PAPERS

'Objective' vs 'Subjective' Job Insecurity: Consequences of Temporary Work for Job Satisfaction and Organizational Commitment in Four European Countries

Hans De Witte
Catholic University of Leuven

Katharina Näswall
Stockholm University

This contribution analyses whether temporary work and (the subjective perception of) job insecurity are associated with a reduction in job satisfaction and organizational commitment, as proposed in the literature. An interaction between temporary work and job insecurity is also tested. Data from four European countries (Belgium, the Netherlands, Italy and Sweden) are used to test the robustness of the hypotheses. The results show that temporary work is not associated with a reduction in job satisfaction and organizational commitment. Job insecurity is associated with a lower score on both outcome variables, as hypothesized. In two countries, an interaction was found: job insecurity was only associated with a reduction in job satisfaction and organizational commitment among workers with a permanent contract, suggesting that the psychological contract was violated for this category of workers.

Keywords: European comparison, job insecurity, job satisfaction, organizational commitment, temporary work

Introduction

At the beginning of the 1990s, researchers were still deploring the relative lack of research on the causes and consequences of job insecurity (e.g. Hartley et al., 1991; Roskies and Louis-Guerin, 1990). A decade later, many studies on this issue have been published

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(e.g. Klandermans and van Vuuren, 1999a; Sverke et al., 2002). In their introduction to a special issue on the subject, Klandermans and van Vuuren discussed various aspects of this research tradition (Klandermans and van Vuuren, 1999b: 146–8). One of them concerns the conceptualization of job insecurity: should we conceptualize it as an objective or a subjective phenomenon? Psychological research favours the study of job insecurity as the employees' *subjective* perception (for an overview, see Sverke and Hellgren, 2002). However, Büssing (1999) pleads for the inclusion of an *objective* operationalization of job insecurity in research, since it offers the possibility to contrast its consequences with that of a subjective operationalization. According to this author, the anticipation of unemployment, created by the threat of job loss, is the core element of an objective conceptualization. Such a threat may originate from an imminent bankruptcy or from the temporary nature of the job in question. A temporary job has a limited time span by definition, thus jeopardizing employment continuity (e.g. Pearce, 1998). Authors such as Pearce thus suggest that temporary work can be considered an indicator of an objective operationalization of job insecurity.

This contribution will analyse the consequences of both an 'objective' and a 'subjective' conceptualization of job insecurity. We concentrate on the effects of temporary employment (alleged 'objective' operationalization of job insecurity) and the perception of job insecurity ('subjective' operationalization) on employees' job satisfaction and organizational commitment. These two outcome variables make up crucial dimensions within industrial and organizational psychology, relevant to individual employees as well as to the company employing them (see, for example, Meyer and Allen, 1997; Spector, 1997). Analysing two different operationalizations of job insecurity not only allows for a comparison of the consequences of both types, but also offers the possibility of examining the association and the interaction between both operationalizations (see later). In this article, the term 'temporary employment' is used when we refer to the objective operationalization of job insecurity. The term 'job insecurity' refers to the subjective operationalization, unless stated otherwise. The choice of temporary employment as an indicator of 'objective' job insecurity is justified by the discussion in the literature in which this option is proposed (e.g. Büssing, 1999; Pearce, 1998). One of the additional aims of this article, however, is to critically examine whether temporary employment can indeed be used as an 'objective' indicator of job

insecurity. As our point of departure, and in accordance with the literature, we provisionally assume this to be the case. We return to this issue in the discussion.

Temporary Employment vs 'Subjective' Job Insecurity

Temporary Employment

In the literature, temporary employment is often defined as (an aspect of) 'precarious' employment (e.g. Letourneux, 1998), 'non-standard employment' (e.g. Jenkins, 1998) or 'contingent work' (e.g. Sverke et al., 2000). Within the European context, temporary employment is mainly studied as one of the aspects of 'flexibility' (e.g. Reilly, 1998b). According to many authors, it is a form of quantitative (or numerical) external flexibility, since it concerns the fluctuation of the number of employees who do not actually belong to the company (e.g. Klein Hesselink and van Vuuren, 1999). This can be done in various ways. A fixed-term contract, a contract for temporary work and a temporary agency contract are perhaps the most frequent (Reilly, 1998b), although the relevant literature distinguishes even further types of contracts (e.g. Aronsson, 1999; Sverke et al., 2000). These 'contract flexibility' types share the characteristics of a temporary employment relationship. Pearce (1998) thus considers them to be *objective* forms of job insecurity, characterized by 'an independently determined probability that workers will have the same job in the foreseeable future'.

Contractual flexibility is predominantly driven by economic considerations (Purcell and Purcell, 1998). Increased global competition prompts companies to increasingly opt for temporary employment relations with their employees, in an effort to deploy the available employees as efficiently as possible. Companies also try to absorb the sudden fluctuations in the demand for their products by increasing the number of temporary employees. It thus comes as no surprise that in the European Union the percentage of employees with a temporary contract increased by about 50 percent between 1985 and 1998: from 8.4 percent to 12.8 percent (Nätti, 2000).

This evolution prompts the question as to the effects of contractual flexibility on employees. In the literature these effects are mainly viewed as problematic (e.g. Reilly, 1998b). As a rule, temporary employment is assumed to have negative consequences for individual

employees' well-being, work attitudes and organizational commitment (e.g. Beard and Edwards, 1995; Berkhoff and Schabracq, 1992). These assumptions are based on three theoretical perspectives: deprivation theory, psychological contract theory and job stress theory.

One of the reasons for this assumption relates to deprivation and (the effects of) social comparison processes. In their '*flexible firm*' model, Atkinson and Meager (1986) state that a modern, flexible company is characterized by a schism between a stable group of employees forming the company's core group, and 'peripheral' groups who are particularly flexible in the numerical sense. Contractually flexible employees thus belong to the company's peripheral group. This thesis can be linked to *segmentation theory*, which distinguishes between the primary and secondary segment in the labour market (e.g. Steijn and Kraan, 1997). The primary segment contains the 'core functions' of the Atkinson and Meager model, characterized by high wages and good labour quality. The secondary segment contains the peripheral group of employees. Their functions are characterized by lower wages and a less favourable quality of work. By bringing both theoretical frameworks together we reach the assumption that temporary employees are not generally considered 'part of the corporate family', resulting in the danger of social exclusion (Reilly, 1998a; Sverke et al., 2000). According to Beard and Edwards (1995), processes of social comparison with core employees will lead to the perception of a disadvantaged position among temporary employees. This in turn will lead to feelings of deprivation and inequity. In addition, Beard and Edwards refer to research showing that such feelings result in lower job satisfaction and reduced organizational commitment.

Also according to '*psychological*' contract theory, a negative impact is expected of temporary employment (Beard and Edwards, 1995). The 'psychological contract' contains (often implicit) mutual expectancies between employers and employees regarding obligations between both parties (Rousseau, 1995; Schalk and Freese, 1993). Various psychological contracts can be distinguished. Transactional contracts refer to an exchange relationship based exclusively on job extrinsic aspects (such as wages) and reflect a short-term perspective (Rousseau, 1989). In relational contracts, intrinsic as well as extrinsic job aspects are included in the exchange relationship, which involves a longer time perspective. Symmetrical contracts refer to

an equal balance of power between employer and employee (Parks and Kidder, 1994). Asymmetrical contracts are characterized by an imbalance of power. Beard and Edwards (1995) suppose that asymmetrical and transactional psychological contracts typify temporary employment. After all, the employer provides no long-term perspective within the organization, and makes most decisions unilaterally concerning the use of temporary employees and their tasks. Transactional and asymmetrical psychological contracts are considered less favourable in the literature, and characterized by reduced job satisfaction and organizational commitment (e.g. Rousseau and Parks, 1993), since the idea of balance is central to the psychological contract. The employee has to feel that what the employer has to offer is counterbalanced by what the former brings into the relationship. When the employee perceives an imbalance, job satisfaction and organizational commitment will be reduced in an attempt to restore the (unequal) balance (Schalk and Freese, 1993).

Finally, the negative effects of temporary employment on the individual can also be motivated according to '*job stress*' theory (e.g. Sverke et al., 2000). According to this view, temporary employment holds more aggravating job characteristics ('stressors'), that lead to stress reactions or 'strains'. This view is connected to the aforementioned 'flexible firm' model and to segmentation theory, which also state that the quality of the work of temporary employees is of a lesser quality. In the literature, four categories of work stressors are distinguished (e.g. Le Blanc et al., 2000): job content, working conditions, employment conditions and social relations at work. Temporary employment contains specific stressors with regard to each of these categories.

With respect to *job content*, temporary employment could involve greater role ambiguity, as temporary employees are (mostly) new to the organization, and thus still need to get acquainted with their role and responsibilities (Sverke et al., 2000). A secondary analysis of the Dublin 'Second European Survey on Working Conditions' from 1996 (involving more than 12,000 respondents from the 15 member states of the EU), also shows that temporary employees have less autonomy in their work (Letourneux, 1998). This research equally shows that the jobs of temporary employees are more monotonous, and offer fewer possibilities of developing individual skills.[1] According to job stress research, role ambiguity and limited job decision latitude (autonomy and skill utilization) are 'classic' stressors

that reduce job satisfaction and organizational commitment (e.g. Karasek and Theorell, 1990; Warr, 1987).

The *working conditions* of temporary employees also contain specific stressors. According to Letourneux's (1998) secondary analysis of the European Dublin survey, temporary employees are more often obliged to work in painful and tiring positions, exposed to intense noise and required to perform repetitive movements or short repetitive tasks. Temporary employees also report having received less information about these aspects, and lack information about the extent to which their physical safety on the job may be improved (Aronsson, 1999).

The *employment conditions* refer to issues such as remuneration (wages), job security and the possibilities offered for training and career development. Research shows that temporary employees earn less than permanent workers and get fewer additional benefits, such as a bonus or insurance policy (e.g. Sels et al., 2002). The fact that temporary work also implies job insecurity has already been pointed out earlier. We return to this issue. Temporary employees receive less training on the job (Letourneux, 1998) and more often feel deprived as regards training opportunities (Aronsson, 1999).

Finally, the '*social relations*' aspect refers to social relations on the job and to the possibility of influencing the employment relationship by means of participation and 'having a say' (voice). The literature hypothesizes social support from colleagues and superiors to be inferior for temporary employees, because the latter do not belong to the core group of employees within the organization (Berkhoff and Schabracq, 1992; Sverke et al., 2000). No research could be found regarding the extent of social support from colleagues. Recent research, however, suggests that temporary employees do not receive less social support from superiors (van Breukelen and Allegro, 2000). Studies do, however, show that temporary employees are given fewer possibilities of participation. Temporary employees indicate that they are not consulted to the same extent, and that it is more difficult to raise criticism and to get their viewpoints heard, resulting in less influence on the company's decision-making process (Aronsson, 1999; Letourneux, 1998).

The three theoretical perspectives mentioned earlier (deprivation, psychological contract and job stress) all lead to the hypothesis that temporary employment has a negative effect on employees' job satisfaction and organizational commitment. Research into job satisfac-

tion and organizational commitment of temporary workers partly confirms this assumption.

With regard to *job satisfaction*, Letourneux (1998) has indeed found in her secondary analysis that temporary employees are less satisfied, compared to permanent workers. Other researchers have arrived at similar conclusions (e.g. De Witte and Lagrou, 1990; Steijn and Kraan, 1997; van Breukelen and Allegro, 2000). A recent review of the literature on work quality in the EU also suggests that the transition from temporary to permanent work is accompanied by an increase in job satisfaction (European Commission, 2001: 68–9). The results of previous research are not unequivocal, however, when a broader concept of well-being at work is used. Quinlan and colleagues reviewed 24 studies on temporary employees from the point of view of their occupational health and safety (Quinlan et al., 2000). A negative association was found in 14 out of 24 studies. The association was unclear in eight studies, whereas in two studies a positive association was reported. More general indicators of psychological well-being usually produce few differences between temporary and permanent workers (Sverke et al., 2000) and sometimes even more positive results for temporary employees (Letourneux, 1998).

As a rule, results regarding *organizational commitment* are more ambiguous than those concerning job satisfaction. In line with our theoretical assumptions, various researchers indeed found a reduction in organizational commitment among temporary employees, compared to employees under permanent contract (e.g. Lee and Johnson, 1991; Sverke et al., 2000; van Dyne and Ang, 1998). A recent small-scale, qualitative research also suggests that temporary employees do not feel affectively committed to the (smaller) department in which they work, which in part may be attributed to their more limited seniority in that particular department (Torka and van Riemsdijk, 2001). However, various other studies found no differences between temporary and permanent workers (e.g. Pearce, 1993; van Breukelen and Allegro, 2000).

To put it sharply, our first hypothesis reads: temporary employment will be associated with lower job satisfaction (hypothesis 1a) and a reduction in organizational commitment (hypothesis 1b), once relevant demographic variables have been controlled for.

(Subjective) Job Insecurity

The psychological concept of 'job insecurity' refers to concerns about the continuation of the job (Hartley et al., 1991; Sverke and Hellgren, 2002). It thus refers to a *subjective* perception among employees, based (among other things) on interpretations of events within their company (e.g. Sverke and Hellgren, 2002). The emphasis on the subjective aspect of this conceptualization implies that a given, 'objective' situation (e.g. the employment contract) can be interpreted in various ways: some will have feelings of uncertainty which are unfounded from an 'objective' point of view, whereas others, on the contrary, will feel that their job is secure, even though they may be dismissed in the near future.

Typical for this subjective conceptualization of job insecurity is that it concerns a feeling of *insecurity* about their *future*: it is uncertain (and unknown) for the employees in question whether they will retain or lose their present job (van Vuuren, 1990). This perception contrasts with the certainty of dismissal. In the latter situation, it is clear that one will become unemployed. This allows concrete action (e.g. to look for another job). Employees experiencing uncertainty cannot prepare adequately for the future: because of a lack of clarity about a future turn of events, it is unclear to them how to respond.

When defining job insecurity, scholars also refer to feelings of *powerlessness* in retaining desired job continuity (e.g. Greenhalgh and Rosenblatt, 1984) and to the *involuntary* nature of job insecurity (Sverke and Hellgren, 2002).

The subjective conceptualization of job insecurity can also be operationalized in various ways. Recently, a distinction was made between 'quantitative' and 'qualitative' job insecurity (see, for example, Hellgren et al., 1999). Quantitative job insecurity refers to the retention (or loss) of the job itself: people are uncertain about whether they will be able to keep the job or become unemployed. Qualitative job insecurity refers to uncertainty about the potential loss of (valued) aspects of the job, such as wages, working hours or the content of the job. In this article, we concentrate on 'quantitative' job insecurity, since the main concern of an analysis of (the consequences of) temporary employment is the continuation of the job itself (job retention), rather than the future quality of the job.

Radical economic transformations (such as large-scale restructuring processes) and the increase in the number of temporary employees (see earlier) may have resulted in heightened feelings of job insecurity (OECD, 1997). Job insecurity, however, does not necessarily lead to job loss or unemployment. As a consequence, one can assume that the job-insecure population outnumbers the amount of employees who effectively lose their job. Estimations of the amount of job-insecure employees vary between the different European countries. According to a recent OECD study, in 1996, between 23 percent and 46 percent (median: 38 percent) of the employees in one of the European OECD member states found that their company offered less job security than most other companies in the same sector (OECD, 1997: 134–5).

An extensive research tradition over the last few decades has documented the negative consequences of job insecurity for individual employees (e.g. Hartley et al., 1991; Klandermans and van Vuuren, 1999a). This research shows that job insecurity is consistently negatively associated with job satisfaction (e.g. Ashford et al., 1989; Davy et al., 1997; Hartley et al, 1991; Hellgren et al., 1999; Lim, 1997; Rosenblatt and Ruvio, 1996; Rosenblatt et al., 1999). Job insecurity also influences employees' organizational attitudes: the perception of job insecurity is often linked to reduced organizational commitment (e.g. Ashford et al., 1989; Brockner et al., 1992; Davy et al., 1997; Hellgren et al., 1999; Hom and Griffeth, 1991; Lord and Hartley, 1998; Rosenblatt et al., 1999). Longitudinal studies suggest that job insecurity has a causal influence on these aspects and on other indicators of health and well-being, and not the other way around (e.g. van Vuuren, 1990; Burchell, 1994; Ferrie et al., 1995).

In an effort to explain the negative effects of job insecurity, different perspectives may be considered. Quantitative job insecurity involves the perception that people may lose their present job. The fact that this reduces job satisfaction and well-being is hardly surprising. In our society, employment constitutes the key to social participation and recognition. This is central to the 'latent deprivation model' developed by Jahoda (1982). This model maps the needs satisfied by working, such as earning an income, establishing social contacts outside the family, the structuring of time and the need for individual and social development. The threat of unemployment implies frustration of the satisfaction of these needs, and represents an unattractive future perspective.

In addition, factors crucial to the study of work stress may also play a role. Furda and Meijman (1992: 133) highlight two such factors: predictability and controllability. Job insecurity first of all implies unpredictability: it is unclear to the persons concerned what their future holds. This makes it difficult to react adequately, because it is unclear *if* one should do something or not. Besides unpredictability, uncontrollability also plays a part. Various authors consider this lack of control or the experience of powerlessness to deal with the threat, as being the core dimension of job insecurity (Dekker and Schaufeli, 1995; Greenhalgh and Rosenblatt, 1984: 442–3). Stress research has shown that frequent confrontation with small, yet uncontrollable work stressors (such as machine failures) have a more serious effect on psychological well-being, than radical but one-off events (Furda and Meijman, 1992: 133).

The finding that job insecurity also affects organizational commitment can equally similarly be interpreted in various ways (van Vuuren, 1990: 31). First, it may be indicative of resentment on the part of the employee. Certainty about the future of one's job constitutes one of the components of the 'psychological contract' between employer and employee. When this certainty is affected, the employee may try to restore the balance by showing less interest, motivation and commitment (Schalk and Freese, 1993). Less commitment to the organization may also be interpreted as a (passive) coping strategy. By withdrawing psychologically from the organization, people reduce the aggravating nature of eventual job loss in advance ('disinvolvement syndrome', see Dekker and Schaufeli, 1995).

Hypothesis 2 reads as follows: (the subjective perception of) job insecurity will be associated with reduced job satisfaction (hypothesis 2a) and reduced organizational commitment (hypothesis 2b), once relevant demographic variables have been controlled for.

The Association between Temporary Employment and Subjective Job Insecurity

Given the preceding discussion, it seems obvious that temporary employment will be associated with the subjective perception of being uncertain about the future of one's job. First of all, various authors have explicitly linked both concepts. Pearce regards the

possibility of losing one's present job as the crucial aspect of temporary employment (Pearce, 1998: 34). Beard and Edwards consider the job's expected discontinuity as distinctive of 'contingent' (here: temporary) employment (Beard and Edwards, 1995: 110). Next to this, many empirical studies have also shown that temporary employees are more uncertain about the future of their job (e.g. Klein Hesselink and van Vuuren, 1999; Letourneux, 1998; Sverke et al., 2000; Vandoorne and De Witte, 2002). This association is stable after controlling for demographic characteristics (e.g. Vandoorne and De Witte, 2002). According to the study by Kinnunen and Nätti (1994), the temporary nature of the employment relationship is even the second most important antecedent of feelings of job insecurity.[2] The association between temporary employment and job insecurity can also be witnessed on an aggregate, plant level: the percentage of job insecurity increased in more than two-thirds of the companies where numerical forms of flexibility were introduced (Goudswaard and de Nanteuil, 2000: 13). The association between temporary employment and job insecurity is not perfect, however. According to Letourneux's European study, about a quarter of the temporary employees considered their job to be 'secure', as opposed to between 66 percent and 76 percent who perceived it as uncertain (Letourneux, 1998). This once again illustrates the partly subjective nature of job insecurity.

Hypothesis 3 thus reads as follows: employees on a fixed-term contract will feel more insecure about their jobs compared to permanent workers, once relevant demographic variables have been controlled for.

The finding that the association between both operationalizations of 'job insecurity' is not maximal, offers the possibility to clarify some of the ambiguities mentioned earlier. In reviewing the literature, it was shown that temporary employment (alleged 'objective' indicator of job insecurity) is not always associated with the expected reduction in job satisfaction and organizational commitment. The 'subjective' perception of job insecurity, on the contrary, is consistently associated with lower scores on both outcome variables. We hypothesize that this 'inconsistency' relates to the fact that the subjective variant of job insecurity is 'hidden beneath' its 'objective' counterpart: the negative effects mentioned before will *only* appear if temporary employment gives rise to feelings of job insecurity (cf. Klandermans and van Vuuren, 1999b). There are two ways of testing this assumption.

The first possibility is the most explicit. Here, we propose that only the *subjective* variant of job insecurity is associated with job satisfaction and organizational commitment, once both types of job insecurity have been statistically controlled for.

This leads to hypothesis 4: after controlling for demographic variables and temporary employment, only the subjective perception of job insecurity will be linked to reduced job satisfaction (hypothesis 4a) and reduced organizational commitment (hypothesis 4b). The 'objective' operationalization of job insecurity ('temporary work') will no longer be associated with the two outcome variables.

The second possibility refers to the possibility of an *interaction* or *moderator-effect*. It is possible that both types of job insecurity strengthen each other in a multiplicative way, as is often the case in job stress research (see, for example, Koslowsky, 1998). This implies that the combined effect of the two stressors leads to even lower levels of both job satisfaction and organizational commitment than the 'simple' addition of the negative effect of both stressors taken separately. The lowest score is expected from employees who are temporarily employed *and* who feel insecure about their job. This hypothesis is called the 'intensification hypothesis'.

An alternative interaction hypothesis is also possible. It is possible that job insecurity has a different effect on permanent contractors than on temporary employees. To develop this hypothesis, we once again appeal to the notion of the psychological contract (Rousseau, 1995; Schalk and Freese, 1993). We already discussed that the idea of balance is crucial to the psychological contract: the employee should perceive a balance between his or her input and the reciprocity of the employer. However, there may be a difference between temporary and permanent co-workers regarding the expectancy that the psychological contract involves job security. We can assume that especially permanent employees expect their employer to provide job security. The contract offered by their employer was, after all, of indefinite duration. Once confronted with (subjective) job insecurity, particularly this category of employees may experience it as a one-sided violation of the psychological contract, an experience that will have negative effects on their job satisfaction and organizational commitment. Temporary employees' expectation of job security may be part of their psychological contract to a lesser extent. They were, after all, only offered a fixed-term contract by their employer. Perhaps they do not (or not as strongly) experience the perception of job insecurity as a violation of the

psychological contract, because it did not include job security in the first place. According to this view, the most negative effect is expected regarding permanent employees who feel insecure about their job. The effect of job insecurity may be less negative (or even non-existent) among temporary workers. This hypothesis will be called the 'violation hypothesis'.

Hypothesis 5 thus reads that an interaction effect will occur between temporary employment and the subjective perception of job insecurity with regard to job satisfaction (hypothesis 5a) and organizational commitment (hypothesis 5b). For exploratory reasons, we do not hypothesize about the exact nature of this interaction. Two options are possible. The 'intensification' hypothesis assumes that employees who are temporarily employed *and* who feel insecure about their job will show the lowest score on both outcome variables. The 'violation' hypothesis states that the most negative score on both outcome variables is expected from permanent employees who feel insecure about their job.

Method

Design

The data being analysed in this contribution are part of a broader European study comparing the effects of job insecurity (for more information, see Sverke et al., 2001). Four European countries were involved in the project: Belgium, the Netherlands, Italy and Sweden. In these countries, similar data sets were collected (Italy) or composed (the three remaining countries). Our analysis thus partially involves secondary data analyses of previously collected data. We are primarily interested in the robustness of our hypotheses: the comparison of the four countries serves to determine to what extent the results regarding our hypotheses may be generalized. The main aim is not to analyse country-specific results, even though we reflect upon such differences in the discussion.

Samples

The Belgian data were collected in the autumn of 1998 via a postal survey in the country's three regions. The survey was aimed at

employees from the private sector, employed by companies with at least five employees. A total of 3003 questionnaires were distributed at random among a representative sample of 116 companies.[3] In total, 1120 employees returned their completed questionnaires. This represents an adequate response of 37.3 percent. The average age was 36.8 years and 65.3 percent of the respondents were men. Only 5.9 percent of them were working on a temporary contract, and 9 percent were part-time employees. The sample was heterogeneously compiled with regard to educational level. About 35 percent of the respondents were blue-collar workers, and 28 percent were professionals or managers (the rest worked as white-collar workers).

In the Netherlands the data were collected as part of the longitudinal panel organized among members of the National Christian Trade Union Federation (CNV). Only union members were thus involved in this telephone survey. The data in this article were collected in the summer of 1999 ('wave 13', response percentage: 50 percent). A total of 799 members participated in the survey. Their average age was 42.8 years, and 72.5 percent of them were men. Approximately 10.5 percent of the respondents were temporarily employed, and 20 percent were employed part-time. The sample was heterogeneously composed with regard to the level of education. About 24 percent of the respondents were blue-collar workers, and 23 percent were professionals or managers.

In Italy, the data were specifically collected for this study in 2000 via a postal survey. A total of 476 employees returned a completed questionnaire (response percentage: 55 percent). The average age was 38.3 years, and 68 percent of the respondents were men. Approximately 10 percent of the respondents were temporarily employed, and 6 percent worked part-time. In Italy the sample was also heterogeneous as regards educational level, whereas in this case respondents from the public sector were also present (77.5 percent were working in the private sector; the rest in the public sector). About 24 percent of the respondents were blue-collar workers, and 22 percent were professionals or managers.

Finally, in Sweden, the data were collected by means of a postal survey in two large hospitals undergoing organizational changes and restructuring. All employees received a questionnaire at home, and 1501 of them returned a completed form (response percentage: 61 percent). On average the respondents were 42.6 years old, and 82 percent of them were women. Of the respondents, 16.7 percent

were working on a temporary contract, and 38 percent were working part-time. The questionnaire did not register their educational level. The sample was heterogeneously composed according to occupational position: 26 percent of the respondents were blue-collar workers, and 16 percent were professionals or managers.

The composition of the samples is thus not identical. This is rather an advantage than a disadvantage for the purpose of this study, since the aim of this study is not to conduct a cross-country comparison. Instead, we aim to test the robustness of our hypotheses in various contexts. Using partially different samples increases this possibility. More information on the samples and procedures can be found in the technical report of this research project (see Sverke et al., 2001).

Measures

A number of demographic variables, such as gender and age, are registered in all questionnaires. However, certain demographic variables are not recorded in every survey (e.g. the level of education). The concepts of job insecurity and organizational commitment were operationalized with several items. All items were scored on a five-point scale (1 = disagree and 5 = agree). For each concept, a factor analysis was performed in each country to determine whether the various items refer to the same dimension (for detailed information, see Sverke et al., 2001). Consequently, scales were computed. The descriptive characteristics of these scales are listed in the Appendix. These characteristics (average, standard deviation, Cronbach's alpha and the intercorrelations between the scales) are reproduced per country.

In all countries, the concept of '(subjective) job insecurity' was measured with three items based on Ashford et al. (1989) and De Witte (2000). These items refer to two dimensions of job insecurity (cf. Borg, 1992): a cognitive one (e.g. 'I am sure I can keep my job'), and an affective one (e.g. 'I'm afraid I will get fired'). A higher score on the scale indicates stronger feelings of job insecurity. The scales obtained from Belgium, the Netherlands and Sweden were sufficiently reliable (Cronbach's alpha varied between .77 and .82; see Appendix). In Italy, the scale's reliability is somewhat lower (Cronbach's alpha = .67). The Appendix documents

that respondents in the various countries feel rather secure about their jobs (scores between 1.79 and 2.45 on a five-point scale).

Only one item was used to measure the concept of 'job satisfaction' in the four countries. The respondents had to evaluate the item 'I am satisfied with my job' on a five-point scale (1 = disagree and 5 = agree). A high score thus indicates higher satisfaction. A recent meta-analysis of job satisfaction research suggests that one can adequately measure this concept with only one item (Wanous et al., 1997). According to the tables presented in the Appendix, respondents in the various countries are generally fairly satisfied with their job (averages between 3.53 and 3.86 on a five-point scale).

In the four countries, the concept of organizational commitment was measured with the same four items (examples of items: 'I feel a strong sense of belonging to my organization' and 'This organization has a great deal of personal meaning to me'). We thus selected the concept of 'affective commitment'. The items were taken from the scale of Meyer and Allen (1997). Reliable scales were found in three countries (Cronbach's alpha between .70 and .84), with a somewhat weaker scale in Sweden (Cronbach's alpha = .65). A high score indicates stronger (affective) organizational commitment. Table A4 in the Appendix shows that organizational commitment is rather low in Sweden (average = 2.70), which may be attributed to the specific context of data collection (restructuring). In the three remaining countries, the respondents scored on the positive side of the scale (scores between 3.22 and 3.58).

Analyses

Most hypotheses were tested by means of (Pearson) correlations and (ordinary least squares) regression analysis. Hypothesis 3, regarding the association between temporary work and job insecurity, is tested by means of an analysis of variance, after which a multiple classification analysis is performed (Nie et al., 1975: 410–18). This method recalculates the mean scores for job insecurity for the permanent vs temporary workers, after controlling for the demographic variables. Respondents with missing scores on one or more variables were excluded from all the analyses (list-wise deletion). This resulted in a slight reduction of the size of the various samples.[4] When testing our hypotheses, four demographic variables

(gender, age, occupational position and full-time vs part-time employment) are statistically controlled for. These demographic variables and the temporary nature of the employment (vs permanent workers) were introduced into the analyses as dummy variables. We chose to limit the 'control variables' to those present in all four data sets, in order to increase the comparability of the results. Controlling, for example, for the educational level in one data set and not in another makes the results difficult to compare, thus hampering the test of our hypotheses.

In carrying out the regression analyses we followed the procedures suggested by Aiken and West (1991). The various predictor variables (e.g. demographics and job insecurity) were first of all centred (i.e. put in deviation score form so that their means are zero). Multiplying the two centred predictor variables ('temporary employment' and 'job insecurity') then formed the regression analysis's interaction term, needed to test the moderator-effect specified in hypothesis 5. This procedure was conducted separately within each country. For each country, two regression analyses were run: one with job satisfaction and one with organizational commitment as outcome variable. The four demographic variables, temporary employment, job insecurity and the interaction term between the last two variables, were always introduced simultaneously as predictors.

Results

Because the analyses relate to three different outcome variables ([subjective] job insecurity, job satisfaction and organizational commitment, respectively), we discuss the results according to each outcome variable separately. This means that we discuss the results in a slightly different sequence than the one in which the hypotheses are introduced in the preceding section.

Subjective Job Insecurity as Outcome Variable

Hypothesis 3 states that (once relevant demographic variables have been controlled for) employees on a temporary contract feel less secure about their job than employees with a permanent contract.

The Appendix documents that the initial ('zero-order') correlations between temporary employment and job insecurity are significant and positive in all four countries (correlations between .11 [$.05 > p > .01$] and .33 [$p < .001$]). An analysis of variance was performed with job insecurity as dependent variable, and temporary vs permanent work and the four demographics as independent variables. Then, a multiple classification analysis was performed, and the means of the temporary vs permanent workers were recalculated, after controlling for the demographics. The age of the respondents was recoded into three categories of equal size. Table 1 shows the results of these analyses.

The variable 'permanent vs temporary workers' is still significantly associated with job insecurity in three out of four countries, after controlling for demographics. This association is even rather strong in Sweden and Italy (betas respectively .33 and .26; $p < .001$). The association is only marginally significant in Italy, however ($p = .066$). The means for job insecurity in Table 1 also show that temporary workers feel more insecure about their job than employees with a permanent contract in all countries. This difference is only marginally significant in Italy. We can conclude that hypothesis 3 is corroborated in three out of four countries.

TABLE 1
Differences in Job Insecurity between Temporary and Permanent Workers in Four European Countries. Results of a Multiple Classification Analysis after Performing an ANOVA

	Belgium	The Netherlands	Italy	Sweden
Mean score for job insecurity[a]				
Permanent workers	2.18	1.81	2.40	1.62
Temporary workers	2.66	2.43	2.70	2.57
Beta	.12***	.26***	.09(*)	.33***
F-value	16,31***	20,05***	3,40(*)	139,37***
d.f.	(1,1046)	(1,309)	(1,385)	(1,1212)

(*) $.10 > p > .05$; *** $p < .001$

[a] Five-point scale (1 = disagree; 5 = agree). The means were recalculated and the influence of age, gender, social class and working part-time (vs full-time) was eliminated from the averages by means of a multiple classification analysis.

Job Satisfaction as Outcome Variable

Table 2 contains the results of the regression analysis with job satisfaction as outcome variable.

Hypothesis 1a reads that temporary employment is associated with reduced job satisfaction, once the various demographic variables are controlled for. The tables in the Appendix show that the initial ('zero-order') correlations between temporary employment and job satisfaction are not significant in three countries (Belgium, the Netherlands and Sweden), whereas the correlation is positive (although rather weak) in Italy ($r = .12$; $.05 > p > .01$). The latter contrasts with hypothesis 1a, because we expect to find the opposite, i.e. a negative correlation. After regression analysis – and after controlling for relevant demographic variables – the association between temporary employment and job satisfaction is not significant in Belgium. In Italy, the association remains positive (beta = .11; $.05 > p > .01$). In the two other countries, the coefficients become significantly positive (beta = .10 in the Netherlands and .06 in Sweden; in each case $.05 > p > .01$). This surprising finding cannot be attributed to the introduction of the demographics into

TABLE 2
Results of the Regression Analyses Concerning Job Satisfaction (Beta Coefficients)

Predictors	Belgium	The Netherlands	Italy	Sweden
Age	.07*	−.02	−.10*	.15***
Gender[a]	.01	.00	.04	.09**
Blue-collar workers[a]	.10**	.03	.03	−.03
Professionals/managers[a]	.02	.05	.12*	.08**
Part-time[a]	.02	−.09	−.14**	−.04
Temporary workers[a]	.00	.10*	.11*	.06*
Job insecurity	−.30***	−.14**	−.33***	−.19***
Interaction job insecurity–temporary workers	.07*	.00	.07	.09**
R	.32	.18	.41	.26
R^2	.10	.03	.17	.07
F-value	14,83***	2,65**	11,14***	12,14***
d.f.	(8,1065)	(8,602)	(8,434)	(8,1365)

[a] Dummies. A higher score reflects women, blue-collar workers, professionals/managers, part-time workers and temporary contracts respectively.
* $.05 > p > .01$; ** $.01 > p > .001$; *** $p < .001$.

the analysis. A separate regression analysis, in which only the demographics and temporary work were included, produced no significant coefficient for temporary employment in the Netherlands and Sweden. On the basis of these analyses, we must reject hypothesis 1a. Temporary employment is not associated with reduced job satisfaction in any of the four countries. After regression analysis, the reverse was even found in three of the countries: job satisfaction was higher among temporary employees.

Hypothesis 2a states that (subjective) job insecurity is associated with reduced job satisfaction, once the various demographic variables are controlled for. We can already conclude from the Appendix that the zero-order correlations between job insecurity and job satisfaction are significantly negative in all four countries (correlations between $-.12$ [$.01 > p > .001$] and $-.32$ [$p < .001$]). These correlations are in line with our hypothesis. Table 2 shows that these associations remain significant (and even virtually identical in magnitude) after regression analyses. Hypothesis 2a is thus corroborated in all countries. As expected, job insecurity is accompanied by reduced job satisfaction in each country, even after controlling for demographics.

At the same time, we can draw a conclusion regarding hypothesis 4a. This hypothesis states that *only* subjective job insecurity is associated with reduced job satisfaction after controlling for demographics and temporary employment. The results of the regression analyses show that only (subjective) job insecurity is associated negatively with job satisfaction. This applies to all four countries under investigation. Concerning this aspect, hypothesis 4a is corroborated. As mentioned earlier, however, after regression analysis, a temporary job continues to display a significant positive relation with job satisfaction (Italy) or does so for the first time (the Netherlands and Sweden). This is contrary to hypothesis 4a.

Finally, hypothesis 5a states that, when analysing job satisfaction, an interaction effect will arise between temporary employment and job insecurity. To test this hypothesis, an interaction term was added to the regression analysis. This interaction term is significant in Belgium (beta = .07; $.05 > p > .01$) and in Sweden (beta = .09; $.01 > p > .001$), but not in the two remaining countries. Hypothesis 5a is thus only partially confirmed. To determine whether the interaction between temporary employment and job insecurity is in keeping with the 'intensification hypothesis' or the 'violation hypothesis', the 'job insecurity' variable was dichotomized (medium

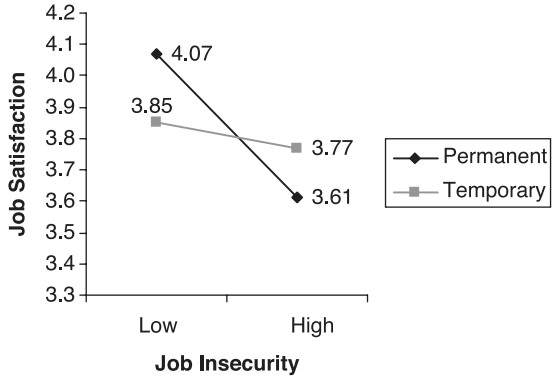

FIGURE 1
Interaction between Temporary Work and Job Insecurity Concerning Job Satisfaction in Belgium

split in both countries separately). These dichotomized variables were then cross-tabulated with 'performing a temporary job (or not)', and the average job satisfaction score was calculated for each combination. These scores are shown in Figure 1 for Belgium and Figure 2 for Sweden.

The results for Belgium (Figure 1) are in line with the 'violation hypothesis'. Among employees with a temporary contract, the difference between those who feel insecure about their job (average: 3.77) and those who feel secure (average: 3.85) is not statistically significant (t-value = 0,29; d.f. = 61; NS). There are, however, significant differences between the two groups of employees with a permanent contract: those who feel insecure about their job score significantly lower regarding job satisfaction than those who feel secure (respective scores: 3.61 and 4.07; t-value = 8,03; d.f. = 1015; $p < .001$). We can conclude that in Belgium, job insecurity is only associated with a reduction in job satisfaction among permanent workers.

The results for Sweden (Figure 2) are similar to the results for Belgium. These results equally confirm the 'violation hypothesis'. Again, no statistically significant difference in job satisfaction is found between temporary employees who feel secure or insecure about their job (respective averages: 3.68 and 3.78; t-value = −0,69; d.f. = 226; NS). However, there is a marked difference between the job-secure and the job-insecure group among employees

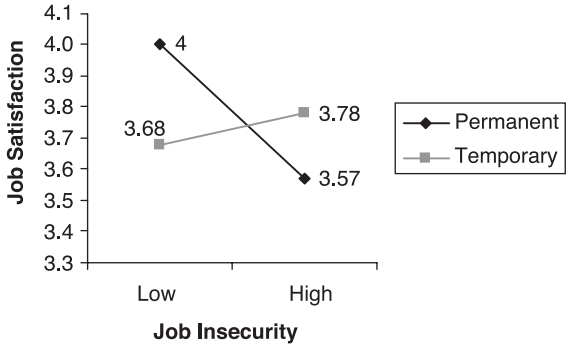

FIGURE 2
Interaction between Temporary Work and Job Insecurity Concerning Job Satisfaction in Sweden

with a permanent contract, which is in line with the violation hypothesis: permanent workers are less satisfied with their jobs when they feel insecure (an average of 3.57 vs 4.0 among permanent workers who feel secure about their job; t-value = 7,17; d.f. = 1144; $p < .001$).

Organizational Commitment as Outcome Variable

We follow the same sequence as in the discussion of the job satisfaction results in the previous section. Table 3 contains the regression analysis results with organizational commitment as outcome variable.

Hypothesis 1b states that temporary workers will score lower on organizational commitment than permanent workers, after controlling for demographic variables. The initial (zero-order) correlations between temporary employment and organizational commitment are shown in the Appendix. A weak negative correlation is found in two countries, in line with hypothesis 1b (Belgium: $r = -.06$ [$.05 > p > .01$] and Sweden: $r = -.09$ [$.01 > p > .001$]). In the two remaining countries, the correlation is not significant. After regression analysis, the association between organizational commitment and temporary employment disappears in Belgium and Sweden. In Italy this association remains non-significant. The association

TABLE 3
Results of the Regression Analyses Concerning Organizational Commitment (Beta Coefficients)

Predictors	Belgium	The Netherlands	Italy	Sweden
Age	.18***	.11**	.05	.29***
Gender[a]	−.05	.13**	−.16**	−.01
Blue-collar workers[a]	.06	.10*	−.03	.02
Professionals/managers[a]	.15	.11**	−.01	.06*
Part-time[a]	.02	−.14**	−.07	−.08**
Temporary workers[a]	−.04	.10*	.06	.00
Job insecurity	−.19***	−.19***	−.20***	−.05(*)
Interaction job insecurity–temporary workers	.08*	−.05	.08	.09**
R	.33	.27	.29	.32
R^2	.11	.07	.08	.11
F-value	16,46***	5,99***	5,00***	10,39***
d.f.	(8,1049)	(8,602)	(8,430)	(8,1351)

[a] Dummies. A higher score reflects women, blue-collar workers, professionals/managers, part-time workers and temporary contracts respectively.
(*) $.10 > p > .05$; * $.05 > p > .01$; ** $.01 > p > .001$; *** $p < .001$.

between temporary employment and organizational commitment becomes significantly positive in the Netherlands, when the other variables are kept under statistical control. The results of a separate regression analysis show that this result cannot be attributed to the inclusion of the demographic variables in the analysis. A separate regression analysis with only the demographics and temporary work (results not shown in Table 2) indicates no significant coefficient for the variable 'temporary work'. Taken as a whole, our results lead to a rejection of hypothesis 1b. In one country (the Netherlands) we even found the reverse: after regression analysis, temporary employees score higher concerning organizational commitment.

Hypothesis 2b states that (subjective) job insecurity is negatively associated with organizational commitment. In three of the four countries, the initial (zero-order) correlations are indeed in keeping with this hypothesis (correlations between −.18 and −.21; $p < .001$; see Appendix). In Sweden, no significant correlation is found ($r = -.04$; NS). These associations are only slightly modified after

regression analysis: in Belgium, the Netherlands and Italy, hypothesis 2b is thus corroborated. In these countries, job-insecure employees show reduced organizational commitment. Sweden proves to be the exception: in this country, no significant association is found between the two variables. The coefficient in this country is marginally significant, however ($p = .07$).

Hypothesis 4b states that only subjective job insecurity is negatively associated with organizational commitment, once temporary employment and demographics are controlled for. The preceding results of the regression analyses already indicate that this hypothesis is only partially confirmed. In two countries (Belgium and Italy) solely subjective job insecurity is negatively associated with organizational commitment. In Sweden, none of the two types of insecurity is associated with organizational commitment. In the Netherlands, a negative regression coefficient for job insecurity is indeed found. In this country, however, temporary employment is associated positively with organizational commitment, which contradicts our expectations.

Finally, the interaction term between job insecurity and temporary employment was tested (hypothesis 5b). The results in Table 3 show that this interaction is only significant in two countries (Belgium and Sweden). These coefficients are rather weak (beta = .08 in Belgium [$.05 > p > .01$] and .09 [$.01 > p > .001$] in Sweden). We must conclude that hypothesis 5 is only partially confirmed regarding organizational commitment as well. Job insecurity was once again dichotomized (medium split in the two countries separately), and cross-tabulated with temporary employment vs permanent work. We then calculated the mean for organizational commitment for each condition. These scores are shown in Figure 3 for Belgium and Figure 4 for Sweden.

The results for Belgium (Figure 3) are again in line with the 'violation hypothesis'. The only significant difference between job-secure and job-insecure respondents is found among employees with a permanent contract: the insecure respondents score significantly lower on organizational commitment compared to the job-secure (average score respectively 3.6 and 3.30; t-value = 5,88; d.f. = 1000; $p < .001$). Among the employees with a temporary contract, no significant difference between the job-secure and the job-insecure employees occurs (average score respectively: 3.14 and 3.29; t-value = −0,63; d.f. = 60; NS). Job insecurity thus only seems associated with lower organizational commitment among permanent employees.

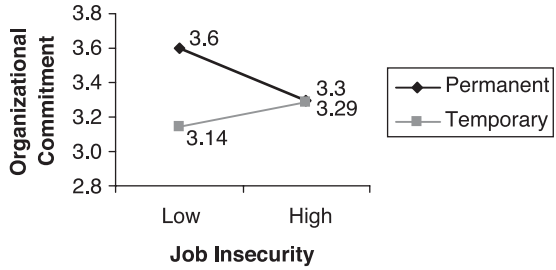

FIGURE 3
Interaction between Temporary Work and Job Insecurity Concerning Organizational Commitment in Belgium

The results for Sweden are rather similar to the results found in Belgium. Again, a significant difference occurs among the employees with a permanent contract (average score: 2.79 for job-secure employees and 2.67 for the job-insecure; t-value = 2,16; d.f. = 1132; $p = .03$): the insecure are somewhat less committed to their organization than the secure. This is in line with the 'violation' hypothesis, even though the difference is rather small. Among the employees in temporary service, however, a difference close to being significant is found between both categories. This time, the secure employees within this category score lower concerning organizational commitment (average score for job-secure employees: 2.36 as opposed to 2.6 for job-insecure employees; t-value = −1,89; d.f. = 224; $p = .06$). This marginally significant result conflicts with the 'intensification hypothesis', because the latter suggests that the job-insecure group will show the lowest organizational commitment.

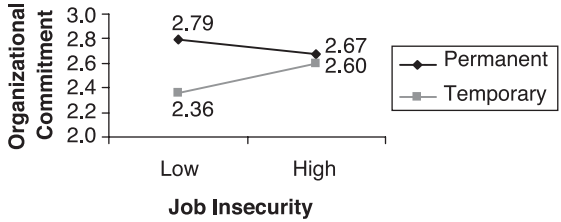

FIGURE 4
Interaction between Temporary Work and Job Insecurity Concerning Organizational Commitment in Sweden

Summary and Discussion

This article examines the consequences of two job insecurity operationalizations: temporary employment (alleged 'objective' variant) and the subjective perception of being uncertain about the future of one's job. In order to test the strength of the various hypotheses, secondary analyses were performed on data collected in four European countries. In the previous part of this article, the results were grouped according to the independent variables. In this concluding section, we discuss the results in a different sequence: according to the different hypotheses.

On the basis of three theoretical perspectives, the hypothesis was put forward that the alleged objective operationalization of job insecurity (cf. Büssing, 1999; Pearce, 1998), temporary employment, would involve reduced job satisfaction and reduced organizational commitment (hypothesis 1). These perspectives referred to deprivation (e.g. Reilly, 1998a), the psychological contract (Beard and Edwards, 1995) and job stress (Sverke et al., 2000). This hypothesis could not be confirmed in any of the four countries: in none of the samples did temporary employees show significantly lower job satisfaction and lower organizational commitment than employees with permanent contracts. After regression analysis, the opposite was in fact found in four of the eight tests: temporary employees achieved 'better' scores than the permanent ones. Two conclusions can be drawn on the basis of these findings.

First, these results conflict with the idea that temporary employment is problematic in itself. The different theoretical perspectives, from which this hypothesis was deduced, should thus be refined: do temporary employees really feel deprived and are they only/mainly exposed to stressors at work? Temporary employment might also include some positive features, which seem to be underexposed in the literature. As a consequence, the theoretical frameworks used are probably incomplete, and should be supplemented in future research. The questionnaires used in the present study, for example, did not contain questions regarding the voluntary nature of temporary employment. This variable emerged in various studies as a relevant moderator: only respondents who were involuntarily temporary employees experienced temporary employment in a negative way (e.g. Aronsson and Göransson, 1999; Isaksson and Bellagh, 2002). Not controlling for this variable could have influenced our results.

In this study, no distinction could be made between different types of temporary employment. Studies show the relevance of a further differentiation between temporary contracts (e.g. Bernhard and Sverke, forthcoming): the expected negative results do not occur to the same extent in each category. Finally, it must be noted that our theoretical insights as such could not be operationalized, since the data had been collected before the initiation of the current project. So, no direct test of the theories could be performed. This is needed in future research, since this is the only way of determining to what extent these theoretical frameworks are effectively refuted. By operationalizing the different theoretical views, one could also try to separate the effects of the variables proposed in these theories (e.g. are the effects due to deprivation or to job stressors?). Follow-up research is of course also needed to replicate our findings. Finally, future research should also try to use broader measures of job satisfaction than the single item measure used in this study. Even though research suggests that a one-item measure could be adequate (Wanous et al., 1997), the reliability of such limited measures remains largely unknown.

A second conclusion concerns the 'positive' effects of temporary work, as found in a number of countries. It is striking that these positive associations with outcome variables mostly emerge after multivariate analysis. Separate (unreported) regression analyses, exclusively using background characteristics *and* temporary employment as independent variables, showed that these positive associations did not result from controlling for demographic variables. Additional (unreported) regression analyses showed that the effect of temporary employment was only found once (subjective) job insecurity had been introduced into the analyses. Once the subjective perception of job insecurity had been controlled for, temporary employment was associated with increased job satisfaction and organizational commitment in some of the countries. This suggests that it is job insecurity that aggravates temporary employment, as hypothesized in the literature (e.g. Klandermans and van Vuuren, 1999b). Our results also suggest that – once job insecurity has been controlled for – temporary employment could involve a number of positive job characteristics. Further research is needed to determine these aspects. The finding that temporary employment is associated with increased job satisfaction and organizational commitment has not been reported previously in the literature. Most of the time, a negative association is reported (e.g. van Breukelen and

Allegro, 2000; Sverke et al., 2000). However, in most studies, the perception of job insecurity was not controlled for, which could account for this difference in findings.

The second hypothesis refers to the association between the subjective perception of job insecurity and the variables of job satisfaction and organizational commitment. On the basis of previous research (e.g. De Witte, 1999; Hartley et al., 1991; Sverke and Hellgren, 2002; Sverke et al., 2002) *and* on the basis of theoretical considerations (including the frustration of needs [Jahoda, 1982] and the violation of the psychological contract [van Vuuren, 1990]), we hypothesized that job insecurity would be associated with a reduction in job satisfaction and organizational commitment.

This hypothesis was largely confirmed. In all countries, job insecurity showed a negative association with job satisfaction, once demographic variables had been controlled for. Regarding organizational commitment, the same was found in three out of four countries. In the fourth country (Sweden) the association was only marginally significant. The specific circumstances of data gathering in Sweden could be responsible for this result: these data were collected in two organizations in the midst of a restructuring process. This resulted in a lower organizational commitment score in Sweden than in the remaining countries. This specific context could have reduced the association between job insecurity and organizational commitment. Overall, our second hypothesis is confirmed. This once again shows that job insecurity constitutes a problematic experience (cf. De Witte, 1999; Sverke and Hellgren, 2002). Job insecurity also seems to transcend the significance of temporary employment.

Various authors assume that temporary employment is associated with job insecurity (e.g. Pearce, 1998; Beard and Edwards, 1995). In the literature, both variables are sometimes even considered as operationalizations of the same, global concept of 'job insecurity'. This hypothesis (hypothesis 3) was confirmed in three of the four countries. This hypothesis could not be confirmed in Italy, even though a marginally significant association was observed. It is not clear why this hypothesis was refuted in Italy. However, we can conclude that our hypothesis has (mostly) been confirmed: temporary employment is indeed associated with job insecurity, even though these associations are also rather small in magnitude. One reason for these small associations could be the lack of information regard-

ing promises made to the respondent by the employer. It is possible that a number of temporary workers were offered the prospect of permanent future employment. These respondents thus perceived their job – rightly – as 'secure'. Since our data sets contained no information about such promises, this aspect could not be analysed. It should be included in follow-up research. The presumption that the prospect of a permanent contract was offered to some temporary employees, suggests that it might be problematic to consider the anticipation of unemployment as the core element of an 'objective' operationalization of job insecurity, as assumed by some authors (e.g. Büssing, 1999). After all, temporary employment does not by definition lead to unemployment. This also suggests that it might be problematic to consider temporary employment as an ('objective') indicator of job insecurity at all. Our results show that it is more important to assess the subjective perception of the contract when we want to analyse the associations between a specific contract and outcome variables, such as satisfaction and organizational commitment.

In the fourth hypothesis, both operationalizations of 'insecurity' were contrasted with each other. We supposed that only the subjective perception of job insecurity would be associated with reduced job satisfaction and organizational commitment, once demographic variables as well as the temporary contract had been controlled for. The findings regarding this hypothesis have already partly been discussed earlier. The results from the different regression analyses indeed show that it is the subjective operationalization that is associated with reduced job satisfaction and organizational commitment. The association with organizational commitment was non-significant in only one country (Sweden). The first part of the hypothesis is thus predominantly confirmed: employees are dissatisfied with their job and less involved in their company when they feel that their job is insecure. The second part of hypothesis 4 was refuted in all countries. In some countries, having a temporary contract even produced positive associations (see earlier). Overall, our results thus suggest that (subjective) job insecurity is more of a problem for job satisfaction and organizational commitment than its 'objective' variant: having a temporary contract (see also Klandermans and van Vuuren, 1999b: 146). It is not so much the contract 'as such' that is problematic, but rather the perception of it.

The last hypothesis (hypothesis 5) relates to an interaction effect between temporary employment and (the subjective perception of) job insecurity when determining job satisfaction and organizational commitment. Two contrasting hypotheses were discussed. The intensification hypothesis implies that both operationalizations of job insecurity strengthen each other multiplicatively, since both variables are considered as stressors. A similar interaction effect is often mentioned in job stress research (e.g. Koslowsky, 1998). The violation hypothesis builds on the theory of the psychological contract (e.g. Rousseau, 1995). It assumes that the negative consequences of job insecurity occur especially among permanent workers. These employees, especially, assume that their contract provides job security, and experience a violation of this assumption as a one-sided violation by the employer of their psychological contract. Employees on a fixed-term contract probably do not experience job security as part of their psychological contract (or to a lesser extent), because their contract is of only limited duration.

The hypothesis of an interaction between temporary employment and job insecurity is only partially supported by our results: this hypothesis was only confirmed in two out of four countries. In the Netherlands and Italy, temporary employment did not interact with job insecurity. In Belgium and Sweden, such an interaction was indeed found. A striking finding was that the results consistently pointed in the direction of the violation hypothesis: job insecurity was only problematic for employees on a permanent contract. Apparently, especially this category experienced a violation of their psychological contract. Note, however, that the respondents' psychological contract was not operationalized in this study, and as a consequence, the hypothesis of a violation was not tested directly. It is recommended to do so in future research. Corroboration for the violation hypothesis has not been reported previously in the literature. It thus opens new research perspectives. This finding substantiates the conclusion that the theories used in studying (the consequences of) temporary employment should be supplemented by additional variables, in order to fully analyse the consequences of this kind of contract. In this study, subjective job insecurity appears to be such a supplementary variable. As a consequence, this variable deserves more attention in future research on the consequences of temporary employment.

To conclude, it is remarkable that the interaction effects only emerged in Belgium and Sweden. Both countries are countries

with a strong union movement, and a very high percentage of employees belong to a union in both countries (e.g. Visser, 1995). It is possible that the strong position of the union movement in both countries played a role in the development of this moderator-effect.[5] In countries with a strong union movement, employees are probably offered more protection regarding their contract (e.g. by settling more conclusive agreements when negotiating collective labour agreements, and by enforcing them to a larger degree). This could create stronger feelings of security among employees with a permanent contract. When the latter experience job insecurity, this might lead more easily to the perception of a violation of the psychological contract. Future research should try to test this hypothesis.

Notes

The research reported here stems from a European project (*European Unions in the Wake of Flexible Production*, see Sverke et al., 2001), financed by a grant to Magnus Sverke from the Swedish National Institute for Working Life through the Joint Programme for Working Life Research in Europe (SALTSA).

1. Note, however, that the workload of temporary workers was lower than that of permanent workers, suggesting that temporary work does not always include more stressors.
2. Previous experience with job insecurity being the most important predictor.
3. The sample was proportional to the size of the companies.
4. $N = 1058$ in Belgium, 435 in Italy, 611 in the Netherlands and 1356 in Sweden.
5. The strength of a union in a given country partly depends upon the amount of members in that country. In some countries, this density is rather low (e.g. the Netherlands). The sample of the Netherlands consists of union members only. This does not contradict our argument, since we suggest that unions in the Netherlands will be less able to offer protection to (permanent) workers, since their position is relatively weak compared to other countries.

Appendix

TABLE A1
Means, Standard Deviations, Cronbach's Alpha and Intercorrelations between the Variables for Belgium ($n = 1058$)

	Mean	SD	Alpha	1	2	3	4	5	6	7	8	9
1. Age	36.80	9.39	–	/	−.12***	−.02^{NS}	.22***	.02^{NS}	−.14***	.04^{NS}	.06^{NS}	.20***
2. Gender[a]	0.35	0.48	–		/	−.25***	−.11**	.35***	.07*	.13***	−.05^{NS}	−.13***
3. Blue-collar[a]	0.35	0.48	–			/	−.46***	−.17***	−.08**	.05^{NS}	.07*	−.00^{NS}
4. Professional/manager[a]	0.28	0.45	–				/	−.08**	−.05^{NS}	−.15***	.03^{NS}	.18***
5. Part-time[a]	0.09	0.29	–					/	.06^{NS}	.01^{NS}	.00^{NS}	−.02^{NS}
6. Temporary[a]	0.06	0.23	–						/	.13***	−.02^{NS}	−.06*
7. Job insecurity[b]	2.20	0.89	.79							/	−.28***	−.21***
8. Job satisfaction[b]	3.86	0.94	–								/	.60***
9. Organizational commitment[b]	3.45	0.83	.82									/

* $.05 > p > .01$; ** $.01 > p > .001$; *** $p < .001$; NS not significant.
[a] Dummies. A higher score reflects women, blue-collar workers, professionals/managers, part-time workers and temporary contracts respectively.
[b] Five-point scales (1 = disagree; 5 = agree).

TABLE A2
Means, Standard Deviations, Cronbach's Alpha and Intercorrelations between the Variables for the Netherlands ($n = 611$)

	Mean	SD	Alpha	1	2	3	4	5	6	7	8	9
1. Age	42.84	10.20	–	/	−.11**	$-.06^{NS}$	.16***	$.06^{NS}$	−.28***	$-.01^{NS}$	$-.05^{NS}$	.08*
2. Gender[a]	0.27	0.45	–		/	$.03^{NS}$	−.08*	.51***	$.04^{NS}$	$.02^{NS}$	$-.05^{NS}$	$.03^{NS}$
3. Blue-collar[a]	0.24	0.43	–			/	−.31***	$.03^{NS}$	$.03^{NS}$	.09*	$.00^{NS}$	$.04^{NS}$
4. Professional/manager[a]	0.23	0.42	–				/	$-.05^{NS}$	$-.07^{NS}$	$-.06^{NS}$	$.04^{NS}$	.10*
5. Part-time[a]	0.20	0.40	–					/	.11**	$.01^{NS}$	−.09*	$-.06^{NS}$
6. Temporary[a]	0.10	0.31	–						/	.24***	$.06^{NS}$	$-.01^{NS}$
7. Job insecurity[b]	1.86	0.68	.82							/	−.12**	−.18***
8. Job satisfaction[b]	3.85	0.80	–								/	.44***
9. Organizational commitment[b]	3.58	0.63	.70									/

* $.05 > p > .01$; ** $.01 > p > .001$; *** $p < .001$; NS not significant.
[a] Dummies. A higher score reflects women, blue-collar workers, professionals/managers, part-time workers and temporary contracts respectively.
[b] Five-point scales (1 = disagree; 5 = agree).

TABLE A3
Means, Standard Deviations, Cronbach's Alpha and Intercorrelations between the Variables for Italy ($n = 435$)

	Mean	SD	Alpha	1	2	3	4	5	6	7	8	9
1. Age	38.29	8.87	–	/	$-.07^{NS}$	$-.02^{NS}$	$.06^{NS}$	$-.07^{NS}$	$-.22^{***}$	$.04^{NS}$	$-.13^{**}$	$.04^{NS}$
2. Gender[a]	0.32	0.47	–		/	$-.27^{***}$	$-.29^{***}$	$.16^{**}$	$-.06^{NS}$	$.07^{NS}$	$-.04^{NS}$	$-.17^{***}$
3. Blue-collar[a]	0.24	0.43	–			/	$-.30^{***}$	$.02^{NS}$	$.01^{NS}$	$.11^{*}$	$-.07^{NS}$	$-.01^{NS}$
4. Professional/manager[a]	0.22	0.41	–				/	$-.06^{NS}$	$.08^{NS}$	$-.09^{NS}$	$.14^{**}$	$.07^{NS}$
5. Part-time[a]	0.06	0.24	–					/	$.21^{***}$	$.17^{***}$	$-.16^{**}$	$-.12^{*}$
6. Temporary[a]	0.10	0.30	–						/	$.11^{*}$	$.12^{*}$	$.06^{NS}$
7. Job insecurity[b]	2.45	0.92	.67							/	$-.32^{**}$	$-.21^{***}$
8. Job satisfaction[b]	3.53	1.17	–								/	$.56^{***}$
9. Organizational commitment[b]	3.22	1.01	.84									/

* $.05 > p > .01$; ** $.01 > p > .001$; *** $p < .001$; NS not significant.
[a] Dummies. A higher score reflects women, blue-collar workers, professionals/managers, part-time workers and temporary contracts respectively.
[b] Five-point scales (1 = disagree; 5 = agree).

TABLE A4
Means, Standard Deviations, Cronbach's Alpha and Intercorrelations between the Variables for Sweden ($n = 1356$)

	Mean	SD	Alpha	1	2	3	4	5	6	7	8	9
1. Age	42.61	10.33	–	/	$-.04^{NS}$	$-.01^{NS}$	.09**	−.06*	−.35***	−.09**	.16***	.30***
2. Gender[a]	0.82	0.38	–		/	.08**	−.32***	.16***	−.06*	$-.02^{NS}$	.07**	$-.03^{NS}$
3. Blue-collar[a]	0.26	0.44	–			/	−.26***	.12***	−.08**	.12***	−.07**	$-.01^{NS}$
4. Professional/manager[a]	0.16	0.36	–				/	−.21***	$.03^{NS}$	−.06*	.09**	.11***
5. Part-time[a]	0.38	0.49	–					/	$.05^{NS}$.	$.04^{NS}$.	−.05*	−.11***
6. Temporary[a]	0.17	0.37	–						/	.33***	$-.02^{NS}$	−.09**
7. Job insecurity[b]	1.79	1.01	.77							/	−.15***	$-.04^{NS}$
8. Job satisfaction[b]	3.81	1.05	–								/	.52***
9. Organizational commitment[b]	2.70	0.88	.65									/

* $.05 > p > .01$; ** $.01 > p > .001$; *** $p < .001$; NS not significant.
[a] Dummies. A higher score reflects women, blue-collar workers, professionals/managers, part-time workers and temporary contracts respectively.
[b] Five-point scales (1 = disagree; 5 = agree).

References

Aiken, L.S. and S.G. West (1991) *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, CA: Sage.

Aronsson, G. (1999) 'Contingent Workers and Health and Safety', *Work, Employment and Society* 13: 439–59.

Aronsson, G. and S. Göransson (1999) 'Permanent Employment But Not in a Preferred Occupation: Psychological and Medical Aspects, Research Implications', *Journal of Occupational Health Psychology* 4: 152–63.

Ashford, S., C. Lee and P. Bobko (1989) 'Content, Causes, and Consequences of Job Insecurity: A Theory-Based Measure and Substantive Test', *Academy of Management Journal* 32: 803–29.

Atkinson, J. and N. Meager (1986) *New Forms of Work Organisation*. Brighton: Institute of Manpower Studies.

Beard, K. and J. Edwards (1995) 'Employees at Risk: Contingent Work and the Psychological Experience of Contingent Workers', pp. 109–26 in C.L. Cooper and D.M. Rousseau (eds) *Trends in Organizational Behavior*. New York: John Wiley.

Berkhoff, Y. and M. Schabracq (1992) 'Ongewenste Consequenties van Flexibilisering van de Arbeid', pp. 106–17 in J. Winnubst and M. Schabracq (eds) *Handboek Arbeid en Gezondheid Psychologie. Hoofdthema's*. Utrecht: Uitgeverij Lemma.

Bernhard, C. and M. Sverke (forthcoming) 'They are all Contingent Workers, But They are Not All the Same: Investigating Differences among the Contingent Workforce', manuscript under review.

Borg, I. (1992) 'Ueberlegungen und Untersuchungen zur Messung der Subjektiven Unsicherheit der Arbeitsstelle', *Zeitschrift fur Arbeits- und Organisationspsychologie* 36: 107–16.

Brockner, J., T. Tyler and R. Cooper-Schneider (1992) 'The Influence of Prior Commitment to an Institution on Reactions to Perceived Unfairness: The Higher They are, the Harder They Fall', *Administrative Science Quarterly* 37: 241–61.

Burchell, B. (1994) 'The Effects of Labour Market Position, Job Insecurity and Unemployment on Psychological Health', pp. 188–212 in D. Gallie, C. Marsh and C. Vogler (eds) *Social Change and the Experience of Unemployment*. Oxford: Oxford University Press.

Büssing, A. (1999) 'Can Control at Work and Social Support Moderate Psychological Consequences of Job Insecurity? Results from a Quasi Experimental Study in the Steel Industry', *European Journal of Work and Organizational Psychology* 8: 219–42.

Davy, J.A., A.J. Kinicki and C.L. Scheck (1997) 'A Test of Job Insecurity's Direct and Mediated Effects on Withdrawal Cognitions', *Journal of Organizational Behavior* 18: 323–49.

Dekker, S. and W. Schaufeli (1995) 'The Effects of Job Insecurity on Psychological Health and Withdrawal: A Longitudinal Study', *Australian Psychologist* 30: 57–63.

De Witte, H. (1999) 'Job Insecurity and Psychological Well-Being: Review of the Literature and Exploration of some Unresolved Issues', *European Journal of Work and Organizational Psychology* 8: 155–77.

De Witte, H. (2000) 'Arbeidsethos en Jobonzekerheid: Meting en Gevolgen voor Welzijn, Tevredenheid en Inzet op het Werk', pp. 325–50 in R. Bouwen, K. De

Witte, H. De Witte and T. Taillieu (eds) *Van Groep naar Gemeenschap. Liber Amicorum Prof. Dr. Leo Lagrou*. Leuven: Garant.

De Witte, H. and L. Lagrou (1990) 'The Quality of Employment in the Career of Young Psychologists and its Impact on Their Job and Life Satisfaction', *Psychologica Belgica* 30: 1–22.

European Commission (2001) 'Employment in Europe 2001. Recent Trends and Prospects'; available at: http://europa.eu.int

Ferrie, J., M. Shipley, M. Marmot, S. Stansfeld and G. Smith (1995) 'Health Effects of Anticipation of Job Change and Non-Employment: Longitudinal Data from the Whitehall II Study', *British Medical Journal* 311: 1264–9.

Furda, J. and T. Meijman (1992) 'Druk en Dreiging, Sturing of Stress', pp. 127–44 in J. Winnubst and M. Schabracq (eds) *Handboek Arbeid en Gezondheid Psychologie. Hoofdthema's*. Utrecht: Uitgeverij Lemma.

Goudswaard, A. and M. de Nanteuil (2000) *Flexibility and Working Conditions: The Impact of Flexibility Strategies on 'Conditions of Work' and 'Conditions of Employment': A Qualitative and Comparative Study in Seven EU Member States*. Dublin: European Foundation for the Improvement of Living and Working Conditions.

Greenhalgh L. and Z. Rosenblatt (1984) 'Job Insecurity: Toward Conceptual Clarity', *Academy of Management Review* 9: 438–48.

Hartley, J., D. Jacobson, B. Klandermans and T. van Vuuren (1991) *Job Insecurity: Coping with Jobs at Risk*. London: Sage.

Hellgren, J., M. Sverke and K. Isaksson (1999) 'A Two-Dimensional Approach to Job Insecurity: Consequences for Employee Attitudes and Well-Being', *European Journal of Work and Organizational Psychology* 8: 179–95.

Hom, P.W. and R.W. Griffeth (1991) 'Structural Equations Modeling Test of a Turnover Theory: Cross-Sectional and Longitudinal Analyses', *Journal of Applied Psychology* 76: 350–66.

Isaksson, K. and K. Bellagh (2002) 'Health Problems and Quitting among Female "Temps"', *European Journal of Work and Organizational Psychology* 11: 27–45.

Jahoda, M. (1982) *Employment and Unemployment. A Social-Psychological Analysis*. Cambridge: Cambridge University Press.

Jenkins, A. (1998) 'Flexibility, "Individualization", and Employment Insecurity in France', *European Journal of Work and Organizational Psychology* 7: 23–38.

Karasek, R. and T. Theorell (1990) *Healthy Work: Stress, Productivity, and the Reconstruction of Working Life*. New York: Basic Books.

Kinnunen, U. and J. Nätti (1994) 'Job Insecurity in Finland: Antecedents and Consequences', *The European Work and Organizational Psychologist* 4: 297–321.

Klandermans, B. and T. van Vuuren (1999a) 'Job Insecurity', special issue of the *European Journal of Work and Organizational Psychology* 8: 145–314.

Klandermans, B. and T. van Vuuren (1999b) 'Job Insecurity: Introduction', *European Journal of Work and Organizational Psychology* 8: 145–53.

Klein Hesselink, D. and T. van Vuuren (1999) 'Job Flexibility and Job Insecurity: The Dutch Case', *European Journal of Work and Organizational Psychology* 8: 273–93.

Koslowsky, M. (1998) *Modeling the Stress–Strain Relationship in Work Settings*. London and New York: Routledge.

Le Blanc, P., J. de Jonge and W. Schaufeli (2000) 'Job Stress and Health', pp. 148–77 in N. Chmiel (ed.) *Introduction to Work and Organizational Psychology: A European Perspective*. Oxford: Blackwell.

Lee, T. and D. Johnson (1991) 'The Effects of Work Schedule and Employment Status on the Organizational Commitment and Job Satisfaction of Full versus Part-Time Employees', *Journal of Vocational Behavior* 38: 202–24.

Letourneux, V. (1998) *Precarious Employment and Working Conditions in Europe*. Dublin: European Foundation for the Improvement of Living and Working Conditions.

Lim, V. (1997) 'Moderating Effects of Work-Based Support on the Relationship between Job Insecurity and its Consequences', *Work and Stress* 11: 251–66.

Lord, A. and J. Hartley (1998) 'Organizational Commitment and Job Insecurity in a Changing Public Service Organization', *European Journal of Work and Organizational Psychology* 7: 341–54.

Meyer, J. and N. Allen (1997) *Commitment in the Workplace: Theory, Research, and Applications*. Thousand Oaks, CA: Sage.

Nätti, J. (2000) 'Temporary Employment – A Bridge or a Trap?', paper presented at the European Union Research Workshop 'Just in Time Employed – Organisational, Psychological and Medical Perspectives', Dublin, 22–23 May.

Nie, N., C. Hull, J. Jenkins, K. Steinbrenner and D. Bent (1975) *SPSS Statistical Package for the Social Sciences*, 2nd edn. New York: McGraw-Hill.

OECD (1997) 'Is Job Insecurity on the Increase in OECD Countries?', *OECD Employment Outlook* July: 129–59.

Parks, J. and D. Kidder (1994) '"Till Death Do us Part": Changing Work Relationships in the 1990s', pp. 111–36 in C. Cooper and D. Rousseau (eds) *Trends in Organizational Behavior*. New York: John Wiley.

Pearce, J. (1993) 'Toward an Organizational Behavior of Contract Laborers: Their Psychological Involvement and Effects on Employee Co-Workers', *Academy of Management Journal* 36: 1082–96.

Pearce, J.L. (1998) 'Job Insecurity is Important, but Not for the Reason you Might Think: The Example of Contingent Workers', pp. 31–46 in C.L. Cooper and D.M. Rousseau (eds) *Trends in Organizational Behavior*. New York: John Wiley.

Purcell, K. and J. Purcell (1998) 'In-Sourcing, Out-Sourcing, and the Growth of Contingent Labour as Evidence of Flexible Employment Strategies', *European Journal of Work and Organizational Psychology* 7: 39–59.

Quinlan, M., C. Mayhew and P. Bohle (2000) 'Contingent Work: Health and Safety Perspectives', paper presented at the European Union Research Workshop 'Just in Time Employed – Organisational, Psychological and Medical Perspectives', Dublin, 22–23 May.

Reilly, P. (1998a) 'Introduction: Flexibility for the Individual, Organization and Society', *European Journal of Work and Organizational Psychology* 7: 1–6.

Reilly, P. (1998b) 'Balancing Flexibility – Meeting the Interests of Employer and Employee', *European Journal of Work and Organizational Psychology* 7: 7–22.

Rosenblatt, Z. and A. Ruvio (1996) 'A Test of a Multidimensional Model of Job Insecurity: The Case of Israeli Teachers', *Journal of Organizational Behavior* 17: 587–605.

Rosenblatt, Z., I. Talmud and A. Ruvio (1999) 'A Gender-Based Framework of the Experience of Job Insecurity and its Effects on Work Attitudes', *European Journal of Work and Organizational Psychology* 8: 197–217.

Roskies, E. and C. Louis-Guerin (1990) 'Job Insecurity in Managers: Antecedents and Consequences', *Journal of Organizational Behavior* 11: 345–59.

Rousseau, D. (1989) 'Psychological and Implied Contracts in Organizations', *Employee Responsibilities and Rights Journal* 2: 121–39.

Rousseau, D. (1995) *Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements*. Thousand Oaks, CA: Sage.

Rousseau, D. and J. Parks (1993) 'The Contracts of Individuals and Organizations', pp. 1–43 in L. Cummings and B. Staw (eds) *Research in Organizational Behavior*. Greenwich, CT: JAI Press.

Schalk, R. and C. Freese (1993) 'Het Psychologisch Contract', pp. 67–82 in P. van den Bergh et al. (eds) *Instroom van Personeel*, Vol. 1. Alphen aan den Rijn: Samsom Bedrijfsinformatie.

Sels, L., A. Forrier, H. De Witte, T. vander Steene and G. van Hootegem (2002) 'Gelijk Loon voor Gelijk Werk? Arbeidsvoorwaarden van Vaste en Tijdelijke Werknemers', *Tijdschrift voor Arbeidsvraagstukken* 18: 196–209.

Spector, P. (1997) *Job Satisfaction. Application, Assessment, Causes, and Consequences*. Thousand Oaks, CA: Sage.

Steijn, B. and K. Kraan (1997) 'The Labour Market Position of Flexible and Permanent Workers', pp. 1–21 in *Reader Flexibilisering van Arbeid en Organisatie*. Rotterdam: Erasmus Universiteit.

Sverke, M. and J. Hellgren (2002) 'The Nature of Job Insecurity: Understanding Employment Uncertainty on the Brink of a New Millennium', *Applied Psychology: An International Review* 51: 23–42.

Sverke, M., D.G. Gallagher and J. Hellgren (2000) 'Alternative Work Arrangements: Job Stress, Well-Being, and Work Attitudes among Employees with Different Employment Contracts', pp. 85–101 in K. Isaksson, L. Hogestedt, C. Eriksson and T. Theorell (eds) *Health Effects of the New Labour Market*. New York: Kluwer Academic/Plenum Press.

Sverke, M., J. Hellgren, K. Näswall, A. Chirumbolo, H. De Witte and S. Goslinga (2001) *European Unions in the Wake of Flexible Production: Technical Report on the Data Sets Used in a SALTSA Project,* SALTSA report 2001:1. Stockholm: National Institute for Working Life and SALTSA.

Sverke, M., J. Hellgren and K. Näswall (2002) 'No Security: A Meta-Analysis and Review of Job Insecurity and its Consequences', *Journal of Occupational Health Psychology* 7: 242–64.

Torka, N. and M. van Riemsdijk (2001) 'Atypische Contractrelatie en Binding: Een Paradox?', *Tijdschrift voor HRM* 1: 59–76.

Van Breukelen, W. and J. Allegro (2000) 'Effecten van Een Nieuwe Vorm van Flexibilisering van de Arbeid. Een Onderzoek in de Logistieke Sector', *Gedrag en Organisatie* 13: 107–24.

Vandoorne, J. and H. De Witte (2002) 'In het Ongewisse. Over het Voorkomen en de Gevolgen van Jobonzekerheid in Vlaanderen', pp. 135–51 in G. Vandenbroucke (ed.) *Arbeidsmarktonderzoekersdag 2001. Verslagboek*. Leuven: Steunpunt WAV.

Van Dyne, L. and S. Ang (1998) 'Organizational Citizenship Behavior of Contingent Workers in Singapore', *Academy of Management Journal* 41: 692–703.

Van Vuuren T. (1990) *Met Ontslag Bedreigd. Werknemers in Onzekerheid over hun Arbeidsplaats bij Veranderingen in de Organisatie*. Amsterdam: VU Uitgeverij.

Visser, J. (1995) 'Trade Unions from a Comparative Perspective', pp. 37–67 in J. van Ruysseveldt, R. Huiskamp and J. van Hoof (eds) *Comparative Industrial and Employment Relations*. London: Sage.

Wanous, J., A. Reichers and M. Hudy (1997) 'Overall Job Satisfaction: How Good are Single-Item Measures?', *Journal of Applied Psychology* 82: 247–52.
Warr, P. (1987) *Work, Unemployment and Mental Health*. Oxford: Clarendon Press.

Hans De Witte
is Professor of Psychology at the Katholieke Universiteit Leuven (KU Leuven) in Belgium. He teaches work psychology and is a member of the Department of Psychology's Research Group on Stress, Health and Well Being. His research includes the study of the psychological consequences of unemployment, job insecurity, temporary employment and downsizing, as well as attitudes towards work and participation in trade unions. He is involved in different comparative studies concerning these topics in Europe.

Katharina Näswall
is working as a research assistant at the Department of Psychology, Stockholm University. Her main interests concern job insecurity and employee well-being.