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Departamento de Psicología

Older Adult Unemployment in Spain:  
A Diary Study on Emotions, Affect Regulation,  
and Job-Seeking Behavior

*Ph.D. thesis*

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Por la presente, como Director de la Tesis Doctoral realizada por Dña. Anna van Spanje, del Departamento de Psicología, titulada "Older adult unemployment in Spain: A diary study on emotions, affect regulation and job seeking behavior", AUTORIZO su presentación y su defensa al considerar que reúne todos los requisitos formales, conceptuales y metodológicos exigibles a un trabajo de investigación de estas características.

Y para que así conste donde proceda,

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Lo tengo claro

Lo pasado pasado

El futuro ha llegado

Lo tengo claro

Hoy es mi primer día

Del resto de mi vida

Me sobra la energía

Lo tengo claro porque

Nada se mueve si no lo empujo yo

Porque no me puedo esperar ni un día mas

Hoy será mi primer día

Y mañana también y el resto de mi vida

*Los Aslandticos – Mi primer día*



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## ABSTRACT

*Background:* Throughout the 20<sup>th</sup> century, much research has been done on the effects of unemployment on psychological and physical well-being. Although most studies seem to draw the conclusion that unemployment generally has negative consequences for well-being, little is known about risk and protective factors in specific groups like older people. Moreover, the current adverse economic situation and some economical, geographical, and social factors unique to Spain, amplify the need to study Spanish unemployed older adults.

*Aim and hypotheses:* The main goal of this study was to examine emotions, emotion regulation, social support, job-seeking behavior, and (un)healthy behaviors in a sample of older unemployed individuals. As a result, social and emotional factors influencing job seeking and well-being can be identified. Further, more insight can be gathered in the emotional experience of unemployed older adults. Information like this is necessary in better understanding how unemployment influences well-being, especially in older adults and during long-term unemployment, and in designing effective interventions. The following hypotheses are tested: Individuals that have been unemployed longer have more negative emotions than individuals that have been unemployed for shorter time (*H1*); Affect-improving self-regulation increases the levels of positive emotions and decreases the levels of negative emotions (*H2.1*); Interpersonal affect regulation influences emotions the same way, as well for the target (*H2.2*) as for the agent (*H2.3*); Negative emotions discourage job-seeking behavior (*H3.1a*), while positive emotions increase job-seeking behavior (*H3.1b*); Affect-improving regulation strategies (towards self and others) promote job-seeking behavior (*H3.2*); Job-seeking behavior itself increases negative emotions (*H3.3a*) and decreases positive emotions (*H3.3b*);

Receiving social support (*H4*), exercise, and alcohol and tobacco use (*H5*) improve the unemployed person's mood; Relaxing exercises positively influence the unemployed person's well-being (*H6*).

*Method:* A diary study was performed using smartphones. A special smartphone application and corresponding software were developed in order to facilitate data collection. The final sample consisted of 69 unemployed men and women between the ages of 53 and 64 years old. Participants had to fill out five short questionnaires on a daily basis during 25 days, using the smartphone that was provided. Before and after the diary study, the participants also completed a one-time larger questionnaire. Half of the participants were randomly assigned to an intervention, while the other half of the sample was appointed to the control group. The intervention consisted of listening to an audio file with relaxation exercises every night. The participants in the control group simply did not listen to the audio file. Analyses of covariance (ANCOVA) and multilevel analyses were carried out to interpret the data.

*Results and conclusion:* The duration of unemployment did not influence daily emotions and general well-being. Thus, the way the participants felt was not due to whether they were unemployed for a shorter or longer period of time. The participants engaged very little in job seeking. Among the variables that explain the number of job search behaviors was the frequency of experiencing negative emotions. The participants that experienced more negative emotions engaged in more job seeking, but the participants that engaged in more job seeking also experienced more negative emotions. This indicates a complex relation between affect and job seeking: the consequence that negative emotional experiences are associated with job seeking can lead to avoidance behavior by the unemployed, creating a vicious cycle that prolongs their situation of unemployment and worsens their well-being. Among the variables improving the

unemployed person's well-being are social support and physical exercise. Also, positive emotion regulation strategies, carried out by either the unemployed person themselves or someone else, resulted in more positive emotions and less negative emotions for the unemployed person. Interventions could therefore be aimed at the unemployed person's social network and their regulation of emotions, and could highlight the importance of exercise and make sports facilities more easily available. Finally, muscle relaxation and breathing exercises did not benefit the participants in any way. Limitations of this study include issues like non-normally distributed variables, sampling bias, self-report data, and lack of a control group. Future studies should take these issues into account. Upcoming research can replicate the current study among other populations and could focus on other variables, like specific emotion regulation strategies.



## RESUMEN

*Antecedentes:* A lo largo del siglo 20, muchos estudios científicos se han enfocado en los efectos del desempleo sobre el bienestar psicológico y físico. Aunque la mayoría de los estudios concluyen que el desempleo generalmente tiene consecuencias negativas para el bienestar, hay poco conocimiento sobre los factores de riesgo y protección en grupos particulares como las personas mayores. Además, la actual situación económica y algunos factores económicos, geográficos y sociales que son únicos para España, aumentan la necesidad de investigar los desempleados españoles de mayor edad.

*Objetivos e hipótesis:* El objetivo principal de este estudio es la investigación de las emociones y su regulación, el apoyo social, los comportamientos de búsqueda de empleo, y los comportamientos (no) saludables en una muestra de personas mayores desempleados. Como resultado, se pretende identificar los factores sociales y emocionales que influyen el comportamiento de búsqueda de trabajo y el bienestar psicológico en este colectivo. De las variables señaladas, la experiencia emocional y su regulación recibe especial atención. Como se argumenta en el trabajo esta información es especialmente relevante para entender mejor cómo las situaciones de desempleo afectan al bienestar, especialmente en personas mayores y desempleados de larga duración. Dicha información, se espera, sirva de base para el desarrollo de intervenciones eficaces. Se contrastan los siguientes hipótesis: El tiempo transcurrido en situación de desempleo se relaciona positivamente con la frecuencia con que se experimentan emociones negativas (*H1*); Las estrategias positivas de autoregulación emocional aumentan los niveles de emociones positivas y reducen los niveles de emociones negativas (*H2.1*); La regulación interpersonal influye las emociones de

manera similar, tanto para el objetivo de la regulación (H2.2) como para el actor (H2.3); Las emociones negativas reducen la frecuencia de las conductas de búsqueda de empleo (H3.1a), mientras que las emociones positivas aumentan las conductas de búsqueda de empleo (H3.1b); Las estrategias positivas de regulación (propias e interpersonales) promueven la búsqueda de trabajo (H3.2); Las conductas de búsqueda de empleo aumentan las experiencias emocionales negativas (H3.3a) y reducen las emociones positivas (H3.3b); El nivel de apoyo social (H4), y el nivel de ejercicio físico y el consumo de alcohol y tabaco (H5) mejoran el estado de ánimo del individuo desempleado; La práctica sistemática de la relajación influye de manera positiva el bienestar del individuo desempleado (H6).

*Metodología:* Se llevó a cabo un estudio diario usando smartphones (teléfonos móviles inteligentes). Se desarrollaron una aplicación especial para smartphones y un software específico para la gestión del muestreo de experiencia que facilitase la recogida de datos. La muestra final consistió de 69 hombres y mujeres desempleados de edades comprendidas entre los 53 y los 64 años. Los participantes tuvieron que rellenar cinco cuestionarios breves cada día durante 25 días, usando el smartphone del estudio. Antes y después del estudio, los participantes también rellenaron un cuestionario largo una única vez. La mitad de los participantes fue asignado a una intervención, mientras la otra mitad fue asignada al grupo control. La intervención consistió en escuchar cada noche un archivo de audio con ejercicios de relajación. Los participantes del grupo control simplemente no escucharon el archivo. Los datos fueron analizados mediante técnicas de análisis de covarianza (ANCOVA) y de análisis multinivel.

*Resultados y conclusiones:* La duración del desempleo no influyó las emociones diarias o el bienestar general. Así, cómo se sintieron los participantes no fue debido al tiempo que llevaban sin trabajo. El número de conductas de búsqueda de empleo fue

bajo. Entre las variables que explican el número de estas conductas, está la frecuencia con que se experimentan emociones negativas. Los participantes que experimentaron más emociones negativas se dedicaron más a la búsqueda de empleo, pero estas conductas a su vez les llevaron a experimentar más emociones negativas. Esto implica que hay una relación compleja entre el afecto y la búsqueda de trabajo: la asociación de las experiencias emocionales negativas con la búsqueda de empleo puede derivar en conductas de evitación por parte de los desempleados, generando un círculo vicioso que prolongue su situación y empeore su bienestar. En cuanto a las variables que mejoran el bienestar de los desempleados están el apoyo social y la actividad física. Además, las estrategias positivas de regulación de emociones llevadas a cabo bien por el desempleado sobre sus propias emociones o bien por otras personas, resultaron en más emociones positivas y menos emociones negativas para el desempleado. Los resultados señalan a la influencia de las redes sociales sobre las emociones del desempleado y a la regulación que este último hace de sus propias emociones como ámbitos relevantes para el desarrollo de intervenciones. Asimismo, la promoción de la actividad física aparece como factor relevante para el bienestar de los desempleados. Por último, la relajación muscular y los ejercicios de respiración no beneficiaron los participantes en ninguna forma. Las limitaciones de este estudio incluyen temas como las variables no normales, el sesgo muestral, datos de autoinforme y la falta de un grupo de control. Los estudios futuros deben tener en cuenta estas cuestiones. Nuevos estudios podrían replicar el estudio actual con una muestra distinta y podrían centrarse en otras variables como algunas estrategias específicas de regulación emocional.





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## **THEORETICAL PART**



## I. Introduction

Unemployment is an important stressful situation for the people affected by job loss, which has consequences on multiple levels like physical and mental health, family life, social stability, and the expectations regarding economic development, among others. Throughout the years, these consequences of unemployment have been studied widely. Classic studies on the social and psychological effects have been performed by Marie Jahoda in the early 1930s and early 1980s (Jahoda, 1982; Jahoda, 1981; Lazarsfeld-Jahoda & Zeisl, 1933). Jahoda's work on the Marienthal population in 1932 already showed the detrimental psychological effects of job loss and being unemployed (Lazarsfeld-Jahoda & Zeisl, 1933). Ever since, research methods have changed, analytical skills have improved, psychological theories have come and gone, and societies have changed. Still, most studies have come to the same conclusion: unemployment negatively influences psychological well-being. However, investigators keep on discovering new features of the relationship between unemployment and well-being, such as risk and protective factors. In other words, the continuing research on unemployment helps us to answer questions like why does one person suffer more from job loss than the other? What is the role of unemployment duration? How come one person engages more in job-seeking behavior than the other?

While this justifies the study of unemployment and its consequences from a psychological perspective, data will be provided in the following chapters which reflect that this necessity is, if possible, even greater in the Spanish context. Moreover, a recent poll from the Spanish Sociological Research Center (*Centro de Investigaciones Sociológicas*) shows that unemployment is the main concern for most Spaniards, followed by economic problems (Centro de Investigaciones Sociológicas, 2013).

Furthermore, the majority of the Spanish people see unemployment as the number one problem of their country (Centro de Investigaciones Sociológicas, 2013). This dissertation aims to answer the aforementioned questions in the Spanish context and related to one of the populations for whom unemployment could potentially be the most detrimental: long-term unemployed people who are over 55 years old.

The composition of this dissertation is as follows. Firstly, the current situation regarding unemployment in Spain will be summarized in terms of the 2007 worldwide economic crisis, ageing of the Spanish population, and cultural aspects. In chapter II, health effects of unemployment will be discussed. This chapter is divided in consequences for physical health and consequences for mental health. Next, in chapter III some essential theoretical models explaining the (health) effects of unemployment will be reviewed. Chapter IV summarizes the most important findings regarding individual differences in unemployment effects. Aside from the influence of demographic factors, environmental factors, and other factors, this chapter discusses two important limitations in current research, namely the existence of individual unemployment pathways and the possibility of a causal inference. Chapter V focuses on coping with unemployment and emphasizes two examples of coping that are important for unemployed people: job-seeking behavior and affect regulation. Next, the key aspects of the current study will be summed up (chapter VI), like the aim of the study, the research questions, and the hypotheses. Chapter VII and VIII include an overview of the study's methods and results, respectively. The study's findings will be discussed in chapter IX, followed by a conclusion in chapter X.

## 1. Unemployment in Spain

The situation regarding unemployment in Spain is very different from surrounding countries. Some economical, geographical, and cultural factors influence Spanish unemployment in such a way that its assessment becomes more relevant. Next, these factors will be described: the effects of the economic crisis in Spain, sociodemographic characteristics in terms of ageing of the population, and some issues related to national and international labor mobility.

### 1.1. Economic crisis

The economic crisis that hit the world in 2007 left many people unemployed (Wahlbeck, Anderson, Basu, McDaid, & Stuckler, 2011). This increase in unemployment has dramatically increased levels of poverty, deprivation, and difficulties in accessing health care. Subsequently, these and other results of unemployment like debts and unhealthy behaviors have directly or indirectly influenced people's physical and mental health (Horton, 2009; Levy & Sidel, 2009; Wahlbeck et al., 2011). Thus, unemployment is one of the challenges to public health the world is facing because of the global economic crisis (Levy & Sidel, 2009).

When it comes to unemployment, Spain has been particularly affected by the crisis (Eurostat, 2011; Instituto Nacional de Estadística, 2013a). In Table I.1, Spain's annual unemployment rates from 2005 to 2012 are listed (general rates and rates for men and women separately). A clear increase in unemployment rate can be seen after 2007. Furthermore, while until 2007 unemployment among women was considerably higher than unemployment among men, women's and men's rates got more and more equalized after the beginning of the economic crisis.

Table I.1. *Spain's Annual Unemployment Rates (%) 2005-2012, Divided by Sex*

	2005	2006	2007	2008	2009	2010	2011	2012
<b>Total</b>	9.2	8.5	8.3	11.3	18.0	20.1	21.6	25.0
<b>Men</b>	7.0	6.3	6.4	10.1	17.7	19.7	21.2	24.7
<b>Women</b>	12.2	11.6	10.9	13.0	18.4	20.5	22.2	25.4

*Note.* Numbers derived from the Spanish National Statistics Institute (INE).

Table I.2 summarizes unemployment rates for the same period, but this time divided by age group (20-64 years range, using a 5-year interval). Young adults until 30 years old have suffered the highest unemployment rates (49.1% for 20 to 24-year-olds and 32.2% for 25 to 29-year-olds in 2012), but notice that unemployment rates have increased *for all age groups* since 2007.

Table I.2. *Spain's Annual Unemployment Rates (%) 2005-2012, Divided by Age*

	2005	2006	2007	2008	2009	2010	2011	2012
<b>20-24</b>	17.0	14.8	15.1	20.4	33.4	37.0	42.6	49.1
<b>25-29</b>	11.2	10.3	9.2	13.6	22.1	25.2	26.9	32.2
<b>30-34</b>	8.1	8.0	7.5	10.6	17.6	19.8	21.9	25.3
<b>35-39</b>	7.7	7.2	7.0	9.7	16.6	18.5	19.2	22.0
<b>40-44</b>	7.1	6.9	6.7	9.6	15.2	17.1	19.0	22.0
<b>45-49</b>	6.6	5.8	6.2	8.5	13.9	15.8	17.8	21.2
<b>50-54</b>	6.0	6.1	6.4	8.2	12.6	14.7	16.3	19.8
<b>55-59</b>	6.3	6.2	6.1	7.7	12.7	15.0	15.9	18.8
<b>60-64</b>	5.7	4.9	5.5	6.7	10.9	12.5	13.3	16.0

*Note.* Numbers derived from the Spanish National Statistics Institute (INE).

An important aspect of unemployment during economic crisis is the existence of *discouraged workers*, “(...) persons who want jobs and are available for work but who are not looking for work because they believe they could not find it” (Finegan, 1981, p. 88). Thus, discouraged workers are in fact unemployed people that form part of the potential labor supply, but are generally excluded from unemployment rates (Finegan, 1981; Jin, Shah, & Svoboda, 1995), since not actively looking for a job implies that these individuals are most likely not registered at the office of unemployment services.



There exist several reasons for this discouragement and the economy is one of them. The number of discouraged workers seems to increase when unemployment increases, and also decreases when unemployment rates do so (Finegan, 1981). Moreover, employment protection legislations (i.e., firing restrictions) may reduce job creation, leading to more discouraged older workers (Euwals, de Mooij, & van Vuuren, 2009).

In Spain, the amount of discouraged workers in 2012 was the second highest of the OECD countries and the G7 countries taken together, namely 1.5% of the Spanish labor force (OECD, 2013). In comparison, for 2012 the average percentage of discouraged workers in both the OECD countries and the G7 was 0.5% of the labor force (OECD, 2013). Moreover, Eurostat's Labour Force Survey (Eurostat, 2013a) has shown that among 15 to 64-year-old inactive workers, 2.4% indicated 'thinking no work is available' as the main reason for their inactivity in 2007, while this percentage increased to 6.7% in 2012. For 55 to 64-year-olds, these numbers were 3.2% and 8.1%, respectively.

Several factors have influenced the number of discouraged workers. First, the unemployment rate in Spain has been one of the highest in the entire European Union since 2008 (Eurostat, 2013b). Second, also in comparison to the European Union, destruction of employment has been very high in Spain during the past five years (see Congregado, Golpe, & van Stel, 2011; Servicio Público de Empleo Estatal, 2012), which complicates successful job search. Third, the number of early retirements has risen, decreasing labor force growth (Dolado & Jimeno, 1997). Paying attention to discouraged workers is very important. The longer unemployment lasts and the more discouragement increases, the more complicated it is to revert the situation, even when the economy recovers.

## 1.2. Ageing of the population

Spain is one of the European countries where in the last decades birth rates have gone down and life expectancy has grown (Lorenzo Carrascosa, 2009; Pérez Díaz, 2010; van Dalen, Henkens, Henderikse, & Schippers, 2006). Consequently, the percentage of older people has increased and will continue to increase over the next years (Lorenzo Carrascosa, 2009). Economically speaking, this ageing of the population leads to a decline in labor force, an increase in pension funds to be paid, and increasing health care costs (Lorenzo Carrascosa, 2009; van Dalen et al., 2006; van Ewijk, Kuipers, & ter Rele, 2000). As a consequence, the sustainment of the welfare system (including pensions and health care) is at risk. This emphasizes the need to study older adult unemployment.

Indeed, one of the possible solutions to these economic consequences is to decrease unemployment among older adults, so they will work longer and not choose early retirement, which increases labor market participation (van Dalen et al., 2006) and decreases the loads on the pension system. However, it is more difficult for people over 55 years old to become reemployed than younger individuals (Bierings, Kuijvenhoven, van der Laan, & de Vries, 2011; König, van den Berg, & ter Haar, 2011). Some countries like the Netherlands have already focused unemployment research and policies on elderly unemployed (Euwals et al., 2009; König et al., 2011; van Ewijk et al., 2000). Since the average age of actual retirement (i.e., labor force exit) in Spain is relatively low (OECD, 2011), Spain would also benefit from diminishing older adult unemployment (van Ewijk et al., 2000; Winefield, 2002). For this reason, it is important to know in greater detail how unemployment affects older adults so as to prevent their situation and worsening health from becoming long-lasting. Given the high number of unemployed people in Spain and the foreseen slowness of economic recovery, better

interventions are also necessary, capable of reaching a large number of individuals at a reduced cost.

### 1.3. Cultural factors

Among the Spanish people there is a 15% that has never been outside of their region, and a 10% that has never left their province (Garín Muñoz & Moral Rincón, 2011). This lack of mobility influences the job market: a suitable job might be only some kilometers away, but is not taken advantage of. Even though 48% of the Spaniards has never been abroad (Garín Muñoz & Moral Rincón, 2011), according to records from Spain's National Statistics Institute, there were more Spaniards leaving the country in 2010, 2011, and 2012, than there were Spaniards coming back to Spain (Instituto Nacional de Estadística, 2013b). This was also the case for foreign people. In other words, emigration was higher than immigration. The difference between emigration and immigration increased from 42,675 people (of whom 9.739 were Spaniards) in 2010 to 142,552 people (of whom 25.702 were Spaniards) in 2012 (Instituto Nacional de Estadística, 2013b). Thus, the low mobility within Spain complicates reemployment, while the high external mobility creates a new problem: the so-called human capital flight.

This human capital flight or *brain drain* can be summarized as “the migration of the more skilled” (Haque & Kim, 1995, p. 578). More and more Spanish professionals leave Spain to work in another country because of the unfavorable Spanish labor market and the high unemployment rate (Adecco, 2010). Most of them are between the age of 25 and 35 years old and are highly qualified workers (Adecco, 2010). Other Spaniards that emigrated before the 2007 economic crisis do not return to Spain because of the reduced working opportunities in their country (Precarios Madrid, 2009). Among the

“fleeing Spaniards” are especially young higher educated persons (Adecco, 2010), since science and investigation are areas cut down severely by the Spanish government (Nature Editorial, 2009). Thus, there are less jobs available in these and other areas (see Congregado et al., 2011; Servicio Público de Empleo Estatal, 2012), and the older adults are gaining territory in the Spanish labor force. This exacerbates the existing problems in Spain described in the previous paragraphs.

In sum, taking together the current economic situation, the ageing of the population and cultural factors like lack of mobility and human capital flight, an intervention to reduce older adult unemployment in Spain is clearly necessary. Advancing in the understanding of the factors affecting well-being and job seeking in individuals over 55 years old is particularly relevant in the Spanish context. Beside its scientific relevance, this type of knowledge can contribute to the development of more effective intervention strategies which, in turn, boost recovery and tone down negative effects. In addition, reducing unemployment is not only beneficial for the economy, but also for the population’s health, as will be clear from later chapters.

## II. Consequences of Unemployment

### 2. Health Effects of Unemployment

Job loss can be seen as a negative life event (Hanisch, 1999; Holmes & Rahe, 1967). Moreover, unemployment is harmful to the population's health (Wahlbeck et al., 2011). Unemployment, as shown in many studies, has consequences in several areas of physical health (DeFrank & Ivancevich, 1986; Hanisch, 1999; Jin et al., 1995; Langens & Mose, 2006; Linn, Sandifer, & Stein, 1985; McKee-Ryan, Song, Wanberg, & Kinicki, 2005; Turner, 1995; Wanberg, 2012) and mental health (DeFrank & Ivancevich, 1986; Hanisch, 1999; Jin et al., 1995; McKee-Ryan et al., 2005; Murphy & Athanasou, 1999; Paul & Moser, 2009; Wanberg, 2012; Winefield, 2002). Considering the current economic crisis, Levy and Sidel (2009) predict increases in substance abuse, mental health problems, suicide rates, and mortality as a result of home foreclosures, loss of medical-care insurance, and governmental budget cuts reducing social services. Similarly, Bambra (2010) foresees increases in mental health problems, physical health problems, and mortality because of the changes in the welfare system that come with economic recessions. As Stuckler and colleagues conclude referring to the global economic crisis, "There is clearly much more to be written on the health consequences of the events of 2008" (Stuckler, Basu, Suhrcke, Coutts, & McKee, 2011, p. 125).

Although the negative effects of the economic crisis on the physical and mental health of the population seem obvious, the relation between unemployment and health is a controversial matter. There is especially doubt regarding the direction of causality between the two. It is not clear whether unemployment causes negative health effects, or if people with preexisting physical and/or mental health problems are more prone to unemployment. This will be further discussed in paragraph 7.2. The results of the main

studies on the effects of unemployment on physical and mental health will be discussed first, in the next two paragraphs.

## 2.1. Physical health

DeFrank and Ivancevich (1986) summarize several studies that examined influences of unemployment on physical health (see Table I.3). Findings include worse subjective physical well-being for the unemployed. Also, the unemployed reported more physical symptoms and were hospitalized more often than employed individuals. For example, DeFrank and Ivancevich (1986) mention a study that reports annual hospitalization rates twice as high for the unemployed. Further, with increasing length of unemployment, persons without jobs had worse general physical health and were diagnosed with illnesses more often. Another study comparing 30 unemployed men with 30 employed men did not find an elevated number of diagnoses among the unemployed, but did discover that during six months unemployed people spent more days sick in bed (5.0 days versus 0.9 days) and paid more visits to their physician (5.9 times versus 1.2 times) (Linn et al., 1985).

Hanisch (1999) mentions findings in her review that are similar to those of DeFrank and Ivancevich (1986) (see Table I.3). Unemployment leads to headaches, stomach aches, sleep problems, lack of energy, and general health deterioration. Further, the unemployed are likely to suffer from physical complications like increased heart problems, hypertension, ulcers, bronchial disorders, vision problems, and shortness of breath. People without a job also reported more disability and a higher number of days not feeling well.

Consistent with the two aforementioned reviews (DeFrank & Ivancevich, 1986; Hanisch, 1999), a study by Turner (1995) and the meta-analysis of McKee-Ryan and

colleagues (2005) confirm a negative effect of unemployment on subjective physical health. Turner reports a level of physical ill-health almost 0.8 of a standard deviation higher for the unemployed compared to the stable employed (Turner, 1995). McKee-Ryan's analysis includes 104 studies, of which six samples involve cross-sectional comparisons (see Table I.4). As well subjective physical health as objective physical health is lower for the unemployed participants (McKee-Ryan et al., 2005).

Jin and colleagues (1995) report more hospital admissions and more contact with physicians among the unemployed (see Table I.3). In general, unemployed people use health care services more than employed individuals (Jin et al., 1995; Linn et al., 1985), although some studies only found differences for non-medical services like alternative medicine (del Pozo Iribarría, Pardo, Ruiz, & San Martín Castellanos, 2002). Moreover, use of medications is higher among unemployed persons compared to the employed people (Jin et al., 1995; Linn et al., 1985; Nielsen, Hansen, & Rasmussen, 2003).

A more recent review on the consequences of unemployment by Wanberg (2012) discusses several studies carried out after the year 2000. Most of them confirm the previously mentioned findings on how unemployment evokes physical symptoms like hypertension, diabetes, chest pains, bronchitis, and stomach pains, but also biochemical changes like increased cortisol levels (the "stress hormone", linked to various health problems) and higher levels of c-reactive protein (a marker of inflammation, also linked to various health problems). Many of these studies also confirm the selection hypothesis, suggesting that people with pre-existing health problems are more likely to become unemployed (see §7.2).

Table I.3. *Summary of Results from Review Studies on the Influence of Unemployment*

<b>Review</b>	<b>Number of studies included</b>	<b>Type of study</b>	<b>Outcome variable</b>
DeFrank and Ivancevich (1986)	not mentioned	Various	Physical health Smoking, drinking, drug use Biochemical indices Psychological well-being Depression Suicide Anxiety/tension Self-esteem
Hanisch (1999)	not mentioned	Various	Psychological effects Physical effects Vocational expectancies Time structure Alcohol use
Jin, Shah, & Svoboda (1995)	46	Various	Mortality, deaths Physical and mental disorders Alcohol consumption Use of mental health services Use of general health care services
Wanberg (2012)	not mentioned	Various	Psychological health Physical health Suicide Mortality

*Note.* Various types of studies were included in these reviews, e.g. cross-sectional and longitudinal studies.



## 2.2. Mental health

Before turning to a summary of the most important findings, some attention should be given to the assessment of psychological outcome in studies on the effects of unemployment. Although studies intend to measure the same concept (i.e., psychological outcome), various instruments are used to examine psychological effects of unemployment. Most commonly used are the General Health Questionnaire (GHQ), Beck's Depression Inventory (BDI), the Center for Epidemiologic Studies–Depression scale (CES-D), the Hopkins Symptom Checklist (HSC), and custom-made questionnaires used in national (household) studies. In case of longer questionnaires like the GHQ, short versions or specific selected scales are often used.

Further, the names and content of the concept “psychological outcome” might vary (see also DeFrank & Ivancevich, 1986). There are only few studies that use the same name for the outcome variable they use and the concept they actually measure (e.g., Gallo, Bradley, Dubin, & Jones, 2006). Some names that are used for outcome variables in the unemployment literature are for example psychological well-being, subjective well-being, (general) mental health, perceived health, health status, psychological distress, and psychological ill-health. Content wise, depression scores or depressive symptoms are most commonly used as indicator of psychological outcome.

In sum, studies that aim to examine psychological outcomes of unemployment use various instruments, concept names, and indicators. Therefore, a distinction between terminologies used in the described articles will be made where necessary.

Table I.4. *Summary of Results from Meta-Analytic Studies on the Influence of Unemployment*

Meta-Analysis	Number of studies included	Type of study	Outcome variable	Effect statistics <sup>1</sup>
McKee-Ryan, Song, Wanberg, & Kinicki (2005)	104	Cross-sectional	Mental health	$d_c = -.57$
			Subjective physical health	$d_c = -.45$
			Objective physical health	$d_c = -.89$
		Longitudinal	Mental health	$d_c = -.38$
Paul & Moser (2009)	237	Cross-sectional	Overall mental health	$d_c = .56$
			Mixed symptoms	$d_c = .56$
			Depression	$d_c = .55$
			Subjective well-being	$d_c = .56$
			Self-esteem	$d_c = .43$
			Psychosomatic symptoms	$d_c = .12$
		Longitudinal	Mental health change (e→u) <sup>2</sup>	$d = .19$
			Mental health change (u→e) <sup>2</sup>	$d = -.35$
Murphy & Athanasou (1999)	16	Longitudinal	Mental health change (e→u) <sup>2</sup>	range $d = .26$ to $.71$
			Mental health change (u→e) <sup>2</sup>	range $d = .15$ to $.76$

<sup>1</sup>Whether or not the effect statistics contain a negative sign is due to the design of the meta-analysis. All meta-analyses mentioned found that the employed group was better off than the unemployed group.

<sup>2</sup>e → u = from employed to unemployed; u → e = from unemployed to employed

Several studies concerning unemployment focus on general mental health effects (DeFrank & Ivancevich, 1986). One recent meta-analysis, for example, generally concludes that unemployment has a negative influence on mental health (McKee-Ryan et al., 2005). An earlier review and meta-analysis of 16 longitudinal studies draws the same conclusion; 14 out of 16 studies report a clear impact of unemployment on mental health (Murphy & Athanasou, 1999) (see Table I.4). Another recent meta-analysis consisting of 237 studies observes that the health level of the unemployed turned out to be half a standard deviation lower than that of the employed people (Paul & Moser, 2009) (see Table I.4). However, the authors warn this is a rather broad effect since a wide range of mental health indicators was included (e.g. depression, distress, self-esteem, anxiety, etc.) (Paul & Moser, 2009). Beland and colleagues (2002) report a significant relation between unemployment and perceived health. Of their unemployed sample, 39% was classified as “unhealthy”, versus 33% of their employed sample. In a longitudinal study among unemployed youth, Taris (2002) found more reported powerlessness when mental health impairment increased. Another study (van Echtelt, 2010) reports less life satisfaction among the unemployed than among people with jobs (approx. 50% versus approx. 90% satisfied or very satisfied). This is mostly due to worse subjective health, financial strain, less participation in social life and possible other characteristics like psychological problems and depression (van Echtelt, 2010). In a Spanish study, associations were found between unemployment and mental health problems as diagnosed by physicians and psychiatrists (Deniel Rosanas, Bosch Molas, Culí Borrás, & Olmeda Brea, 1996). Of the unemployed sample, 30.7% was diagnosed with some type of mental health problem, while the amount of people with mental health problems in the employed sample was 20.6% (Deniel Rosanas et al., 1996).

Most studies on unemployment, however, look into specific psychological outcomes (DeFrank & Ivancevich, 1986). Kirchler (1985), for example, focuses on mood. He found that unemployment is associated with bad mood (Kirchler, 1985). Tiggemann and Winefield (1984) also found greater depressed mood among young unemployed school leavers. Besides several physical consequences of unemployment, another study also reports more stress symptoms among unemployed construction workers than for their employed counterparts (Leino-Arjas, Liira, Mutanen, Malmivaara, & Matikainen, 1999). A large study conducted in Spain comparing data from primary care centers in 2006 (pre-crisis) and 2010 (during the crisis) shows a significant increase in mood disorders, anxiety disorders, and alcohol related disorders (Gili, Roca, Basu, McKee, & Stuckler, 2013). The authors found unemployment, mortgage payment difficulties, and evictions to be of particular relevance in the increase of prevalence of these disorders. Finally, many studies found that unemployment leads to lower self-esteem (DeFrank & Ivancevich, 1986; Feather, 1989; Kirchler, 1985; McKee-Ryan et al., 2005; Paul & Moser, 2009; Ranzijn, Carson, Winefield, & Price, 2006; Tiggemann & Winefield, 1984; Turner, 1995; Winefield, 2002). Moreover, self-esteem plays an important role in the relation between unemployment and mental health (see §6.2).

Several other studies examine depressive symptoms, mentioned as one of the most prominent and frequent outcomes of unemployment (Hanisch, 1999; Murphy & Athanasou, 1999). In some of his studies discussed in his book *The psychological impact of unemployment* (1989), Feather found higher depression scores for unemployed persons compared to the employed. Linn and colleagues (1985) found a significant increase in depressive symptoms and anxiety among the unemployed. Several years later, Kokko and Pulkkinen (1998) obtained similar results regarding

depressive symptoms and anxiety. Tiggemann and Winefield (1984) report also among young unemployed individuals more depressive affect than for their employed peers.

Beyond mental health impairment, unemployment has been found to be positively correlated with mortality (Beland et al., 2002; Jin et al., 1995; Martikainen & Valkonen, 1996). For example, in a sample taken from 1987-1990, mortality rates were 168% higher for unemployed men and 84% higher for unemployed women compared to employed individuals (Martikainen & Valkonen, 1996). These rates were standardized for sociodemographic factors like age, education, and marital status. Included in the high mortality rate for the unemployed are deaths because of suicide (Moser, Goldblatt, Fox, & Jones, 1987; Stuckler et al., 2011), but also deaths due to medical conditions like cardiovascular diseases and strokes (DeFrank & Ivancevich, 1986; Hanisch, 1999; Jin et al., 1995; Moser et al., 1987). Wanberg (2012) reviewed 18 studies carried out after the year 2000 and found that 15 of them reported findings in support of a relation between unemployment and suicide. Stuckler and colleagues (2011) report an increase in suicide rates of 5-7% in European countries in 2008 and 2009, while suicide rates had been steadily declining in these countries until 2007. However, mortality rate might weaken when unemployment rates increase (Martikainen & Valkonen, 1996). Martikainen and Valkonen (1996) give two possible explanations for this phenomenon. First, low unemployment rates might only consist of unemployed people with preexisting poor health, while the unemployed people during periods of high unemployment might have health characteristics more similar to those of the employed individuals. Second, negative effects of unemployment like psychosocial stress and stigmatization might be less present when more people suffer from unemployment. Also, Roca and colleagues (2013) note that increased suicide rates due to economic crises might not be immediately visible. The underlying mental health problems are

directly evident, but suicide is mostly a delayed consequence. Therefore, the influence of the 2007 economic crisis on suicide rates will become completely clear in the next couple of years (Roca et al., 2013).

There is also some evidence that unemployed people use more substances than individuals with a job (Hanisch, 1999; Jin et al., 1995; Navarro Botella & Rodríguez San Julián, 2002; Observatorio Español sobre Drogas, 2009). DeFrank and Ivancevich (1986) report higher levels of alcohol use among the unemployed. A bi-annual national study by the Spanish Drug Observatory (OED) shows that, among all interviewed people, unemployed men have the highest rates of substance use, especially barbiturates and benzodiazepines (Observatorio Español sobre Drogas, 2009). Another Spanish national report by the Foundation of Help against Drug Addiction (FAD) shows that especially the consumption of cannabis, cocaine, synthetic drugs and tranquilizers is higher among the unemployed (Navarro Botella & Rodríguez San Julián, 2002). Additionally, MacDonald and Pudney (2000) conclude that hard drug use significantly lowers reemployment prospects.

### III. Theoretical Background

#### 3. Theoretical Models

Several theoretical models have been used to explain the relation between unemployment and well-being. The most relevant theories will be discussed here.

##### 3.1. Jahoda's Deprivation Model

Jahoda's *Deprivation Model* (1981; 1982) is a specific model concerning the effects of unemployment. According to this model, individuals benefit from paid employment through both manifest and latent functions. *Manifest* functions are deliberately intended consequences of a job, while *latent* functions are unintended by-products. If these functions are lost because of unemployment, people experience psychological distress.

The main manifest function of paid employment is providing a salary. Losing an income can lead to financial strain and even poverty. Jahoda's focus, however, is on latent functions of employment, which offer motivations to work other than money. These latent functions are 1) time structure, 2) social contact, 3) identity and sense of status, 4) collective purpose, and 5) enforced activity.

The latent functions of employment are said to satisfy certain psychological needs which positively influence well-being. Sometimes a job comes with low quality latent functions (for example, when the social contact with colleagues is unpleasant), but Jahoda states that complete loss of these functions is worse than functions of low quality. Specifically, she indicates that loss of latent and manifest functions because of job loss will negatively affect psychological well-being, unless someone can successfully find another way to obtain these functions. For example, one can borrow

money to lessen financial strain or one can start volunteering to reinforce time structure. Jahoda points out, however, that none of these alternatives contain both the manifest and latent functions that paid employment has. The importance of latent functions of employment has been demonstrated in a four-wave longitudinal study by Selenko and colleagues (Selenko, Batinic, & Paul, 2011), in which a relation was found between loss of latent functions and psychological health. Especially the decrease in social contacts and time structure resulted in worse psychological health (Selenko et al., 2011).

The most important criticism on Jahoda's approach is that her model resembles more a collection of ideas rather than a testable theory, and therefore leaves many questions unanswered (Feather, 1989). For example, "how much of each category of experience (time structure, activity, status, etc.) is necessary to determine psychological well-being on the job? [...] Can the absence of one category be compensated for by enhancement of other categories?" (Feather, 1989, p. 34). Moreover, the assumption that employment provides certain latent functions is based on retrospective reports from previously unemployed people and not on empirical measurements (Hoare & Machin, 2010), which could have resulted in biased outcomes. Further, Jahoda lays the emphasis on the latent functions of employment, but the manifest functions should not be neglected (Hanisch, 1999). Also, Jahoda argues that any job is better than none, but the quality of (re)employment should not be ignored either. Inadequate employment (i.e. unsatisfactory jobs, underemployment) can have negative psychological effects similar to or even greater than unemployment (Hanisch, 1999; Winefield, 2002).

As a recent extension to Jahoda's model, the *Social Zeitgeber Theory* (Grandin, Alloy, & Abramson, 2006) explains that life stress causes disruptions in social routines ("Zeitgebers"), which leads to disruptions in biological circadian rhythms and subsequent other somatic symptoms, resulting in mood episodes. This theory was



originally developed to explain the etiology of depression (Ehlers, Frank, & Kupfer, 1988, in Grandin et al., 2006), but can also be applied to the consequences of unemployment. Job loss affects time structure (e.g., waking up in the morning at fixed hours) and daily social routines like travelling to work, having lunch at work (with or without colleagues), and interaction with colleagues (Jahoda, 1981; 1982). According to the *Social Zeitgeber Theory*, these disruptions in routines due to unemployment would then negatively influence the circadian clock, leading to the aforementioned mood episodes (Grandin et al., 2006).

### 3.2. Warr's Vitamin Model

As Jahoda's model, Warr's *Vitamin Model* (1987) proposes that employment provides individuals with certain factors that positively influence psychological well-being, and therefore that unemployment will negatively influence well-being because of the subsequent loss of these factors. Instead of latent and manifest functions, Warr came up with nine features of the environment that all positively influence psychological well-being. These are: 1) opportunity for control, 2) opportunity for skill use, 3) externally generated goals, 4) variety, 5) environmental clarity, 6) availability of money, 7) physical security, 8) opportunity for interpersonal contact, and 9) valued social position. As can be seen, several of Warr's categories overlap with Jahoda's functions (Feather, 1989) (see §3.1).

Warr considers his categories metaphorical vitamins. Similar to vitamins, the more the environmental features are present, the better is someone's mental health (up to a certain point). On the contrary, their lack is likely to impair well-being. But just like vitamins can be damaging in large doses, some environmental features can harm well-being when available excessively. Thus, Warr claims the nine environmental categories

have a non-linear effect on mental health. He hereby distinguishes between categories that can be harmful in high quantities (like vitamins A and D; i.e. variety, control, externally generated goals, environmental clarity, skill use, and interpersonal contact) and categories that are always beneficial, even in high amounts (like vitamins C and E; i.e. physical security, money, and valued social position), although their positive effects level out at some point.

This is what separates Warr's model most from Jahoda's model. While Jahoda does not differentiate between the influences of functions, Warr indicates a difference in effect of his nine environmental features, reflected in the vitamin A-D and vitamin C-E analogies.

### 3.3. Fryer's Agency Theory

A third specific theory, Fryer's *Agency Theory* (1986), emerged as a reaction to Jahoda's approach, which, in Fryer's view, considers individuals as too passive. Thus, Fryer presents the person as active and goal-directed. Further, contrary to Jahoda, Fryer lays the emphasis on money issues and the consequences of poverty. He reasons that latent functions have a part in determining mental health, but they cannot entirely explain the drop in well-being after job loss.

Fryer claims that financial deprivation (caused by job loss) blocks personal agency and self-directedness, which leads to negative consequences for psychological well-being. Stated differently, due to financial problems, unemployed people are unable to for example organize events and make plans for the future, which leads to negative effects on well-being.

As observed by Paul and Moser (2009), the previous three models suggest that unemployment leads to mental health problems, but not vice versa (and thus do not

explain a possible selection effect; see §7.2). Furthermore, Paul and Moser (2009) mention that empirical studies only support these three theories to a limited extent.

### 3.4. Coping models

*Coping models* are also used in unemployment research (Feather, 1989). Coping consists of how people deal with stress and negative life events (Feather, 1989; Pearlin & Schooler, 1978). When job loss is seen as a stressful event, the concept of coping can be used to assess how people deal with unemployment (Feather, 1989; Latack, Kinicki, & Prussia, 1995). Coping with unemployment is one of the main topics of this thesis and will therefore be thoroughly discussed in chapter V.

### 3.5. Attribution and expectancy theories

A more general model, Weiner's *Attribution Model of Achievement Motivation and Emotion* (1985), derived from Heider's *Attribution Theory* (1958, in Feather, 1989; see also Thomson, 1997), describes people's explanations for their own experiences. According to Feather (1989), this theory assumes that cognition influences emotion. In other words, the way we think influences the way we feel. For example, someone has been unemployed for some months, thinks 'I am unable to find a job', and subsequently feels frustrated. Prussia and colleagues (1993) also interpret Weiner's theory in a job-loss context (see Figure III.1). Job loss is followed by an outcome dependent affect which can be positive or negative, depending on how the individual thinks about the job loss. This emotional reaction elicits the search for an explanation, a cause, of the job loss. There are two causal dimensions; locus and stability. Locus refers to whether the cause of job loss is being attributed to the person or the environment. Stability refers to the extent that the cause of job loss is variable over time. Next in the model are psychological consequences. On the one hand, locus influences affective consequences.

For example, an internal locus of causality, such as self-blame, is associated with lower self-esteem. Perceived stability, on the other hand, influences expectations for reemployment. For example, when unemployment is perceived as due to unstable causes (e.g., bad luck), expectations for reemployment may still be high. Finally, these affective consequences and expectations for reemployment influence the search for a job, a behavioral consequence (see also Feather, 1989; Prussia et al., 1993).

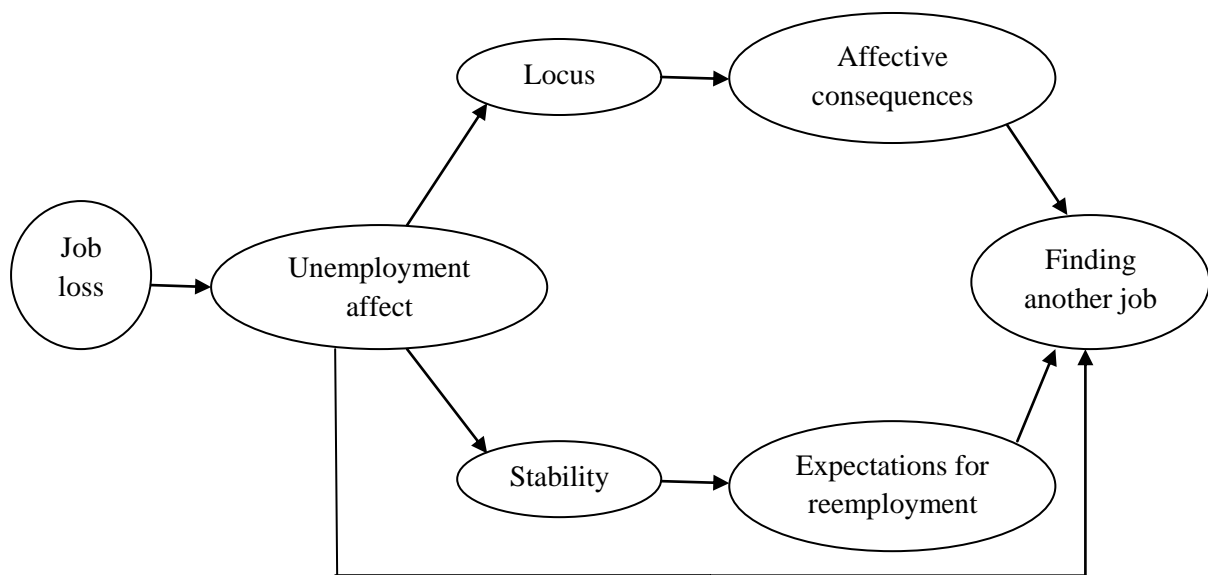


Figure III.1. *Representation of Weiner's attribution model (1985), adapted from Prussia, Kinicki, & Bracker (1993)*

Another general theory (related to Weiner's model) that can be used to explain the psychological effects of unemployment is Seligman's *Learned Helplessness Theory* (1975, in Feather, 1989; see also Winefield, 2002). This theory proposes that negative events lead to deficits in psychological well-being if these events are perceived as uncontrollable. The individual feels unable to change the situation and therefore stops trying to get out of the negative situation. Thus, like in Weiner's theory, the causal attribution determines the effect of unemployment on the individual. The reformulation of the *Learned Helplessness Theory* tries to explain how learned helplessness works by

focusing on explanatory styles. If the negative event (i.e., job loss) is attributed to internal, stable, and global causes, consequences are worse than when having an external, unstable, and specific explanatory style. The first attribution method comes with uncontrollability, while the latter allows for a feeling of controllability. For example, people can blame job loss on their own shyness (internal cause), may think it is impossible to change their degree of shyness (the cause is stable), and may think that they are always shy, in all aspects of their life (the cause is global). But people can also blame job loss on the bad economy (external cause), may think the economy will improve soon (the cause is unstable), and may think the economy only affects their job sector (the cause is specific). Although the issue of controllability remains central in the *Learned Helplessness Theory*, people suffer less negative consequences of job loss if they use external, unstable, and specific attributions (Feather, 1989).

A different theory, *Expectancy-Value* (or *Expectancy-Valence*) *Theory* (Feather, 1989; 1992), relates a person's actions to their expectations of the outcome, and to the person's values of alternative actions and their outcomes. Feather (1992) gives the example of a person that finds travelling a long distance to work aversive, but thinks the job itself is attractive. Here, the outcome (a nice job) of a certain action (long-distance travelling) is valued positively. An alternative action (travelling less) could lead to a different outcome (a less attractive job), valued negatively. Therefore, the person will choose the first action of long-distance travelling. *Expectancy-Value Theory* can also be applied to unemployed people (Feather & O'Brien, 1987). For example, Feather and O'Brien (1987) used measures of confidence about finding a job and perceived controllability (as indicators of expectations) and measures of need for a job and affective reactions to unemployment (as indicators of valence) to predict job-seeking behavior.

## **IV. Individual Differences in Unemployment Effects**

Unemployment might have a lasting effect on subjective well-being (Galatzer-Levy, Bonanno, & Mancini, 2010; Lucas, 2007), but individual differences in adaptation have been found (Galatzer-Levy et al., 2010; Lucas, 2007). In other words, not every situation of unemployment is the same, and people react differently to unemployment (Beland et al., 2002; Feather, 1989; Galatzer-Levy et al., 2010; Hanisch, 1999; Jin et al., 1995; Lucas, 2007; McKee-Ryan & Kinicki, 2002; McKee-Ryan et al., 2005; Wanberg, 2012) (see also §7.1). There are too many factors associated with the relation between unemployment and health to discuss them all (e.g., McKee-Ryan et al., 2005, suggest there are more than 100). Therefore, this area will be limited to the most obvious factors and those most present in current literature.

### **4. Demographic Factors**

#### **4.1. Age influences**

Many studies have been done about unemployment among specific age groups. The effects of unemployment on health and well-being are different for each life phase (Feather, 1989). As Feather (1989) commented, “[...] unemployment has different effects depending upon whether a person is just entering the workforce, is middle-aged, or is close to retirement.” (p. 215). However, it should be noted that factors related to someone’s age can also influence the unemployment experience (e.g., older people have a higher chance on health problems), in addition to the direct influence of age (e.g., older people are closer to retirement).

There are many studies about youth unemployment (e.g., Feather, 1989; Taris, 2002; Tiggemann & Winefield, 1984). However, not much work is done about older

adults, an especially vulnerable group (Deniel Rosanas et al., 1996; Wahlbeck et al., 2011). Besides, most studies that assess age differences in unemployment effects do not reach further than participants aged 55 (e.g., Breslin & Mustard, 2003; Feather, 1989; Rowley & Feather, 1987).

There are studies suggesting that age influences the relation between unemployment and mental health, with older unemployed adults experiencing more psychological problems (Breslin & Mustard, 2003; Hanisch, 1999; Rowley & Feather, 1987). One of the main reasons for this finding is that older unemployed individuals experience more obstacles than their younger counterparts (Cuelenaere & Veldhuis, 2011; Euwals et al., 2009; Hanisch, 1999), for example in using modern technology like the internet to search or apply for a job (Raad voor Werk en Inkomen, 2011). Moreover, they often remain without a job longer than younger unemployed people (Bierings et al., 2011; Cuelenaere & Veldhuis, 2011; Euwals et al., 2009; Hanisch, 1999; König et al., 2011; van Echtelt, 2010), mostly because older people have more difficulties finding a new job (Bierings et al., 2011; König et al., 2011). Further, older unemployed persons seem to engage less in job-seeking behavior than the younger unemployed (Rowley & Feather, 1987). They are more likely to become discouraged (see §1.1) because of “limited time horizons” and “lessened expectations” (Ranzijn et al., 2006).

The theoretical models of Jahoda and Warr (see §3.1 and §3.2) also imply that older persons suffer more from unemployment than young adults, since it is easier for younger people to find alternatives for employment and they value social position less than older people (Goldsmith, Veum, & Darity, 1995). In some countries, however, there are no differences between the chances on reemployment for younger and older adults (e.g., in the United Kingdom) (Cuelenaere & Veldhuis, 2011).

The findings just mentioned are mostly derived from either review articles (where age is not specified in years, but only in terms of younger and older), or from studies that compare two age groups (of young and middle-aged adults). When taking the whole life-span into account, middle-aged adults appear to suffer most from unemployment in comparison to younger and older people (DeFrank & Ivancevich, 1986; Feather, 1989; Ranzijn et al., 2006). Thus, this finding suggests a curvilinear relation between age and unemployment effects (DeFrank & Ivancevich, 1986).

#### 4.2. Gender differences

Men and women might experience unemployment in different ways (Feather, 1989). Unemployment rates are generally similar for men and women (Hanisch, 1999), but this is not the case in for example Spain (see Table I.1) and also depends on certain areas of work in which traditionally gender is unequally represented (e.g., education, health care, construction) (Bierings et al., 2011). In the Netherlands, women stop looking for a job sooner than men do when unemployed for a longer period of time (Bierings et al., 2011). As described in a Spanish study from 2004, women were more likely than men to be unemployed more than two years, and received unemployment benefits less often (Artazcoz, Benach, Borrell, & Cortes, 2004).

The same study found that unemployed men have more mental health problems than unemployed women because of family responsibilities (Artazcoz et al., 2004). According to the authors, (married) women can fill in the gaps of job loss by nurturing their family, while men traditionally have the responsibility of financial contribution. Paul and Moser also report more problems for unemployed men compared to unemployed women (Paul & Moser, 2009). However, there are two possible explanations for this type of finding: unemployment affects men more than women, or



men feel better than women when they have a job (Paul & Moser, 2009). Unemployment does not have a negative effect on women living with children, possibly because taking care of children can replace the employment role in women (Artazcoz et al., 2004). Being married also functions as a buffer for unemployed women, because their partner can take care of their economic needs, since men traditionally have a higher income than women (Hanisch, 1999; Leana & Feldman, 1991, and Shamir, 1985, in Paul & Moser, 2009). At the same time, husbands can provide their wives with emotional support (Artazcoz et al., 2004). The question remains, however, what happens if the female's partner is unemployed too or does not make enough money to take care of both individuals (see also §4.3).

However, other studies found that women have more long-term negative experiences from unemployment than men (Hanisch, 1999). McKee-Ryan and colleagues (2005) further report slightly better mental health and life satisfaction for unemployed men in comparison to women. Another study found that unemployment is more stigmatizing for men, but on the other hand, women reported a greater decline in health (Kulik, 2000). Kulik (2000) argues that women are more demanding when it comes to job specifications while men accept jobs more easily (regardless of the terms and conditions), since most men still have the traditional role as main breadwinner. In other words, the importance of a job is often greater for men, which explains their stigmatic perception of unemployment. Still, the same study found no differences in psychological reactions to unemployment between men and women (Kulik, 2000). The European Council (1987, in Deniel Rosanas et al., 1996), however, concludes that women are among the most vulnerable when it comes to unemployment.

Thus, there are many inconsistencies regarding the role of gender in reactions to unemployment. Men and women might have different reasons to be more or less

vulnerable to unemployment. For men, important issues are work role centrality, coping, self-esteem, and social contacts derived from their job. Women's vulnerability is mostly related to financial issues. Finally, just like with age, it should be noted that factors related to gender can influence the unemployment experience (e.g., some men might have a higher sense of work role centrality), along with direct influences of gender (e.g., some companies are less likely to hire women because of the possibility of pregnancy leave).

#### 4.3. Marital status

Finally, unemployment may have more negative consequences for divorced and widowed individuals than for married and never-married persons, probably due to the accumulating effects of other problems that the divorced and widowed suffer (Kulik, 2000). Similarly, married unemployed people experience less negative consequences than single unemployed people, since married individuals receive direct social support from their partner (Feather, 1989). For example, McKee-Ryan and colleagues (2005) found that married unemployed people report higher life satisfaction than the non-married unemployed. However, being married (as well as having children) might only be a buffer for women (Artazcoz et al., 2004), because of the still existing role differences between men and women (see §4.2). For example, women might not be able to financially support their unemployed husbands because many women still earn less money than men (Leana & Feldman, 1991, and Shamir, 1985, in Paul & Moser, 2009). Other studies did not find any effect of marital status (Paul & Moser, 2009).

## 5. Environmental Factors

### 5.1. Economy and economic situation

The economic situation of someone's neighborhood or country influences the impact of unemployment (see also §1.1). Persons from areas with high unemployment suffer the most from unemployment because of less reemployment opportunities (Turner, 1995). Other findings also suggest more problems for unemployed people in economically less developed countries, most likely due to the level of unemployment protection (Paul & Moser, 2009). Countries' overall good or bad economy may also mask the negative effects of unemployment in individuals, because of the general effect of the economic situation on the population (McKee-Ryan et al., 2005). However, Galatzer-Levy et al. (2010) only found an effect of economy on well-being *before* job loss, as an anticipatory effect. In other words, people suffer from job insecurity when the economy is worse, which negatively influences their well-being. Moreover, Hanisch (1999) reports *less* distress among the unemployed in high unemployment areas, but does not give any explanation for this finding.

Another influential economic factor on the more individual level is financial strain, which has been found to increase mental health problems for the unemployed (Beland et al., 2002; Kokko & Pulkkinen, 1998; McKee-Ryan et al., 2005; Patton & Donohue, 1998; Rowley & Feather, 1987). Kokko and Pulkkinen (1998) found an increase in depressive symptoms due to financial strain, but economic situation was not related to anxiety. Among older adults, long-term effects of unemployment include more depressive symptoms especially for those who have limited wealth (Gallo et al., 2006). Similarly, unemployment effects might depend on whether or not someone receives unemployment benefits, and also on the height and duration of unemployment

benefits (Artazcoz et al., 2004). Social class also influences the effects of unemployment, with more negative outcomes for the unemployed people within lower social classes (Beland et al., 2002; Feather, 1989). This could be due to their higher financial strain (Artazcoz et al., 2004; Whelan, 1994). Additionally, reduced financial strain is a characteristic of unemployed people with better psychological well-being (Patton & Donohue, 1998). However, the negative impact for lower social classes may be influenced by marital status and gender. Unemployment has more psychological effects on married men from lower social classes than for women and non-married men from lower social classes, most likely due to the combined influence of financial strain and stigmatization (Artazcoz et al., 2004; Whelan, 1994).

## 5.2. Social support

Social support has a protective function on physical and mental health during several transitions in life, but also generally benefits well-being (Cobb, 1976; Cohen & Wills, 1985). Unemployed individuals are more socially excluded (e.g., they have less contact with family and friends and participate less in social activities) than working people (McKee-Ryan & Kinicki, 2002; van Echtelt, 2010). However, social support has been found to lessen the negative effect of unemployment on mental health (Beland et al., 2002; DeFrank & Ivancevich, 1986; Hanisch, 1999; Linn et al., 1985; McKee-Ryan et al., 2005; Patton & Donohue, 1998; Paul & Moser, 2009). For example, appreciation from others results in better subjective mental health and less feelings of powerlessness among the unemployed (Taris, 2002). Also, some specific forms of social support (for example, a spouse encouraging job search activities) stimulate job-seeking behavior (Vinokur & Caplan, 1987) and increase reemployment quality (Zikic & Klehe, 2006). On the other hand, Vinokur and Caplan (1987) found that social support in general does

not influence the motivation to search for a job, but that it does counteract the negative emotional effects that come with unsuccessful job search.

However, reverse buffering might also be possible, i.e. higher levels of social support associated with more problems in (mental) health for unemployed people (DeFrank & Ivancevich, 1986; Kokko & Pulkkinen, 1998). A possible explanation for this counterintuitive finding is that individuals (especially men) seek social support when their well-being has worsened a lot instead of earlier, when psychological problems are manifested less (Kokko & Pulkkinen, 1998). Receiving social support can also be perceived as a sign of personal incompetence or may cause feelings of indebtedness to the person giving the support (Barrera, 1986). When social support is provided by former colleagues or an ex-supervisor, this person can be seen as being partly responsible for the job loss “as part of the institution that laid the person off” (DeFrank & Ivancevich, 1986, p. 16), increasing negative psychological effects (DeFrank & Ivancevich, 1986). Moreover, unemployed people sharing the same social network might enhance each other’s negative emotional responses (Anderson, 2010), for example when they talk about their negative experiences instead of providing each other with support. Additionally, people with most problems seek the most social support, which makes it seem like there is a positive relation between social support and psychological distress (Barrera, 1986).

## 6. Other Factors

### 6.1. Unemployment duration

Unemployment duration, i.e. the time someone spends without a job, can influence several factors related to unemployment. One of the most important ones is reemployment. The longer someone is unemployed, the smaller the chance on

reemployment (König et al., 2011; Machin & Manning, 1999). Length of unemployment is positively related to depressive symptoms (del Pozo Iribarría et al., 2002), perceived mental health and psychological distress (DeFrank & Ivancevich, 1986; del Pozo Iribarría et al., 2002; McKee-Ryan et al., 2005; Paul & Moser, 2009; Rowley & Feather, 1987), somatic complaints (Langens & Mose, 2006; McKee-Ryan et al., 2005) and negative mood (Langens & Mose, 2006; McKee-Ryan et al., 2005). Further, life satisfaction decreases with length of unemployment. A recent Dutch study (van Echtelt, 2010) reports that 73% of the people unemployed for less than one year were generally satisfied with their life. For people unemployed one or two years, this number decreased to 50%. Among people unemployed for more than three years, only 33% were satisfied with their life.

There are several reasons why longer unemployment duration is associated with negative outcomes. For example, duration of unemployment negatively influences the coping style and time structure of unemployed individuals (Langens & Mose, 2006; Rowley & Feather, 1987), and increasing unemployment length might cause internal attributions for unemployment and an external locus of control (Feather, 1989). Consequently, self-esteem decreases when unemployment continues (Rowley & Feather, 1987). Further, financial strain seems to increase with length of unemployment (Feather, 1989; Rowley & Feather, 1987). Kokko and Pulkkinen (1998) found that economic situation and self-esteem mediated the relation between unemployment duration and depressive symptoms and psychological ill-health.

Effects of unemployment duration might not be linear (see also §7.1). Paul and Moser found a curvilinear relation characterized by a temporal stabilization in elevated mental health problems, followed by another increase (Paul & Moser, 2009). This is similar to the pattern found in Kirchler's (1985) study on mood changes among the

unemployed. Feather (1989) notes the negative consequences of unemployment develop rapidly in the first three months after job loss, and stabilize after more or less six months. Hanisch (1999) reports less distress for the longer unemployed than for the recent unemployed, just like del Pozo Iribarría and colleagues mention that mental health impairment can diminish again after long unemployment (del Pozo Iribarría et al., 2002). Moreover, effects of unemployment duration might only be visible in men (Kokko & Pulkkinen, 1998) and are most apparent among middle-aged adults (Feather, 1989). There are also studies that did not find any negative effect of length of unemployment on psychological well-being, i.e. similar psychological consequences of unemployment regardless unemployment duration (Artazcoz et al., 2004).

## 6.2. Self-esteem

*Self-esteem* can be defined as “a general evaluation of self-concept along a good–bad or like–dislike dimension” (Larsen & Buss, 2005, p. 452). Low self-esteem is a predictor of mental health problems and perceived stress among the unemployed (DeFrank & Ivancevich, 1986; Kokko & Pulkkinen, 1998; Linn et al., 1985; McKee-Ryan et al., 2005; Paul & Moser, 2009). When people low on self-esteem get negative feedback, they are likely to perform badly and give up quickly on subsequent tasks (Larsen & Buss, 2005). Lower self-esteem individuals are also worse at coping with negative events and are more affected by failure (Larsen & Buss, 2005). Consequently, high self-esteem forms part of successful coping (Latack et al., 1995), is related to less perceived stress and more perceived social support (Linn et al., 1985), and is important for chances on reemployment (Hanisch, 1999; Latack et al., 1995; Paul & Moser, 2009). Indeed, lower self-esteem is associated with longer unemployment duration (Feather, 1989), and higher self-esteem with shorter unemployment duration (Kanfer, Wanberg, & Kantrowitz, 2001). However, the cause and effect relation does not become clear

from these studies. The level of self-esteem before job loss could influence unemployment duration, but unemployment duration could also influence the level of self-esteem. Furthermore, there is a possible role of covariates like social support and previous employment. For example, higher self-esteem may result in more social support, leading to more reemployment possibilities through the social network. Also, people with higher levels of self-esteem may have had better previous employment, and consequently have greater employability (or vice versa; lower levels of self-esteem as a result of a worse previous job, leading to lower employability).

## 7. Limitations in Studies on Unemployment and Well-Being

Most studies on unemployment effects largely agree on several key findings, namely that unemployment has negative consequences for overall well-being and health. Nonetheless, there are some important studies that address issues and report results different from what is generally accepted. Two of these essential topics that denounce common assumptions are different pathways in reactions to unemployment and the question whether employment status and well-being are causally related.

### 7.1. Unemployment pathways

Most unemployment research is focused on negative outcomes of job loss (McKee-Ryan et al., 2005). However, some studies report cases in which unemployment *does not* negatively influence mental health or even leads to better future perspectives, for example when job loss is seen as a new opportunity in life (Galatzer-Levy et al., 2010; Hanisch, 1999; Zikic & Klehe, 2006). As Wanberg (2012) states, “(...) the portrayal of unemployment as a damaging experience does not apply to everyone” (p. 376).



Zikic and Klehe (2006) state involuntary job loss is undoubtedly a stressful event. However, the more people engage in career planning and environmental career exploration (i.e., looking for information about a possible new career) during unemployment, the better they rate their new job (Zikic & Klehe, 2006). In turn, higher reemployment quality leads to a higher sense of job improvement and career growth, and less turnover intentions (i.e., plans to change jobs) (Zikic & Klehe, 2006). Thus, actively focusing on a new career during unemployment can result in an even better work situation than before job loss. In these cases, people are better off after unemployment than before.

Galatzer-Levy and colleagues (2010) performed an important study suggesting the existence of four different pathways of well-being in reaction to job loss. Participants were taken from a German national household study executed from 1984 to 2003, by selecting those who had become unemployed between the ages of 21 and 60. Participants were included only if they had been employed for a minimum of three consecutive years before job loss and if they had been employed full time for at least three consecutive years between the ages of 18 and 60. Finally, the participants had to have taken part in the household study at least four consecutive waves after job loss. This resulted in a sample of 774 individuals (67% male, 33% female).

Eight waves of data with annual intervals were analyzed; three waves before job loss, one wave the year of job loss, and four waves after job loss. In this way, the data for each participant was centered on the year of job loss (a so-called *floating baseline* methodology). Besides a wide range of demographical variables, subjective well-being was assessed using one question: “How satisfied are you nowadays with your life as a whole?” Answers were possible on a scale from 0 (completely dissatisfied) to 10

(completely satisfied). Latent Growth Mixture Modeling (LGMM) was used to analyze the data.

Previous studies analyzing the same data all used a single trajectory model. Those findings show a significant drop in subjective well-being after job loss which never recovers to levels before job loss. Galatzer-Levy and colleagues (2010), however, found a four-class solution to give the best result.

The majority of the sample (68.8%) fits in the *High-Stable* pathway: before and after job loss, their subjective well-being showed a high degree of stability. A smaller group (14.6%) belongs to the *Improving* group, characterized by a rise in well-being, followed by a decline because of job loss, followed by a new increase about one year after unemployment took place. The third group, *Low-Stable* (12.9%), had constant low ratings of subjective well-being, and did not seem to be specifically affected by unemployment. Finally, the smallest group, *Distressed* (3.7%), started out with high levels of well-being and declined much because of job loss. They eventually recovered in well-being, but were, after four years, still not back at initial levels of subjective well-being.

In an attempt to explain the existence of the four pathways, no sex differences or influence of educational level was found. Age differences did occur in the four pathways; younger individuals responded worse to job loss than older persons. Because of more experience, negative events like job loss may have less influence on older individuals. Further, people that were not reemployed within a year were most likely to be in the *Low-Stable* group. This is likely to be due to psychological factors already present before job loss (e.g., depression). Reemployment chances were equal for the

other three pathways. Thus, there are more factors besides reemployment that affect subjective well-being after job loss.

## 7.2. Is there a causal inference?

As can be seen from previous paragraphs, many factors can influence the relation between unemployment and physical and mental health deterioration (Beland et al., 2002; Jin et al., 1995; McKee-Ryan et al., 2005). Of the studies discussed here, Linn and colleagues (1985) are the only researchers claiming to have found a causal relation (i.e., unemployment affects health). They assessed a group of men every six months during five years. Finally, they analyzed the data of 30 men who lost their job during the study and 30 men that remained employed. There was a significant difference in symptoms like stress, depression, anxiety and self-esteem between these two groups, with the unemployed men having more negative results. Since there were no initial differences in these symptoms between the unemployed sample and the employed control group, Linn and colleagues assign the results to job loss.

McKee-Ryan et al. (2005) mention they did not find support for a causal relation, since the studies they reviewed all used a different methodology. However, they also state that the existence of a causal relation should not be discarded because of the consistency in results across so many studies (longitudinal, cross-sectional, analysis of correlates, etc.) and therefore so much data. Murphy and Athanasou (1999) and Paul and Moser (2009) also note that a causal relation makes sense; unemployment leads to deterioration in mental health, while reemployment leads to an improvement in mental health. However, the difference in effect sizes of these relations question their validity (Paul & Moser, 2009). Moreover, the use of repeated measurements in longitudinal studies may lead to an artificial enhancement of study outcomes, since people tend to

score increasingly positive on repeated measurements of well-being (Paul & Moser, 2009). This leads to an underestimation of the negative effects of unemployment and an overestimation of the positive effects of reemployment, making unemployment seem like an overall positive experience (Paul & Moser, 2009). Furthermore, some authors suggest the possibility of a causal relation between unemployment and well-being when their study's design or the applied analyses cannot back this up, leading to a mere suggestion and no evidence-based proof (Jin et al., 1995; Langens & Mose, 2006).

Other studies found support for the selection (or reverse causation) hypothesis (Breslin & Mustard, 2003; Leino-Arjas et al., 1999; Paul & Moser, 2009; Kasl, 1982, in Waters & Moore, 2002), meaning that the lower well-being of unemployed people is not due to their joblessness, but that people with lower well-being are more likely to become unemployed. Moreover, health problems have been found to reduce the chance of reemployment (Hanisch, 1999), which suggests that people with lower well-being are more prone to joblessness, like the reverse causation hypothesis implies (Kasl, 1982, in Waters & Moore, 2002). Beland and colleagues state there is evidence for both the causal hypothesis and the selection effect, and that these hypotheses reinforce each other: "low health status increases the odds for unemployment, while unemployment decreases health status" (Beland et al., 2002, p. 2047; Leino-Arjas et al., 1999). Thus, they propose a vicious circle of decreasing well-being and rising difficulties of finding a job. Deniel Rosanas and colleagues (1996) and Wanberg (2012) also mention both hypotheses are possible. Winefield (2002) suggests that there is a selection process when many jobs are available, but a causal relation when little jobs are available. Stated otherwise, when someone is unemployed in times of economic prosperity, unemployment is probably due to pre-existing (mental) health issues. When someone is

unemployed during poor economic times, however, unemployment is more likely to directly cause negative health effects.

In sum, several studies point out the possibility of a causal relation between unemployment and mental health impairment, meaning that unemployment leads to mental health impairment. On the other hand, some studies conclude that the selection hypothesis also seems plausible, implying that mental health impairment leads to unemployment. Most studies, however, are inconclusive, since they do not always use the appropriate methodology to draw any conclusions on the possibility of a causal relation.

## V. Coping with Unemployment

Given the consequences of unemployment from a psychological, social, and economical point of view, an important part of the unemployment research has focused on analyzing individual coping strategies. *Coping* refers to “the things that people do to avoid being harmed by life-strains” (Pearlin & Schooler, 1978, p. 2), regardless whether these ‘things’ are effective or not (McKee-Ryan & Kinicki, 2002). Accordingly, Latack and colleagues (1995) define coping with job loss as “cognitive and behavioral efforts to manage the taxing demands posed by job loss” (p. 313). Coping is typically divided in two categories: problem-focused coping and emotion-focused coping (Feather, 1989; McKee-Ryan & Kinicki, 2002). The first and most obvious category, problem-focused coping, has to do with those strategies directly aimed at solving unemployment, like job-seeking behaviors. The second category, emotion-focused coping, consists of strategies aimed at minimizing the discomfort and negative consequences of unemployment. Affect regulation is a form of short-term emotion-focused coping that will be highlighted later on.

Even though emotion-focused strategies can be considered of less importance since they are not directly aimed at a solution, they are especially relevant for two reasons. Firstly, because the capacity of the subjects to focus on a solution of the problem can diminish during a state of low well-being. In other words, negative emotions make problem solution more difficult. Thus, emotion-focused and problem-focused strategies are not independent. This can be especially visible during unemployment, when negative emotions can be intense and frequent due to the worsening of well-being. Secondly, under certain circumstances strategies aimed at the solution of the problem can be unfeasible or offer limited results. The latter can damage

well-being and call for strategies aimed at emotions, again showing the dependence between both types of strategy.

In the case of people older than 55 years, these considerations are of special relevance given lower probabilities of reemployment for this cohort. In the absence of those opportunities, minimizing the effects of the situation that presents itself can be the only option. For this reason, the current study specifically analyzes the role of strategies aimed at emotions and their relation with job-seeking behavior.

## 8. Types of Coping

### 8.1. Problem-focused coping

*Problem-focused coping* consists of changing the environment that caused a source of psychological stress (Lazarus, 1993). In the case of unemployment, an example of problem-focused coping would be actively looking for a job in order to obtain reemployment (McKee-Ryan & Kinicki, 2002). Thus, the goal is to solve the “problem” (unemployment) to diminish negative psychological effects. Problem-focused coping, in this case, serves a long-term goal (Langens & Mose, 2006). This coping aimed at long-term benefits is also known as *productive coping* (Langens & Mose, 2006). Problem-focused coping has also been called *control coping* (Latack et al., 1995) or *active coping* (Leana & Feldman, 1988; Pearlin & Schooler, 1978; Thomson, 1997). In general, problem-focused coping has been found to generate positive affect (Folkman & Moskowitz, 2000).

#### 8.1.1. Job-seeking behavior

Common sense makes us believe that reemployment (finding a new job after being unemployed) reverses all harm done by unemployment. Indeed, evidence has

been found that psychological well-being improves after reemployment (Galic & Sverko, 2008; Hanisch, 1999; Hoare & Machin, 2010; McKee-Ryan et al., 2005), as is visible in for example decreased depression and anxiety, and higher self-esteem and quality of life (Caplan, Vinokur, Price, & van Ryn, 1989). Furthermore, access to social contacts and time structure also improved after reemployment (Hanisch, 1999; Hoare & Machin, 2010), while financial strain reduced (Hoare & Machin, 2010). However, the effects of reemployment on psychological well-being depend on various factors, for example, quality of reemployment (e.g., underemployment) (Crossley & Highhouse, 2005; Hanisch, 1999; Winefield, 2002). Also, some studies have shown that well-being does not recover completely after reemployment (Darity & Goldsmith, 1996; Hanisch, 1999).

Engaging in *job-seeking behavior*, “the product of the self-regulatory, management process by which individuals identify, initiate, and pursue actions for the purpose of obtaining new employment or reemployment” (Kanfer et al., 2001, p. 849), is essential in getting out of an unemployed situation (Kanfer et al., 2001; Thomson, 1997). Indeed, lower job-search frequency is related to increased unemployment duration (Feather, 1989). However, although job-search quantity is positively related to obtaining job interviews (Creed, King, Hood, & McKenzie, 2009) and subsequent reemployment (Kanfer et al., 2001; Prussia, Fugate, & Kinicki, 2001; Wanberg, 2012), job-search quality seems more important in succeeding at job search (van Hooft, Wanberg, & van Hooft, 2013). Van Hooft and colleagues (2013) explain the role of job-search quality in two ways: 1) spending more time on job seeking does not automatically suggest the use of high-quality strategies. On the other hand, the use of high-quality job-search strategies *does* mean spending more time on job search; 2) there might be an interaction between job-search quantity and quality in predicting a



successful outcome. In other words, spending more time on job search might increase chances on finding a job only when high-quality search strategies are used.

Job-seeking behavior has been typically divided into three types of strategies: exploratory strategies, focused strategies, and haphazard strategies (Stevens & Turban, 2001, in Koen, Klehe, van Vianen, Zikic, & Nauta, 2010). *Exploratory strategies* consist of actively gathering information from several sources and openness to any opportunity that comes along the way. *Focused strategies*, on the other hand, involve a more detailed search among a small number of sources with clear employment goals that already have been set beforehand. *Haphazard strategies* are the most passive with trial-and-error approaches and no clear foundation. People using exploratory and focused strategies will aim for a job matching their personal profile, resulting in more job offers (Koen et al., 2010), while people using haphazard strategies will settle for any job, resulting in a less satisfying reemployment outcome (Crossley & Highhouse, 2005).

Caplan and colleagues (1989) observe that job-seeking performance depends on someone's motivation and employment-seeking skills. Stated in a formula, *performance = motivation × skill*. Therefore, they suggest that interventions should focus on enhancing motivation and skill training (Caplan et al., 1989). Koen and colleagues (2010) also emphasize the importance of employment-seeking skills. However, they propose that counselors should assist job seekers in setting their career goals rather than simply point out which search strategy to use, since poor career-related decision making is often at the root of choosing haphazard job search strategies (Koen et al., 2010).

Besides differences in job-seeking strategies and job-seeking performance, individual differences have also been found in the frequency of job-seeking behavior (Kanfer et al., 2001; Wanberg, Glomb, Song, & Sorenson, 2005). It should be noted,

however, that job search frequency does not predict reemployment satisfaction, while the type of job-seeking strategy does (Crossley & Highhouse, 2005; Koen et al., 2010; Wanberg, 2012; Zikic & Klehe, 2006).

Job search frequency is positively related to self-esteem (Feather, 1989; Kanfer et al., 2001; Wanberg et al., 2005). Similarly, high self-esteem increases chances on reemployment (Cuelenaere & Veldhuis, 2011; Hanisch, 1999; Latack et al., 1995; Paul & Moser, 2009) (see also §6.2). *Self-efficacy*, “one’s believe in one’s capacity to mobilize the physical, intellectual, and emotional resources needed to succeed” (Eden & Aviram, 1993, p. 352), plays a crucial role as well increasing job search activity and promoting subsequent reemployment (Eden & Aviram, 1993; Kanfer et al., 2001; Zikic & Klehe, 2006). People high on self-efficacy, perceived control, and emotional stability engage more in job-seeking behaviors (Wanberg et al., 2005). Resilience can also be seen as a predictor of job-seeking behavior and successful reemployment (Fleig-Palmer, Luthans, & Mandernach, 2009). Further, more financial need, higher employment commitment and more social support lead to more job search behavior (Kanfer et al., 2001).

Individuals that experience more psychological ill-health are less likely to actively look for a job (Taris, 2002). Correspondingly, job search frequency is negatively related to depressive symptoms (Feather, 1989). However, persons that have a high job-search frequency can also show higher levels of negative affect due to the frustration that comes with unsuccessful job-seeking behavior (Feather, 1989; Thomson, 1997).

Searching for a job can be seen as a coping strategy (Thomson, 1997) that people engage in to deal with unemployment (Leana & Feldman, 1988; Pearlin &

Schooler, 1978). Several coping strategies, in turn, influence the quality and quantity of job-seeking behavior (Leana & Feldman, 1988) and the possibility of reemployment (Thomson, 1997).

## 8.2. Emotion-focused coping

*Emotion-focused coping* consists of changing the way we think about or deal with a source of psychological stress (Lazarus, 1993). This can be done through strategies like attentional deployment (or simply put: thinking about something else), cognitive change (reappraisal of the situation), and response modulation (like suppression of emotions) (Gross, 2008). Another example of emotion-focused coping is substance use. The negative emotion is then regulated through for example alcohol consumption, in order to reduce psychological stress. Emotion-focused coping, in this case, serves a short-term goal (Langens & Mose, 2006). This coping aimed at short-term benefits is also known as *non-productive coping* (Langens & Mose, 2006). Emotion-focused coping has also been called *escape coping* (Latack et al., 1995) or *palliative coping* (Leana & Feldman, 1988; Pearlin & Schooler, 1978).

Langens and Mose (2006) make an important remark about the grouping of problem-focused and emotion-focused coping under productive and non-productive coping. In general, problems-focused coping is productive and emotion-focused coping is non-productive. There are, however, some emotion-focused strategies that are found to have long-term benefits, and thus are productive (e.g., positive reframing, seeking emotional support, and reappraisal) (Langens & Mose, 2006; Sheppes et al., 2012). Moreover, other emotion-focused strategies like distancing, humor, and religion are difficult to classify into productive or non-productive strategies. Thus, stated simply, problem-focused coping seems the best option for the long run, but emotion-focused

coping is not always bad for the future either. More importantly, on the short term, emotion-focused coping can make problem-focused coping feasible. Emotion-focused strategies might lift someone's spirits enough to be able to focus on the problem. Also, long-term problem-focused coping may coexist with short-term emotion-focused coping. As mentioned at the beginning of chapter V, these two coping categories are not independent of each other.

### 8.3. The use of coping strategies

The use of different coping strategies is dependent on several factors (Latack et al., 1995; Leana & Feldman, 1988; Wanberg, 1997). For example, the use of coping strategies among long-term unemployed individuals differs by level of well-being (as determined by GHQ scores) (Patton & Donohue, 1998). Problem-focused strategies are more likely to promote reemployment than emotion-focused strategies (Thomson, 1997). However, problem-focused strategies lead to unhappiness when they are not successful, while emotion-focused strategies may lead to more satisfaction (Thomson, 1997). Therefore, when unemployment does not have a short-term solution and thus calls for quick, short-term coping, non-productive coping is most apparent in dealing with the negative emotions surrounding unemployment (Langens & Mose, 2006; Patton & Donohue, 1998; Thomson, 1997). In other words, unemployed people are likely to change their day-to-day negative feelings for the better. Here, affect regulation comes into place (Koole, van Dillen, & Sheppes, 2010).

## 9. Affect Regulation, Well-Being, and Job-Seeking Behavior

Affect regulation can be, like mentioned earlier, a way of short-term coping (although some emotion-focused strategies have long-term effects; see §8.2). Moreover, affect regulation often gives a quick result and is therefore very suitable for individuals

who are confronted with negative feelings on a daily basis, like older unemployed people. Furthermore, since unemployment is stressful for both the unemployed person and his or her social network, affect regulation executed by and towards people in this social network is also relevant. This will be further elaborated in the following paragraphs.

To talk about affect regulation, ‘affect’ should first be defined. Parkinson and colleagues give a clear description: “Affect generally refers to mental states involving *evaluative feelings*, in other words psychological conditions when the person feels good or bad, and either likes or dislikes what is happening” (Parkinson, Briner, Reynolds, & Totterdell, 1996, p. 4). Both mood and emotion can be classified under affect, because “both are affective conditions involving good or bad feelings” (Parkinson et al., 1996, p. 9). Gross (1998; Gross & Thompson, 2007) and Koole (2009) also see ‘affect’ as an umbrella term. According to Parkinson and colleagues (1996), mood and emotion can be distinguished in six areas: duration, time pattern, intensity, causation, function, and directedness (see Table V.1). These distinctions are similar to the ones mentioned by others (Gross, 1998; Gross & Thompson, 2007; Larsen, 2000). In the remainder of this thesis, mood and emotion will be differentiated where necessary.

Subsequently, *affect regulation* can be defined as “the process of initiating, maintaining, modulating, or changing the occurrence, intensity, or duration of internal feeling states” (Eisenberg, Fabes, Guthrie, & Reiser, 2000, p. 137). Similarly, mood regulation has been defined as “the implementation of deliberate strategies designed to maintain or modify the original affective state” (Parkinson et al., 1996, p. 130). Emotion regulation “refers to the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275). Note that affect regulation can take place at a conscious level

(and is thus deliberate or controlled), but also at a non-conscious level (i.e., non-deliberate or automatic) (Niven, Totterdell, & Holman, 2009; Parkinson et al., 1996; Parkinson & Totterdell, 1999). On a conscious level, people purposely and intentionally engage in regulation strategies, like doing something you enjoy. On the other hand, non-conscious affect regulation happens automatically and without awareness, like automatic impulses. Non-conscious affect regulation is mostly driven by non-conscious goal pursuit (Williams, Bargh, Nocera, & Gray, 2009).

Table V.1. *Distinctions between Mood and Emotion*

	<b>Mood</b>	<b>Emotion</b>
<b>Duration</b>	Relatively long-term	Relatively short-term
<b>Time pattern</b>	Gradual onset, continuous, tonic	Rapid onset, episodic, phasic
<b>Intensity</b>	Relatively weak	Relatively strong
<b>Causation</b>	Not caused by specific event	Caused by specific event
<b>Function</b>	Provides information about current state of self	Provides information about current state of situation
<b>Directedness</b>	Unfocused	Takes specific object

*Note.* Table adapted from Parkinson, Briner, Reynolds, & Totterdell (1996).

According to Gross and Thompson (2007), coping also falls under affect regulation. What exactly, then, is the difference between affect regulation and coping? Larsen (2000) indicates mood regulation shows similarities with especially emotion-focused coping. Their main difference, however, lies in the fact that coping focuses on stressful events, while mood regulation emphasizes “altering [the] ongoing affective state without much reference to objective life events” (Larsen, 2000, p. 131). Emotion regulation also has much overlap with coping (Gross, 1998; Koole, 2009; Koole et al., 2010). However, as mentioned by Gross (1998), these two are not redundant since coping also includes non-emotional actions to reach non-emotional goals, and emotion regulation also consists of maintaining and increasing positive emotions. Moreover,

coping deals with larger periods of time than emotion regulation (Gross & Thompson, 2007).

Affect regulation should also not be confused with *self-regulation*. Because, “self-regulation is the self’s capacity for altering its behaviors” (Baumeister & Vohs, 2007, p. 1). And, “essentially the majority of self-regulation functions to thwart and prevent motivated behavior” (Baumeister & Vohs, 2007, p. 4). Thus, self-regulation is focused on changing behaviors, while affect regulation is aimed at changing emotions and moods. However, affect regulation implies the use of self-regulation to the extent that the affect regulation is a behavior aimed at obtaining goals (see Martínez-Íñigo, Poirio, & Totterdell, 2013). Therefore, although affect regulation and self-regulation are distinct processes, they are closely related and not independent (Martínez-Íñigo et al., 2013; Muraven & Baumeister, 2000).

### 9.1. Classification of regulation strategies

There are many ways to regulate moods and emotions (Koole, 2009). Consequently, affect regulation strategies can be classified in various ways (Koole, 2009). An example of a very global classification is the division into cognitive and behavioral strategies (Parkinson et al., 1996). Morris and Reilly (1987, in Parkinson et al., 1996) describe three categories of regulation strategies: ones that are aimed directly at the mood itself (e.g., self-rewards), ones that change the meaning of the mood (e.g., cognitive reinterpretation), and ones that are aimed directly at the cause of the mood (e.g., find a solution for the situation). Thayer and colleagues classify mood regulation strategies based on the two dimensions of energy enhancement and tension reduction (Thayer, Newman, & McClain, 1994).

However, strategies used towards others (extrinsic) and strategies used to inhibit or worsen affect (contra-hedonic motivation) (Gross & Thompson, 2007; Gross, 2008; Riediger, Schmiedek, Wagner, & Lindenberger, 2009) are not included in any of these classifications. Interpersonal and affect-worsening strategies are, however, important to consider (cf. Niven, Totterdell, Stride, & Holman, 2011). For example, emotional influence directed towards others has implications for the emotions and well-being of the agent (i.e., the person carrying out the regulation) (Gross & Thompson, 2007; Niven, Totterdell, & Holman, 2007). Further, affect regulation is not only aimed at turning negative affect into positive affect, but also at changing positive affect for the worse (Gross, 1998; Gross, 2008; Koole, 2009; Parkinson et al., 1996). Niven and colleagues (2011) address these issues when classifying affect regulation strategies. Their classification, theoretically based on two earlier studies (Niven et al., 2009; Parkinson & Totterdell, 1999) and on the validation of the Emotion Regulation of Others and Self scale (EROS) (Niven et al., 2011), divides the strategies by target of regulation (directed towards the self, intrinsic; and directed towards the other, extrinsic), and by regulatory motive (affect-improving and affect-worsening) (see Table V.2).

Table V.2. *Four Main Categories of Affect Regulation Strategies*

	<b>Directed towards the self</b>	<b>Directed towards the other</b>
<b>Improve affect</b>	Intrinsic affect-improving	Extrinsic affect-improving
<b>Worsen affect</b>	Intrinsic affect-worsening	Extrinsic affect-worsening

*Note.* Table adapted from Niven, Totterdell, Stride, & Holman (2011).

## 9.2. Consequences of affect regulation

Moods and emotions have been found to influence behavior (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001; Baumeister, Vohs, DeWall, & Zhang, 2007;



Gendolla, 2000). The most common view implies a direct causation model of the relation between affect and behavior (Baumeister et al., 2007). Classic examples of this view are fear leading to flight, and anger leading to fight. The relation between affect and behavior can also be described as a feedback system (Baumeister et al., 2007). This is what happens when certain behavior leads to an emotion, and this emotion is used as feedback for future behavior. An example of this alternative view is feeling guilty after treating a friend badly and subsequently using this feeling of guilt as a reminder not to treat a friend badly again (Baumeister et al., 2007).

In both views, the way we feel steers our actions. Affect regulation is used to change the way we feel and to therefore change these behavioral consequences, mostly driven by hedonistic motivation (we want to feel good) or the pursuit of specific goals (e.g., dieting, anger management, or quitting smoking) (Baumeister & Vohs, 2007; Gendolla, 2000; Koole, 2009). In turn, affect regulation might have consequences for physical and mental health, depending on the (cognitive) requirements to carry out the regulation and its behavioral outcome (John & Gross, 2004). For example, cognitive reappraisal of a situation is easier to carry out and more likely to lead to appropriate behavior than suppression of emotions (John & Gross, 2004), although people are more inclined to use reappraisal for low-intensity emotional stimuli than for high-intensity ones (Sheppes et al., 2012).

Baumeister and Vohs (2007) suggest four ingredients of self regulation: standards, monitoring, self-regulatory strength, and motivation. The one highlighted here is self-regulatory strength, also known as willpower. Because self regulation requires complicated processes, this kind of power is necessary. All types of regulation rely on the same power resource which becomes temporarily depleted after performing self regulation (Muraven & Baumeister, 2000). This, in turn, leads to ego depletion,

“(…) a state in which the self does not have all the resources it has normally” (Baumeister & Vohs, 2007, p. 2). As a result, “ego depletion renders the self temporarily less able and less willing to function normally or optimally.” (Baumeister & Vohs, 2007, p. 2). Baumeister and colleagues (2006) also stress the effect of ego depletion on inhibition and therefore indirectly on certain behaviors. Muraven and Baumeister (2000) mention some practical consequences which they call ‘aftereffects of self-control’. For example, people trying to stop their substance use are more likely to relapse when dealing with negative moods. Other cognitive functions that are impaired after affect regulation are delaying gratification, stamina, and thought suppression (Muraven & Baumeister, 2000).

Thus, extensive and/or bad use of regulation strategies can have negative consequences. On the other hand, however, affective states can persist and become maladaptive if not regulated (Larsen, 2000). Likewise, *dysregulation* of affect (poorly executed affect regulation) is a precursor and symptom of several mental and behavioral problems (Eisenberg et al., 2000; Gross, 1998; Gross & Thompson, 2007; Koole, 2009). For example, emotional dysregulation is related to several clinical problems as stated in the Diagnostic and Statistical Manual of Mental Disorders (DSM) (American Psychiatric Association, 2000; Gross, 1998). Emotion regulation also influences the quality of social behavior and friendships (Eisenberg et al., 2000; Niven, Holman, & Totterdell, 2012), and blood glucose levels (Niven, Totterdell, Miles, Webb, & Sheeran, 2013), the latter being particularly the case for those who believe they are not good at emotion regulation (Niven et al., 2013).

An important remark is made by Gross and Thompson (2007) when they note that there are no good or bad regulation strategies, but that the consequences of the use of certain strategies should be examined in its context (see John & Gross, 2004;

Sheppes & Gross, 2011). In conclusion, affect regulation can make us feel and function better, but at the same time it can lead to malfunctioning and psychological problems due to ego depletion, bad choice of strategy, and poor execution.

### 9.3. Individual differences in affect regulation

Individual characteristics can influence the amount and type of affect regulation strategies used (Eisenberg et al., 2000; Gross & John, 2003; John & Gross, 2004; Niven, Macdonald, & Holman, 2012). For example, differences in the type of affect changing behaviors that are used have been found due to gender (Thayer et al., 1994) and age (John & Gross, 2004; Orgeta, 2009; Thayer et al., 1994). Personal characteristics like self-esteem and locus of control are also related to affect regulation. For instance, low self-esteem individuals have more trouble recovering from negative moods and are more likely to use alcohol as a mood regulator (Parkinson et al., 1996), perhaps because they feel less deserving of being in a good mood (Wood, Heimpel, Manwell, & Whittington, 2009). Further, individuals with a more external locus of control are less inclined to regulate their affective states (Catanzaro & Mearns, 1990; Schuppert et al., 2009).

### 9.4. Affect regulation and reemployment

As described earlier, affect regulation can be used by unemployed people as a way of dealing with their unemployment. Especially when reemployment is difficult to gain, this way of short-term coping seems appropriate to make oneself feel better. Moreover, affect regulation could indirectly also lead to higher chances of reemployment. One study found that unemployed individuals who engage more in the regulation of negative affect are more likely to engage in job-seeking behavior (Creed et al., 2009). In the words of Creed and colleagues, “Those who can manage the stress and

negative affect associated with joblessness will be better placed to achieve the goal of reemployment” (Creed et al., 2009, p. 812).

In another study, Wanberg and colleagues (2010) had a group of 233 unemployed individuals filling out a daily online survey during 15 weekdays. They found that lack of progress during a day of job search leads to less positive affect and more negative affect. Additionally, they found that lower positive affect resulted in less job search effort the next day among people “with lower ability to detach from negative thoughts” (p. 801), but in more job search effort among those that could let go more easily of their negative thoughts (Wanberg et al., 2010). Stated otherwise, when suffering from negative affect, the ability to regulate this negative affect seems to promote job-seeking behavior (cf. Creed et al., 2009). This suggests that some individuals need negative mood to be motivated for job seeking (“I feel bad, I should do something about my situation, I am going to look for a job”) (cf. Feather & O'Brien, 1987), while others are motivated by positive mood (“I feel good, I’m optimistic I will find a job, I am going to look for a job”) (Wanberg et al., 2010). Both options imply that negative mood needs to be ‘set aside’ to result in job-seeking behavior. Therefore it is likely that more improving affect regulation and more positive mood and emotions will lead to more job seeking.

Song and colleagues (2009) performed a 14-day diary study among 100 unemployed people. They found that job seeking was positively related to next day distress (as measured by the Kessler Psychological Distress Scale, or K6) (Kessler et al., 2002, in Song et al., 2009). Moreover, this relation was mediated by negative job search experience. Thus, more job-seeking behavior increases the chance of negative experiences like rejections, leading to more distress. This finding is comparable to one from the aforementioned study of Wanberg and colleagues (2010) that lack of

advancement during job seeking results in less positive affect and more negative affect. Similarly, earlier studies also report that job-seeking behavior was positively related to negative affect (Feather & O'Brien, 1987; Feather, 1989; Thomson, 1997).

Although affect regulation has been studied in relation to unemployment, its interpersonal dimension has been neglected. Therefore, it is unclear what the role is in the process of reemployment of affect regulation executed by or towards others. However, previous studies have shown that affect regulation towards others also influences one's own feelings (Niven et al., 2007; Niven et al., 2011; Niven, Totterdell, Holman, & Headley, 2012). Engaging in positive affect regulation improves the agent's affect; engaging in negative affect regulation, deteriorates the agent's affect. Considering the previous findings on the relation between affect and job-seeking behavior, interpersonal affect regulation could have subsequent consequences for the agent's job-seeking behavior.

Overall, these findings indicate the importance of affect regulation on the job-seeking process and therefore on reemployment. On the other hand, they further indicate that there is a relation between job seeking and affect, but also between affect and job seeking. Considering the difficulties that unemployed older adults have in finding a job, especially in the current adverse economic situation in Spain (see §1), it is very likely that job seeking in this specific sample will lead to negative affect. The current study will examine the relations between affect, its regulation, and job-seeking behavior in a Spanish sample, in order to clarify the aforementioned suggestions.



## **EMPIRICAL PART**





## **VI. The Current Study**

### **10. Summary**

The preceding sections make clear that more thorough research is needed about unemployment in older adults. Individuals over 55 years old suffer extra since there are little reemployment opportunities for this age group, especially in these times of economic downfall. Unemployment evokes certain negative psychological effects, and these, in turn, lower reemployment perspectives. Moreover, since the internet provides easy low-cost access to a wide array of job vacancies (Kuhn & Skuterud, 2000; Stevenson, 2008; van Rooy, Alonso, & Fairchild, 2003), not having suitable access to modern technology aides nowadays makes it more difficult to get out of this vicious circle of unemployment. Taking this together with the increasing ageing of the population, older adult unemployment is a serious issue that needs to be contested. Finally, the previous chapters also point out that the regulation of one's own and others' emotions can contribute to understanding the relation between unemployment, well-being, and reemployment.

### **11. Aim**

The current study examines the relations between unemployment and well-being and job-seeking behaviors in a sample of unemployed older adults. To understand these relations, the role of emotion regulation, social support, unemployment duration, and healthy behaviors will be analyzed. In this way, we will see how persons over 55 years old deal with unemployment. Specifically, this study aims to 1) describe the emotional experience of the participants and the source of these emotions, and analyze if unemployment duration influences the participants' emotions; 2) analyze how emotion

regulation strategies affect the emotions of the participants; 3) analyze the effect that emotions have on job-seeking behavior and vice versa; 4) analyze the role of social support as a protective factor against the negative consequences of unemployment; 5) describe the effects of (un)healthy behaviors on mood; and 6) test for the possible effect of a relaxation intervention on well-being.

With the chosen methodology (see chapter VII), participants have their well-being monitored during the course of the study (28 days). They are also able to improve their chances on reemployment because of the provided access to an online job search system (see §15.3), which is accessible through an internet browser using either the study's smartphone, a personal computer, or a tablet computer. Moreover, participants can improve their modern technology skills by using a smartphone and internet on a daily basis.

Finally, half of the participants are randomly assigned to an intervention (see §14.3) aimed to improve well-being through relaxation. This intervention, consisting of a 23-minute audio file containing a muscle relaxation and breathing exercise, is also executed through the study's smartphone. The intervention aims to improve the quality of sleep and decrease negative mood among the participants, and consequently improve well-being.

The combination of a diary through smartphones, an easily manageable intervention, and an internet-based job search system is carefully chosen. Many (older) unemployed people are in need of an accessible, cheap way of helping them on their way to reemployment by focusing on psychological aspects instead of job-related skills (McKee-Ryan et al., 2005; Moorhouse & Caltabiano, 2007; Proudfoot, Guest, Carson, Dunn, & Gray, 1997; Wahlbeck et al., 2011). Furthermore, unemployed people are in

need of attention to their situation, but it is necessary to find ways to give this attention in a non-expensive manner and in such a way that a wide audience can be reached. Internet-based interventions (e.g., self-help therapy and online self-help groups) (Castelnuovo, Gaggioli, Mantovani, & Riva, 2003) fit these criteria (Barak, Klein, & Proudfoot, 2009; Rochlen, Zack, & Speyer, 2004; Ybarra & Eaton, 2005) and have proven their effectiveness (Castelnuovo et al., 2003). Also, as mentioned earlier, the current study's methodology will encourage the participants' use of smartphones and computers, which will in turn provide easier access to more job offers through the internet (Kuhn & Skuterud, 2000; Stevenson, 2008; van Rooy et al., 2003).

Finally, this study is not only expected to be helpful for its participants, but will also benefit the public interest as UGT (*Union General de Trabajadores*), the second most important Spanish trade union, will incorporate the results of this study in its policy. Moreover, the present study's methodology contributes to the growing literature on experience sampling method using smartphones. As such, both the methodology and the results of the current study can be used for future reference.

## 12. Research Questions and Hypotheses

The following research questions will be discussed:

1. Does duration of unemployment influence the participants' emotions?
2. How does affect regulation by the self (2.1) and others (2.2 and 2.3) influence the participants' emotions?
3. How do emotions influence the participants' job-seeking behavior (3.1), and does regulation of these emotions influence job-seeking behavior (3.2)? Also, how does job-seeking behavior influence participants' emotions (3.3)?
4. How does social support influence participants' mood?

5. How do (un)healthy behaviors (exercise, alcohol consumption, and use of tobacco) influence participants' mood?
6. Can a relaxation intervention improve the participants' well-being?

## 12.1. Hypotheses

### 12.1.1. Duration of unemployment and emotions

Participants that have been unemployed longer are expected to have more negative emotions than participants that have been unemployed for shorter time (*Hypothesis 1*). Although different trajectories have been found regarding unemployment duration and negative consequences for well-being (del Pozo Iribarría et al., 2002; Feather, 1989; Hanisch, 1999; Kirchler, 1985; Paul & Moser, 2009), depressive symptoms are likely to increase with unemployment duration (del Pozo Iribarría et al., 2002), just as negative mood (Langens & Mose, 2006; McKee-Ryan et al., 2005) and life dissatisfaction (van Echtelt, 2010). Therefore, longer unemployment duration is expected to result in more negative emotions.

### 12.1.2. Regulation strategies and emotions

Affect regulation is expected to influence the well-being of the study's participants in the following way: affect-improving self-regulation will increase the levels of positive emotions and decrease the levels of negative emotions (*Hypothesis 2.1*). These assumptions are based on the definition of affect regulation and thus how it should change one's emotions (Eisenberg et al., 2000; Gross, 1998; Parkinson et al., 1996). Therefore, interpersonal affect regulation is also expected to influence participants' emotions in this way when the participant is the target of emotion regulation (*Hypothesis 2.2*). The same effect is also expected when the participant is the agent (*Hypothesis 2.3*). Interpersonal affect regulation can be seen as part of a social

interaction process, provoking feedback from the target towards the agent, in turn changing the agent's affect (Martínez-Íñigo et al., 2013). Several previous studies by Niven and colleagues have indeed shown that engaging in affect-improving regulation improves the agent's affect, and that performing affect-worsening regulation worsens the agent's affect (Niven et al., 2007; Niven et al., 2011; Niven et al., 2012).

### 12.1.3. Emotions, regulation strategies, and job-seeking behavior

Negative emotions are expected to discourage job-seeking behavior (*Hypothesis 3.1a*), while positive emotions are expected to increase job-seeking behavior (*Hypothesis 3.1b*). According to Creed and colleagues (2009), stress and negative emotions are counterproductive in the job search process. Moreover, lower mental health and more depressive symptoms reduce job search intention and job-seeking behavior (Feather, 1989; Taris, 2002). Although Wanberg and colleagues (2010) found that lower positive affect resulted in more job search effort among people who could set aside their negative thoughts, this is not expected for the current sample. Given the overall difficult situation for this group (see chapter I), the participants are not anticipated to engage in sufficient affect regulation.

Likewise, affect-improving regulation strategies (towards self and others) are expected to promote job-seeking behavior (*Hypothesis 3.2*). Negative affect, depressive symptoms, and lower mental health in general reduce job-seeking behavior (Creed et al., 2009; Feather, 1989; Taris, 2002). Changing negative affect for the better leads to more job-seeking behavior (Creed et al., 2009). Similarly, detachment of negative thoughts also increases job-seeking effort (Wanberg et al., 2010). Thus, affect-improving strategies are expected to increase job-seeking behavior.

Although positive emotions are expected to stimulate job-seeking behavior, job-seeking behavior itself is expected to increase negative emotions (*Hypothesis 3.3a*) and decrease positive emotions (*Hypothesis 3.3b*). Previous studies have found that more job-seeking behavior is related to more negative affect (Feather & O'Brien, 1987; Feather, 1989; Thomson, 1997), especially when no progress is being made in the job search process (Song et al., 2009; Wanberg et al., 2010). Considering these previous findings and the difficulties encountered in finding a job by the focus group of the current study, increased job-seeking behavior is expected to result in higher levels of negative emotions and lower levels of positive emotions.

The hypotheses regarding emotions and job-seeking behavior are depicted in figure VI.1 to VI.3. Dark arrows indicate a negative relationship; light arrows indicate a positive relation.

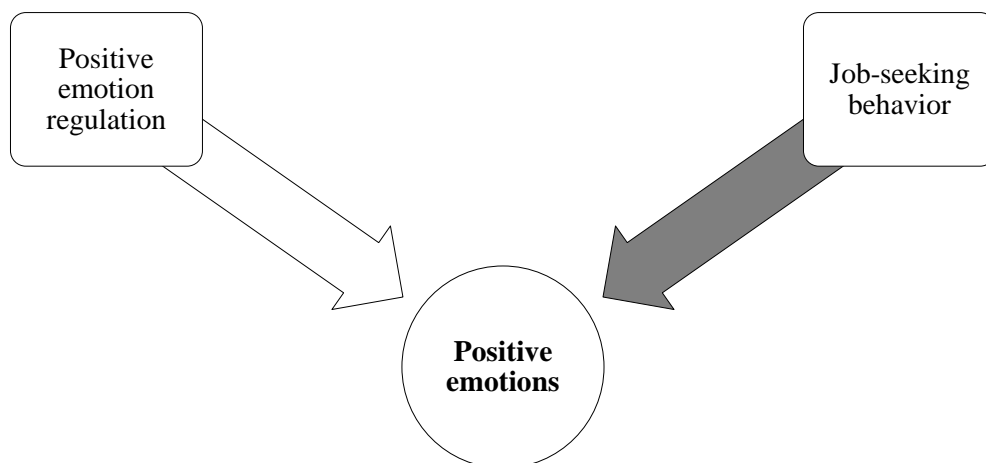


Figure VI.1. *Schematic interpretation of the current study's hypotheses regarding positive emotions*

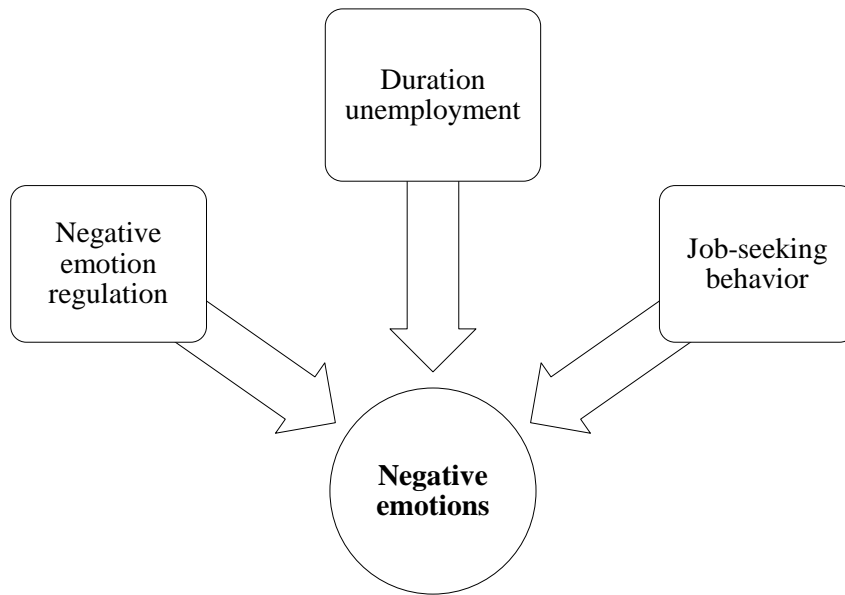


Figure VI.2. *Schematic interpretation of the current study's hypotheses regarding negative emotions*

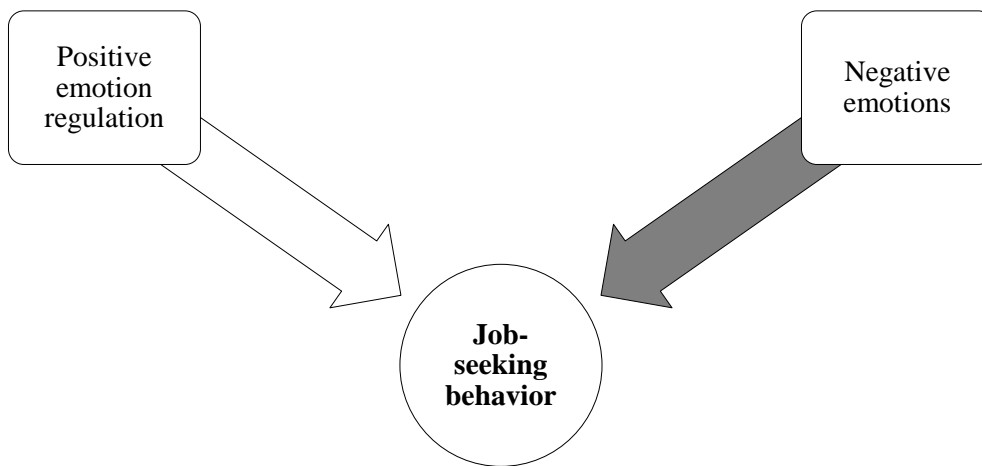


Figure VI.3. *Schematic interpretation of the current study's hypotheses regarding job-seeking behavior*

#### 12.1.1. Social support and mood

Received social support is expected to improve participants' mood (*Hypothesis 4*). Social support has a general positive influence on well-being but also a buffer function when it comes to the negative impact of important events (Cobb, 1976; Cohen & Wills, 1985). Specifically, social support can have this buffer effect on unemployed people (Beland et al., 2002; DeFrank & Ivancevich, 1986; Hanisch, 1999; Linn et al., 1985; McKee-Ryan et al., 2005; Patton & Donohue, 1998; Paul & Moser, 2009). Results in favor of a reverse-buffering effect (see §5.2) have also been found (Barrera, 1986; DeFrank & Ivancevich, 1986; Kokko & Pulkkinen, 1998), but keeping in mind the characteristics of the current study's sample (older Spanish adults) and the importance and beneficial effects of social support for this specific group (López García, Banegas, Graciani Pérez-Regadera, Herruzo Cabrera, & Rodríguez-Artalejo, 2005; Zunzunegui, Beland, & Otero, 2001), receiving social support is more likely to improve the participants' mood.

#### 12.1.2. (Un)Healthy behaviors and mood

Exercise has been found to improve mood both in the short term and in the long term (Byrne & Byrne, 1993; Yeung, 1996), also for older adults (Arent, Landers, & Etnier, 2000). Alcohol and tobacco use, even though bad for one's physical health, are sometimes used as relaxing and pleasant ways of short-term affect regulation in order to distract oneself quickly from negative affect (Parkinson & Totterdell, 1999). Thus, exercise is expected to improve participants' mood, just as alcohol and tobacco use (*Hypothesis 5*).

The hypotheses regarding mood are depicted in figure VI.4. The light arrows indicate a positive relationship.



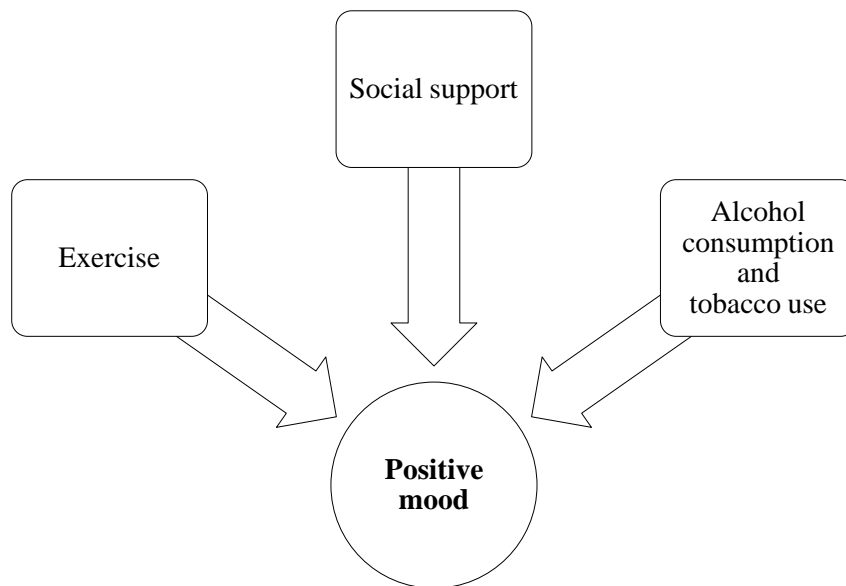


Figure VI.4. *Schematic interpretation of the current study's hypotheses regarding positive mood*

#### 12.1.1.1. Relaxation and well-being

Relaxation techniques like breathing deeply, meditate, relaxing the body, and using relaxation tapes are ways of improving affect (Parkinson & Totterdell, 1999). Moreover, previous studies have found that (muscle) relaxation exercises can be used to improve sleep quality (e.g. in cancer patients) (Cannici, Malcolm, & Peek, 1983; Demiralp, Oflaz, & Komurcu, 2010) and treat insomnia (Morgenthaler et al., 2006; Morin et al., 2006). Higher sleep quality, in turn, positively influences mood and well-being in general (Jean-Louis, Kripke, & Ancoli-Israel, 2000; Sonnentag, Binnewies, & Mojza, 2008). Therefore, half of the participants of the present study were randomly assigned to an intervention consisting of muscle relaxation and breathing exercises (see §14.3). The idea behind the intervention was that the participants would relax before going to sleep and therefore have a better night's sleep, subsequently improving their

mood and well-being. More generally, the relaxation techniques were seen as an affect improving strategy. Therefore, the intervention's relaxing exercise is expected to positively influence participants' well-being (*Hypothesis 6*).

## VII. Methods

### 13. Participants

Participants for the diary study were recruited in two ways. Unemployed individuals were approached telephonically by trade union UGT in Madrid with the request to participate in this study. These individuals were all affiliated to UGT. Further, additional group meetings for people meeting the study's requirements were organized at the office of unemployment services in Alcorcón (Madrid) in order to inform these people about the study. The attendees were given an introduction about the study, shortly explaining the purpose of the study and the procedure. The study was explained as a way to get insight into the daily lives of unemployed older people, in particular their emotions and behaviors, in order to improve interventions aimed at their well-being and job seeking. Afterwards the attendees were asked whether they were interested in participating. The people that agreed to participate in the diary study had to sign an informed consent form, in which was also stated that their data would be handled confidentially.

UGT recruited 47 participants. From the group meetings at the unemployment services, 43 people decided to participate. Together they formed the initial sample of the study, consisting of 90 unemployed people. Nine participants dropped out during the course of the diary study. Reasons for dropping out were lack of motivation ( $N = 3$ ), finding a job ( $N = 2$ ), incapacity to use the mobile device or technical problems with the device ( $N = 2$ ), and personal issues that occurred during the study ( $N = 2$ ).

Non-responses were coded as missing values. After plotting the distribution of the amount of missing questionnaires within the sample, it became clear that approximately 90% of participants completed at least 14 out of 25 days of the diary

study. Therefore, of the 81 people that finished the diary study, the 12 persons whose data had more than 11 incomplete days (out of 25 days total) were excluded from analyses for missing too many questionnaires.

The final sample consisted of 69 participants (67.6 % men) whose age ranged from 53 to 64 years ( $M = 57.4$ ,  $SD = 2.5$ ). Most participants were married (73.5%); 14.7% of the sample was divorced. The rest was either separated or single. The number of children of the participants ranged from 0 to 4 ( $M = .85$ ,  $SD = .92$ ).

## 14. Study Design

The study consisted of three parts in which the participants took part voluntarily: a pre-study questionnaire, the diary study, and a post-study questionnaire. Furthermore, half of the participants were assigned to an intervention, and the other half to the control group.

### 14.1. Pre- and post-study questionnaire

Several assessments were done before the diary study started. These pre-study measures were taken some days before initiation of the daily questionnaires using the smartphones. The same assessments were performed as post-study measures in the week after the diary study ended. Both the pre- and post-assessments were designed with SESAMO (see §15.2) and executed as web-based questionnaires on computers, either after the workshop session or when handing in the smartphone after the diary study, or at the participant's home.

### 14.2. Diary study

Using the System for Experience Sampling on Mobiles (SESAMO) software (see §15.2), questionnaires were developed for daily assessments through the

smartphones. The aim of these daily questionnaires was to examine mood states and emotions, affect regulation strategies, job search behavior, (un)healthy behaviors, and social support (availability and adequacy) (Barrera, 1986).

There were three daily questionnaires that were administered at five different time points in the morning, afternoon, and evening. The morning questionnaire was prompted at 09.00 hours, the afternoon questionnaire at 12.00 hours, 15.00 hours, and 18.00 hours, and the evening questionnaire at 21.00 hours. Every questionnaire was available for one hour after appearing on the smartphone. An alarm tone would sound up to three times (each 10 minutes apart) to warn the participant that a questionnaire was available. When a participant did not reply within the three delays range of 30 minutes or within the hour, the questionnaire would expire and registered as a non-response. Participants' responses were recorded as soon as they tapped the "continue" button on the screen after each question. Thus, each question's response was sent automatically to the university server.

### 14.3. Intervention

An intervention was included in the diary study. The intervention consisted of listening to an mp3 audio file (located on the smartphone) every night before going to sleep. The audio file<sup>1</sup> contained a breathing and muscle relaxation exercise which lasted for 23 minutes. Participants were reminded of listening to the audio file around 21.30 hours every night with a text message through SESAMO. Half of the participants were randomly assigned to the intervention group.

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<sup>1</sup> "Relajación física progresiva. Tensión-distensión" by Santiago Pazhín, from "Sesiones antiestrés CD 2 – Técnicas de relajación para superar el estrés y la ansiedad"

## 15. Experience Sampling Method

The current study's data came from participant self-reports. This is a common-used method to assess affect and affect regulation in daily life, since self-reports have higher external validity than laboratory experiments and questionnaires (Wilhelm & Grossman, 2010). When detailed and exhaustive data is needed, people can be asked to keep track of a diary (Bolger, Davis, & Rafaeli, 2003), also known as the *experience sampling method* (ESM) (Hektner, Schmidt, & Csikszentmihalyi, 2007). Similar terms are ambulatory assessment, ecological momentary assessment (EMA), and real-time data capture (RTDC) (see Ebner-Priemer & Kubiak, 2010). The three main types of ESM are interval contingent sampling (data collection based on intervals), event contingent sampling (data collection after certain events), and signal contingent sampling (data collection at a random-timed signal) (Scollon, KimPrieto, & Diener, 2003).

Assessment methods in naturalistic settings like ESM are becoming increasingly popular (Ebner-Priemer & Kubiak, 2010) since they have multiple benefits. For example, ESM results in spontaneous, real-time data (Bolger et al., 2003; Ebner-Priemer & Trull, 2009) which therefore can be used to study temporal dynamics (Bolger et al., 2003; Ebner-Priemer & Trull, 2009; Scollon et al., 2003). Further, using ESM considerably reduces retrospection bias (Bolger et al., 2003; Scollon et al., 2003).

There are several ways to execute ESM studies. A classic example of ESM is the use of pen-and-paper diaries (Bolger et al., 2003; Piasecki, Hufford, Solhan, & Trull, 2007; Scollon et al., 2003). However, pen-and-paper diaries are subjective to several biases and other methodological problems, like participants that forget to respond, retrospection bias, and data loss due to unreadable entries (Bolger et al., 2003; Piasecki

et al., 2007). The use of electronic devices solves most of these problems, for example with the use of signals and the ability to save and send data automatically (Bolger et al., 2003; Christensen, Barrett, Bliss-Moreau, Lebo, & Kaschub, 2003; Fahrenberg, Myrtek, Pawlik, & Perrez, 2007; Piasecki et al., 2007). Recent technological developments allow for more accurate and easy-to-use methodologies, like the use of handheld computers (e.g., PDAs) (Bolger et al., 2003; Fahrenberg et al., 2007; Piasecki et al., 2007; Scollon et al., 2003). Even though throughout the years people have become more acquainted with these technologies, handheld computers might result a burden to people. Other problems with electronic devices also arise, like short battery life and high costs. However, these issues are being solved by using even newer devices like smartphones.

#### 15.1. Smartphones

The smartphone, a “programmable mobile phone” (Raento, Oulasvirta, & Eagle, 2009, p. 427), is a device which is more integrated into modern daily life than for example a PDA (Raento et al., 2009; Wolfenden, Brennan, & Britton, 2010). Further, the technical aspects of smartphones are improving rapidly (for example, increased memory) (Miller, 2012), while the devices are becoming more affordable (Bonnington, 2011). Smartphones can be especially useful in studies of psychology and other social sciences (Miller, 2012; Raento et al., 2009), but also in clinical applications like obesity intervention (Preziosa, Grassi, Gaggioli, & Riva, 2009; Wolfenden et al., 2010). Moreover, the use of mobile phones has already proven its value in studies on mood and coping among adolescents (Kauer, Reid, Sancu, & Patton, 2009; Reid et al., 2009).

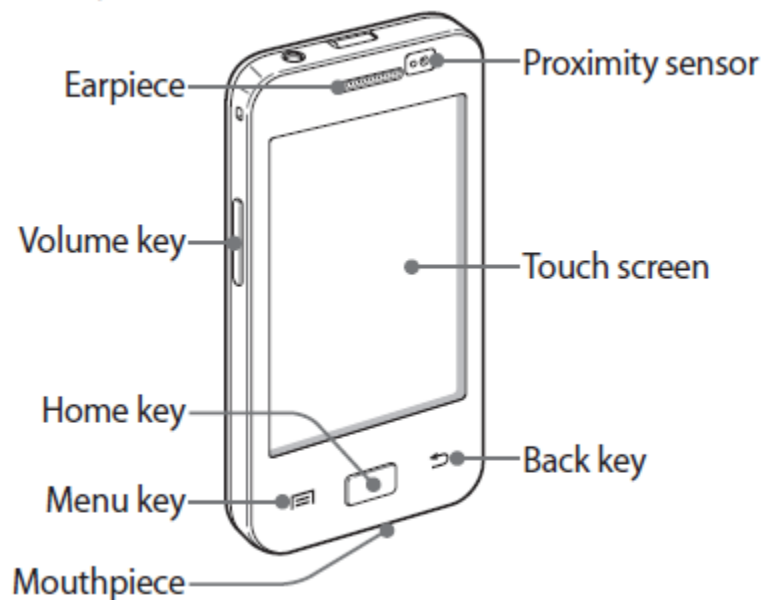


Figure VII.1. *Schematic view of the Samsung Galaxy Ace*

Source: Samsung GT-S5830T user manual, © Samsung Electronics 2011

In the present study, Samsung Galaxy Ace mobile phones were used. This mobile phone measures 5.9 cm × 11.2 cm and has a 3.5 inch touch screen display (see Figure VII.1 for a schematic view of the phone). All smartphones were ready for use when handed out to the participants, i.e. the participants did not need to install anything.

#### 15.2. Software: SESAMO

The AICU research team (*Agentes Inteligentes y Computación Ubicua*; Intelligent Agents and Ubiquitous Computing) of the Universidad Politécnica in Madrid, together with the DOBLE research team (*Desarrollo Organizacional, Bienestar Laboral y Empleo*; Organizational Development, Job Well-Being and Employment) of the Universidad Rey Juan Carlos, developed the survey software used in the current study, called SESAMO. SESAMO consists of two parts: 1) online software to create questionnaires, and 2) an application for smartphones and tablet computers that allows for receiving and replying to questionnaires. SESAMO also supports web-based



questionnaires for internet browsers. The data gathered by SESAMO was safely and anonymously (under a automatically generated number-ID) stored on the Universidad Rey Juan Carlos server. The SESAMO online software and the data could only be accessed with a username and password, which could be created only by one SESAMO administrator.

The online software was used to design the questionnaires of this study. The daily questionnaires were sent to the participants' smartphones, while the pre- and post-study questionnaires were web-based questionnaires and had to be answered using a desktop computer. Participants not in possession of a personal computer could come to the university to complete the pre- and post-study questionnaires. The participants that could not make it to the university and did not have a personal computer either, were instructed to complete these questionnaires through the study's smartphone. The functioning of the smartphone application will be shortly discussed in the next section.

When the SESAMO application is opened, the "home" screen of the application appears (Figure VII.2). There, the participant could read instructions for the use of the application (pressing the "home" button of the smartphone to leave the application running in the background; the application will give a warning when a questionnaire is available). The "home" screen also indicates the time when the application has lastly checked for new questionnaires.



Figure VII.2. *The “home” screen of SESAMO’s smartphone application*

When a questionnaire was available, a screen would appear asking the participants if they could answer some questions at that moment (Figure VII.3). If “yes” was chosen, the questionnaire started. If “no” was chosen, this screen would be shown again after 10 minutes. If no response was recorded, the questionnaire would also be delayed by 10 minutes. For each questionnaire, there was a maximum of three delays; after these three delays, the questionnaire would be discarded and registered as a non-response. The three-delay maximum was chosen because 30 minutes was considered an acceptable time window to respond to the questionnaire. The questionnaires would no longer be relevant using a larger time window. The same principle was used for the individual questions within the questionnaires, although they had only one delay each.

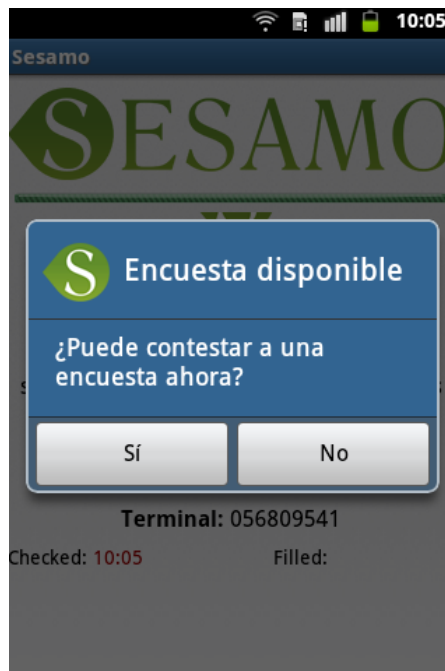


Figure VII.3. *SESAMO* asks if the participant can respond to a questionnaire

The SESAMO application can handle different types of questions. Five of them were used in this study's questionnaire: open-ended questions, single choice questions (e.g., yes/no questions), multiple choice questions, opposite scale questions (i.e., the participant has to select a response on a 1 to 5 scale, located in between two opposites, e.g. "happy" and "sad"), and Likert-type scale questions (from 0 or 1 to n). All questions would be responded to using the phone's touch screen display. After responding to a question, a "continue" button had to be pressed in order to send the response to the server and either go on to the next question or end the questionnaire. An example question can be seen in Figure VII.4. When the questionnaire would be finished, SESAMO would indicate this to the participant showing the screen in Figure VII.5. The participants would then have to press the phone's "home" key to return to the phone's desktop screen while leaving the SESAMO application running in the background.

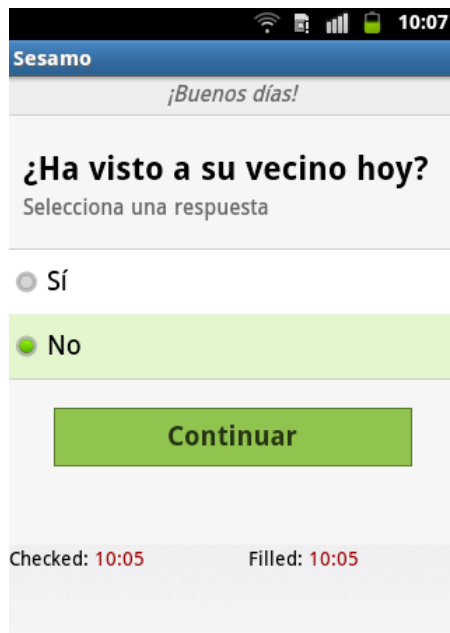


Figure VII.4. *Example of a question in SESAMO*



Figure VII.5. *SESAMO indicates that the questionnaire has ended*

### 15.3. Software: Job search system

Apart from the SESAMO software, the AICU research team also developed an online job search system. This system browses several already existing internet job offer databases for offers that match the participants' profile. In the first days of the diary study, participants' received an e-mail from the creator of the job search system explaining how the system works. A username and password was already created for every participant; they could directly click a link within the e-mail to activate their profile, change their password, and edit their profile (i.e. select a job sector, city, type of job, etc.). The job search system would then send an e-mail to the participants when a job offer matching their profile was found.

## 16. Procedure

All participants took part in a mandatory workshop session explaining the usage of the smartphone and the SESAMO application. The smartphones and hard copies of the study's manual, with detailed information about the study in general and the smartphone application specifically, were handed out during these sessions. The participants also received a digital copy of the study's manual through e-mail. The smartphones had SESAMO already installed and contained a SIM card that allowed internet access. A phone number and an e-mail address were made available for questions and other matters that occurred during the diary study. Further, participants filled out the pre-study questionnaire during the workshop session. The diary study started two days after the workshop session, so that participants were given some time to get used to the smartphone. The diary study lasted for 25 days (weekends included).

The pre-study measures were completed by 55 out of 69 participants (79.7%), and the post-study measures were completed by 59 out of 69 participants (85.5%).

Finally, 30 out of 69 participants (43.5%) were included in the intervention group. The people in the control group (39 participants; 56.5%) simply did not listen to the audio file. Participants were randomly assigned to each group by alternately receiving either a smartphone that contained the audio file or a smartphone that did not contain the audio file. Manuals were provided accordingly.

## 17. Instruments

This study contained various measures. Assessments included pre- and post-study questionnaires, as measured before and after the diary study, and daily questionnaires, which formed part of the diary study.

### 17.1. Pre- and post-study measures

#### 17.1.1. General well-being

General well-being was assessed using a short 28-item Spanish version of the General Health Questionnaire (GHQ) (Molina et al., 2006). The GHQ-28 consists of four blocks of seven items each that examine somatic symptoms, anxiety and insomnia, social dysfunction, and depression, respectively. An example item is “Have you recently lost much sleep over worry?”. All items are answered on a 4-point Likert scale, with lower scores indicating better health. The reliability of the GHQ-28 was very high ( $\alpha = .96$ ).

#### 17.1.2. Emotion regulation strategies

The Emotion Regulation of Others and Self (EROS) scale (Niven et al., 2011) was included to examine the use of intra-personal and inter-personal affect regulation strategies. A Spanish version of the scale was used which was previously translated by our own research group, using double translation. This Spanish version has already been

used in other studies (e.g., Martínez-Íñigo et al., 2013). The EROS scale consists of 12 inter-personal regulation items (“How you handle other people’s feelings”; 6 positive and 6 negative items) and 12 intra-personal regulation items (“How you handle your own feelings”; 6 positive and 6 negative items). Example items are “He/she gave me helpful advice”, “He/she told me about my shortcomings”, “I did something I enjoy”, and “I started an argument with someone”. Participants were asked for all items to what extent they used each strategy during the past two weeks, on a 5-point Likert type scale (1 = not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely). Reliability for all four scales was satisfactory ( $\alpha = .91$  and  $\alpha = .81$  for the positive and negative inter-personal scale respectively;  $\alpha = .86$  and  $\alpha = .78$  for the positive and negative intra-personal scale respectively).

#### 17.1.3. General mood

The general mood of the participants was assessed through a Spanish translation (Sandín et al., 1999) of the Positive and Negative Affect Scale (PANAS) (Watson, Clark, & Tellegen, 1988). The complete 20-item version of the scale was used during pre- and post-assessments. Example items are “distressed” and “excited”. For each item, participants had to indicate to what extent they usually feel said emotion on a 5-point Likert scale (1 = very slightly or not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely). The reliability of the 20-item PANAS was very high ( $\alpha = .90$  for both the positive and the negative affect scale).

#### 17.1.4. Other information

Further items within the pre- and post-assessments included questions regarding personal details (age, sex, marital status, number of children) and employment history

(duration of last job, duration of current unemployment, whether or not unemployed for the first time).

## 17.2. Daily questionnaires

### 17.2.1. Morning questionnaire

The morning questionnaire, administered between 09.00 hours and 10.00 hours, consisted of one item about sleep quantity (“How many hours did you sleep last night?”, responding with the number of hours), one item about sleep quality (“Do you feel like you have slept enough?”, answering yes or no), and the short PANAS (Thompson, 2007). The short PANAS consists of 10 emotions that the participants had to rate according to their current emotional state on a 5-point Likert scale (1 = very slightly or not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely). The reliability of this 10-item PANAS was very high ( $\alpha = .86$ ). Appendix I contains a schematic overview of the morning questionnaire.

### 17.2.2. Afternoon questionnaire

The afternoon questionnaire included a rating of five basic emotions (anger, fear, disgust, joy, sadness, and surprise) on a scale from 1 to 5, followed by items on the source of these emotions. When the participant indicated a person as the source of his/her emotions, items from the EROS questionnaire were presented to indicate which strategy or strategies were used to influence the participant’s emotions. Participants were also asked if they tried to change this other person’s emotions. If so, the participant had to indicate what they did, again choosing from EROS items.

Next, participants were asked if they tried to modify their own emotions (i.e. self regulation) either positively or negatively. If so, the participant had to point out the used



regulation strategy by checking one or more strategies from a list of EROS items. Finally, participants had to specify which job-seeking behaviors they had done in the previous hours, choosing from a list of behaviors. See Appendix II for a schematic overview of the afternoon questionnaire.

### 17.2.3. Evening questionnaire

The evening questionnaire started with the short PANAS as used in the morning questionnaire. Next, participants were asked about the type and quality of possible received social support using two questions, namely if they received either material, cognitive, or emotional support, and if this support made them feel better (yes/no). Finally, some items on (un)healthy behaviors were presented: short questions were asked about tobacco use (“Have you smoked tobacco today?”, answering yes or no), alcohol consumption (“Have you drunk alcohol today?”, answering yes or no), and drug use (“Have you consumed any drug today?”, answering yes or no; if applicable, specifying the type of drug by means of an open-ended question), and exercise (“Have you done any sports or exercise today?”, answering yes or no). Eating habits were assessed by presenting a list of three negative habits (e.g., “I have eaten snacks between meals”) and four positive habits (e.g., “I have eaten fresh fruit”), asking participants to tick any habits they performed that day. Also, participants were asked on a 1 to 5 scale how healthily they thought they had eaten that day, ranging from “very healthily” (1) to “very unhealthily” (5). A schematic overview of the evening questionnaire can be found in Appendix III.

## VIII. Results

### 18. Analyses

All analyses were carried out using IBM SPSS version 20.0 (IBM Corporation, 2011). Two types of analyses were performed: analysis of covariance (ANCOVA) and multilevel analysis (using the MIXED syntax command). ANCOVAs were executed to analyze the questionnaire data. The diary data consisted of repeated measurements nested within individuals; a two-level hierarchical structure. Therefore, multilevel analyses were used to examine these data (Hox, 2002). The sample size and the data points were large enough to provide accurate results using multilevel modeling (Maas & Hox, 2005).

Since no effects of the intervention were found (see §18.6), all other analyses were performed for the 69 participants as one group while including the intervention variable as a control variable in the multilevel model. This option was chosen because analyzing the control group only would result in major data loss.

#### 18.1. Transformation of variables

Several variables were transformed in order to meet the assumption of normality implied in analysis of covariance and multilevel analyses (Tabachnick & Fidell, 2007). The skewness and kurtosis values of all variables were inspected, together with their distribution histogram. The decision to transform a variable was based on this information; the skewness and kurtosis value's deviation from zero, and the skewness of the histogram.

Both the pre- and post-study GHQ-28 scores were transformed using the logarithm (LG10) function. The pre-study transformed variable resulted in a skewness

value of .15 (versus .60 non-transformed) and a kurtosis value of -.82 (versus -.63 non-transformed). The post-study transformation resulted in a skewness value of .62 (versus 1.14 non-transformed) and a kurtosis value of -.21 (versus .66 non-transformed).

The variable 'duration of unemployment' had one outlier (120 months). This case was deleted from analyses including duration of unemployment as a variable. Next, the square root transformation (SQRT) of 'duration of unemployment' was calculated and used in subsequent analyses. This transformation had a skewness value of .31 (versus 1 non-transformed) and a kurtosis value of -.63 (versus .62 non-transformed).

The variable 'job-seeking behavior' (i.e., the number of job-seeking behavior the participant engaged in at each occasion) was not normally distributed and could not be favorably changed using any transformation. The mean number of job-seeking behaviors per day was not normally distributed either, but could however be improved using the square root transformation (new skewness value -.27 versus .54; new kurtosis value -.57 versus -.63).

Although not completely removing the skewness and kurtosis, all the aforementioned transformations resulted in more normally distributed variables (i.e., skewness and kurtosis levels closer to 0). Moreover, since the present dataset is very large, any problems due to these rather small levels of skewness and kurtosis are highly unlikely (Tabachnick & Fidell, 2007). Other variables that were not normally distributed but which could not be improved using any kind of transformation will be mentioned separately in the following paragraphs.

## 18.2. Descriptive statistics

Mean scores for general mood, general mental health, and state self-esteem (as measured before and after the diary study) can be found in Table VIII.1. Duration of

unemployment ranged from 3 months to 72 months ( $M = 22.2$ ,  $SD = 15.8$ ). A linear regression analysis showed that general mental health (as measured by the GHQ-28) was not influenced by duration of unemployment. This indicates that in our sample, general well-being was not different for participants that were unemployed for shorter time periods than for participants that were unemployed longer. Further, no differences in GHQ-28 scores were found due to gender, marital status, or self-esteem. Therefore, marital status and self-esteem were discarded from further analyses. Duration of unemployment (when predicting job-seeking behavior) and gender were used as control variables.

Table VIII.1. *Descriptive Statistics of Pre- and Post-Study Measures*

Measure	<i>M</i> (Pre-study)	<i>SD</i> (Pre-study)	<i>M</i> (Post-study)	<i>SD</i> (Post-study)
PANAS <sup>1</sup>	2.35	.63	2.19	.73
GHQ-28 <sup>2</sup>	2.01	.57	1.92	.56
RSE <sup>3</sup>	1.86	.46	1.79	.50

<sup>1</sup>Range pre-study: 1.10-3.95; range post-study: 1.15-4.35; lower score means more positive mood

<sup>2</sup>Range pre-study: 1.11-3.29; range post-study: 1.04-3.54; lower score means better health

<sup>3</sup>Range pre-study: 1.00-3.00; range post-study: 1.00-2.90; lower score means higher self-esteem

Described next are the descriptive statistics of the most important variables that were included in the daily questionnaires.

*Mood.* Participants reported on their mood every morning and evening by means of the 10-item PANAS (see §17.2.1 and §17.2.3). Answers were given on a scale from 1 to 5 and items were re-coded in such a way that a lower overall score indicated more positive mood. For the morning questionnaires, overall short-PANAS scores ranged from 1 to 4.5, with a mean of 2.4 and a standard deviation of .74 (1507 observations). For the evening questionnaires, overall scores ranged from 1 to 4.7 ( $M = 2.4$ ,  $SD = .75$ ) (1493 observations). Neither scores were normally distributed, but the deviation was so

small that no problems are foreseen in the analysis (PANAS<sub>morning</sub> skewness = .04, kurtosis = -.65; PANAS<sub>evening</sub> skewness = .20, kurtosis = -.40).

*Basic emotions.* Participants indicated three times a day (during the afternoon) on a 5-point Likert scale to what extent they were experiencing anger, fear, disgust, joy, sadness, and surprise (1 = very slightly or not at all, 2 = a little, 3 = moderately, 4 = quite a bit, 5 = extremely). The emotion variables were not normally distributed but could not be statistically ‘improved’ using transformations. Therefore, any results considering analyses with these variables should be interpreted with caution. Skewness and kurtosis values for the emotion variables are as follows: anger – skewness 1.38, kurtosis .95; fear – skewness 1.17, kurtosis .18; disgust – skewness 1.37, kurtosis .78; joy – skewness .24, kurtosis -.61; sadness – skewness .65, kurtosis -.74; surprise – skewness 1.19, kurtosis .89. The means, standard deviations, and frequency of these emotions can be found in Table VIII.2.

Participants were also asked for the cause of these emotions (4514 observations). On most occasions (54.0%) participants indicated there was no particular reason for their emotions. Otherwise, their emotions were caused by something related to their unemployment (22.6%), another person (8.1%), or something else (i.e. a different cause, not related to unemployment or another person) (15.4%). When the participants’ emotions were caused by another person, this other person was the participant’s partner (33.7% of the occasions), the participant’s child(ren) (32.6%), another family member (31.0%), a friend (29.3%), an acquaintance (15.1%), and/or a stranger (17.3%).

Table VIII.2. *Mean, Standard Deviation, and Frequency (%) of Six Basic Emotions*

<b>Variable</b>	<b>Frequency (%)</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b>Observations</b>
Anger		1.8	1.1	4541
1 very slightly or not at all	57.0			
2 a little	20.9			
3 moderately	11.6			
4 quite a bit	5.9			
5 extremely	4.6			
Fear		1.9	1.2	4532
1 very slightly or not at all	55.6			
2 a little	20.1			
3 moderately	10.4			
4 quite a bit	10.7			
5 extremely	3.2			
Disgust		1.8	1.2	4528
1 very slightly or not at all	60.1			
2 a little	17.2			
3 moderately	10.8			
4 quite a bit	7.3			
5 extremely	4.6			
Joy		2.7	1.2	4521
1 very slightly or not at all	17.6			
2 a little	25.5			
3 moderately	35.1			
4 quite a bit	13.9			
5 extremely	8.0			
Sadness		2.2	1.3	4517
1 very slightly or not at all	39.1			
2 a little	22.4			
3 moderately	19.3			
4 quite a bit	13.1			
5 extremely	6.0			
Surprise		1.8	1.0	4516
1 very slightly or not at all	49.9			
2 a little	27.6			
3 moderately	16.1			
4 quite a bit	4.0			
5 extremely	2.3			

*Note.* These data are based on three daily measurements over the course of the diary study.

*Regulation of emotions of self and others.* Following the rating of their emotions, participants were asked if they tried to change the way they were feeling (4501 observations). On 29.7% of the occasions, participants indicated they intended to

regulate their emotions. Mostly they tried to improve the way they were feeling (92.4%), but in some cases participants tried to worsen their emotions (7.6%).

When the participants reported that another person caused their emotions, on most occasions (54.1%) participants did not try to influence this other person's emotions. If participants did try to change the other person's emotions, they mostly tried to improve (97.3%) instead of worsening (2.7%) their emotions.

*Job-seeking behavior.* Participants indicated three times a day (during the afternoon) the job-seeking behaviors they had been doing by choosing them from a set list (resulting in 4488 observations). The number of different job-seeking behaviors ranged from 0 to 7 on each occasion, with an average of .51 ( $SD = .76$ ) for all participants during the 25 days of diary study. The daily average number of job-seeking behaviors for each participant ranged from 0 to 1.54.

*Social support.* Every night participants were asked about social support (1484 observations). On 72.2% of the occasions people did not receive any social support. The support they did receive from others was mostly emotional support (38.3%), followed by cognitive (information, tips, advice, etc.; 28.4%) and material support (20.6%) or a combination (cognitive and emotional support 7.5%, cognitive and material support 3.4%, emotional and material support 1.7%). In 87.1% of the cases of social support, participants indicated the support made them feel better.

*(Un)Healthy behaviors.* Participants reported on (un)healthy behaviors every night (resulting in 1482 total observations for tobacco use, 1481 observations for alcohol use, 1478 observations for drug use, and 1477 observations for exercise). Twenty-two participants (31.9%) smoked tobacco at least one day during the diary study. Thirty-one participants (44.9%) drank alcohol on at least one day. Drug use was

reported by two participants only on one occasion each; in both cases the consumed drug was cannabis. Nearly all participants (61; 88.4%) did sports or exercised at least once during the diary study.

*Quantity and quality of sleep.* Participants were asked every morning about the quantity and quality of their sleep (resulting in 1495 and 1513 observations respectively). During the diary study, the participants slept 6.9 hours a night on average (ranging from 2 to 10 hours;  $SD = 1.1$ ). Throughout 79.5% of the occasions individuals felt they slept enough.

### 18.3. Emotions, duration of unemployment, and emotion regulation

Using the MIXED syntax command, different models were tested to predict the level of six basic emotions by duration of unemployment and use of emotion regulation strategies (towards the self, towards others, and received from others). The variables regarding the six basic emotions and emotion regulation were all measured three times a day (at 12.00 hours, 15.00 hours, and 18.00 hours). The results of these analyses are summarized in Table VIII.3. The following results should be interpreted with caution, since some of the emotion variables were quite heavily skewed (see §18.2).

Duration of unemployment did not predict daily emotions, as opposed to *Hypothesis 1*. This result is similar, however, to the result of the previous regression analysis showing that GHQ-28 scores were not influenced by duration of unemployment.

Participants that did not regulate their emotions or that tried to positively influence their emotions, reported lower levels of anger, fear, disgust, and sadness than participants that tried to worsen their emotions. Also, higher levels of joy were reported by the participants that did not regulate their emotions or that tried to improve their



emotions, than by the participants that tried to worsen their emotions. These results confirm *Hypothesis 2.1*.

Additionally, a mediation analysis was performed to check whether job-seeking behavior mediates the relation between self affect regulation and emotions. The steps needed for a mediation analysis are the following (Baron & Kenny, 1986): 1) Test whether the independent variable is a significant predictor of the outcome variable; 2) test whether the independent variable is a significant predictor of the mediator; and 3) test whether the mediator is a significant predictor of the outcome variable, controlling for the independent variable. In case there is a perfect mediation, there is no relation between the independent variable and outcome variable when the mediator is controlled for.

The first step had already been performed: self affect regulation was indeed related to the level of emotions (see table VIII.3). The second step was testing the relation between self affect regulation and job-seeking behavior<sup>2</sup>. Self affect regulation was related to job seeking behavior;  $B = -.27$  and  $t = -3.29$  with  $p < .01$  for positive regulation, and  $B = -.47$  and  $t = -6.02$  with  $p < .001$  for no regulation. The third step was to test the relation between job-seeking behavior and emotions while controlling for self affect regulation. With self affect regulation as a control variable, job seeking only predicted levels of sadness ( $B = .05$ ,  $t = 2.52$ ,  $p < .05$ ) and surprise ( $B = .04$ ,  $t = 2.22$ ,  $p < .05$ ). Since surprise was not related to self-regulation and is neither a negative nor a positive emotion, the mediation analysis was continued using levels of sadness only. The relation between self affect regulation and sadness was still significant when

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<sup>2</sup> This analysis is examined in §18.4.

controlling for job-seeking behavior. Therefore, there was no perfect mediation. *B*-values and *t*-values were smaller, however, than when job-seeking behavior was not controlled for ( $B = -.30, t = -3.86, p < .000$  for no regulation;  $B = -.32, t = -3.85, p < .000$  for affect-improving regulation). This suggests that the relation between self affect regulation and sadness is partially mediated by job-seeking behavior. In other words, when participants negatively influenced their own emotions, part of the reason why they reported higher levels of sadness was that they engaged in more job-seeking behavior. A Sobel test or bootstrap procedure should be performed to test the significance of this partial mediation (Hayes, 2009). However, because of the complexity of mediation in multilevel models (Kenny, Korchmaros, & Bolger, 2003), the partial mediation was not examined any further.

Participants showed higher levels of anger, fear, disgust, and sadness and lower levels of joy when they received negative emotion regulation from others, than when they received positive emotion regulation from others. These results are in line with *Hypothesis 2.2*.

Contrary to what was expected, emotion regulation that was carried out by the participants towards other people did not significantly influence the participants' own emotions, rejecting *Hypothesis 2.3*. However, there is a possibility that giving positive emotion regulation could improve the participants' emotions only when they also received positive emotion regulation (a feedback effect). Therefore, an interaction variable between given and received emotion regulation was added to the model to test for this feedback effect. However, no significant results were found.

Table VIII.3. *Multilevel Analyses Predicting Emotions (1)*

Dependent variable	Predictor variable	B-value	SE	t-value	Δ -2LL
Anger	(Intercept only)	1.81	.11	16.87	--
	Self ER <sup>a,1</sup>				1616.501
	None	-.25	.06	-3.98***	
	Improve	-.29	.07	-4.42***	
	Given ER <sup>b,1</sup>				9736.748
	None	-.51	.39	-1.31	
	Improve	-.70	.38	-1.81	
	Received ER <sup>c,1</sup>	.52	.10	5.17***	9752.710
Unempl. duration <sup>2</sup>	-.03	.07	-.41	3959.929	
Fear	(Intercept only)	1.85	.11	16.09	--
	Self ER <sup>a,1</sup>				1461.403
	None	-.21	.06	-3.69***	
	Improve	-.20	.06	-3.26**	
	Given ER <sup>b,1</sup>				8874.186
	None	.09	.32	.28	
	Improve	.03	.32	.10	
	Received ER <sup>c,1</sup>	.41	.08	4.87***	8896.369
Unempl. duration <sup>2</sup>	-.16	.07	-2.34	3233.868	
Disgust	(Intercept only)	1.80	.12	15.50	--
	Self ER <sup>a,1</sup>				1572.879
	None	-.15	.06	-2.55*	
	Improve	-.16	.06	-2.55*	
	Given ER <sup>b,1</sup>				9225.437
	None	.25	.36	.70	
	Improve	.14	.35	.38	
	Received ER <sup>c,1</sup>	.31	.10	3.28**	9232.687
Unempl. duration <sup>2</sup>	-.02	.08	-.23	3793.059	
Joy	(Intercept only)	2.71	.10	25.97	--
	Self ER <sup>a,1</sup>				583.709
	None	.18	.08	2.33*	
	Improve	.30	.08	3.57***	
	Given ER <sup>b,1</sup>				9850.370
	None	.09	.50	.17	
	Improve	.09	.50	.19	
	Received ER <sup>c,1</sup>	-.66	.13	-5.27***	9874.653
Unempl. duration <sup>2</sup>	.11	.07	1.61	2831.794	

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

<sup>a</sup> Reference cat.: Self ER – Worsen, <sup>b</sup> Reference cat.: Given ER – Worsen, <sup>c</sup> Reference cat.: received positive ER (versus received negative ER).

<sup>1</sup>Other predictors included in this model were intervention (no/yes) and sex (male/female)

<sup>2</sup>Other predictors included in this model were intervention (no/yes), sex (male/female), and first time unemployed (no/yes)

Table VIII.3. *Multilevel Analyses Predicting Emotions (1) (continued)*

Dependent variable	Predictor variable	B-value	SE	t-value	Δ -2LL
Sadness	(Intercept only)	2.24	.12	18.24	--
	Self ER <sup>a,1</sup>				649.867
	None	-.33	.08	-4.36***	
	Improve	-.34	.08	-4.22***	
	Given ER <sup>b,1</sup>				9711.504
	None	-.58	.50	-1.16	
	Improve	-.76	.50	-1.53	
	Received ER <sup>c,1</sup>	.87	.13	6.95***	9749.357
	Unempl. duration <sup>2</sup>	-.07	.08	-.86	3030.887
	Surprise	(Intercept only)	1.83	.09	20.22
Self ER <sup>a,1</sup>					533.239
None		-.08	.07	-1.10	
Improve		-.01	.08	-.10	
Given ER <sup>b,1</sup>					8826.316
None		.07	.50	.15	
Improve		.16	.50	.32	
Received ER <sup>c,1</sup>		-.08	.13	-.66	8823.617
Unempl. duration <sup>2</sup>		-.02	.07	-.24	2540.020

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

<sup>a</sup> Reference cat.: Self ER – Worsen, <sup>b</sup> Reference cat.: Given ER – Worsen, <sup>c</sup> Reference cat.: received positive ER (versus received negative ER).

<sup>1</sup>Other predictors included in this model were intervention (no/yes) and sex (male/female)

<sup>2</sup>Other predictors included in this model were intervention (no/yes), sex (male/female), and first time unemployed (no/yes)

#### 18.4. Job-seeking behavior, emotions, and emotion regulation

Other multilevel analyses were carried out to predict engagement in job-seeking behavior using the six basic emotions, and the use of emotion regulation strategies (towards the self, towards others, and received from others). A summary of the results of these analyses can be found in Table VIII.4. Again, the following results should be interpreted carefully, because of the non-normal distribution of the emotion variables (see §18.2).

Participants with higher reported levels of sadness engaged in more job-seeking behavior (*Hypothesis 3.1*). Being the agent of emotion regulation towards others and

being the target of emotion regulation by others did not predict the participants' job-seeking behavior. However, participants that tried to regulate their own emotions positively or that did not try to change their emotions at all, engaged in job-seeking behaviors less often than participants that tried to change their emotions for the worse (*Hypothesis 3.2*). These results are contrary to what was expected, but in line with the aforementioned finding that the relation between self affect regulation and sadness is partially mediated by job-seeking behavior.

A variable with the interaction between received emotion regulation and unemployment duration was added to the model, to see if receiving emotion regulation predicts job seeking in the short-term or long-term unemployed only. However, this interaction turned out to be non-significant.

Table VIII.4. *Multilevel Analyses Predicting Job-Seeking Behavior*

Model	Predictor variable	B-value	SE	t-value	Δ -2LL
Intercept only	(Intercept only)	.52	.04	11.72	--
1.1	Self ER <sup>a</sup>				2201.597
	None	-.47	.08	-6.02***	--
	Improve	-.27	.08	-3.29**	--
1.2	Given ER <sup>b</sup>				8858.863
	None	.11	.38	.29	--
	Improve	.10	.38	.26	--
1.3	Received ER <sup>c</sup>	.03	.09	.40	8859.280
2.1	Anger	.05	.03	1.72	2221.437
2.2	Fear	.04	.03	1.41	2222.954
2.3	Disgust	.02	.02	1.01	2207.082
2.4	Joy	-.03	.01	-1.80	2198.242
2.5	Sadness	.05	.02	2.13*	2225.437
2.6	Surprise	.04	.02	1.87	2222.758

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

<sup>a</sup> Reference cat.: Self ER – Worsen, <sup>b</sup> Reference cat.: Given ER – Worsen, <sup>c</sup> Reference cat.: received positive ER (versus received negative ER).

Models 1.x further include intercept, intervention (no/yes), sex (male/female), first time unemployed (no/yes), and duration unemployment (squared root transformation).

Models 2.x further include intercept, intervention (no/yes), sex (male/female), first time unemployed (no/yes), duration unemployment (squared root transformation), and self ER (no/improve/worsen).

Next, the influence of job-seeking behavior on six basic emotions was analyzed. The results are summarized in Table VIII.5. Participants that engaged in more job-seeking behavior showed higher levels of anger, sadness, and surprise, but there was no relation between job seeking and the other negative emotions (fear and disgust) or joy. These findings partially confirm *Hypothesis 3.3a*, and reject *Hypothesis 3.3b*.

Table VIII.5. *Multilevel Analyses Predicting Emotions (2)*

Dependent variable	Predictor variable	B-value	SE	t-value	Δ -2LL
Anger	(Intercept only)	1.81	.11	16.87	--
	Job-seeking behav. <sup>1</sup>	.04	.02	2.04*	1630.931
Fear	(Intercept only)	1.85	.11	16.09	--
	Job-seeking behav. <sup>1</sup>	.03	.02	1.67	1477.665
Disgust	(Intercept only)	1.80	.12	15.50	--
	Job-seeking behav. <sup>1</sup>	.01	.01	.69	1579.077
Joy	(Intercept only)	2.71	.10	25.97	--
	Job-seeking behav. <sup>1</sup>	-.01	.02	-.89	602.990
Sadness	(Intercept only)	2.24	.12	18.24	--
	Job-seeking behav. <sup>1</sup>	.05	.02	2.72*	677.179
Surprise	(Intercept only)	1.83	.09	20.22	--
	Job-seeking behav. <sup>1</sup>	.04	.02	2.39*	576.908

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

<sup>1</sup>Other predictors included in this model were intervention (no/yes) and sex (male/female)

### 18.5. Mood, social support, and (un)healthy behaviors

The diary variables included measures of mood (PANAS-short), social support, exercise, and alcohol and tobacco use in the evening questionnaire (executed around 21.00 hours). Several multilevel analyses were performed to predict evening mood levels from social support, exercise, and alcohol and tobacco use. Table VIII.6 summarizes the results of these analyses.

When participants received social support during the day, they reported better mood at night than when they did not receive social support, confirming *Hypothesis 4*. This analysis included the cases where participants indicated the support did not make

them feel better. A subsequent analysis showed that the different categories of social support were no significant predictors. Thus, regardless of the type of social support, mood improved when social support was received.

Table VIII.6. *Multilevel Analyses Predicting Evening Mood (PANAS-short)*

<b>Dependent variable</b>	<b>Predictor variable</b>	<b>B-value</b>	<b>SE</b>	<b>t-value</b>	<b>Δ -2LL</b>
PANAS-short	(Intercept only)	2.36	.08	30.18	--
	Social support <sup>1</sup>	.11	.03	3.81***	175.253
	Exercise <sup>1</sup>	.07	.02	2.82**	187.799
	Alcohol <sup>1</sup>	.04	.04	1.17	182.066
	Tobacco <sup>1</sup>	-.03	.06	-.46	164.652

\* $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

<sup>1</sup>Other predictors included in this model were intervention (no/yes) and sex (male/female)

As also expected, when participants exercised during the day, they reported better mood at night than when they did not exercise (*Hypothesis 5*). However, contrary to the expectations, neither alcohol consumption nor smoking influenced mood levels in the evening.

#### 18.6. Intervention effect

Finally, several analyses were carried out to examine possible effects of the intervention. An analysis of covariance (ANCOVA) was performed to assess the difference between the intervention and control group in GHQ-28 scores (general health) as measured at the end of the diary study, controlling for the pre-study GHQ-28 scores. The result of the ANCOVA was not significant,  $F(1,48) = .552$ ,  $p = .461$ . Thus, the intervention had no effect on general well-being, contrary to what was expected (*Hypothesis 6*).

Further, multilevel analyses were carried out to examine the possibility of other effects of the intervention on hours of sleep, job-seeking behavior, and six basic

emotions (anger, fear, disgust, joy, sadness, and surprise). For each dependent variable, two models were tested: the intercept-only model (including the intercept and the dependent variable), and a model with predictor variables included. The results of these analyses can be found in Table VIII.7. As can be seen, the intervention did not influence sleep quantity, job-seeking behavior, or emotions as reported by the participants.

Table VIII.7. *Multilevel Analyses Testing the Effect of the Intervention*

<b>Dependent variable</b>	<b>Predictor variable</b>	<b>B-value</b>	<b>SE</b>	<b>t-value</b>	<b>Δ -2LL</b>
Anger	(Intercept only)	1.81	.11	16.87	--
	Intervention	-.38	.21	-1.79	1339.221
Fear	(Intercept only)	1.85	.11	16.09	--
	Intervention	.10	.23	.41	1305.388
Disgust	(Intercept only)	1.80	.12	15.50	--
	Intervention	-.31	.23	-1.33	1387.517
Joy	(Intercept only)	2.71	.10	25.97	--
	Intervention	.29	.21	1.40	365.382
Sadness	(Intercept only)	2.24	.12	18.24	--
	Intervention	-.15	.25	-.60	453.693
Surprise	(Intercept only)	1.83	.09	20.22	--
	Intervention	.04	.18	.20	330.161
Hours of sleep	(Intercept only)	6.86	.10	71.65	--
	Intervention	-.05	.20	-.26	increase
Job-seeking behavior	(Intercept only)	.52	.04	11.72	--
	Intervention	-.00	.09	-.04	135.082

*Note.* In spite of the decrease in -2 Log Likelihood in most cases, *Intervention* was never a significant predictor.



## **IX. Discussion**

The present study's global aim was to examine emotions, mood, affect regulation, job-seeking behavior, social support, and (un)healthy behaviors within a sample of Spanish unemployed people over 55 years old. Furthermore, the effect of a relaxation intervention was tested.

### 19. Discussion of Results

Duration of unemployment was not related to daily emotions. Although several studies have reported different patterns of how unemployment duration influences well-being (del Pozo Iribarría et al., 2002; Feather, 1989; Hanisch, 1999; Kirchler, 1985; Paul & Moser, 2009), many studies have found negative symptoms increasing with unemployment duration (DeFrank & Ivancevich, 1986; del Pozo Iribarría et al., 2002; Langens & Mose, 2006; McKee-Ryan et al., 2005; Paul & Moser, 2009; Rowley & Feather, 1987; van Echtelt, 2010). The current results, however, are similar to another study performed in Spain, which did not find any influence of unemployment duration on mental health as measured by the GHQ-12 (Artazcoz et al., 2004).

The use of intrinsic affect regulation and the receipt of affect regulation was related to the participants' emotions according to expectations based on existing literature (Eisenberg et al., 2000; Gross, 1998; Parkinson et al., 1996). However, the use of affect regulation towards others was not related to the participants' own emotions. Some studies by Niven and colleagues (Niven et al., 2007; Niven et al., 2011; Niven et al., 2012) suggested otherwise, but the difference in findings might be due to the difference in sample (prisoners and guards, and students vs. older unemployed individuals) and setting (a prison/work environment, and a laboratory vs. the free outside world).

The design of the study allowed for job-seeking behavior to be both a dependent and independent variable. When participants positively regulated their emotions, they reported less job-seeking behavior. Similarly, when they reported higher levels of sadness, they reported more job-seeking behavior. The mediation analysis that was executed (although not tested for significance) also suggested that the participants that tried to worsen their emotions reported more sadness not only because of the negative emotion regulation, but also in part because they engaged in more job seeking. This was contrary to what was expected. However, a similar result was reported by Wanberg and colleagues, suggesting that some people engage more in job search when they are in a worse mood (Wanberg et al., 2010). On the other hand, when participants engaged more in job-seeking behavior, they reported higher levels of anger and sadness. This relation between job-seeking behavior and negative affect has been previously demonstrated (Feather & O'Brien, 1987; Feather, 1989; Song et al., 2009; Thomson, 1997; Wanberg et al., 2010). Additionally, the job seeking experience could have been made worse for the participants of the current study because of the lack of jobs available: only two participants dropped out during the course of the study because they found a job.

These findings imply that the participants had to worsen the way they feel in order to engage in job-seeking behavior, but engaging in job-seeking behavior only worsened their emotions. Also, overall levels of job-seeking behavior were low. Thus, the participants seemed stuck in a vicious circle of unemployment, with negative emotions as a key ingredient. A possible explanation is that the participants tried to find a solution for their negative emotions by trying to look for a job, subsequently failed because of the lack of suitable jobs, resulting in more negative emotions and sustaining their joblessness. This idea is visualized in Figure IX.1.

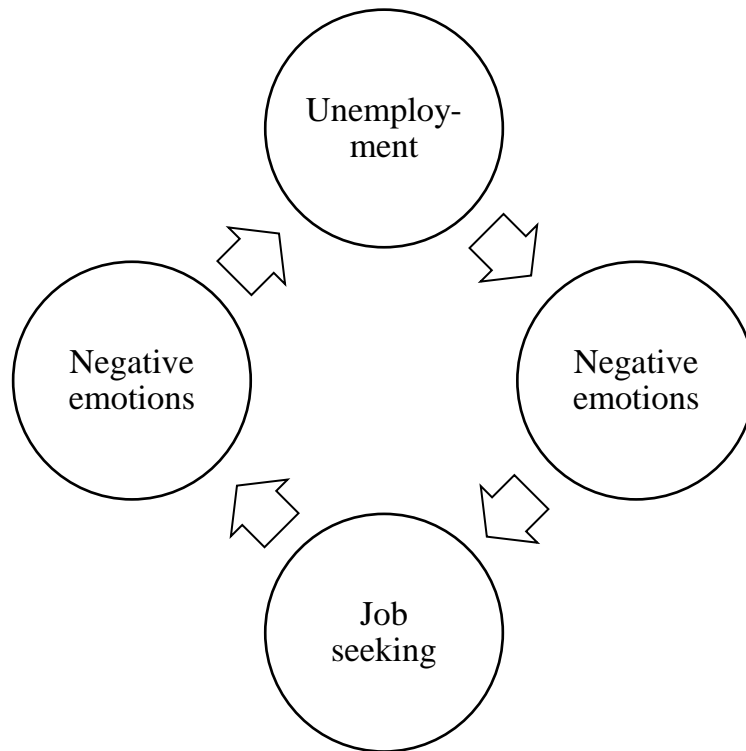


Figure IX.1. *Schematic interpretation of the current study's results*

In trying to get out of this cycle, avoidance of job search is a possible consequence. This is in line with the view of emotion as a feedback system (Baumeister et al., 2007): behavior (job seeking) leading to an unwanted feeling (negative affect), subsequently leading to changing the behavior in the future (no more job seeking). Considering the low levels of job-seeking behavior in the current sample, many participants may have had already “given up” on the search for a job. These results suggest the existence of discouraged workers; people available for and willing to work, but not actively looking for a job because they think they will not find one (Finegan, 1981).

This relation between job search and emotions and the issue of discouragement is especially dangerous for older unemployed individuals since they will not look for jobs in the near future either (when more jobs might be available), sustaining the high

levels of unemployment among older adults. In the words of Vinokur and Caplan (1987, p. 1021): “(...) when job openings do appear, persons who are demoralized (and who need jobs the most to counteract that demoralization) will be the least able to seek out these openings”.

Receiving social support was related to better mood, regardless of the type of social support. This finding confirms that social support is an important protective factor during unemployment. Exercise was also related to better mood, while no relation was found between alcohol consumption and use of tobacco, and mood. This suggests that social relations and exercise should be stimulated among the (older) unemployed. Alcohol and tobacco consumption were included as a dichotomized variable because of the overall low amounts of consumption reported. However, since the effect of alcohol and tobacco consumption on mood might change with the quantity of consumption, testing for amounts rather than incidence of consumption should be considered in future studies.

The relaxation intervention included in this study was not related to well-being. Neither was there a relation with hours of sleep, job-seeking behavior, nor daily emotions. Although participants were reminded every night to listen to the audio file, the compliance to the intervention could not be tested. Moreover, the participants were not asked for their opinion about the intervention, although dislike could have caused reluctance to take the intervention seriously. On a similar note, the lack of effect of the intervention could be due to the chosen intervention in particular (e.g., the relaxation exercise was not effective) or the type of intervention. Judging by the feedback that was given by the participants after the diary study, this specific group of people might have benefitted more from an unemployment-focused intervention like the JOBS program (Caplan et al., 1989; Wanberg, 2012).

Regarding two important shortcomings in the existing literature, the issue of individual pathways and the question of causality, the following can be said. First, in the current sample, no individual differences in well-being were found due to gender, marital status, self-esteem, and duration of unemployment. However, emotions, mood, social support, emotion regulation, and job-seeking behavior are all indicators of individual differences in the experience of unemployment within the current sample. Second, with the current data set, it was not possible to draw any conclusion on causality or the selection hypothesis. The sample consisted of people that were already unemployed when the study started, and no employed control group was available for comparison.

Concerning the sample, there is also the issue of sample representativeness. It is unclear whether the sample of the current study is comparable to the larger population of unemployed individuals in age of 55 years and over. Participants were recruited in the Madrid area only. Also, maybe a certain type of person volunteered for the study; there could have been differences between the people that did and did not volunteer in terms of self-esteem, well-being, personality characteristics, etcetera. Thus, the individuals that participated could have been unrepresentative for the larger population. Further shortcomings of the current study are discussed in §21.

The present study's findings can also be discussed in relation to some theories mentioned in chapter III. Whereas Jahoda's *Deprivation Model* (1981; 1982), Warr's *Vitamin Model* (1987), and Fryer's *Agency Theory* (1986) mostly consider *why* unemployment has negative consequences, Weiner's *Attribution Model of Achievement Motivation and Emotion* (1985), Seligman's *Learned Helplessness Theory* (1975, in Feather, 1989), and Feather's *Expectancy-Value Theory* (Feather, 1989; 1992) focus more on the *how* part.

The notion of discouraged workers fits within the *Attribution Model of Achievement Motivation and Emotion* (Weiner, 1985) and Seligman's *Learned Helplessness Theory* (1975, in Feather, 1989). When unemployed people think there are no jobs available (i.e., expectations for reemployment are low because unemployment is seen as a stable situation), they will not engage in job seeking. This also matches the *Expectancy-Value Theory* (Feather, 1989; 1992): if job seeking is not expected to have a positive outcome, the action of job seeking will not be performed.

The finding that social support and exercise were related to positive mood is consistent with Jahoda's concept of latent functions (1981; 1982) and Warr's *Vitamin Model* (1987), and to some extent with the *Social Zeitgeber Theory* (Grandin et al., 2006). The social support that the current study's participants received and the exercise they engaged in, can be seen as substitutes for the latent functions, 'vitamins', and Zeitgebers that come with employment, as proposed by the aforementioned theories. In other words, social support and exercise might be a good way of making up for the loss of some environmental features due to unemployment.

Overall it seems that the theories discussed in chapter III might be old but are definitely not outdated. They are still relevant in explaining the consequences of unemployment. Likewise, the concept of discouraged workers is also still applicable to today's unemployed people. On the other hand, the current study has given insight in a specific sample (unemployed older adults in Spain) not studied in depth before. Also, the study was performed during a unique time period, namely amidst an international economic crisis. The implications of the study and its limitations and strengths will be discussed next.

## **X. Conclusion**

The current study gives more insight in the emotions, mood, and job-seeking behavior of a very specific group, older unemployed adults in Spain, during a specific time period, when both Spain and many other countries were still suffering from the worldwide financial crisis started in 2007. Several conclusions can be drawn from the results of this study. First, daily emotions and general well-being were similar for all participants, regardless of the duration of their unemployment. Second, worse emotions lead to more job seeking, but more job seeking resulted in worse emotions. Third, social support and exercise improved mood. Fourth, muscle relaxation and breathing exercises did not benefit the participants in any way.

### 20. Implications

#### 20.1. Practical implications

Based on the current study's results, some recommendations for dealing with older unemployed people can be made. Given the complex relation between affect and job-seeking behavior, unemployment interventions should take into account the emotional consequences of unemployment. For example, the ability to regulate negative affect could encourage job-seeking behavior (cf. Creed et al., 2009). Some examples of ideas for interventions are emotion regulation training, courses on how to cope with unemployment, and emphasis on the emotional aspects of job-seeking behavior. Also, because of the positive effect of social support and exercise, their role in the lives of unemployed people should be emphasized. For example, the individual's social network could be included in interventions, and sports facilities can be made more accessible for those without a job. By means of the proposed interventions, unemployed people can improve their own well-being and possibly increase their chances for reemployment.

With better well-being, chances for reemployment will also be maintained when the economy recovers. Moreover, good mental and physical health reduces financial and social costs for individuals.

## 20.2. Implications for future research

Future research could replicate this study among other populations. The current study found that job seeking leads to negative affect, while negative affect leads to job seeking. This vicious circle of job seeking and negative affect is an interesting starting point for new research. Is this finding typical for times of economic downfall, or does the same pattern also occur during better times? The same can be examined for different age groups and across countries. Moreover, studies could focus on specific emotion regulation strategies in order to gain insight in which strategies are particularly effective (as also suggested by Larsen, 2000), so that interventions can be specifically aimed at those regulation strategies. Further, this study has proven the efficiency and usefulness of the use of smartphones in diary studies. Upcoming studies could apply a similar methodology. Because of the complexity of analyzing diary data, detailed attention should be given to the choice of analyses.

## 21. Limitations and Strengths

Some limitations of this study should be mentioned. First, some of the results should be interpreted with caution, since the variables regarding emotions were not normally distributed and could not be ‘improved’ using statistical transformations. Second, since the data were collected using multiple assessments per day, the data are likely to have serial dependency. However, the analyses trying to take this into account, failed. Third, although the sample size was relatively large for a diary study, data collection was performed among inhabitants of the Madrid region only. Additionally,



the voluntary participation in the study implies a selection bias, leaving out certain groups of people (for example, the ones that do not feel comfortable with a smartphone). Therefore, the results cannot be generalized to older unemployed Spaniards living elsewhere or older unemployed people in general. Fourth, the use of self-report in the data collection might have resulted in biased data, like answers influenced by social desirability or emotions. Finally, there was no employed control group. Therefore, we do not know whether participating in the study (having a smartphone available, being subscribed to an online job search system, etc.) changed the unemployment experience in such way that it biased the results. Also, no conclusions could be drawn in terms of causality or the selection hypothesis because the study was performed with an unemployed sample only. A longitudinal study with an initially employed sample would have been ideal; in this way, participants that would lose their job over the course of the study could have been compared to participants that stayed employed. This could have helped to answer the question whether unemployment leads to psychological ill-health (causality) or whether individuals with worse mental health are more likely to lose their job (selection hypothesis).

One of the strengths of this study is that data collection was carried out in real time, reducing retrospective bias and resulting in more accurate analyses results. Further, everyone participated completely voluntarily in the diary study, which led to high motivation and a low number of dropouts. Also, to the author's knowledge, this is the first study to examine older unemployed individuals in Spain.



## APPENDIX I: Morning Questionnaire

Note: questions stated in **bold** were presented to all participants; questions stated in *italics* were presented only when a previous answer lead to this particular question.

**How many hours did you sleep last night? Please indicate the number of hours.**

**Do you feel like you have slept enough?**

- Yes
- No

**Please indicate to what extent you are experiencing the following moods at this moment: (1 = very slightly or not at all; 5 = extremely)**

Upset	1	2	3	4	5
Hostile	1	2	3	4	5
Alert	1	2	3	4	5
Ashamed	1	2	3	4	5
Inspired	1	2	3	4	5
Nervous	1	2	3	4	5
Determined	1	2	3	4	5
Attentive	1	2	3	4	5
Afraid	1	2	3	4	5
Active	1	2	3	4	5

## APPENDIX II: Afternoon Questionnaire

Note: questions stated in **bold** were presented to all participants; questions stated in *italics* were presented only when a previous answer lead to this particular question.

**To what extent have you experienced the following emotions during the past three hours? (1 = very slightly or not at all; 5 = extremely)**

Anger	1	2	3	4	5
Fear	1	2	3	4	5
Disgust	1	2	3	4	5
Joy	1	2	3	4	5
Sadness	1	2	3	4	5
Surprise	1	2	3	4	5

**What made you feel this way?**

- Another person
- Something related to my unemployment
- Something else
- Nothing particular

*Who made you feel this way?*

- My partner
- My child(ren)
- One or more other family members
- One or more friends

- One or more acquaintances
- One or more strangers

*What did this person do to make you feel this way?*

- He/she gave me helpful advice
- He/she told me about my shortcomings
- He/she did something nice with me
- He/she acted annoyed towards me
- He/she explained to me how I had hurt him/her or others
- He/she discussed my positive characteristics
- He/she was unkind to me
- He/she reproached me for my behavior
- He/she made me laugh
- He/she listened to my problems
- He/she ignored me
- He/she spent time with me

*Did you try to change the way this person felt?*

- Yes, I did something to make him/her feel better
- Yes, I did something to make him/her feel worse
- No

*What did you do to make this person feel better?*

- I gave him/her helpful advice
- I did something nice with him/her
- I discussed his/her positive characteristics

- I made him/her laugh
- I listened to his/her problems
- I spent time with him/her

*What did you do to make this person feel worse?*

- I told him/her about his/her shortcomings
- I was unkind to him/her
- I reproached him/her for his/her behavior
- I ignored him/her
- I acted annoyed towards him/her
- I explained to him/her how he/she had hurt me or others

**Did you try to change the way you felt in the past three hours?**

- Yes, I did something to make me feel better
- Yes, I did something to make me feel worse
- No

*What did you do to make yourself feel better?*

- I thought about my positive characteristics
- I laughed
- I did something I enjoy
- I sought support from others
- I thought about something nice
- I thought of positive aspects of my situation

*What did you do to make yourself feel worse?*

- I started an argument with someone
- I expressed cynicism
- I thought about my shortcomings
- I thought about negative experiences
- I listened to sad music
- I looked for problems in my current situation

**Which of the following activities have you done during the past hours?**

- Register at an employment agency
- Attend a job interview
- Respond to a job offer
- Send your curriculum to a company, even though they have not got any vacancies
- Ask family members, friends, and/or other contacts about job possibilities
- Search for job offers (on the internet, in a newspaper)
- Ask for job possibilities at work places (construction sites, companies, etc.)
- None of the above

### APPENDIX III: Evening Questionnaire

Note: questions stated in **bold** were presented to all participants; questions stated in *italics* were presented only when a previous answer lead to this particular question.

**Please indicate to what extent you are experiencing the following moods at this moment (1 = very slightly or not at all; 5 = extremely):**

Upset	1	2	3	4	5
Hostile	1	2	3	4	5
Alert	1	2	3	4	5
Ashamed	1	2	3	4	5
Inspired	1	2	3	4	5
Nervous	1	2	3	4	5
Determined	1	2	3	4	5
Attentive	1	2	3	4	5
Afraid	1	2	3	4	5
Active	1	2	3	4	5

**Have you received support from someone?**

- Yes, material support (money, food, clothing, etc.)
- Yes, emotional support (for example, comforting)
- Yes, cognitive support (information, advice, etc.)
- No



*Did this support make you feel better?*

- Yes
- No

**Have you smoked tobacco today?**

- Yes
- No

**Have you drunk alcohol today?**

- Yes
- No

**Have you consumed any drug today?**

- Yes
- No

*What did you consume? Please indicate the type of drug and the quantity.*

**Have you done any sports or exercise today?**

- Yes
- No

**Which of the following activities have you done today?**

- I have had breakfast (with for example toast, cereal, yoghurt, juice, etc.)
- I have drunk 4 or more cups of coffee
- I have eaten vegetables
- I have drunk at least 1.5 liters of water

- I have eaten fresh fruit
- I have eaten snacks between meals
- I have drunk 3 or more soft drinks
- None of the above

**On a scale from 1 to 5, how healthily do you think you have eaten today?**

Very healthily      1      2      3      4      5      Very unhealthy





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