



UHASSELT

KNOWLEDGE IN ACTION

Faculty of Business Economics

Master of Management

Master's thesis

Organisational change and stress

Sara Gaeini

Thesis presented in fulfillment of the requirements for the degree of Master of Management, specialization Business
Process Management

SUPERVISOR :

Prof. dr. Mark VANCAUTEREN

MENTOR :

De heer Robin CLERCKX



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Abstract

Over the last three decades, the market has become more competitive and businesses need to adjust their resources based on the market demand in a short period. The needed flexibility for labour resources could be achieved through temporary employment. On the other hand, such employment with its specific characteristics, such as fixed termination date, limited employer protection and low training opportunities, does not appeal to employees. Thus, it is plausible that this unwillingness impacts employees in several aspects. This present study discusses the influence of temporary employment on employees' health conditions and well-being. The data from the sixth edition of the European Working Conditions Survey was used and analyzed by SPSS software to investigate the information collected from 44,000 employees in 35 European countries. The findings of this study revealed that temporary contracts increase job insecurity in workers, and such insecurity causes stress and anxiety in employees. Nevertheless, our results did not confirm that temporary employees have worse well-being compared to others. Such findings support the idea that individual background and specific job characteristics have a higher impact on employees' well-being than employment type. This can facilitate future research on job attributes to improve employees' general health conditions and, consequently, their productivity level.

Key Words: Temporary employment, Employees, Health, Well-being, Job insecurity

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1. Introduction

Over the past decades, working conditions changed in multiple ways, from industrial and global points to technological and contract types (Hcoel et al., 2001; Lee et al., 2014; Park & Lee, 2009). One of the changes that gained much attention is the growth in the number of temporary employment. Employers offer a job opportunity for a particular period by using such contracts (ILO, 2022). With the help of temporary employees, organizations could handle unexpected fluctuations in market demands and temporary absence of their workers (Devicienti et al., 2018). Besides, using temporary employment could save a considerable amount of money for the organization, as such contracts do not include standard benefits for employees (Connelly & Gallagher, 2006).

The increase in usage of temporary employment is based on the employers' request to have flexibility and low costs (De Cuyper et al., 2008). However, temporary employment usually is not the preferred choice for people seeking a job in the market. Therefore, due to unwillingness to work with such a contract and the characteristics of temporary employment itself, such type of employment may influence workers in multiple aspects. For instance, since temporary employees work in an organization for a short period, they might put minimum effort into learning firm-related skills, which results in poor job performance (Lisi & Malo, 2017). Furthermore, temporary workers mostly desire to get a permanent contract, so they frequently accept unfavourable work schedules, even though such conditions destabilize their work-life balance (Lass & Wooden, 2017).

Workers with temporary contracts have low control over their tasks, low support from their employers and colleagues, and the lowest possible training opportunities (De Cuyper et al., 2008). These specific characteristics of temporary employment cause job insecurity in employees (P. Virtanen et al., 2011). High levels of insecurity in employees are associated with less job satisfaction, productivity losses, and emotional responses such as anger and anxiety (Jiang & Lavaysse, 2018). Besides, employees who experience job insecurity report more health issues compared to other workers (Ganson et al., 2021). Most of these health problems are related to mental health (Burgard et al., 2012); however, in some cases, physical illnesses are also reported (Caroli & Godard, 2016).

Physical and mental health problems amongst employees generate a considerable loss for employers and society. This loss could be as big as three per cent of the Gross National Product (GNP) of a country like the Netherlands (Koningsveld et al., 2003). Sick leaves, doctor examination, and use of medication are considered to be monetary parts of such loss (Bawab et al., 2015), with productivity losses responsible for the other portion of this loss (Miller, 2016). Employees' productivity is positively affected by their health conditions.

1.1 Problem Statement

Nowadays, the market has become very competitive in almost all industries. Hence, organizations need a particular amount of flexibility to be able to perform and survive in such a market. Temporary employment offers flexibility to a certain degree (Eurofound, 2017). As a result, hiring workers for a specific period increased from the employers' side. The advantages that temporary employment brings to a firm are undeniable. However, such contracts influence employees' attitudes, behaviour, and well-being (De Cuyper et al., 2008). The reason for such a

statement is that temporary employees experience more job insecurity and stress compared to permanent workers (Pirani & Salvini, 2015). Not having a clear perspective of the future causes employees' health issues and increases the probability of suffering from an illness (Sidhu et al., 2020).

Some of the literature highlighted that temporary employment deteriorates general health conditions and well-being (Dawson et al., 2017; Sato et al., 2018; M. Virtanen et al., 2005); others found otherwise (Bartoll et al., 2019; LaMontagne et al., 2014). It is not yet known clearly whether temporary employment has a negative effect on health conditions. More knowledge about workers' health and employment characteristics that affect their well-being could prevent productivity and financial losses. Thus, this need for knowledge warrants more research on this topic. Therefore, this thesis aims to dig into the impact of the temporary contract on health conditions.

1.2 Research Question

In this research, we are aiming to find the answer to the following question: Does temporary employment predict the employees' health conditions?

The sub-questions are:

- Does employment under a temporary contract induce job insecurity in workers?
- Is experiencing job insecurity deteriorating the general health of employees?
- Do temporary employees experience worse well-being compared to permanent workers?

2. Literature Review

In the first section of this study, an overview of the relevant literature is given in five separate parts. First, it starts with the fundamental knowledge of scholars about temporary employment and the perception of employers and employees toward such employment. The second part continues with a brief review of the job insecurity, what it could cause at work and individual level, and lastly, how employees respond to such feelings. Thirdly, an important model (JD-R model) in the literature is explained as well as its relevance to temporary employment. In the fourth part of this section, a short definition of employees' health and the losses incurred in its absence is primarily discussed. This is followed by an elaboration of health issues related to work. Lastly, the relationships between job insecurity, employees' health conditions, and temporary employment are reviewed, and the hypotheses are formulated.

2.1 Temporary Employment

2.1.1 Definition of Temporary Employment

Temporary employment is defined as a contract that has "a predetermined termination date," according to the Organization for Economic Co-operation and Development (OECD, 2022b). In other words, when workers engage only for a particular period of time, they are considered to have temporary employment (ILO, 2022). Such employment includes fixed-term, project-based, task-based, and seasonal contracts. Based on a detailed literature review on temporary employment definition, De Cuyper et al. (2008) described temporary employment as "dependent employment of limited duration." Furthermore, they claimed such employment has three main differences from standard employment relationships (SER). First, one of the attributes of SER is continuity, whereas temporary employment has a fixed termination date. Second, employees work under the supervision of their employer in SER. However, the market takes the lead of some temporary employees. Finally, working under SER brings broad advantages and entitlements, unlike temporary employment (De Cuyper et al., 2008).

Apart from the definition, terms used to describe such employment may vary depending on the country. Contingent employment refers to temporary employment in U.S. and Canadian literature (Connelly & Gallagher, 2006). They consider an employment contingent, as it has two characteristics: 1- Short-term period of work 2- No specific minimum hours. Contingent employment arranges through three common forms: firstly, such contracts may be arranged through temporary staffing agencies. This method is suitable for organizations that occasionally need temporary workers. Secondly, several organizations have a specific contingent contract with an employee as a "reserve workforce." Such employees are hired directly by the organization itself. Lastly, certain businesses might work together with freelance workers or independent contractors. In this manner, the organization contacts an individual for a project. Once the project has been ended, the contract is also terminated.

In addition, casual employment is the best corresponding term for temporary employment in Australia and New Zealand (Burgess et al., 2005). Such employment is distinguished as the primary form of non-permanent employment. Workers with casual employment are engaged with the job for a short period. Consequently, some labour standard benefits are not available for these workers, such as holidays and sick leaves. Moreover, they receive less wage compared to permanent

employees. Even the pay is below the minimum wage in some cases. Casual workers are employees who are used "when required," and they do not experience protection against unfair removal (Campbell & Burgess, 2001). Although casual employment is not hundred per cent the same as temporary employment, they share specific main characteristics. Such characteristics are having a predetermined end date of the contract and distinguishing as a big split of non-permanent employment.

After all, non-permanent, fixed-term, and temporary employment are used interchangeably in European literature (De Cuyper et al., 2017). Non-permanent employment tends to be used to refer to "not open-ended contracts" (Tregaskis, 1997). It could involve seasonal, temporary, and fixed-term contracts. There is a slight difference between these types of employment: a seasonal contract is limited to a specific time in a year when the demand for human resources in one sector is more than the rest of the year. A temporary contract is a valid agreement for an uncertain but finite period. Lastly, fixed-term contract is continued for a specified time. Yet these words are exchangeable in literature, as they all share flexibility. This flexibility is described as employers' "desire for labour input" to fill the gap between current resources and needed ones (Eurofound, 2017). A highlighted characteristic of flexible employment is that temporary workers have non-standard employment relationships with their employers (De Cuyper et al., 2019). Besides, their connection with the organization is relatively weak compared to permanent employees.

2.1.2 Temporary employment: The employer's perspective

Since the 1980s, there has been a rapid rise in temporary employment by employers and society (De Cuyper et al., 2008). There were several reasons for such a change. This type of employment provides a considerable amount of flexibility to the organization. For an organization to be successful, it is important to adjust its resources based on its demands (Tregaskis, 1997). Employers could fulfil the short-term need for labour with the help of temporary employment and adjust against temporal demand fluctuations. For instance, one of the greatest challenges in the tourism sector is effective resource allocation (Sangwon Park et al., 2016). In particular seasons the labour demand in this industry increases. Employment flexibility could be suited for such employers. In this approach, firms can run more efficient and flexible operations in addition to minimizing their permanent workforce (Connelly & Gallagher, 2006).

Changing from permanent to temporary employment can also reduce labour costs for an organization (Connelly & Gallagher, 2006; De Cuyper et al., 2008; Tregaskis, 1997). While non-permanent employees have a lower wage compared to permanent ones, this is not the main motive for employers for this change. The appealing financial advantage of temporary employment in certain countries, such as Australia, is that such a contract does not contain plenty of standard labour benefits. Employers are not obligated to offer their temporary workers pension or sick leave. Moreover, putting an end to temporary employment requires less money compared to permanent employment. Temporary employment could be a solution to challenging situations. Firstly, when a firm has a high demand for a specific period of time. In this state, they can use temporary employment without considering termination costs. Secondly, when an organization requires skilled

workers occasionally. The pay of workers with special skills is high. Thus, having a temporary contract with them could save firms a worthwhile amount of money.

Additionally, temporary employment is introduced as a solution for unemployment in plenty of countries. As a result of the global economic crisis in the E.U., the percentage of unemployed citizens increased between the years 2010 and 2013 by 1.2 per cent (Meškienė & Tamošiūnas, 2020). However, from 2014 using temporary employment boosts, and the percentage of unemployment started to fall. At the end of the year 2018, with only a 0.2 per cent growth in temporary employment, unemployment declined by 3.4 per cent compared to 2014. They believe that residents could find a job at a faster rate with the help of non-permanent employment. Likewise, Gerfin et al. (2005) claimed that temporary employment is a successful approach to bringing back the unemployed to work. In most cases, the income from temporary employment is higher than unemployment benefits. Therefore, such employment has a financial inspiration for unemployed residents.

Overall, temporary employment gives employers and society a wide variety of opportunities. It starts by bringing flexibility to human resources in this ever-changing environment. It is continued with the employers' wish to bring down their workforce costs. Lastly, this employment could be the key to this constant try to eliminate unemployment.

2.1.3 Temporary employment: The employee's perspective

In the previous section, we summarized the possible reasons for the growth of temporary employment. In the following, we will focus on the effects of such employment on employees. Generally, temporary employment can have positive and negative aspects, and such employment could have an impact on workers' daily experiences as well as longer-term effects (Dawson et al., 2017). For instance, a certain number of workers choose temporary jobs to have a flexible daily calendar. However, poor working conditions linked with temporary employment, such as insecurity, can cause health issues in workers with these contracts. What follows explains some of these effects in detail.

2.1.3.1 Temporary Employment and Job Satisfaction

Job satisfaction is a complex concept; thus, there is no common definition for it in the literature. However, one of the general definitions of job satisfaction is described it as a positive feeling that employees experience when their expectations are matched with the actual outcome of the job (Jalagat, 2016). Such feelings arise from their success on the job, their expectations, and their role in the workplace. A growing body of literature has studied the relationship between temporary employment and job satisfaction. Nearly all of these studies discovered a negative relationship between this pair (Chadi & Hetschko, 2013; Dawson et al., 2017; de Graaf-Zijl, 2012; De Witte & Näswall, 2003). Special characteristics of temporary employment, such as short-term duration and hard working conditions, are assumed to have a negative impact on job satisfaction.

Chadi & Hetschko (2013) believe that the duration of the contract could have a negative impact on job satisfaction. Due to the limitation of time, neither temporary nor permanent workers are willing to put in the effort to build a good bond with each other. Hence, as a result of working in an undesirable working atmosphere, the temporary workers experience less job satisfaction. Similarly, De Witte & Näswall (2003) argued that temporary employees are not considered "part of the corporate family" by permanent workers and employers. Moreover, they highlighted unfavourable working conditions and low levels of income as probable causes for less job satisfaction among temporary workers. Another study underlined that temporary contracts affect job satisfaction indirectly through worse work quality of such employment (Aleksynska, 2018). They believed that employers assign risky or unpleasant tasks to temporary employees. Additionally, temporary workers stay for longer hours or unpaid overtime hours to increase their chance of getting permanent employment. It is also mentioned that such workers typically do not receive any training for their job. The claims summarized in this subsection lead us to include that temporary employment negatively affects job satisfaction.

However, there exist a few studies that did not agree with the previously mentioned findings. A small number of studies found no significant differences between job satisfaction in temporary and permanent employment (Krausz & Stainvartz, 2017). In addition to those studies, a few researchers observed a higher job satisfaction among temporary employees than among permanent ones (Caballer et al., 2017).

2.1.3.2 Temporary Employment and Labor Productivity

The generally accepted use of the term productivity refers to the ratio of an "output value" to the "input value" utilized to generate output (Hamza et al., 2019). This productivity for workers as an input is measured through work produced by employees during their working hours. Referred to as "Labour productivity," it is considered a measure to capture the effectiveness of an organization. Thus, understanding determinates that affect employees' productivity can assure companies' success. Many studies on the relationship between temporary employment, as one determinate, and labour productivity have been carried out. Most papers found a negative impact of temporary employment on labour productivity (Cappellari et al., 2012; Damiani et al., 2016; Kalleberg, 2000; Kleinknecht et al., 2014; Lisi & Malo, 2017).

Kalleberg (2000) pointed out that temporary employees work for a short period; consequently, they have less time to properly learn their new tasks. Besides, from the employer's point of view, offering pieces of training for temporary workers is a waste of money and time. As a result, the author believed that job quality and productivity are lower for temporary employees compared to other workers. Comparably, Damiani et al. (2016) highlighted that firms do not invest in work-related training when they offer short-term employment to a worker. The employers are not willing to upgrade temporary workers' skills and prefer to put such effort into stable employees. Apart from employers, temporary workers are likewise seeking to improve general skills as a replacement for "firm-specific" skills (Lisi & Malo, 2017). Moreover, they argued that a long-lasting relationship between employees and employers generates extra labour productivity. As temporary

employment has a brief period, such a connection is not going to occur. Therefore, it might be true that temporary workers have lower productivity compared to those with an open-ended contract.

Nevertheless, a few contrary findings exist in the literature. Cirillo & Ricci (2020) claimed that the general relationship between temporary employment and labour productivity varies depending on firm size. Only organizations with less than 50 employees, small firms, will lose some labour productivity. Additionally, De Cuyper & De Witte (2005) came to the conclusion that there is no significant difference in the productivity of temporary and permanent employees.

2.1.3.3 Temporary Employment and Organizational Commitment

The term organizational commitment was used by Mathieu & Zajac (1990, P.171) to refer to "a bond or linking of the individual to the organization." Employees with high organizational commitment show a higher degree of job satisfaction and involve more in activities that bring competitive advantages to an organization (Felfe et al., 2008). The relationship between temporary employment and organizational commitment has been frequently examined. The general belief is that temporary employees have less organizational commitment than other workers (Claes et al., 2002; Cooper et al., 2016; Felfe et al., 2008; Krausz & Stainvartz, 2017; Vries, 2018). They listed several reasons for low organizational commitment in temporary employees.

A reason that Cooper et al. (2016) provided for their conclusion regarding the negative relationship between employment duration and organizational commitment is that they believed that temporary workers are much more focused on their own profession and job rather than the organization's goal. Accordingly, they have a significantly lower commitment to the organization in comparison with permanent workers. Vries (2018) noted that due to the short duration of temporary workers' contracts, they feel an unstable and temporary relationship with their organization. Therefore, they do not see any reason to be committed to the organization. However, permanent employees, by having a long-term relationship with their employers, show the exact opposite and have a higher level of commitment towards the organization. Additionally, Felfe et al. (2008) maintained that entering temporary employment is, most of the time, not workers' choice. The reason for this statement is that such employment does not offer many benefits to workers. Employees chose temporary employment when no other alternative was left for them. Thus, temporary employees show less commitment compared to permanent workers.

Yet, like other findings in the literature, some disagreement could be found in a few research papers. De Witte & Näswall (2003) highlighted that such relationships could be inconclusive in different nations. In Belgium, Italy, and Sweden, they found no significant differences in organizational commitment between temporary and permanent employment. However, their sample in the Netherlands showed a higher organizational commitment among temporary employees than permanent ones.

2.1.3.4 Temporary Employment and Work-Life Balance

Various definitions have been used for work-life balance in literature. Throughout this part, we will use the term work-life balance to refer to: participating enough in work and non-work positions until the pleasure achieved from both lives are equal (Sirgy & Lee, 2018). Based on the same study, workers who have a good work-life balance are the ones that have the least conflict between work and leisure. In the literature, there are several examples of studies on the influence of employment type on work-life balance (Lass & Wooden, 2017; Laß & Wooden, 2019; Sliter & Boyd, 2014). A vast amount of these studies found a negative relationship between temporary contracts and work-life balance.

Underhill (2005) highlighted in his study that control over working hours might help workers to have a better work-life balance. One of the obvious characteristics of temporary employment is uncertainty about the worker's schedule. He believed day-to-day planning and short notice cancellation of temporary employees' working hours decrease the work-life balance of such workers. In addition to that, not having paid leave for temporary workers is not favourable. Consequently, workers have less time to share with their families compared to permanent employees, which deteriorates their work-life balance. Comparably, Lass & Wooden (2017) found that as temporary employees wish to switch their contracts to permanent ones, they accept additional hours more likely. Having no regular schedule and long working hours has been shown to have a destructive effect on work-life balance (Pichler, 2009; Russell et al., 2009). Moreover, Sliter & Boyd (2014) claimed that due to lower income in families with temporary employment, they might not spend money on obtaining some services such as child care. As a result, such workers have less time for their own hobbies and pleasure.

However, in a much more recent study in Australia, Laß & Wooden (2019) found a negative relationship between temporary employment and work-life balance only for men. They believed that due to the Australian culture, men are the main responsible providers in families. Consequently, income uncertainty threatens their position and capability and results in a high level of work-life conflict. On the other hand, women as secondary earners can enjoy a mixture of housework and flexible employment. Thus women with this opportunity can achieve perfect work-life balance.

2.2 Job Insecurity

2.2.1 Job Insecurity Definition and Outcomes

Working conditions are currently more complex and diverse. This complication is the outcome of industrial development, the globalization of the economy, the use of technology, and changes in work contracts (Lee et al., 2014; J. Park & Lee, 2009; Sparks et al., 2001). Moreover, increasing the number of female workers, educated employees, and a growing number of older workers cause diversity in the modern labour market (J. Park & Lee, 2009; Sparks et al., 2001). This transformation in the history of work increased job insecurity in workers (Tomlinson, 2016; Wang et al., 2014).

Several authors have attempted to define job insecurity. In this study, the standard meaning of job insecurity will be used: "a perceived threat to the continuity and stability of employment as it

is currently experienced" (Shoss, 2017, P. 1914). In other words, when employees feel that they might be at risk of losing their job in the future, they have job insecurity. This definition drew our attention to the characteristics of job insecurity (Shoss, 2017). Firstly, experiencing job insecurity is a subjective feeling. That means two workers with a similar situation might go through distinct levels of job insecurity. Secondly, the other characteristic of job insecurity is its focus on some point in the future of workers' careers. Thus, it is important to take into consideration that job insecurity is how people recognize and react to potential job uncertainty. Finally, the threat that workers experience is related to the continuity and stability of their present employment. That is to say, job insecurity is not the workers' feeling about their ability to obtain a further job, and it is related to the loss of their current employment.

Jiang & Lavaysse (2018) believed that stable employment is valued by employees not only to achieve work-related purposes but also for fulfilling non-work concerns. Thus, experiencing job insecurity is associated with a wide variety of negative work-related and individual outcomes.

Work-related Outcomes: One of the first results of job insecurity in this category is job satisfaction (Jiang & Lavaysse, 2018). The authors believed that job insecurity has a negative impact on job satisfaction. Working while experiencing job insecurity might deteriorate employees' satisfaction with their tasks, wages, colleagues, and supervisor. Besides, job insecurity affects the relationship between employees and their organizations. Consequently, workers with job insecurity might be less committed to the organization compared to other employees. Moreover, emotional exhaustion and burnout are reported more frequently in insecure workers rather others. Additionally, it is expected that workers with insecure jobs redirect their energy and effort toward searching for new job opportunities. Therefore, we can see more absenteeism and presenteeism in such employees in comparison with others. In general, they highlighted that different job attitudes might be adversely affected by job insecurity.

Individual Outcomes: At the individual level, similar to the work-related one, job insecurity has a huge negative impact on life satisfaction (Jiang & Lavaysse, 2018). They maintained that unfavourable conditions at work, such as insecurity, decrease life satisfaction and increase work-family conflicts. As job insecurity concerns a threat to the economic situation and stability of the family, it has a positive relationship with work-family conflicts. In addition, job insecurity might bring negative emotional responses in workers: anger, anxiety, and even depression rise in times of job insecurity. Thus, they claimed workers with job insecurity have generally worse health conditions compared to other employees. Overall, job insecurity might have a negative influence on different pieces of workers' life.

2.2.2 Employees' Response Mechanisms to Job Insecurity

Moreover, various studies have addressed the possible reactions that employees have when they face job insecurity. Such reactions also raised some negative outcomes. Shoss (2017) divided such reactions into four different mechanisms and their outcomes, which we are going to elaborate it in the following.

Stress-Related Mechanisms: One of the first reactions that might workers show in facing job insecurity is stress. Due to specific characteristics of job insecurity, it is considered to be a stressor. Firstly, insecure jobs threaten employees' identity, wages, and social status. Secondly, uncertainty itself results in stress, and job insecurity is based on uncertainty about the future. Finally, workers' demand for autonomy and competence is violated by job insecurity. The author believed that job insecurity is a huge threat to the intention and gains of working. Thus it ended in a variety of negative outcomes. Stress-related mechanisms might affect creativity, job performance, and workers' well-being in a negative way.

Social Exchange-Related Mechanisms: This mechanism is based on the relationship between employees and employers. This relationship is based on employees exchanging their loyalty and commitment for achieving security and benefits from their employers (De Cuyper & De Witte, 2006). Consequently, job insecurity influences this relationship, and employees respond to it with fewer contributions to the organization.

Job Preservation Motivation: The odd reaction to job insecurity is that workers put much more effort into the job compared to the past. Shoss (2017) claimed that employees might dedicate extra effort to keep their job when they feel insecure in their job. These workers started to perform such behaviours that are valued by employers. They wish to be noticed by organizations as a worthy and ideal employee, and as a result, they can prevent their job loss. In this study, it is highlighted that such a mechanism results in presenteeism. Besides, workers might compete with their co-workers in unacceptable methods.

Proactive Coping: The extreme opposite reaction to job preservation is proactive coping. In this process, workers try to handle job loss in advance, even though it is not yet happened. It is expected that employees with job insecurity start to look for a job and save money.

The relationship between contract types and job insecurity has been frequently investigated in the past. A considerable number of researchers found that temporary employment results in job insecurity (Anderson & Pontusson, 2007; Balz, 2017; Pirani & Salvini, 2015; P. Virtanen et al., 2011). Temporary employment has specific characteristics which bring a sense of insecurity to employees (P. Virtanen et al., 2011).

2.3 Job Demands-Resources Model and Temporary Employment

2.3.1 Elaboration of Job Demands-Resources Model

The Job Demands-Resources (JD-R) model was published nearly 20 years ago for the first time (Demerouti et al., 2001). This model demonstrated how job characteristics could influence the employees' job performance. As a result, it has been applied in a considerable amount of organizations and referred to by numerous empirical studies. Indeed, the JD-R model is the most used framework to analyze the impact of work environment and conditions on employees' well-being and mental health (Bakker & Demerouti, 2017). The very first JD-R model categorized working conditions into two broad sets: job demands and job resources (Demerouti et al., 2001). Such

categories are claimed to be associated with specific outcomes, such as work-related stress and burnout.

The terms job demands and job resources in the JD-R model are described by Demerouti et al. (2001). They defined job demands as physical, social, and organizational aspects of a job with certain requirements, such as physical and mental effort (E.G., work pressure and emotional demand). Secondly, job resources are described as work aspects that support employees in achieving their work goals and personal growth (E.G., job control and opportunities for growth). In the same study, they mentioned a high level of exhaustion in employees as one of the consequences of unfavorable job demands. Moreover, they highlighted that workers who do not get sufficient job resources would be disengaged from their work. Based on such findings and their further studies (Bakker et al., 2003; Demerouti et al., 2004), they came to the conclusion that job demands have a positive influence on health problems and job resources have a positive relationship with the motivational process. As can be seen in Figure 1, Bakker & Demerouti (2017) proved in the JD-R model that motivation has a positive influence on job performance, while job strain is associated negatively with job performance.

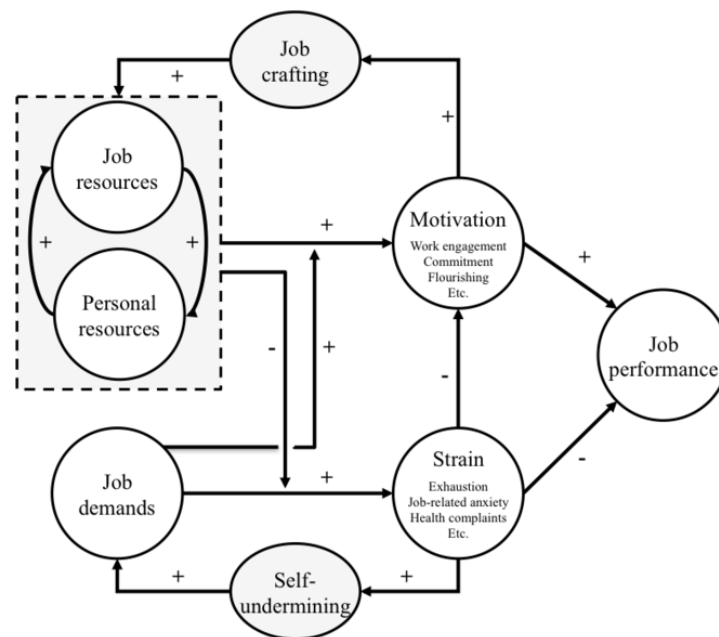


Figure 1. The Job demands-resources model (Bakker & Demerouti, 2017).

This model matured during the past two decades. In recent years it has been proposed that personal resources could also perform in the model similar to job resources (Bakker & Demerouti, 2017). Personal resources are defined as the level of control that workers have over their environment. Examples of personal resources are optimism and self-efficacy. Employees with such resources believe that all good events will happen, and if any unforeseen events happen, they are able to handle them. Personal resources not only have a positive effect on job resources but also they are positively related to work engagement.

In another study, Tims et al. (2012) claimed that in some cases, employees are proactively willing to change their job demands and resources. For instance, they ask for help in the organization, or they try to learn new skills. They refer to it as *job crafting*. In JD-R theory, it is shown that motivated workers show job crafting more frequently than others, which results in high levels of job and personal resources (Bakker & Demerouti, 2017).

Furthermore, studies found that employees with job strains create more job demands over a long period (Bakker & Costa, 2014; Demerouti et al., 2004). Basically, employees who experience a high level of job strain behave in such a manner that results in obstacles to their performance. In this study, they refer to this behavior as *self-undermining*. For instance, the job demands increase due to more errors and more miscommunication of such employees among their colleagues. This relationship is shown in Figure 1.

2.3.2 Relevance of JD-R Model to Temporary Contracts

Consistent with the JD-R model, job resources and demands could be related to employment types. Temporary employment with its special attributes could affect the two main categories of job characteristics in the JD-R model. Hence, the outcomes of temporary employment could be predicted through this model.

Temporary workers have a lower level of autonomy and job control in their job compared to permanent workers (De Cuyper et al., 2008; Samuelsson et al., 2012). Their tasks and the method to make the job done are often dictated to them by employers. Thus, such employees seem to have no impact on workplace choices and the design of their tasks. Moreover, normally, employers do not support their temporary workers properly (De Cuyper et al., 2008). Organizations invest time and money in workers who are going to work for a long period. Therefore, they do not allocate such investments for temporary workers. Even workers with temporary contracts do not receive support from their other co-workers (Byoung-Hoon & Frenkel, 2004). Additionally, temporary workers are less likely to enter and participate in the union due to the lack of information about the organization. All such unfavourable conditions are considered to be reduced job resources or increased job demands based on the JD-R model (Bakker et al., 2005; Demerouti et al., 2001).

Furthermore, temporary workers are mostly assigned to work with a high level of physical workload and unpleasant tasks (Aleksynska, 2018; De Cuyper et al., 2008). Tasks that permanent workers are not willing to perform are the main duties of temporary employees. As they are willing to impress their employers and receive a permanent contract, they put much effort into doing uncomfortable jobs. Besides, the night shifts and shifts with long hours are frequently given to workers with temporary contracts (Isaksson et al., 2002; Lass & Wooden, 2017). These work schedules are accepted by temporary workers as well in order to transform into permanent employees. These work characteristics of temporary employment are in the job demands category in the JD-R model (Bakker et al., 2005; Demerouti et al., 2001).

As mentioned, temporary employment comes along with low job resources and high job demands. Following the JD-R model in Figure 1, it is predicted that the characteristics of temporary contracts influence motivation negatively and strain positively. This means temporary workers might have less work engagement and organizational commitment than other employees due to a lack of

motivation (Bakker & Demerouti, 2017). Additionally, they show more exhaustion, job-related anxiety, and health complaints compared to permanent ones as a result of high strain. Finally, while they experience a high level of strain and have lower motivation, their performance is believed to have a low quality (Bakker & Demerouti, 2017).

Moreover, based on a cross-sectional survey of employed Dutch citizens, De Jonge et al. (2000) stated that health complaints and emotional exhaustion are higher in workers with high job demand and low job control. This study highlighted that inequality between employees' efforts and rewards raises ill-health among workers. However, it has now been shown that the effect of job control on stress changes in different cultures (S. Kim et al., 2020). In their study, they compared the influence of job control in two countries: the U.S. and Korea. They believed that due to the hierarchical culture in Korea, there is a negative relationship between job control and stress. Contrary, they found no significant link between stress and job control in the U.S. sample.

2.4 Employees' Health

2.4.1 Health definition and its consequences

According to the OECD, each worker spends 1481 hours annually on his/her job in Belgium, with similar numbers reported in other countries (OECD, 2022a). Based on these numbers, people spend a considerable amount of time at work over their lifetime. On top of that, a great number of employees work overtime. Forty-five per cent of U.S workers keep working outside of office hours (*CareerBuilder Survey*, n.d.), and forty per cent of Swedish workers skip their lunch break (Leka et al., 2010). Therefore, work and its conditions might have an impact on an individual's life and, consequently, their health.

Health is "a state of complete physical, mental and social well-being," based on the World Health Organization definition (WHO, 2022, P. N.A). The mentioned description sorted health into three categories. All of these health factors could be influenced by employees' work and, more specifically, different characteristics of their job. Even in the long run, it might cause health problems for workers. Employees with physical and mental health problems generate a considerable loss for employers and society. Keeping workers healthy has become a daily challenge for organizations (Brunner et al., 2019). This challenge is due to constant changes in work conditions and growth in the number of employees affected by work-related stress. Employees with health issues might bring with them different sorts of problems, such as financial costs and productivity losses. The overwhelming evidence in the literature confirms this observation.

2.4.1.1 Financial Loss

According to Leka et al. (2010), occupational health problems cost more than a billion euros for employers and nearly six billion euros for society in the U.K. each year. Even worse, in the Netherlands, this amounts to 12 billion euros, representing 3 per cent of their GNP (Koningsveld et al., 2003). Béjean & Sultan-Taïeb (2005) estimated the cost of work-related stress illnesses for France in the year 2000 to be between 1 and 2 billion euros. In 2014 this loss was CHF 10 billion in Switzerland, which is 1.7% of the gross domestic product of this country (Brunner et al., 2019). More specifically, depressed workers in the United States cause just about 44 billion dollars loss yearly for their employers (Stewart, Ricci, Chee, Hahn, et al., 2003). The same research showed

that chronic pain, such as headache and back pain, was estimated to cause a 62.1 billion dollars loss in a year. Additionally, Schultz & Edington (2007) focused on the direct and indirect costs of obesity in their study. This amount was reported to be near 113 billion dollars. A great part of these financial losses owes to the workers' leave because of their illness or mental health problems.

2.4.1.2 Productivity Loss

Occupational health is responsible for a great number of productivity losses, and findings showed that "a healthy worker is a productive worker" (Jackson & Frame, 2018). Numerous kinds of workers' behaviour might result in losses of job productivity. Absenteeism, with 22 per cent, contributes significantly to this loss (Leka et al., 2010). "Absenteeism refers to the number of "sick hours" or "sick days" an employee uses during a calendar year" (Leong, 1993). Absenteeism could happen to owe to physical or mental health issues. British research found that obese workers tend to be more absent due to sickness (Callen et al., 2013). More recent research highlighted the significant positive relationship between stress and absenteeism (Sanchez-Gomez et al., 2021). They believed that workers with a high-stress level have more sick days than other workers. Stress is the reason for 12 per cent of unscheduled absenteeism (Navarro & Bass, 2006). A study in recent years claimed that there is a relationship between stress, anxiety, depression, and absenteeism (Der Feltz-Cornelis et al., 2020). They conducted their research among students and teachers at universities. They found that the younger generation is much more influenced by health problems and showed more absenteeism compared to the older one.

Moreover, presenteeism could be the other reason for these losses (Brunner et al., 2019). Presenteeism is described as not being fully productive at work due to health problems (Schultz & Edington, 2007). Presenteeism could be seen in a large group of employees whose health difficulties have not resulted in sick leaves (Burton et al., 1999). Almost thirty-nine per cent of participants in an American survey reported not being productive at work a minimum of one workday out of ten workdays (Stewart, Ricci, Chee, & Morganstein, 2003). Additionally, a six per cent increase in presenteeism as a result of high psychological stress was already observed in an Australian study (Hilton et al., 2008). Another study highlighted that people from different cultures might show their stress in various manners (Der Feltz-Cornelis et al., 2020). They claimed that Chinese citizens go through more presenteeism due to their stress than Western people.

In the literature, several studies suggested that job characteristics could also impact absenteeism and presenteeism percentage. For instance, Johns (2010) underlined that employees avoid absenteeism and prefer presenteeism when the chance of replacement in an organization is high. Besides, Demerouti et al. (2009) claimed that high job demands cause more presenteeism. They believed that work-related pressure prevents workers from using sick leaves; however, it increases presenteeism. In a recent study, Kim et al. (2020) emphasized that job insecurity is related to presenteeism but not absenteeism. They argued that workers with less secure jobs tend to work not productively in sickness due to fear of losing their job.

2.4.2 Work-Related Health Issues

There is a vast amount of literature on work-related health problems. Many studies have been published related to physical health issues that workers face due to their job conditions. In this section, we are going to review the physical health problems caused by specific job characteristics, as well as mental health issues.

Long Working Hours: A number of studies found that long working hours have a negative effect on the workers' health conditions. Breslow & Buell (1960) underlined that an individual who works 48 hours per week might have a greater risk of death from heart disease than others. Similarly, the finding of Kang et al. (2012) emphasized the significant negative relationship between working hours and coronary heart disease. Besides, they highlighted that workers who work over 52 hours per week have more chance of suffering from diabetes. Additionally, Di Milia & Mummary (2009) claimed body mass index (BMI) is higher in workers who stay at work for more than 12 hours, among others. They believe long working hours and short sleep duration increase the chance of obesity in workers. Correspondingly, Keramat et al. (2020) proved that there is a significant relationship between work hours and obesity. They mentioned several reasons for their finding. Firstly, workers who work more than 40 hours per day sleep less compared to a worker with 31 to 40 hours of work. As a result, it increases hormones that lead to greater hunger and greater "calorie intake." Second, workers with long working hours usually miss the chance of high levels of physical activity. Lastly, due to increase in the use of computers in these years, a long period of sitting could be the other reason for obesity. Furthermore, piece of recent evidence revealed that working for long hours raises the risk of stress, depression, and suicide (Sungjin Park et al., 2020). They highlighted that an unwanted long working period from the employers' side leads to a much higher stress level in the workers. As a result of this stress, employees experience depression or tend to have suicidal ideation more often. Similarly, Li et al. (2019) reported that workers with long working hours have less time for their hobbies and families. They noted that these employees could not relieve from work pressure due to a shortage of personal time. Maintaining a balance between work and household is a big challenge for these workers, and it results in more work-family conflict. The outcome of such a struggle is a high level of stress.

Shift Work: Some studies investigated the relationship between shift work and the health conditions of such employees. Shift workers suffer from certain diseases such as heart disease, sleep disorder, and digestive problems due to their job conditions (Costa, 2016). Employees with unstable shifts, due to difficulties in working conditions, face health issues. They cannot have their meal during normal hours, and they frequently eat pre-packed or ready meals. Thus they report more digestive problems compared to other workers. Moreover, as a result of lack of sleep and work/life conflicts, shift employees have a forty per cent more chance of getting heart diseases among workers. Another study similarly reported that nurses with night shifts suffer from more appetite disturbance compared to the ones who work during the day (Bonet-Porqueras et al., 2009). Some authors additionally highlighted that night shift workers have higher weight and body mass index (BMI) compared to day shift workers (Brum et al., 2020; Sun et al., 2018). However, evidence from a recent study in Australia showed no link between shift and obesity (Keramat et al., 2020).

Long Sitting Hours: Sitting for long hours and working with a computer is the new norm in modern working life. The most-reported health problem due to this new workstyle is low back pain (LBP) (Waongenngarm et al., 2018). In one year, almost fifty per cent of office workers experienced such pain. Apart from personal suffering, LBP can also cause disability. Similarly, Ye et al. (2017) came to the conclusion that LBP is a common pain among computer users in offices. They believed that the wrong location of the monitor and the unsuitable temperature in the office caused this pain. In another study conducted in Lebanon, nearly forty-five per cent of office workers reported LBP (Bawab et al., 2015). They highlighted that although LBP is not a disease, it can cost considerable money. These costs are sick leave, visiting the doctor, and medications.

Nevertheless, the negative impact of work conditions goes further than physical health and influences mental conditions. In 2000, the International Labour Organization (ILO) noted that 10 per cent of adults who work suffer from clinical depression, stress, anxiety, or burnout (Gaston Harnois, 2000). In fact, stress is presented as the most critical concern in occupational health based on the Australian Confederation of Trades Unions (ACTU, 2000). In Europe, about 40 million workers are influenced by work-related stress, and it causes occupational illness (EuroFound, 2007). Moreover, employees also believe that their health problems result from stress in their work. Around thirty-five per cent of workers in developed countries considered their job extremely stressful (Hoel et al., 2001). According to a European survey, 9 out of 10 respondents considered the leading cause of poor health is stress (Iavicoli et al., 2004). The fourth European working conditions survey outlined that 20% of workers see their health in danger due to work-related stress (Leka et al., 2010).

There is considerable literature that proposes poor job characteristics add to the probability of work-related stress. Work overload, job insecurity, poor management, long working hours, and low decision latitude have been proved to bring up stress to workers (Chen et al., 2009; Cox et al., 2000; Fothergill et al., 2004; Hu et al., 2011; Sidhu et al., 2020; Thomas et al., 2009). The findings of Sidhu et al. (2020) showed that workload, future perspective, and working conditions are the factors that have the most effect on stress. They believed that such work characteristics increase stress and consequently raise doctor visits among workers. Additionally, their study focused on the relationship between job stress and the number of illnesses. Workers with an unsuitable working environment and high workload showed a higher number of diseases, among others.

2.5 Temporary Contract and Employees' Health

2.5.1 Relationship between Job Insecurity and Health Conditions

In previous sections, we tried to clarify what job insecurity is, what outcomes it has, and how workers react to it from a general perspective. Now we want to focus on the relationship between job insecurity and workers' health conditions. In previous sections, there was a slight clue regarding the influence of job insecurity on employees' health. Though, this relationship has gained much more attention in the literature.

Various assumptions have been proposed concerning the relationship between job insecurity and health (Bernhard-Oettel et al., 2005; Bohle et al., 2001; Green, 2020; Minnotte & Yucel, 2018;

Pirani & Salvini, 2015). Nearly all underlined the adverse impact of job insecurity on mental health. According to McDonough (2000), the use of medications is one of the results of the high level of job insecurity. Workers with insecure jobs tend to use specific drugs that help them experience relief from their life's hardships. Another study in Michigan showed workers with job insecurity are more likely to report mental health issues such as major and minor depression and anxiety attacks (Burgard et al., 2012). Their finding claimed such mental health problems continue even after adjustment in employment status. Since the start of the COVID 19 pandemic, higher levels of health issues have been reported due to job insecurity. In a study in the U.S., fifty-nine per cent of young adults experienced job loss in their families, and thirty-eight per cent of them expected this loss (Ganson et al., 2021). This experience in these families comes together with more anxiety, loss of interest, and depression. Similarly, Wilson et al. (2020) pointed out that job insecurity results in poor mental health, and it appears with depression and anxiety. Depressive symptoms in workers with insecure jobs might be due to a "sense of hopelessness" with their current employment situation. Such workers experience hopelessness because of the high chance of job loss and the absence of power to change the situation (maintain current job). Surprisingly, authors even claimed that job insecurity could be as harmful as unemployment for mental health conditions (Green, 2020; Witte, 1999).

Despite a considerable number of findings on mental health, very little is known about the association between job insecurity and physical health. This might be based on the belief that job insecurity has a larger impact on mental health compared to physical health (Burgard et al., 2012; Sverke et al., 2002). Still, some authors were curious to know about the effect of job insecurity on physical health conditions. Virtanen et al. (2011) mentioned in their findings that insecure workers are at higher risk of heart disease than employees with secure jobs. Moreover, Caroli & Godard (2016) examined the effect of job insecurity on several physical issues (back problems, muscular pain, headaches, and skin problems). They only confirmed a negative influence of job insecurity on headaches and skin problems. There was no significant impact on other physical health outcomes.

In sum, the literature has numerous findings on the impact of job insecurity on mental and physical health. However, the ever-changing labour market brings up the need for future investigation to see how employees' health is influenced by job insecurity. Based on this literature review, in this study, we hypothesize that:

H1: Workers with insecure jobs have worse health conditions than those with secure jobs.

2.5.2 Relationship between Temporary Employment and Job Insecurity

The relationship between contract types and job insecurity has been frequently investigated in the past. A considerable number of researchers found that temporary employment results in job insecurity (Anderson & Pontusson, 2007; Balz, 2017; Pirani & Salvini, 2015; P. Virtanen et al., 2011). Temporary employment has specific characteristics which bring a sense of insecurity to employees (P. Virtanen et al., 2011). Such characteristics are limited duration, fixed termination dates, working at the employer's workplace, limited protection, fewer benefits, and entitlements (De Cuyper et al., 2008). Additionally, as temporary workers need to adapt to different working conditions, schedules,

expectations, and communities more frequently than permanent ones, they experience higher job insecurity (Pirani & Salvini, 2015).

Besides cited characteristics of temporary employment, workers with temporary contracts have less autonomy and job control compared to permanent ones (Samuelsson et al., 2012). At the same time, employers give minimum support and feedback to temporary employees (De Cuyper et al., 2008). As such, according to the JDR framework, the temporary employees receive rather less amount of job resources compared to those under permanent contracts (Demerouti et al., 2001). On the other hand, Vieira dos Santos et al. (2021) noted the negative impact of job resources on job insecurity. Hence, it can be said that temporary employment increases job insecurity in employees.

In contrast, some authors claim that the level of job insecurity is higher in permanent workers compared to those with temporary employment (Davis-Blake et al., 2003; De Cuyper et al., 2008, 2019). The expectation of workers is varied based on their contract type. In other words, those on a temporary contract do not expect job security. Therefore, job insecurity might be considered harmful only to permanent workers (De Cuyper et al., 2008). Another study highlighted that due to an increase in the number of temporary employees, finding a replacement for permanent workers is much easier rather than before (Davis-Blake et al., 2003). Hence, employees with permanent contracts experience higher job insecurity in comparison to temporary employees. Moreover, van Vuuren et al. (2019) pointed out that permanent workers are more independent and have a higher job variety compared to temporary employees. Hence, such workers have a lot to lose when job loss happens. As a result, they experience more job insecurity than temporary workers.

Despite the abundance of studies on the relationship between job insecurity and employment type, the results are contradictory (Balz, 2017; De Cuyper et al., 2019; Pirani & Salvini, 2015; van Vuuren et al., 2019). Hence, future empirical studies are needed to clarify such association. In this study, we are going to investigate the effect of a temporary contract on job insecurity, and the following hypothesis was established:

H2: Temporary employees experience more job insecurity compared to permanent employees.

2.5.3 Relationship between Temporary Employment and Well-Being

Temporary employment has been gaining much attention from employers due to its characteristics, such as flexibility and low labour costs (De Cuyper et al., 2008). However, such contracts are usually not desired by the employees. As a result, the impact of such employment on employees has been receiving much notice. Researchers started to question whether temporary agreements could change workers' well-being. Many attempts have been made to find the answer to the question mentioned above. However, there is still considerable disagreement regarding the significant impact of temporary contracts on workers' health conditions.

According to the review done by De Cuyper et al. (2008) on twenty articles, eleven studies found no difference between the well-being of temporary and permanent employees. At the same

time, the rest saw either better or worst well-being in temporary workers. Liukkonen et al. (2004) reported temporary employees to have better mental health. In comparison, Virtanen et al. (2005) concluded the opposite. Another study in Australia outlined no significant mental health differences between people under temporary and permanent employment (LaMontagne et al., 2014). However, one study showed that fixed-term contract workers have poorer health in Germany compared to other workers (Rodriguez, 2002).

In a more recent study, Dawson et al. (2017) proposed that certain job characteristics influence the workers' health. Job satisfaction is one of these attributes proven to associate with well-being. The finding of this research confirmed that temporary employees experience less job satisfaction than permanent ones. Hence, they affirmed that temporary employees have a higher level of psychological distress rather than workers with permanent contracts.

Moreover, in a study in Japan, the authors studied the impact of temporary employment on oral health (Sato et al., 2018). They believed that temporary employees experience job insecurity and work-related stress due to the fact that they can be easily replaced. Such experiences may cause unhealthy behaviour, such as smoking and skipping toothbrushing. Additionally, due to workers' economic situations, they might not use health care services to avoid costs. The findings of this study showed that workers who experience temporary employment have a higher chance of losing teeth than other workers.

Furthermore, Bartoll et al. (2019) pointed out that the chance of finding similar jobs is lower for older adults in temporary employment. Such workers have family responsibilities, a great chance of unemployment, and nearly no opportunities for reemployment. This, in turn, deteriorates their mental health conditions. Though, for the rest of the sample subgroups in this study, like women, no significant relationship between temporary employment and health conditions was found.

Still, contradictory findings regarding the relationship between temporary contracts and well-being were highlighted in a study by Bernhard-Oettel et al. (2005). They believed that by holding the employees' individual backgrounds constant, mental distress was only slightly related to employment type. Based on this study, the specifics of contract terms, such as tenure, position, and working hours, have a much higher level of influence on workers' well-being rather than forms of employment. As a result, one's job condition could predict the health condition of employees, not the type of employment.

Similarly, LaMontagne et al. (2014) emphasized that the mental health conditions of employees are not influenced by employment type. Their analysis revealed no differences in the mental health status of workers who are employed in temporary and permanent contracts. Additionally, they investigated the role of age and gender as modifiers in the relationship between contract type and well-being but failed to establish a significant association.

Many attempts have been made in order to find reasons for such inconsistent findings. De Cuyper et al. (2008) believed that the absence of a universal definition for temporary employment affected the studies' findings. For instance, in the U.S., independent contracting is assumed to be part of temporary employment (Connelly & Gallagher, 2006). However, researchers in Europe and

Australia do not agree with this classification (Campbell, 2004; Guest, 2004). Moreover, the advantages of a temporary job have been neglected. E.g., workers with temporary jobs benefited from the improvement of general skills and a variety of experiences, which could be valuable in other organizations as well (Gagliarducci, 2005). They assumed that this matter might lead workers to a permanent contract. Better work-life balance, flexible schedule, skill training, and enjoying new experiences was highlighted as other positive aspects of temporary employment (Hardy & Walker, 2003; Kalleberg, 2000; Krausz et al., 1995; Polivka, 1996). Lastly, P. Virtanen et al. (2002) highlighted labourers with better health conditions have more chances to get permanent employment and not the other way around. In other words, a temporary contract might not be the (initial) cause of a low level of well-being in temporary workers.

In summary, research showed either no significant relationship between contract types and well-being (Bartoll et al., 2019; De Cuyper & De Witte, 2007; LaMontagne et al., 2014) or poorer well-being among temporary employees (Dawson et al., 2017; Parker et al., 2002; Sato et al., 2018). Very rare studies found better health conditions in temporary workers (Martens et al., 1999). A key problem with much of the literature review regarding temporary employment and well-being relationship is that the evidence is not conclusive. Further data collection and analysis would be needed to determine exactly how temporary employment affects workers' well-being.

As a result of this review of the literature, the following hypothesis was established:

H3: Temporary employees experience worse well-being in comparison to permanent employees.

4. Methodology

In the last section, we reviewed the vast literature background related to temporary employment, employees' health condition, job insecurity, and the association between such topics. Next, we clarified the research questions and the hypotheses, which were formed based on the existing studies. Essentially, the research approach used in this study is a deductive approach. In such an approach, hypotheses are established to validate theories and derive a conclusion (Martini, 2017). In the following section, in an attempt to verify such assumptions and come to a conclusion, we analyzed the data from the 6th European Working Condition Survey with the help of SPSS. Here the methodology is laid out in four sections.

4.1 Data

The data from the 6th European Working Condition Survey (EWCS) was used for the analysis of this study. This was the sixth survey in the cross-sectional study in the EWCS series. The European Foundation for the Improvement of Living and Working Conditions (Eurofound) performed a series of surveys to provide a general idea about job conditions in Europe (UK Data Service, 2022). In 2015, nearly 44000 workers were interviewed face-to-face across countries. The survey was conducted in thirty-two languages in 35 European countries. By having more than a hundred qualitative and quantitative questions, it covers a broad range of work-related topics. The questionnaire gathered information on topics like company size, work intensity, working time, skills and training, work-related health risk and well-being, job satisfaction, work-life balance, and job security.

The interviewees were selected from the residents who were older than 15 and in employment at the time of the survey. Based on ILO definition, working for a wage or profit for a minimum of one hour per week is counted as employment (UK Data Service, 2022). The selection procedure was based on multi-staged stratified random sampling, as interviewees were selected from a large, geographically spread population. In this method, firstly, the population is split into smaller appropriate groups based on the study's context (Sekaran & Bougie, 2016). Later, the participants are selected by a random selection from each of these smaller groups. The sample size for each country was varied based on its population and national arrangement. Except for some countries with large workforces like Germany, the U.K., Turkey, France, and Italy, the target sample size was 1000 in most countries.

4.2 Method

The statistical data program used in this thesis was Statistical Package for the Social Sciences (SPSS). In this study, SPSS was used to conduct multiple regression analysis to test the three hypotheses of the current study. Multiple regression analysis was preferred for testing these hypotheses. The result of such analysis clarifies the level of impact that independent variables have on dependent variables. A simple regression would provide unreliable findings as a result of omitted variable bias (Frölich, 2008). Thus, control variables were considered for the multiple regression analyses in this study to overcome such a problem. We believed that control variables helped us

achieve more accurate results. The detail of the dependent, independent, and control variables of the current analysis is discussed in the next section.

4.3 Variables

4.3.1 Dependent Variables

The five dependent variables were chosen for this study based on the literature review and previous findings. In this section, we will discuss such variables, and in order to measure them, we collected the relevant questions in the survey.

- **General Health Conditions:** To have a broad understanding of the interviewee's health status, we picked question number 75, "How is your health in general?". We valued the answer to this question by numbers 0 and 1. If they claimed that their general health is "good" or "very good," we assigned value 1. Moreover, in case they reported "Fair," "Bad," or "Very Bad," the answer took the value of 0. Certain interviewees refused or did not have enough information to answer the question. Such replies were considered missing information.
- **Anxiety:** The data relating to this concept was in question number 78, "Over the last 12 months, did you have any of the following health problems?". Part H of this question focused on anxiety. The answer "YES" from the interviewee took the value of 1, and the value of 0 was assigned to the answer "NO." Once more, refusal and no opinion answers were considered missing information.
- **Stress:** Interviewees were asked to answer question 61, "For each of the following statements, please select the response which best describes your work situation." In part M of this question, they were questioned whether they experience stress in their work. The answers options were "Always," "Most of the Time," "Sometimes," "Rarely," and "Never." The two first ones took the value of 1, and the three latter ones valued 0. Other responses were thought of as missing information.
- **Job Insecurity:** Part G of question number 98, "To what extent do you agree or disagree with the following statements about your job?" interviewees were asked about the probability of losing their job in the next six months. In case they "Strongly Agree" or "Tend to Agree" with such a statement, the answer took the value of 1. However, "Neither Agree nor Disagree," "Tend to Disagree," or " Strongly Disagree" answers are valued as 0. If they replied otherwise, it was considered missing information.
- **Well-being:** In question number 87, interviewees were asked, "How you have been feeling over the last two weeks." This question contained five different statements: 1. "I have felt cheerful and in good spirits." 2- "I have felt calm and relaxed." 3- "I have felt active and vigorous." 4- "I woke up feeling fresh and rested." 5- "My daily life has been filled with things that interest me." For each statement, they should have picked a number from 1 to 6. The value of 1 meant they did not experience such feeling, and the value of 6 meant they experienced it all of the time. Finally,

the sum of all numbers for these five statements gave us a value to measure well-being.

4.3.2 Independent Variables

The independent variables in this study are job insecurity and employment type. The method to measure job insecurity is already discussed in the previous section. A question regarding the interviewee's contract was asked in the survey and the question was, "What kind of employment contract do you have in your main job?" As the participants reported their contract "Contract of limited duration" or "A temporary employment agency contract," we were considered such contract temporary employment and assigned a value of 1. On the other hand, the answers "Contract of unlimited duration," "An apprenticeship or other training scheme," and "No contract" took the value of 0. Refusal, no opinion, and other answers were considered as missing information.

4.3.3 Control Variables

A wide variety of control variables were selected for this study to diminish variable bias and reveal the most accurate relationship between the dependent and independent variables. Like other variables, to measure control variables, relevant questions from the survey were collected, which are discussed below. Note that for survey questions relating to each variable, an unclear answer of any sort (e.g., refusal to respond) was considered missing information.

- **Gender:** Regarding this variable, no question was asked to interviewees. The interviewer was responsible for gender selection based on the provided grid in the questionnaire. They decided whether the respondent was male or female and assigned a value of 1 to the male participant and a value of 0 to the female.
- **Age:** The question regarding the age of interviewees was one of the first questions (Question 2 part B) that were asked. The interviewer asked, "Starting with yourself, how old are you?" The answer was, in most of the cases, a number.
- **Education:** Interviewees were asked to answer the question, "What is the highest level of education or training that you have successfully completed?" (Question 106). As the qualification of education varied in each country, interviewers, with the help of the International Standard Classification of Education (ISCED), assigned a number between 0 (Early childhood education) to 9 (Doctorate or equivalent) to the answers. However, for this study, each response was given a value of 1 when the level of education was high (number 7,8,9 in the main answer) or 0 when the level of education was low (number 0,1,2,3,4,5,6 in the main answer).
- **The main income of the family:** We found the most related data for such a concept in question number 99, "Are you, in your household, the person who contributes the most to the household income?" The answer "YES" from the participant took the value of 1, and the value of 0 was assigned to the answer "NO" and "All equally."
- **Immigration background:** All interviewees answered question number 4, part A, "Were you and both of your parents born in [this country]?" If the participant claimed

no immigration background in their family, the answer took the value of 0. On the other hand, answers of interviewees with immigration backgrounds took the value of 1.

- **Private or Public:** The interviewer asked the participants about the private or public sector of their organization in question number 14. The private sector in this question took the value of 1, and the public sector was assigned the value of 0.
- **Work Experience:** The interviewees were asked about their work experience in question number 17, "How many years have you been in your company or organization?" The answer would be the number of years that they worked in their current organization till the day of the interview. In case they were in the current organization for less than one year, the value of 0 was assigned to it.
- **Change in the number of employees:** Based on the previous questions, the interviewer asked the participants one of these questions, "During the last three years, has the number of employees at your workplace increased, stayed the same, or decreased?" or "Since you started your main job, has the number of employees at your workplace increased, stayed the same or decreased?" (Question 19). If they faced "a little" or "a lot" reduction in the number of employees, we assigned a value of 1 to it. No change or increase in the number of employees took the value of 0.
- **Restructure or Reorganization:** Considering the background of interviewees in their current organization, question number 20 was asked, "During the last three years has there been a restructuring or reorganization at the workplace that has substantially affected your work?" or "Since you started your main job, has there been a restructuring or reorganization at the workplace that has substantially affected your work?" If participants replied to such a question with "YES," the answer was valued as 1. The "NO" answer took the value of 0.

It is important to mention that this variable might be assumed to be an alternative for job insecurity. However, job insecurity is a broad concept, and it could have different aspects. In this study, we focused on the specific part of job insecurity which is related to employment types. Thus, restructure or reorganization in the workplace is measured separately as a control variable.

- **On-the-job training:** The interviewees were asked whether they have undergone any training on their job by co-workers or supervisors over the past 12 months in question 65, part C. If the participants replied "YES" to this question, the value of 1 was assigned, and the "NO" answer took the value of 0.
- **Motivation:** The interviewers asked the participants about the following statement, "The organization I work for motivates me to give my best job performance." (Question 89, Part E). If they responded with "Strongly agree" or "Tend to agree," the answer took the value of 1, and the answers "Neither agree nor disagree," "Tend to disagree," or "Totally disagree" got the value of 0.
- **Finding a job in the future:** The data regarding the ease of finding a job in the future was in question 89, "To what extent do you agree or disagree with the following statements about your job?" In part H of this question, interviewers asked

about the participant's opinion about the statement, "If I were to lose or quit my current job, it would be easy for me to find a job of a similar salary." The answer was categorized into two sets. The first one with the value of 0 was related to "strongly agree," "tend to agree," or "Neither agree nor disagree." The second category took the value of 1, which covered the "tend to disagree" or "strongly disagree."

5. Results

5.1 Summary statistics

Summary statistics for the variables included in the analytical model are presented in Table 1. The first information that could be found in the table is the available sample size for each variable. Such numbers could be used to check the amount of missing values for each variable. Additionally, the table shows the minimum, maximum, mean, and standard deviation for each variable. As can be seen from this table, the age of the sample ranged from 15 to 89 years, with an average age of 43 years. Half of the interviewees were male (50,4%), and only a few proportions of respondents (13,2%) had an immigration background. More than 23 per cent of all participants had a high level of education (bachelor, master, doctorate, or equivalent), and more than half of them (63,7%) had the main income in their family.

The sample included workers with 0 to 75 years of work experience in their current firm, with an average of 10 years. At the time of the survey, 74% of interviewees worked in a private organization. A majority of employees (86%) had a contract for an unlimited duration, an apprenticeship or other training, or no contract; however, 13,2% of them worked under a contract of limited duration or a temporary employment agency contract. Approximately one-fifth of the participants (21%) experienced downsizing in their organization or restructuring in their workplace. Over thirty per cent of those questioned have undergone on-the-job training over the past 12 months (in case they worked less than a year, this was questioned about that period). A minority of interviewees (15%) believed that they might lose their job in the next six months and when the subject was asked about finding a similar job in the future, almost half of them (46,7%) found it not easy.

Over 75 per cent of participants reported their general health as very good or good. Similarly, the mean of participant's well-being was roughly high (22) when a numeric score with a range from 5 to 30 was assigned to it. The majority of respondents indicated that they did not have anxiety (83,8%) and stress (73,8%) in the previous 12 months.

Variables	N	Minimum	Maximum	Mean	Std. Deviation
General Health	43786	0	1	0.7762	0.41680
Anxiety	43692	0	1	0.1624	0.36881
Stress	43228	0	1	0.2626	0.44007
Job Insecurity	43850	0	1	0.1507	0.35780
Well-being	43469	5	30	22.1168	5.04834
Employment Type	35678	0	1	0.1319	0.33839
Gender	43850	0	1	0.5040	0.49999
Age	43691	15	89	43.37	12.749
Education	43689	0	1	0.2329	0.42270

Main Income	43533	0	1	0.6374	0.48077
Immigration Background	43634	0	1	0.1320	0.33853
Private/Public	40138	0	1	0.7481	0.43413
Work Experience	42511	0	75	10.3316	10.31743
Change in Number of Employee	41285	0	1	0.2091	0.40664
Reorganization	41738	0	1	0.2161	0.41156
Training	43588	0	1	0.3112	0.46299
Motivation	39674	0	1	0.631	0.4852
Future Job	39343	0	1	0.4674	0.49894

Table 1 Descriptive Statistics of Study Variables

5.2 Regression results

What follows entails three regression analyses on the three aforementioned hypotheses. These are summarized in Table 2, Table 3, and Table 4, corresponding to hypotheses 1, 2, and 3. In this section, we go into detail on the result of each regression analysis.

The result of regression analysis regarding the association between job insecurity and employees' health conditions is shown in Table 2. This analysis was made to assess the first hypothesis of this study. Based on the literature, we hypothesized that workers with insecure jobs experience worse general health conditions rather than those with secure jobs. This analysis revealed that we could not reject the null hypothesis and all of the dependent variables that we studied had a significant correlation with the independent variable. Experiencing job insecurity ($\beta=0.059$, $P < 0.001$) decrease the general health condition of workers. The difference in the level of the general health of employees is 5.9 per cent lower for those with job insecurity than for those with job security. Employees who see the probability of losing their job in the next six months feel significantly more anxiety ($\beta=0.058$, $P < 0.001$) and stress ($\beta=0.082$, $P < 0.001$). Compared with those with a secure job, the difference in the count of anxiety is 0.058 units, and stress is 0.082 units higher for those with job insecurity.

Several control variables were associated with general health, anxiety, and stress in the study. These variables could be classified into two categories, one related to employees and the other linked to the company that they work in. Being male increased the level of general health ($\beta=0.028$, $P < 0.001$), whereas it decreased anxiety ($\beta=-0.049$, $P < 0.001$) and stress ($\beta=-0.021$, $P < 0.001$). There was a significant negative correlation between age and dependent variables in Table 2. When the age increased by one year, general health would get worse by 0.007 units ($P < 0.001$), anxiety would decrease by 0.001 units ($P < 0.001$), and stress would decrease as well by 0.003 units ($P < 0.001$). Moreover, the analysis showed that immigration background ($\beta=-0.024$, P

< 0.001) significantly affects general health. However, this control variable positively influences anxiety ($\beta=0.028$, $P < 0.001$) and stress ($\beta=0.017$, $P < 0.05$) at a different significance level. Furthermore, the level of education of employees had a significant impact on general health ($\beta=0.059$, $P < 0.001$), anxiety ($\beta=0.038$, $P < 0.001$), and stress ($\beta=0.030$, $P < 0.001$). Interestingly, by having higher education, the level of anxiety and stress would increase; in contrast, workers' general health conditions would improve. The analysis showed employees' identification as the main source of income in the family were not significantly influence the level of health conditions. Yet, such recognition had a positive association with anxiety ($\beta=0.019$, $P < 0.001$) and stress ($\beta=0.054$, $P < 0.001$).

Based on these analyses, no correlation was found between the number of years employed in an organization and the general health of workers. Unexpectedly, by increasing such a number, the level of anxiety ($\beta=0.001$, $P < 0.05$) and stress ($\beta=0.003$, $P < 0.001$) would rise slightly. Moreover, it was observed that there were no significant differences in general health conditions, anxiety, and stress between employees who worked in the private and public sectors. However, these analyses highlighted that changes in the organization, such as downsizing or restructuring, were associated with the health conditions of workers. When employees experienced reorganization, their general health significantly deteriorated by 2 per cent. In addition, they faced 5.6 per cent more anxiety and 8.4 per cent more stress compared to those ones without such experience. There is a significant relationship between undergone training on the job and general health ($\beta=0.014$, $P < 0.01$) and anxiety ($\beta=0.012$, $P < 0.01$), though no correlation was found for stress. Similarly, ease of finding a similar job in the future was significantly related to general health ($\beta=-0.032$, $P < 0.001$) and anxiety ($\beta=0.035$, $P < 0.001$), yet no association with stress. The most remarkable result to emerge from the data is the significant connection between employees' motivation and dependent variables. By increasing their motivation, their level of general health condition increased by 10.1 per cent. Additionally, these tests revealed rising worker motivation would decline anxiety by 7.7 per cent and stress by 8.8 per cent.

	General Health	Anxiety	Stress
(Constant)	1.044 *** (0.011)	0.178 *** (0.01)	0.359 *** (0.012)
Job Insecurity	-0.059 *** (0.006)	0.058 *** (0.006)	0.082 *** (0.007)
Age	-0.007 *** (0.000)	-0.001 *** (0.000)	-0.003 *** (0.001)
Gender	0.028 *** (0.005)	-0.049 *** (0.004)	-0.021 *** (0.005)
Immigration Background	-0.024 *** (0.006)	0.028 *** (0.006)	0.017 * (0.007)
Private/Public	-0.003 (0.005)	0.009 + (0.005)	0.010 (0.006)
Work Experience	0.000 (0.000)	0.001 * (0.000)	0.003 *** (0.000)

Change in Number of Employees	-0.013 * (0.005)	0.037 *** (0.005)	0.019 ** (0.006)
Restructure	-0.020 *** (0.005)	0.056 *** (0.005)	0.084 *** (0.006)
Training	0.014 ** (0.005)	0.012 ** (0.004)	0.004 (0.005)
Future Job	-0.032 *** (0.004)	0.035 *** (0.004)	-0.004 (0.005)
Education	0.059 *** (0.005)	0.038 *** (0.005)	0.030 *** (0.006)
Main Provider of Household	-0.005 (0.005)	0.019 *** (0.005)	0.054 *** (0.006)
Motivation	0.101*** (0.005)	-0.077 *** (0.004)	-0.088 *** (0.005)
R2	0.083	0.034	0.031
Adjusted R2	0.083	0.033	0.031

*** P < 0.001; ** P < 0.01; * P < 0.05; + P < 0.1

Table 2 Regression Results For Hypothesis Number 1

In our second regression analysis, we found valuable insight with regards to the relationship between employment type and job insecurity. The result of the analysis can be found in Table 3. In this analysis, we tested hypothesis number 2 of this study, in which we hypothesized that temporary workers experience more job insecurity compared to permanent ones. The findings of this analysis showed that the null hypothesis was accepted. Based on this regression analysis, there was a significant correlation between employment type and job insecurity. More specifically, working with a temporary contract increased job insecurity by 25.8 per cent (P < 0.001). Moreover, this test revealed that among all considered control variables, only gender and being the main provider of the household had no significant relationship with job insecurity. The other control variables were associated with job insecurity with different levels of significance.

Based on the result of this analysis, when the age of workers increased by one year, they experienced more job insecurity ($\beta=0.001$, P < 0.001), and having an immigration background influences job insecurity in a negative way ($\beta=0.014$, P < 0.01). Additionally, employees who experienced downsizing ($\beta=0.059$, P < 0.001) or restructuring ($\beta=0.029$, P < 0.001) in their organization showed to have more job insecurity compared to others. Furthermore, this analysis revealed that workers with a higher level of education have less job insecurity ($\beta=-0.012$, P < 0.05), and working for an additional year in the organization would reduce job insecurity by 0.004 units (P < 0.001). Moreover, the ease of finding a similar job in the future is significantly associated with job insecurity. More specifically, when employees have difficulty finding a comparable job to their current job, their level of job insecurity increases by 2 per cent (P < 0.001). Lastly, the two variables that help employees to feel more secure in their job are training and motivation. On-the-job training reduces the job insecurity by 0.018 (P < 0.001), and motivation lowers job insecurity by 0.058 (P < 0.001).

	<u>Job Insecurity</u>
(Constant)	0.099 *** (0.010)
Employment Type	0.258 *** (0.007)
Age	0.001 *** (0.000)
Gender	0.006 (0.005)
Immigration	0.014 ** (0.006)
Private/Public	0.037 *** (0.005)
Work Experience	-0.004 *** (0.000)
Change in Number of Employees	0.059 *** (0.005)
Restructure	0.029 *** (0.005)
Training	-0.018 *** (0.004)
Future Job	0.022 *** (0.004)
Education	-0.012 * (0.005)
Main Provider of Household	0.001 (0.005)
Motivation	-0.058 *** (0.004)
R2	0.086
Adjusted R2	0.086

*** P < 0.001; ** P < 0.01; * P < 0.05; + P < 0.1

Table 3 Regression Results For Hypothesis Number 2

In order to investigate the correlation between employment type and employees' well-being, the last regression analysis was done. The result of which is shown in Table 4. This analysis was performed to test the last hypothesis of this study. According to the findings, the hypothesis that "temporary employees experience worse well-being in comparison to permanent employees" was rejected. Interestingly, this test showed a significant positive association between employment type and well-being with a P-value of less than 0.05. In other words, temporary employment increased the level of well-being in employees by 0.241 units. Additionally, this analysis highlighted that except for two control variables, which were education and training on the job, the rest were significantly related to workers' well-being.

The result of this analysis showed that age, immigration background, and being the main source of income in a family have a significant negative impact on employees' well-being. When the age of workers increases by one year, their well-being decreases by 0.010 units ($P < 0.001$), and workers with an immigration background have worse well-being compared to ones without such a background ($\beta = -0.279$, $P < 0.001$). Similarly, employees who are responsible for the main income of their families experience a lower level of well-being than others ($\beta = -0.252$, $P < 0.001$). Additionally, this analysis revealed that the dependent variable of employee's well-being has a statistically significant relationship with the independent variable of gender. Being a man increased the level of well-being ($\beta = 0.643$, $P < 0.001$).

Furthermore, a number of experiences in an organization have a significant influence on employees' well-being, such as a change in the number of employees and restructuring in the workplace. Experiencing such changes deteriorate employees' well-being; change in the number of employees decreases the level of well-being by 0.393 units ($P < 0.001$) and restructuring by 0.525 units ($P < 0.001$). Moreover, the finding showed that working in the private sector decreased the level of well-being in employees by 0.219 units ($P < 0.001$), and when finding a similar job is challenging for workers, their level of well-being reduced by 0.552 units ($P < 0.001$). In contrast, by improving motivation in workers, their level of well-being increased by 3.067 units ($P < 0.001$).

	<u>Well-Being</u>
(Constant)	20.968*** (0.139)
Employment Type	0.241 * (0.087)
Age	-0.010 *** (0.003)
Gender	0.643 *** (0.060)
Immigration	-0.279 *** (0.082)
Private/Public	-0.219 *** (0.066)
Work Experience	0.016 *** (0.002)
Change in Number of Employees	-0.393 *** (0.070)
Restructure	-0.525 *** (0.069)
Training	0.012 (0.060)
Future Job	-0.552 *** (0.058)

Education	0.080 (0.067)
Main Provider of Household	-0.252 *** (0.063)
Motivation	3.067 *** (0.58)
R2	0.106
Adjusted R2	0.105

*** P < 0.001; ** P < 0.01; * P < 0.05; + P < 0.1

Table 4 Regression Results For Hypothesis Number 3

6. Discussion and Conclusion

In the 1980s, a new type of employment, temporary employment, started to grow (De Cuyper et al., 2008). Such a trend continued up until today at a moderate rate. In today's competitive market, organizations have to handle unexpected changes and respond to new demands in the shortest possible time. In order to keep up with this situation, they take advantage of the flexibility that a temporary contract could offer to them. However, like any other changes, this similarly might have an impact on employees. Temporary employment, with its distinctive characteristics, causes a sense of insecurity in workers. We have obtained convincing results demonstrating that temporary employment increases job insecurity in employees. Such a finding appears to be well substantiated by Balz (2017) and Pirani & Salvini (2015). Additionally, the results stressed how job insecurity leads to employees' stress and anxiety. As indicated by Burgard et al. (2012) and (Wilson et al., 2020), our evidence pointed out that workers with insecure jobs have worse general health conditions than those with secure jobs. Considering such findings, can we say that temporary employment is a predictor of employees' health conditions and well-being? This was the main question that we aimed to answer in this study.

Based on a quantitative analysis that was completed in this study, it can be concluded that temporary employment does not have a negative effect on workers' well-being. Even the results indicated that at a 95 per cent confidence level, temporary employment influences employees' well-being positively. Our finding is in line with previous results (Bernhard-Oettel et al., 2005; LaMontagne et al., 2014), and it further supports the idea that specific characteristics of a job have a higher impact on employees' well-being. The results of the current study offered powerful evidence for attributes that affect the employee's well-being. These elements could be classified into the individual and organizational levels. At the individual level, employees with an immigration background and the ones who were considered the main source of income in the family had worse well-being compared to others. The analysis also highlighted that gender and age influence workers' well-being. Additionally, at the organization level, experiencing downsizing and restructuring in organizations deteriorated the employee's well-being.

One of the most remarkable results to emerge from our data is the strong influence of motivation on employees' health conditions and well-being. It has been shown that the job strains (such as job-related anxiety and exhaustion) have a negative relationship with motivation based on the JD-R model (Bakker & Demerouti, 2017). In this study, we found evidence for a reverse relationship. Our analysis revealed that employees with a high level of motivation experience less anxiety, stress, and job insecurity. Consequently, motivated workers have better general health conditions and well-being in comparison to others.

It is plausible that a number of limitations influence our study and its results. The most important limitation lies in the fact that this research is based on employees in European countries. The rules and regulations of temporary employment are much more protective in such nations (Vosko, 1998). Temporary workers in most European countries are eligible to receive the minimum level of rights, such as sick and holiday leaves, similar to permanent employees (De Cuyper et al., 2008). As a result, our findings may not be generalizable to other countries, such as Australia and the U.S. In Australia, the difference between permanent and temporary employment wages and

benefits is noticeable; the Australian temporary workers are not eligible for a great part of the labour benefits (Burgess et al., 2005). In the U.S, employers are the ones who have the right to choose temporary employees' benefits and protection (De Cuyper et al., 2008). The absence of general regulation can put temporary employees in vulnerable positions compared to permanent ones. We propose that further research should be undertaken in other countries to validate our results regarding the association between temporary employment and its impact on workers' well-being.

Secondly, our findings appear to be contradictory. This apparent lack of correlation can be explained by opportunities that temporary employment could offer to workers with such contracts. It is probable that favourable features of temporary employment, such as a flexible schedule and variety of experiences, balance its negative aspects. Thus, this may have led to even better health conditions and well-being in temporary workers. In this study, the advantages of temporary employment were not considered. We recommend that future studies focus on both favourable and unfavourable aspects of temporary employment.

Lastly, in this study, we investigated employment type and job insecurity association with general health conditions and well-being separately with the help of multiple regression analyses. Our results are encouraging and should be verified by additional approaches. For further studies on this correlation, we suggested considering job insecurity as moderating variable in the relationship between employment type and employees' health conditions and well-being. Such a method could provide new insights into organizational change and employees' well-being subject.

6.1 Managerial Implications

The finding of this study has a considerable managerial implication. First, our study highlighted that temporary employees experience a higher level of job insecurity compared to permanent ones. Secondly, the study clearly showed an increase in anxiety and stress in employees with job insecurity. Thus, we propose that the human resources (HR) department give extra attention to employees under temporary contracts. Our study provided specific recommendations about factors that could help reduce employees' job insecurity and, consequently, their anxiety and stress. The first consideration for HR might be to focus on on-the-job training for workers. Our result revealed that employees who undergo such training in their organization entertain more security in their job compared to other employees. With the help of senior colleagues, such training could be realized in an inexpensive way. Moreover, another key focus of HR regarding decreasing job insecurity could be increasing motivation in workers. In this study, motivation fared to have the highest impact on reducing job insecurity, work-related stress, and anxiety. Therefore, we recommend that the organization provides sufficient support and feedback for employees in order to keep them motivated.

Such should be considered even more in companies that experienced organizational changes, such as a reduction in the number of employees or workforce restructure. Based on our results, these changes raise job insecurity, stress, and anxiety in employees. Hence, we suggest managers, more specifically HR managers, not to neglect employees' mental health during such periods and consider employees' health and well-being in their change management. Communicating upcoming changes and the probable impact of such changes on workers' jobs could diminish the

negative influence of such changes on employees. As employees are informed properly about the future conditions of their work, it might be helpful for them to feel less job insecurity, stress, and anxiety.

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