalised using a dummy variable.

After the operationalisation of the variables certain statistics must be gathered to be analyzed. For the analysis the program SPSS will be used. Firstly, a regression analysis with the dummy variable unemployment and the dependent variable depressive symptoms will be executed. Secondly, two interaction variables will be made; one of the moderator type of work with unemployment and one of the moderator gender with unemployment. The moderators will be checked for multicollinearity using correlation statistics between the independent variable and each of the moderators. Finally, a multivariate regression analysis of unemployment on depressive symptoms will be executed, adding the interaction effects between gender and unemployment and between type of work and unemployment.

Results

In this study two regression analyses have been executed. The first test was a univariate regression analysis with the variable for unemployment on the dependent variable (Table 1). The regression analysis shows a relatively strong, positive relation between unemployment and depressive symptoms ($B = 0,667$ $t = 11,848$, $p < 0,001/2$). This means that the first hypothesis, that there is a positive relationship between unemployment and depressive symptoms, is confirmed. An unemployed person would show more depressive symptoms than an employed person. The entire model of regression appears to be significant ($R^2 = 0,037$, $F = 140,371$, $p < 0,001/2$). The explained variance is 3,7%.

Table 1: *Regression analysis predicting depressive symptoms*

	B	S.E	T
Constant	1,333***	0,029	46,613
Unemployment	0,667***	0,056	11,848

Note: *** $p < .001$, ** $p < .01$, * $p < .05$

Before executing the second analysis; the multivariate regression that includes interaction effects to measure the moderators, some interaction variables were created. To check for the rule of multicollinearity, the correlations between the independent variable and the moderators were analysed. The dummy variable gender negatively correlates with unemployment ($r = -0,157$, $p < 0,001$). This means that significantly fewer men are unemployed in this data set than women. The dummy variable type of work positively correlates with unemployment ($r = 0,129$, $p < 0,001$). This means that blue collar workers are significantly more often unemployed than white collar workers. After confirming that the variables used to create interaction variables correlate with each other, and confirming the rule of multicollinearity, the created interaction variables are assessed as reliable for analysis.

The multivariate analysis shows that there is still a significant effect of unemployment on depressive symptoms ($B=0,597$, $p < 0,001/2$), but it became weaker when compared to the univariate regression ($B=0,667$, $p < 0,001/2$). The entire model is significant ($R^2 = 0,033$, $F = 47,800$, $p < 0,001/2$). The explained variance is 3,3%.

For the moderator type of work, table 2 shows that the effect of unemployment on depressive symptoms significantly differs between blue-collar workers and white-collar workers ($b=0,549$, $t= 4,722$, $p < 0,001/2$). This means that the effect of unemployment on depressive symptoms is stronger for blue collar workers. The second hypothesis is thus confirmed.

For the moderator gender, table 2 shows that there is a significant difference between men and women for the effect of unemployment on depressive symptoms ($b= -0,395$, $t= -3,484$, $p < 0,001/2$). This means that the effect of unemployment on depressive symptoms is significantly weaker for men. The third hypothesis, that the effect of unemployment on depressive symptoms is stronger for men, is rejected. Being unemployed has a stronger negative impact on depressive symptoms for women.

Table 2: *Multivariate regression predicting depressive symptoms with interaction effects*

	B	S.E.	T
Constant	1,333***	0,028	47,053
Unemployment	0,597***	0,074	8,075
Type of work*unemployment	0,549***	0,116	4,722
Gender*unemployment	-0,395***	0,113	-3,484

Note: *** $p < .001$, ** $p < .01$, * $p < .05$

Conclusion

In line with the findings of Paul & Moser's meta-analytical study and the study of Dooley et al., support for a positive relation between unemployment and depressive symptoms was found amongst adults living in the Netherlands. Respondents who were unemployed scored higher on depressive symptoms than respondents who were employed. The social causation theory, that claims that social factors can influence mental health, is upheld with unemployment as the social factor. The Basic Psychological Needs Theory and the reinforcement contingencies theory offer potential mechanisms for the found effect of unemployment on depressive symptoms. As expected, the type of work someone performed was found to have a moderating value in the effect of unemployment on depressive symptoms. People with former blue-collar jobs experienced a higher quantity of depressive symptoms than people with former white-collar jobs. The social causation theory might have played a role in the alternating results between blue-collar workers and white-collar workers, as blue-collar workers have more negative environmental factors and a lower socioeconomic status in general that negatively affects their mental health and would also be more affected by unemployment. The findings regarding the moderator type of work support the moderator analyses of Paul & Moser.

A moderating effect of gender on the relation between unemployment and type of work was also found, but the direction of the results was different from what was expected. Women were more likely to experience a higher quantity of depressive symptoms when unemployed than men. This result partly supports the findings of Bubonya et al., who found that

unemployment only had an effect on depressive symptoms for women, but contradicted Paul & Moser' moderator analysis., who found men to be more distressed by unemployment. With 18,7% of adults living in the Netherlands having experienced a depressive episode at least once in their lifetime and the societal economic costs of depression in the Netherlands being roughly 3,98 billion per year, the results of this study matter. Due to this study, more is known about unemployment as a potential cause or enhancer of depressive symptoms. Knowing that unemployment can cause depressive symptoms, it is beneficial to invest in unemployment and either decrease unemployment or alter the terms of unemployment as a social factor by impairing some of the negative consequences of unemployment. It is now better known that people with blue-collar jobs are more likely to become depressed, and that the effect of unemployment on depressive symptoms is stronger. It would thus be wise to focus investments battling unemployment on blue-collar workers.

Discussion

This study had some weaknesses. Although the use of the LISSdata was time-efficient and cheap, it was not the best data set for the subject of mental health. LISSdata used a survey to gather information about the respondents. Measuring mental health using a survey is simply not as accurate as with other research methods. People may not be totally truthful when it comes to their perceived mental health and sometimes provide socially desirable answers that downplay their mental health issues. Therefore, in order to increase the validity of the analyses it was chosen to measure depressive symptoms instead of depression itself. It is not possible to diagnose people with mental disorders without actually talking to them, even for psychologists, but assessing depressive symptoms is possible. Another issue that arised from the choice of the dataset was that there was no oversample of people scoring low on mental health, and only a small percentage of people scored high on depressive symptoms. LISS used a randomly generated sample, which is representative for society, but not the best choice for a study on mental health. It would have been better for this study if there was an overrepresentation of people scoring low on mental health to better measure the effects of unemployment on mental health.

A third issue with the dataset was that not all depressive symptoms described by DSM-V were measurable. This was no big issue for the validity of the results as a published study used roughly the same operationalisation for depressive symptoms. Any significant changes

in the results when all the depressive symptoms were analysed are not expected, but the results would have been more reliable if all the depressive symptoms were measured.

The analyses of the study were very simplistic, relevant and straight to the point. The operationalisation of the variables and the analyses of the data was sufficient, but it would perhaps have been better if the research problem was reviewed in a broader perspective. The variable unemployment was operationalised as a dummy variable that indicated whether or not a respondent was unemployed. This is viable for this study, although it would have been interesting to take the duration of the unemployment into account. The onset of depressive symptoms usually happens gradually and people who have only been unemployed for a couple of days would not show a lot of depressive symptoms yet. Therefore, the fact that the duration of unemployment was not taken into account could have stained the reliability of the results.

Now that there is support for the relationship between unemployment and depressive symptoms, future research could measure via which mechanisms this relationship arises. Both the Psychological Basic Needs Theory and the reinforcement contingencies theory theorise valid potential mechanisms. It would specifically be interesting for future research to test whether the mechanisms from the Work-related Basic Need Satisfaction Scale, derived from BPNT, is correct. This can be achieved by applying autonomy, relatedness and competence as mediating factors in the analyses of the relationship between unemployment and depressive symptoms.

Future research could also measure if unemployment also affects other mental illnesses closely related to depression, like anxiety disorder or other mood disorders. If this turns out to be the case multiple mental illnesses could be battled by decreasing the unemployment rate, which increases the number of benefits of battling unemployment and placing it higher on the political agenda. An idea for future research in psychology is to research the people who do not become depressed when losing their job and assess the role of the self-regulation theory within the reinforcement contingencies theory. The results of this research idea could help create and improve potential therapies that can prevent or weaken depressive episodes, including depressive episodes caused by unemployment.

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