

Job Insecurity and Health-Related Outcomes among Different Types of Temporary Workers

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Over the past few decades, the number of flexible workers has increased, a situation that has captured researchers' attention.

Traditionally, temporary workers were portrayed as being disadvantaged compared to permanent workers. But in the new era, temporary workers cannot be treated as a homogeneous group. This study distinguishes between four types of temporaries based on their contract preference and employability level. Furthermore, it compares them with a permanent group. Whether these groups differ on job insecurity and health-related outcomes in a sample of 383 Spanish employees was tested. Differences in well-being and life satisfaction were found, and the hypotheses were supported. The results point out that the temporary workforce is diverse. Therefore, in order to attain a better understanding of the experiences and situations of these workers, it is preferable not to consider them as one homogeneous group.

Keywords: employability, job insecurity, health-related outcomes, preference of contract, temporary work

Introduction

The nature of temporary employment has changed. Traditionally, temporary employees were used to cope with fluctuations in demand, temporarily increasing the workload, or to replace permanent workers during the period they were absent due to sickness, vacation or pregnancy. Today, some positions are staffed only

with temporary employees, and this practice has become one of organizations' personnel strategies (von Hippel et al., 1997), regardless of whether the purpose of these strategies is cost reduction or to gain additional – non-organization-specific – expertise.

Two theoretical frameworks have stood out for decades in the literature on temporary work: the dual economy model and the human capital theory. Based on the dual economy model, two different labour markets have been distinguished: a primary or internal labour market and a secondary or external labour market (Averitt, 1968; Piore, 1971). Workers in the secondary segment stem from underprivileged groups and get lower returns on their human capital than those in the primary labour market (Cohen and Haberfeld, 1993). In addition, they have few possibilities of moving into the primary segment of the labour market (Piore, 1971), being trapped in the secondary market. Temporary workers belong to the secondary labour market.

Human capital theory suggests that individuals do not invest in skills development unless the present value of the returns is greater than the present value of the costs (Becker, 1992). Marler et al. (2002) extended this argument to temporary employment. As long-term employment implies higher returns, the only workers who will apply for temporary arrangements are those with few human capital investments, and they are likely to have low skills.

A common approach in this literature is that temporary workers experience poor working conditions – low wages, no benefits, negligible job security, little training and no possibility of advancement – and are forced into temporary employment by circumstances that make it difficult for them to find permanent jobs (Kunda et al., 2002; Segal and Sullivan, 1997). Temporary employment is expected to be associated with job insecurity, work hazards, poor working conditions and negative health consequences. However, the empirical evidence offers a more complex picture.

Temporary Work and Occupational Health and Safety

The extended use of a temporary workforce has intensified debate about the relationship between temporary employment and occupational health and safety (OHS) (Benach et al., 2000). Several

studies have reported adverse effects of temporary employment on OHS. Quinlan (2003) carried out a review of 188 studies covering the period from 1966 to 2002 on the consequences of job insecurity and flexible work arrangements: 96 studies refer to downsizing and job insecurity. The author points out that, overall, around 80 per cent of the studies identified adverse effects of precarious employment on OHS. Along these lines, François and Lievin (2000; François, 1991) reviewed previous studies in France that show that temporary employees are exposed to higher and more frequent risks than permanent employees (information on evidence and debate about these issues in other European countries is reported by De Cuyper et al., 2003). Specifically, François and Lievin (2000) found that when temporary employees were widely used on the shop floor, the hazards for both temporary and permanent workers increased. This study emphasizes the need for a more in-depth exploration of the factors influencing differences in OHS in temporary and permanent employees.

In this vein, it is important to take into consideration that the risk of accidents associated with non-permanent employment is not just related to job insecurity, but also to employees' characteristics (such as inexperience), companies' staffing policies and practices (poor induction, training and supervision), work systems and arrangements (disorganization resulting from high labour turnover), industrial relations (lower access to legal rights and entitlements) and other factors. Furthermore, different types of temporary employees may be exposed differently to the risks and to the factors that increase them. Thus, when studying consequences of temporary work on OHS, we should go beyond the mere distinction based on type of contract, broadening the temporary–permanent workers issue.

Job Insecurity, Well-Being and Somatic Complaints in Permanent and Temporary Workers

Within this general framework (OHS), the present study aims to analyse job insecurity and individuals' health by going beyond the type of contract. In fact, the increasing number of temporary workers in Europe has stimulated research and scientific and social debate on the diversity of types of temporary work arrangements.

A number of studies have found that temporary workers present higher insecurity, more psychosomatic complaints and lower psychological well-being than permanents, but the evidence that has been gathered is far from conclusive.

Regarding job insecurity, research has repeatedly associated it with temporary work (De Witte and Näswall, 2003; Kinnunen and Nätti, 1994; Klein Hesselink et al., 1998; Näswall et al., 2002; Sverke et al., 2000).

However, several authors (Guest et al., 2003; Vander Steene et al., 2001) point out the necessity of viewing cautiously the conventional wisdom on the relationship between temporary employment and perceived job insecurity. They suggest that when considering specific forms of contract, a more complex picture arises. Vander Steene et al. (2001) found differences among different types of temporary workers: agency workers have lower levels of insecurity in comparison to fixed-term contract workers. Guest et al. (2003) found that temporary workers reported higher levels of job insecurity, while agency workers reported lower levels, compared to permanent workers.

As far as well-being and health outcomes are concerned, Martens et al. (1995), with a sample of 480 employees, found that temporaries reported higher somatic complaints and less well-being. Pietrzyk (2003) found similar results in a smaller sample composed of 36 permanent workers and 62 temporary agency workers. Studies focusing on more specific health indicators found that temporary workers displayed higher fatigue, backache and muscular pains (Benavides and Benach, 1999; Benavides et al., 2000). Stress at work has also been related to employment status. Benavides et al. (2000) found that temporary workers reported higher stress than permanent ones. They also reported less role clarity than permanent workers (Sverke et al., 2000; Werthebach et al., 2000). In other studies, mixed results have been obtained. Aronsson et al. (2002) found permanent workers are not always better off than temporaries in health terms. In a sample of 2767 persons, the authors compared a group of permanent employees, in their preferred occupation and desired workplace, with different types of temporary employees. When compared to permanent employees, the risk of reporting stomach complaints was significantly greater among substitutes. And back or neck pain was reported to a greater extent by on-call workers. Fatigue and listlessness was more common among those employed

on projects. In addition, substitute workers and people employed to meet emergency requirements (on-call) showed higher risk of reporting discomfort before work, fatigue and listlessness. No differences were found between permanents and temporaries employed on probation and seasonal workers. Moreover, it is interesting to note that different types of temporary workers present different health problems.

Rodriguez (2002) carried out a study on self-reported health in Britain and Germany, and she also found mixed results. In Germany, full-time employees with fixed-term contracts ($N = 675$) were more likely to report poorer health than permanent workers ($N = 4375$). However, no differences were found between full-time employees with fixed-term contracts ($N = 58$) and permanent workers ($N = 3018$) in Britain. The author argued that these mixed results could be due to the fact that fixed-term employees in Germany differed from their permanent counterparts on age, education and household income. However, in Britain both groups were very similar on those variables.

Some studies have not found differences between temporaries and permanents. Werthebach et al. (2000), in a sample of 48 temporary agency workers and 85 permanent employees, did not find any differences on somatic complaints and well-being depending on type of contract. Similarly, Rödiger et al. (2003) found no contract-based differences on well-being in a sample of 201 workers. With regard to sleep problems, several studies found no significant differences between permanent and temporary employees (Aronsson et al., 2002; Martens et al., 1995), and similar results were obtained for both role clarity and role ambiguity (Krausz et al., 1995).

Still other studies found that temporary workers present better well-being and health than permanents. Sverke et al. (2000), with a sample of 711 individuals, found that temporary workers reported fewer somatic complaints than permanent workers. Virtanen et al. (2002) found similar results in a Finnish sample of 8557 employees working in the public sector. After controlling for perceived job insecurity, fixed-term and subsidized (contracted for a period of six months) employees reported better self-rated health and had less chronic disease than permanent workers. Regarding job stress, Benach et al. (2002) found the lowest probabilities of reporting stress among temporary employees, with the baseline being full-time permanent employees. Finally, Saloniemi et al. (2004), with a

sample of 8175 municipal workers from Finland, found that exposure to high-strain jobs (high demand and poor control) was more common among permanent than among fixed-term employees, while the latter were more often found in low-strain (low demand and good control) and active jobs (high demand and good control).

Keeping all these results in mind, we can conclude that the image and the consequences of temporary work arrangements, as framed by dual labour market and human capital theories, are not fully supported by empirical research. A broader and more comprehensive conception of temporary work is needed, as it may improve our knowledge about temporary work and health-related outcomes. Moreover, we should be cautious in assuming that perceived job insecurity is unequivocally associated with temporary arrangements.

In our view, one of the main reasons for the contradictory results is that early research involving temporary employees considered them to be a homogeneous population (e.g. Gannon, 1984; Gannon and Brainin, 1971), composed of low-skilled employees who would prefer a permanent job. In considering temporary employees mostly as a homogeneous group, previous research has failed to capture relevant differences among temporary employees that would possibly lead to a better understanding of organizational and health-related outcomes.

Diversity in Temporary Work and its Implications for Job Insecurity and Health-Related Outcomes

The characteristics of temporary work may vary according to a number of factors that range from macro- (the regulatory regime and institutional arrangements that shape contracts in different countries) to meso- (industry- or occupation-specific characteristics in terms of the use of temporary workers) and micro-level (the duration of the contract, whether the employee is hired by the company or leased from a labour leasing/temp agency, the age of the worker and his/her employment history). Thus, we could characterize groups of temporary workers in many ways. In the present study, we aim to base our classification on a model that uses preference for temporary contract and level of skills to group temporary workers (Marler et al., 1998). In the following, we review the existing

evidence on these two dimensions and their relations with job insecurity and health outcomes.

Preference for Contracts among Temporary Employees and its Consequences

Several studies carried out in different countries and sectors on preference of contract suggest that the majority of temporary workers would prefer a permanent contract (Gustafsson et al., 2001; Remery et al., 2002; Tremlett and Collins, 1999). However, a sizeable minority, around 30 per cent, prefer temporary work over permanent arrangements (Aronsson and Göransson, 1999; Barringer and Sturman, 1999; Isaksson and Bellagh, 2002; Krausz, 2000; Krausz et al., 1995; Larson, 1996; Pearce, 1998; Polivka, 1996; Tremlett and Collins, 1999; von Hippel et al., 1997). In fact, some studies suggest that some temporary employees are not forced into temporary arrangements by the labour market but, rather, consider such arrangements an attractive option (Feldman et al., 1994; Polivka, 1996). Temporary arrangements may be a source of variety, flexibility or extra money. They offer an opportunity to balance work with other non-labour-market obligations and develop new skills, and they provide pathways into the labour market for individuals who would otherwise not have this opportunity.

Thus, the preference for contracts is a variable worth considering when studying the consequences of temporary work. In fact, the distinction between voluntary and involuntary temporary employees has been shown to be relevant in understanding the implications of temporary work on different outcomes. Ellingson et al. (1998) found that preference for being a temporary employee was positively associated with pay satisfaction and satisfaction with temporary jobs. Krausz (2000) found that those who preferred temporary employment, and were not seeking permanent employment, showed the highest levels of overall intrinsic and extrinsic satisfaction and the lowest levels of stress (role conflict and role ambiguity). Besides, preference for contracts has been negatively associated with job insecurity (Guest et al., 2003). And Isaksson and Bellagh (2002) found that workload and social support mediate the relationship between preference for temporary contract and negative health effects (distress and somatic complaints).

Skill Level in Temporary Employees

Skill level is the other variable used by Marler et al. (1998) to differentiate among temporary employees. Based on the human capital theory and the dual market model, we should expect that very few highly skilled employees would work in temporary arrangements. However, contrary to the traditional image of temporaries as disadvantaged low-skilled employees, a considerable number of temporary workers are highly skilled, and they are placed in core areas of the firms (some estimations suggest 25 per cent; see Segal and Sullivan, 1997). Marler et al. (2002) have provided two complementary arguments to overcome this apparent contradiction. First, since human capital theory does not take non-economic returns into consideration, it fails to explain why high-skilled employees are part of the temporary workforce. Second, the increasing demand for temporary workers has diminished the risks associated with temporary job insecurity. For this reason, individuals with specialized skills can be more assured of a string of opportunities, which mitigates a major disadvantage that may have served to inhibit them from considering temporary work in the past. Besides, temporary workers can benefit from skill accumulation and advancement across organizations. Guest (2002) provides a similar reasoning based on the concept of 'knowledge worker' or the 'free worker' (Knell, 2000). The 'knowledge worker' and 'free worker' willingly seek temporary employment. In this way, they have more autonomy and freedom, and benefit from having a career between organizations rather than within an organization.

In summary, there is enough evidence to support the existence of widespread heterogeneity among temporary workers. Thus, current theories of contingent employment are deficient, as they overlook highly skilled temporaries (Kunda et al., 2002) and assume that all temporary employees prefer permanent contracts.

A Taxonomy of Temporary Employees Based on Preference of Contract and Skill Level

Marler et al. (1998) differentiate between four main categories of temporary workers based on their preference for temporary work and their skill level (see Figure 1).

Skills	High	Transitional	Boundaryless
	Low	Traditional	Career
		Low	High
		Preference for temporary work	

FIGURE 1
Temporary Worker Types

Source: Marler et al. (1998)

‘Boundaryless workers’ have high skills and a high preference for temporary work, resembling the ‘knowledge workers’ in the terminology of Guest (2002). The ‘transitional workers’ have high skills and a low preference for temporary work. They probably view temporary work as a transitional arrangement, as a ‘stepping stone’ to a permanent job. The ‘career temporary worker’ (characterized by Guest [2002] as ‘permanent temporaries’) has low skills and a high preference for temporary work. These workers are more interested in non-work pursuits, and temporary arrangements allow them to match work and non-work roles. Finally, the ‘traditional temporary’ has low skills and a low preference for temporary work. Marler et al. (1998) tested this distinction on a sample of 276 temporary workers. They found general support for it and for an association between temporary types and a range of independent variables, including reasons for undertaking temporary work, perceptions of alternative job opportunities, nature of tasks, wages, additional sources of income, age, gender and marital status. The results showed the most prominent differences when comparing ‘boundaryless’ and ‘traditional temporaries’. ‘Traditional’ as compared to ‘boundaryless temporaries’ were more likely to choose temporary work while looking for a permanent job, to be female and to have fewer job opportunities. ‘Transitional temporaries’ were more likely than ‘boundaryless workers’ to be looking for permanent employment and to have fewer alternative assignments as well. Moreover, they were more likely to be younger and less interested in flexibility

than 'boundaryless workers'. 'Career temporaries' (or 'permanent temporaries') were more likely to be married and female. The authors suggested this characteristic could account for their preference for temporary work, as they might have fewer economic pressures.

In another study, Marler et al. (2002), using hierarchical cluster analysis with a representative sample of 614 temporary agency employees, obtained two groups of temporary employees: 'boundaryless' and 'traditional'. The 'traditional temporaries', as compared to the 'boundaryless group', consisted of significantly higher proportions of blue-collar and pink-collar occupations. Furthermore, lower levels of preference were found. The group of 'boundaryless temporaries' was composed of a higher proportion of white-collar workers and individuals who valued temporary work for its flexibility. These workers have a higher level of education than 'traditional temporaries'. Findings showed that 'boundaryless temporaries' reported higher levels of job and pay satisfaction, perceived more job alternatives and had higher wages and higher expectation of earnings. They were also more likely to have a working spouse.

Marler et al. (1998, 2002) operationalized level of skill, following human capital theory, as a combination of three variables: level of education, age and occupation. In the present study, we suggest a different categorization of temporary workers that would consider employability rather than skill level. In addition, for the sake of clarity, we label 'career temporaries' as 'permanent temporaries' following Guest (2002). We consider this terminology to be more meaningful.

It could be argued that employability is probably related to occupation, occupational status and educational level, all of which are relevant variables when studying temporary work (Marler et al., 1998, 2002). Previous research has shown that occupation and occupational status are associated with different working conditions (e.g. wage, security and skill profile) (Cohen and Haberfeld, 1993; Segal and Sullivan, 1997). Additionally, lower educational level, being older and being blue-collar have been positively associated with perceived job insecurity (Näswall and De Witte, 2003). These results suggest that these variables should be controlled for when studying the consequences of temporary employment.

Employability

As Hillage and Pollard (1998) have remarked, there is no single definition of employability. These authors have suggested that employability refers to three main aspects: the ability to gain initial employment, to maintain employment and to obtain new employment in the same or another organization. In our study, we refer to employability as the ability to find another job. In our view, employability is a more useful concept than level of skills when studying the consequences of temporary work, such as job insecurity and health-related outcomes. Kunda et al. (2002) stated that when individuals become 'boundaryless', their security stems from their own skills and ability to sell those skills. Their security does not usually stem from keeping their jobs, but is based on the idea that they can easily find another job. We would go further and point out that job insecurity will depend mainly on employability, or employees' perceptions about the possibility of finding another job if they lose their present one.

Several authors have argued for the relevance of employability as a source of job security (Hartley et al., 1991; Howe, 2001; King, 2003). Hartley et al. (1991) highlighted the relevance of employability as a predictor of job insecurity. They suggested that employees who trust their employability are less concerned with job security. However, little research has been conducted based on these theoretical assumptions.

Obviously employability depends on the level of skills, but not exclusively. Other variables such as self-esteem, self-concept, social networks and perceptions of the labour market will probably play a major role in employees' perceptions about their employability.

The Present Study

The present study extends previous research in several ways. First, we adopt a broader conception of temporary employees than that traditionally used in previous analyses. In contrast to most of the earlier research, our approach studies the heterogeneity of temporary workers and hypothesizes that temporary work will have different consequences for different temporary workers. Second, to capture the heterogeneity of temporary workers, we have reformulated Marler et al.'s model, taking into account employability

instead of skill level. We propose a classification of temporary workers through two dimensions: preference for temporary work and employability. Third, in contrast to most previous research on preference for contracts, a reference group of permanent workers is also included. It provides us with a referent for comparison and is helpful for interpreting the results. This is especially true when a large array of previous research has focused on the comparison of temporaries (as a whole) and permanents.

The purpose of this article is to study perceptions of job insecurity and health-related outcomes (well-being and life satisfaction) in different groups of temporary workers differing on preference for contract and employability, and to compare them with a reference group of permanent workers. The following hypotheses are formulated:

Hypothesis 1: ‘Permanent temporaries’ and ‘traditional’ ones, as they perceive themselves as being of low employability, will report higher levels of job insecurity than the other temporary groups and the permanent group.

Hypothesis 2: ‘Traditional temporaries’ (low in volition and low in employability) will express less life satisfaction than the rest of the groups.

Hypothesis 3: ‘Traditional temporaries’ (low in volition and low in employability) will exhibit less well-being than the rest of the groups.

Method

Sample

The sample used in this study consisted of 383 Spanish workers. Most of them (65 per cent, $N = 252$) were permanent employees; 72.7 per cent ($N = 280$) were women (these accounting for 71.8 per cent [$N = 181$] of the permanent employees, and 74.8 per cent [$N = 98$] of the temporary employees). The average age of respondents was 32 (34 years for permanent employees, and 29 for temporary employees). With regard to marital status, the percentage of married or cohabiting employees was higher among permanent employees (59.5 per cent, $N = 150$) than among temporary workers (41.2 per cent, $N = 54$).

Concerning educational level, 69 per cent ($N = 174$) of the permanent employees had at least an upper secondary school education. This percentage is still higher among temporary employees (74 per cent, $N = 97$), which is not a strange situation given that the temporary group includes higher rates of younger workers, and the younger generation in Spain has achieved higher levels of education. The sample was mainly composed of doctors, nurses, assistant nurses, sales persons, secretaries and accountants. Among the permanent employees, 12.7 per cent ($N = 32$) were doctors, 9.9 per cent ($N = 25$) nurses, 3.2 per cent ($N = 8$) assistant nurses, 27.8 per cent ($N = 70$) sales persons, 9.5 per cent ($N = 24$) secretaries and 22.2 per cent ($N = 56$) had other occupations. Among the temporary employees, 6.1 per cent ($N = 8$) were doctors, 16.8 per cent ($N = 22$) nurses, 6.1 per cent ($N = 8$) assistant nurses, 17.6 per cent ($N = 23$) sales persons, 8.4 per cent ($N = 11$) secretaries and 31.3 per cent ($N = 41$) were in other occupations.

Procedure

The head of the human resources department of each company was contacted in order to explain the purpose of our study and ask consent for participation. Employees filled out the questionnaire voluntarily. The objectives of the study and the instructions for filling out the questionnaires were personally explained, and confidentiality was guaranteed. In most cases, participants filled out the questionnaires in the presence of a research assistant. In a few cases, the questionnaires were delivered personally, with the request that they be posted back to us.

Measures

Sociodemographic measures. Age was operationalized as a continuous variable. The occupational status question includes the following categories: unskilled blue-collar, skilled blue-collar, white-collar, professional, management and other. Information about occupation was gathered using six categories: doctor, nurse, assistant nurse, sales person, secretary, accountant and other occupations. Level of education was obtained with a five-category question: primary

school, lower secondary, upper secondary, college university and college degree or higher.

Type of contract. This was a single item based on the response to the statement 'Type of contract in this job'. Response choices were: permanent and other.

Preference for contract. This was a single item based on the response to the statement: 'My present contract suits me for the time being'; with answers on a scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Employability. This was a single item based on the response to the statement: 'I am optimistic that I will find another job, if I look for one'; with answers on a scale from 1 (strongly disagree) to 5 (strongly agree). This item was selected from the scale developed by De Witte (1992).

Contractual status. Based on our reformulation of the Marler et al. (1998) categorization (see Figure 1), the temporary sample was split into four groups depending on preference for contract and employability level. We treated those temporaries who chose a 4 or 5 in response to the employability measure as high in employability, whereas those temporaries indicating moderate or low agreement, choosing a 1, 2 or 3 on the scale, were treated as low in employability. Concerning preference for contract, the same procedure was followed. As a result, four groups were distinguished: (1) 'boundaryless' (high in preference of contract and high in employability: these accounted for 12.2 per cent [$N = 16$] of the sample); (2) 'permanent temporaries' (high in preference of contract and low in employability: 6.9 per cent [$N = 9$]); (3) 'transitional' (low in preference of contract and high in employability: 50.4 per cent [$N = 66$]); and (4) 'traditional' (low in preference of contract and low in employability: 29.8 per cent [$N = 39$]).

Job insecurity. This was measured with a scale comprising four items selected from the scale developed by De Witte (2000). One example of the items is 'I feel insecure about the future of my job'. The index had an estimated alpha of .79.

Life satisfaction. Building on experience from other studies, a seven-item measure of life satisfaction was constructed for the specific purpose of this study. An example of the item is: ‘How satisfied or content do you presently feel about your life in general?’. Cronbach’s alpha was .78.

Well-being. The 12-item General Health Questionnaire (GHQ-12) was included in the questionnaire to measure well-being. This scale was developed by Golberg (1979), and responses were given on a four-point Likert scale (0–3), with high values representing a high level of well-being. Cronbach’s alpha was .79.

Analyses

We performed some preliminary analyses, in order to check whether temporary groups differ in age, occupation, occupational status and educational level. One-way ANOVA tests were carried out to explore differences in age. Chi-square tests were performed to explore differences in occupation, occupational status and educational level.

Levene’s test of homogeneity of variance was carried out in order to select an appropriate test to explore differences attributed to contractual status on job insecurity, life satisfaction and well-being. When groups had equal variances, one-way ANOVA tests were carried out; when groups showed unequal variances, the Welch test was used. This test is considered the most convenient parametric alternative to ANOVAs when variances are unequal (Jaccard, 1998; Pardo and San Martín, 2001). When differences attributed to contractual status were found, post hoc tests were carried out to obtain further information about the differences. Having unequal sample size groups, the DMS Tukey–Kramer test was used when equal variances arose. In cases where unequal variances were found, the Games–Howell test was carried out, as some authors recommend (Pardo and San Martín, 2001; Toothacker, 1993).

Results

Table 1 presents descriptive statistics of the variables, alpha coefficients of the scales and correlations among the variables. The Cronbach’s alphas are presented along the diagonal.

TABLE I
Means, Standard Deviations, Correlations and Cronbach's Alpha Coefficients of the Variables in the Study

	M	SD	1	2	3	4	5	6	7	8
1. Occupational status	—	—	—							
2. Educational level	—	—	.16**	—						
3. Age	32.29	6.76	-.07	-.11*	—					
4. Preference of contract	3.30	1.06	-.01	-.05	.14**	—				
5. Employability	3.31	.75	-.08	.05	-.07	<.00	—			
6. Job insecurity	2.48	.88	<.00	.03	-.31**	-.30**	-.11*	(.79)		
7. Life satisfaction	5.30	.86	-.09	-.12*	-.07	.10*	.17**	-.19**	(.78)	
8. Well-being	1.78	.44	-.05	-.05	-.00	-.07	.10*	-.13*	.50**	(.79)

* $p < .05$; ** $p < .01$. Figures in brackets are Cronbach's alpha coefficients.

The correlation between preference for contract and employability is non-significant. Correlations between job insecurity and both employability and preference for contract are significantly negative. Additionally, life satisfaction correlates positively with preference for contract and employability. However, well-being correlates significantly and positively with employability, but not with preference for contract. A significant negative association has been found between age and job insecurity and between educational level and life satisfaction.

Means and standard deviations for each group of employees, and F or V_w (Welch test) values on dependent variables, are reported in Table 2. Preliminary analyses show no significant differences among temporary employees with regard to: age, $F = 1.482$; $p = .223$; occupational status, $\chi^2 (15, N = 120) = 21.573$, $p > .05$; occupation, $\chi^2 (15, N = 112) = 16.882$, $p > .05$; and level of education $\chi^2 (12, N = 127) = 11.623$, $p > .05$.

Regarding group means contrasts, Levene's index $(4, 378) = 3.636$, $p = .006$ failed to support the assumption of homogeneity of variances on job security. Consequently, with regard to job insecurity, the Welch test and Games–Howell post hoc test were performed. Levene's test supported the assumption of homogeneity of variance on life satisfaction, Levene's index $(4, 375) = 1.036$, $p = .389$, and well-being, Levene's index $(4, 373) = .894$, $p = .46$. Consequently, one-way ANOVAs and the DMS Tukey–Kramer test were carried out in these cases.

Job Insecurity

Results show that the four temporary groups present significantly higher job insecurity than permanent employees: 'traditional' ($p = .01$), 'permanent temporaries' ($p = .03$), 'transitional' ($p = .01$) and 'boundaryless' ($p = .05$). Differences between the four groups of temporaries are non-significant, although the groups low in employability present higher mean values on job insecurity than those high in employability. In addition, it is interesting to note that differences between 'traditional' and 'boundaryless' are close to the conventional level of significance ($p = .08$). According to Hypothesis 1, we expected that 'permanent temporary' and 'traditional temporary' workers would present higher job insecurity than the rest of the groups. The results provide only partial support for this hypothesis.

TABLE 2
Means and Standard Deviations for the Different Groups of Employees. F/V_w Values on the Dependent Measures

	Traditional		Transitional		Permanent temporaries		Boundaryless		Permanent		F/V_w	p	Post hoc tests
	M	SD	M	SD	M	SD	M	SD	M	SD			
Age	28.05	6.10	29.48	5.74	26.0	3.07	30.31	6.04	–	–	1.482 ^a	.223	
Job insecurity	3.27	0.77	2.94	0.96	3.37	1.03	2.72	0.68	2.20	0.71	24.69 ^{**b}	≤.001	Traditional > boundaryless [#] Transitional > permanent ^{**} Traditional > permanent ^{**} Perm temps > permanent [*] Boundaryless > permanent ^{*c}
Life satisfaction	4.96	1.07	5.48	1.31	5.56	1.43	5.34	1.35	5.29	1.21	2.46 ^{*a}	.04	Traditional < transitional ^{**} Traditional < perm temps [*] Traditional < permanent ^{*d}
Well-being	1.64	0.47	1.94	0.48	1.91	0.51	1.80	0.43	1.76	0.41	3.34 ^{**a}	.01	Traditional < transitional ^{**} Traditional < perm temps [#] Permanent < transitional ^{**d}

[#] $p < .10$; $*$ $p < .05$; $**$ $p < .01$. ^a = F value; ^b = V_w value (Welch test); ^c = Games–Howell post hoc test; ^d = DMS Tukey–Kramer post hoc test.

Life Satisfaction

Our results showed that ‘traditional temporaries’ presented the lowest level of life satisfaction. But only significant differences were found when comparing them to: ‘transitional’ ($p \leq .01$), ‘permanent temporaries’ ($p = .05$), and permanents ($p = .03$). The ‘boundaryless career’ group also presents higher life satisfaction than ‘traditional temporaries’, but the differences do not reach the conventional level of significance. Following Hypothesis 2, we expected ‘traditional temporaries’ to report lower life satisfaction than the rest of the groups. Thus, Hypothesis 2 is basically confirmed.

Well-Being

Results obtained show that ‘traditional temporaries’ present the lowest level of well-being. However, differences are significant only when comparing them to: ‘transitional temporaries’ ($p \leq .01$). In addition, differences were close to the conventional significant level when comparing ‘traditional’ and ‘permanent temporaries’ ($p = .08$). According to Hypothesis 3, ‘traditional’ temporaries were expected to report the lowest level of well-being. Thus, the results provide limited support for this hypothesis. Interestingly enough, the differences between the ‘transitional temporaries’ and the permanent group are also significant ($p \leq .01$): ‘Transitional temporaries’ perceive higher well-being than permanent workers.

Discussion

The aim of the present article is to study the perceptions of job insecurity and health-related outcomes (well-being and life satisfaction) in different types of temporary employees and in permanent ones. We distinguish four groups of temporary workers based on employability and preference for temporary contract: ‘boundaryless’, ‘traditional’, ‘transitional’ and ‘permanent temporaries’.

Hypothesis 1 predicted that ‘permanent temporaries’ and ‘traditional’ temporaries, as they perceive themselves as low in employability, would report higher level of job insecurity than the other temporary groups and the permanent one. Results showed that

the four temporary groups present significantly higher job insecurity than permanent employees. In addition, the 'traditional' group presents higher insecurity than the 'boundaryless' ($p = .08$). The other differences between temporary groups are clearly non-significant. These results support Hypothesis 1, in that the low employability groups differ from the permanent one, and they also show a trend by pointing out that the low employability–low preference for contract group feels more insecure than the high employability–high preference for contract group. These findings are somewhat in line with the theoretical assumptions regarding the relevance of employability in understanding differences in job insecurity among temporary employees (Hartley et al., 1991; Howe, 2001; King, 2003). However, although the 'boundaryless' tend to feel less insecure than the 'traditional group', they still feel clearly more insecure than permanents. Thus, taken as a whole, results are in line with the literature that finds that permanents experience lower job insecurity than temporary workers (De Witte and Näswall, 2003; Kinnunen and Nätti, 1994; Klein Hesselink et al., 1998; Näswall et al., 2002; Sverke et al., 2000). A couple of arguments could explain these results. First, it is interesting to note that in Spanish culture 'fixed-security' (stemming from keeping the individual's present job) is highly valued (García-Montalvo et al., 2003; Peiró et al., 2002). Furthermore, the high unemployment rate contributes to reducing the subjective security stemming from employability (Kunda et al., 2002), that is, from employees' own skills and their ability to sell them.

Hypothesis 2 about life satisfaction stated that 'traditional temporary' workers would express less life satisfaction than the rest of the groups. Our results showed that 'traditional temporaries' presented significantly lower life satisfaction than 'transitionals', 'permanent temporaries' and permanents. Thus, the hypothesis is basically confirmed, showing that 'traditional temporaries' differ from most of the groups on life satisfaction. A possible explanation for these findings could be that 'traditional employees', not being in their preferred contract arrangement and reporting low employability scores, perceive themselves as having less control over their environment. Several authors (Deci and Ryan, 1987) suggest that health is positively affected when people perceive their environment as being supportive of self-determination. In addition, it was noteworthy that non-significant differences in life satisfaction emerged when comparing permanent employees with 'permanent temporary',

'transitional' and 'boundaryless' employees. In fact, permanent workers present lower life satisfaction than these groups. These findings clearly show that temporary arrangements do not have negative effects on life satisfaction for all the groups, but only for the 'traditional' group. In addition, the findings point out that temporary workers cannot be placed in a single group to compare their life satisfaction with that of permanent workers.

Hypothesis 3 predicted that 'traditional temporary' workers would exhibit lower well-being than the rest of the groups. Results obtained show that 'traditional temporaries' display significantly lower well-being than 'transitionals'. They also show lower well-being than 'permanent temporaries', with the differences being close to the conventional level of significance. Thus, the results provide limited support for the hypothesis. However, considered as a whole, the results present an interesting picture: 'traditional temporaries' present lower well-being than permanents (although differences are non-significant), and the rest of the temporaries present higher well-being than permanents, with the differences for permanents and 'transitionals' being statistically significant. Thus, these results show that temporary workers are far from being a homogeneous group when we compare their well-being with that of permanent workers. In fact, these results shed light on the studies that have dealt with this issue. Some authors found significant differences that show permanents present higher well-being (Martens et al., 1995; Pietrzyk, 2003). Temporary workers considered in these studies may experience low employability and/or low preference for contract. Other studies have found mixed results. Aronsson et al. (2002) have found a clearly different pattern of results in psychosomatic complaints between permanents and temporaries, depending on their specific type of contract. Rodriguez (2002) also found mixed results. She found that temporaries reported lower well-being than permanents in Germany but not in Britain. She explains these differences by pointing out that 'in Germany more workers are forced to accept unstable employment arrangements against their own preferences and needs' (Rodriguez, 2002: 975). Thus, temporaries across these two countries could differ on the basis of preferences for contract, and this difference could explain these mixed results. A third group of studies did not find significant differences between temporaries and permanents (Werthebach et al., 2000; Rödiger et al., 2003), and still other groups of studies found differences in favour of temporaries (Sverke et al., 2000; Virtanen et al.,

2002). The latter interpret their results by pointing out that 'in Nordic countries, fixed-term employment, far from condemning employees to a life of second-class jobs, often acts as a route to steady employment' (Saloiemäki et al., 2004: 204). In summary, it is clear that temporary workers are not a homogeneous group when we analyse their well-being. This is also the conclusion reached by Isaksson and Bellagh (2002), who point out that contract of choice in temporary workers is positively associated with health.

Taken as a whole, our results show that research involving temporary employees cannot consider them as an undifferentiated population (e.g. Gannon, 1984; Gannon and Brainin, 1971) composed of low-skilled people who always prefer a permanent job. Our findings support the need to pay more attention to the heterogeneous character of temporary work when studying health-related outcomes. In fact, the taxonomy used in the present article, modifying the model formulated by Marler et al. (1998), has been useful for identifying differences in health-related outcomes among permanent and temporary groups. In contrast to these authors, we argue that employability, rather than level of skills, is a more appropriate variable for understanding job insecurity and health-related outcomes.

Our study presents some limitations. First, its cross-sectional design does not make it possible to assume causal relationships. Thus, we should be cautious in producing causal interpretations of the relationships identified between preference for contract combined with employability and job insecurity or health-related outcomes. Second, alternative models might explain the differences found among temporary employees. For instance, we did not test whether job insecurity mediates the relationship between type of temporary worker and health-related outcomes. In fact, recently Chirumbolo and Hellgren (2003) showed job insecurity to be negatively associated with well-being and job satisfaction. Third, the composition of the sample is not representative of the whole population of temporary workers and focuses only on a limited number of occupational groups. However, these occupational groups are randomly distributed across the four types of temporary workers considered. In any case, our results are a pilot for the model tested and its consequences. Research is needed with representative samples in order to further test the model. In addition, some temporary groups are composed of a limited number of employees, possibly due to the fact that some types of temporary workers, such as the 'boundaryless', still represent a minority of the temporary

workforce. Thus, new studies based on target samples should be carried out. Fourth, single-item measures have been used to operationalize employability and preference for temporary contract. Future research should test our taxonomy using more complex measures. Nevertheless, some authors (Wanous et al., 1997) provide arguments that support the use of single-item measures, suggesting that a single item is usually easier to understand than a scale score. In addition, a single-item measure for preference of contract has been used in previous literature on this topic (e.g. Krausz et al., 1995).

Future research should reduce some of the previous limitations and contribute to further developing a theoretical framework that accounts for the heterogeneity of the temporary workforce. More specifically, our categorization, modifying Marler et al.'s (1998) model, should be validated. Research should be conducted to more accurately define these groups, the consequences that stem from their characteristics and the mechanisms that explain them. With this purpose in mind, it would be useful to take into account motives that make temporary employment an attractive option. In addition, the work history, previous career experiences and transitions of temporary employees would also be relevant variables. The work history of temporary employees could clarify the extent to which they are trapped in temporary work arrangements, as traditionally has been assumed. Along these lines, career prospects of temporary employees should be documented. It is likely that some of them consider temporary employment a bridge to stable work, in contrast to those who voluntarily look for temporary contracts as an alternative to a 'one career organization'. Employer promises about future permanent employment should also be considered. In this framework, the psychological contract becomes a relevant issue (Guest, 2004; Silla et al., in press). Finally longitudinal studies are needed in order to establish causal relationships with known long-term health consequences of temporary employment.

Our results suggest some theoretical implications. On the one hand, employability, as it is often operationalized in the studies on human capital theory, should be revised in order to incorporate new indicators and worker perceptions. In the same vein, Livingstone (1997) criticized the way 'learning' is operationalized by human capital theory. Moreover, this author pointed out that unemployment and the increased school enrolment rates are important

reasons to reconsider the applicability of the assertion that formal education and economic returns are associated. On the other hand, dual market theory should revise the conceptualization of temporary work. Along these lines, several authors suggest that the attempt to understand the segmentation of the labour market in terms of general theories on core and periphery is misleading (Gallie et al., 1998).

Finally several practical implications could also be derived from the present study. When trying to reduce the negative effects of temporary arrangements, legislation should identify those temporary employees that are at a disadvantage, without considering temporary employees as a homogeneous group. Our study suggests that employability and preference for contract are relevant variables to distinguish different groups. In addition, relevant socioeconomic variables should be taken into account when trying to develop policies that protect disadvantaged temporary employees. With regard to the management of the temporary workforce, some suggestions could be brought forth from our findings. Workers' employability should be enhanced in order to reduce possible negative effects on perceived job insecurity and mainly negative health-related outcomes resulting from temporary arrangements. Furthermore, employers should take into consideration whether contractual status matches the lifestyle and preferences of their employees when recruiting. Finally, in order to improve OHS, it is important to identify the specific hazardous conditions and the negative health outcomes for each type of temporary worker. In this way, the effective analysis and prevention of occupational risks and the promotion of occupational health in the temporary workforce will be better guaranteed.

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