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Psychological Contracts across Employment Situations

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Abstract

The general aim of the PSYCONES project was to clarify the association between employment contracts and employee well-being and also company performance. The psychological contract was assumed to have a critical intervening role affecting these relationships. Eight partners have cooperated in conducting of the project: Sweden (coordinator), Germany, The Netherlands, Belgium (Ghent and Leuven), UK, Spain and Israel.

A common assumption among researchers and policy makers has been that employees on temporary contracts are treated less well than permanent workers and are less satisfied. However the available empirical evidence reveals mixed results and no clear support is provided for these assumptions.

Data has been collected by questionnaires from individuals and their employers in companies across seven European countries. The sample consisted of 5288 employees (3307 permanent and 1981 temporary) employed in 202 different companies in three sectors (education, manufacturing and service). Country samples are not representative and conclusions about country differences have to be made with some caution. Multilevel analyses and other more simple analyses were used to test the effect of individual differences as well as company characteristics and policies and country differences.

Our results failed to support the assumption that temporary workers should be significantly disadvantaged. Instead, those on permanent employment contracts reported slightly lower levels of satisfaction and well-being on almost all of our measures. This result proved robust also when controlling for a range of possible confounding individual and work-related factors.

The second broad hypothesis that guided the research was that the PC would act as a mediator in the relationship between the employment contract and the range of outcome measures. There was some support for this hypothesis as the measures of the psychological contract were found to fully or partially mediate a number of relationships between employment contract and well-being. Results showed very clearly that it was the measure of fulfilment or violation of the PC that appeared to be most strongly associated with outcomes. The content breadth had relatively little association with outcomes. On the other hand, workers' views on their own promises to their organisation and the degree to which these had been fulfilled did have rather more impact.

The third implicit hypothesis in the study was that four other classes of variables - employment prospects (including perceived job security), volition, job characteristics and support - would act as additional mediators. However, the results showed very little support for this hypothesis.

Perhaps the most important result from our research reveals the "invisible" problem of permanent employment. Excessive workload is one of the critical factors affecting well-being in our study and values are consistently higher among the permanent employees across sectors and countries. Among other work characteristics, we find also higher levels of autonomy and skill development among the permanent employees compared to temporaries but these positive effects are clearly outweighed by the negative effects of the higher workload. Furthermore, the broader psychological contract among permanent employees means a broader commitment towards the job than temporary workers. The feeling that employers break their part of the deal seems to have a marked negative effect, in essence that permanent employees feel unfairly treated.

There is now a focus in Europe on job quality and our findings reinforce the importance of giving priority to this area. Legislation trying to balance flexibility and security needs also to include job quality and clarification and fulfilment of the promises mutually agreed within employment relationships in order to prevent stress and increases in the levels of sickness absence.

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1. Executive summary

The PSYCONES project took place between December 2002 and September 2005. It has involved collecting data from more than 5000 permanent and temporary workers employed in companies and organisations across six European countries (Sweden, Germany, The Netherlands, Belgium, UK, Spain) and Israel. Data has been collected by questionnaires from individuals, and their employers in 202 companies in all countries. The sample consisted of 5288 employees (3307 permanent and 1981 temporary) employed in 202 different companies in three sectors (education, manufacturing and retail /sales). Samples from all countries were pooled and results reported here all come from the large cross-national sample.

A common assumption among researchers and policy makers has been that employees on temporary contracts are treated less well than permanent workers and are less satisfied. However, the available empirical evidence reveals mixed results and no clear support for these assumptions.

The overarching aim of the study was to explore the relationship between type of employment contract and workers' satisfaction and well-being. An additional aim was to explore the role of the psychological contract (PC) as a potential mediator of this relationship. A range of other possible intervening variables were also tested. Individual and organisation related factors were controlled in order to evaluate the significance of the employment contract. Outcome measures included indicators of satisfaction at work and in life, various measures of well-being and health indicators of employees, collected from employees by questionnaires in all countries. In addition a few organisation related outcomes were included. The balance of the employment relationship across companies/sectors and countries was addressed by also investigating the employers and matching replies between employers and employees in the same company. Finally, legal, social and cultural differences between countries, identified as likely to influence the zone of negotiability of employment relationships were mapped out through integration with earlier EU projects and complementary expert interviews.

Both multilevel analyses and other forms of analyses were used to test the importance of individual differences as well as company characteristics and policies and country differences.

Temporary work is not always precarious

The research was conducted in the context of a policy debate and a series of European legislative activities that have been based on the assumption that those on temporary contracts are significantly disadvantaged. Indeed, this was the basis of our first hypothesis. Our results failed to support this assumption. Indeed, those on permanent employment contracts report slightly lower levels of satisfaction and well-being on almost all our measures. This is even more surprising considering the additional finding that permanent employees were far more likely than temporary employees to indicate that they had their contract of choice. This result proved robust also when controlling for a range of possible confounding factors, both individual and work-related. It is important at this stage to emphasise that “lower” levels of satisfaction and well-being does not necessarily imply “low” levels. While there are

significant differences between the two broad employment contract categories, both tend to be on average more positive than negative on most of the outcome variables. Therefore, we are left with the unanticipated and counter-intuitive but quite robust finding that those on permanent employment contracts report lower levels of satisfaction and well-being than those on temporary contracts.

A critical question is of course the generalisability of these results. Although our sample of temporary workers was large ($n = 1981$) and heterogeneous, a majority (62%) had fixed term contracts. The fact that mean tenure on the job was relatively long (more than two years for temporary workers), as was time remaining on the job, gives an indication of relative stability. The most frequently reported motive by employers for hiring temporary workers was that they needed substitutes during longer absence of permanent workers. Although we have a variation of contracts among the temporary workers, the sample does not consist of casual workers to any large extent. Casual workers in really insecure employment and bad working conditions are not typically included. Thus, a careful conclusion is that the results at least can be generalized to relatively stable temporary workers on time-limited contracts of some duration. The sample consisted of employees on different job levels with a large group of blue collar workers but also including intermediate level white collar workers and professionals. Although we had a limited range of occupations, the conclusion is that with some caution results seem to be valid across several job levels. Some caution is warranted however regarding conclusions about country and sector differences because the sample is not representative.

Is it then fair to say that temporary employment is better and more preferable to employees than the standard form? Our answer to this question would probably be 'Not in general'. There are several reasons for this argument:

Evidence from the survey to employees showed that temporary employees in all countries want a higher level of security of employment. Only a minority of the sample state that the temporary contract is the one that they prefer. Most of them report "push" motives (e.g. "It was the only type of contract I could get") instead of being pulled by positive motives towards accepting the contract (e.g. "It gives me more freedom"). Similarly, expectation of contract extension was a dominant factor and strongly associated with well-being among the temporaries.

What we can say clearly however, is that a temporary job does not always seem to be precarious; defined as low quality jobs, bad for well-being and health. There is a variation in the conditions of temporary workers in our study and some are probably vulnerable in several senses. However, the majority, with relatively long fixed term contract should perhaps be labelled flexible and not precarious. Their working conditions do not seem to affect either their job satisfaction or their health and well-being in a negative way. Their relatively long tenure with the company probably means that they are relatively well protected.

Conclusions about the development of temporary employment have been hampered by variations in the definitions used. As a consequence both official statistics and research endeavours have been difficult to compare both within the EU and with other countries. The OECD definition that we used (see fig. 5) was not without shortcomings but still worked reasonably well and allowed comparing between participating countries and companies / organizations. Improved definitions and measurements seem critical for statistics which form the basis both for conclusions about development and future policy endeavours. For the future, it seems critical to separate temporary and fixed term contracts from precarious forms

of employment i.e. jobs with negative effects for health and well-being. Our results clearly indicate that improved definitions should be the basis for future measurement and statistics. It seems critical to better discriminate temporary workers in terms of time frame of contract and future prospects.

The psychological contract has a significant role

It seems plausible to hypothesise that permanent workers have a different kind of PC with more extensive, more complex and more ambiguous reciprocal obligations, expectations and promises. These will be positive to the extent that they offer greater breadth and depth but may be more difficult to fulfil. The second broad hypothesis that guided the research was therefore that the PC, measured in a variety of ways, would act as a mediator in the relationship between the employment contract and the range of outcome measures. There was some support for this hypothesis in the evidence of full or partial mediation of a number of relationships. Results showed very clearly that it was the measure of fulfilment or violation of the PC that appeared to be most strongly associated with outcomes. The content breadth had relatively little association with outcomes. On the other hand, workers' views on their own promises to their organisation and the degree to which these had been fulfilled did have rather more impact. These are interesting findings that merit much more analysis. Despite some mediation by the PC measures, there was still evidence that type of employment contract was significantly associated with a number of outcomes and that in most cases this showed that those on permanent contracts reported more negative outcomes than those on temporary contracts.

Since the PC only acts as a full mediator on two of the 13 dependent variables, this leaves much to be explained. Given the quite extensive literature emphasising the importance of being on contract of choice, this was a surprising finding. We had expected that the PC would be the most important mediator and with the limited impact of the other variables, this view was supported.

Fulfilment of promises and commitments affects satisfaction of both employer and employees

There was some further support for the mediating role of the PC also in the analysis of the employer data. Although the sample was much smaller (n=202), and the results therefore have to be treated with some caution, there was evidence that employers' perception of the extent to which both permanent and temporary employees met their obligations to the organisation mediated the relationship between structural and policy variables – specifically organisation size and differences in the application of HR practices – and employer satisfaction with the performance of permanent and temporary workers. This means that the appreciation of how well employees fulfilled their obligations towards the organisation seemed to be related to how satisfied employers were with their performance.

On the employee side there were similar results in the sense that if employees perceived that employers fulfilled their part of the psychological contract, this was related to higher levels of job satisfaction and a range of other indicators of well-being. The repeated occurrence of this result across a range of different outcomes gives strong support to the meaningfulness of introducing the PC concept in any analysis aiming to explain outcomes of working for both parties involved in the employment relationship.

The “invisible” problems of permanent employment

Although permanent employees had a higher level of autonomy and skill utilization and often more qualified jobs compared to those on temporary contracts, we find other factors that seem to be more important for their well-being. Several of these factors concern relations between managers and their subordinates in the workplace. Factors consistently associated with lower worker well-being are violations of the psychological contracts, low levels of fulfilment of perceived promises and commitments made by the organisation, lack of support from supervisors and managers and last but not least a heavy work load. These factors apply to workers on permanent employment contracts at least as much if not more than to those on temporary contracts.

A broader psychological contract implies more commitments and higher expectations from managers. If this is part of a fair deal where permanent employees feel that they get equitable rewards for their efforts, the broader PC would not be a problem. Results indicate however, that permanent employees often have the feeling that the contract has been violated by employers or that they are unable to fulfil their commitments themselves. The most problematic part of the work conditions reported is that of a high workload which would confirm results from other research. An example is a study from the UK, where Burchell, Lapido and Wilkinson (2002) reported that threats of job losses, downsizing and work intensification affect core employees more than temporary workers.

The matching of employer and employee descriptions of the content of the PC and how it relates to the employment contract clearly confirms that both parties have higher expectations of mutual contributions for permanent as compared to temporary employees. The content of the psychological contract in terms of promises made is broader for the permanently employed. This means that employers have higher expectations and are prepared to give more in return as part of the employment deal. Also the permanently employed themselves report a wider responsibility towards their organisation compared to the temporary workers. Again this is matched with higher expectations of returns.

This is important especially against the background of reports from employers of equal treatment of permanent and temporary workers. A small majority state that there is no difference (53%) in treatment of workers on different employment contracts. This response seems to be the official policy, whereas the more detailed reports about the promises and obligations made to permanent and temporary workers give an impression of more widespread inequality.

Perhaps the most important result from our research reveals the “invisible” problem of permanent employment. Workload in terms of for example pressure for time appears as one of the critical factors affecting well-being in our study and values are consistently higher among the permanent employees across sectors and countries. Among the work characteristics, we find also higher levels of autonomy and skill development among the permanent employees compared to temporaries but these positive effects are clearly outweighed by the negative effects of the higher workload. Furthermore, the broader psychological contract among permanent employees means a broader commitment towards the job than temporary workers. The feeling that employers break their part of the deal seems to have a marked negative effect, in essence that permanent employees feel unfairly treated.

There is now a focus in Europe on job quality and our findings reinforce the importance of giving priority to this area. Legislation trying to balance flexibility and security needs also to

include job quality and clarification and fulfilment of the promises mutually made within the employment relationship in order to prevent stress and increases in the levels of sickness absence.

Type of employment contract not the most important predictor of well-being

It is important to recognise that the analysis of employee data has highlighted the role of the employment contract and its significant association with a range of outcomes associated with satisfaction and well-being. This needs to be set in context. While most of the potential mediators failed to operate in this role, they can still be strongly associated with a number of the outcomes and were often more strongly associated with well-being than employment contract. Most strongly associated with outcomes were perhaps perceived organisational support, job insecurity and work load.

While these results provide a wider basis for understanding the factors associated with worker satisfaction and well-being, they do not detract from the significance of these findings highlighting the negative role of being in permanent as opposed to temporary employment. Despite all the different variables controlled for and investigated, permanent workers still report poorer outcomes on several of the health and well-being variables compared with temporary workers.

Similarities larger than differences between countries

One critical part of the PSYCONES study was the exploration in more depth of differences between countries and sectors in the context of a multilevel analysis. The aim was to increase the relevance of results on a European level by efforts to estimate country effects and carefully defining societal dimensions and indicators to compare countries. The choice of multilevel analyses as the preferred way of comparing effects of individual, organization sector and country differences was a way of aiming further than previous research. Interpretations about country differences however, must be made bearing in mind the non-representative samples. This means that results are not typical for any of the countries but have to be limited to participating companies and organizations in the three sectors in each country.

The multilevel analyses showed that most of the variation remaining¹ between structural features of participating work units could be explained by organizational level factors. However, results indicated that country differences between the companies did have an impact, generally explaining about 10-15% of the remaining variance. On the other hand, and rather unexpectedly, sector differences explained almost none of the variation in organizational characteristics. The general conclusion however was that similarities between participating countries were larger than differences.

A second part of multilevel analyses was to investigate how the different levels could contribute to explaining variation in individual attitudes and job perceptions. Here, the major part of variation in individual responses was explained by factors considered at the individual level (85-90%). However, the organizational level also had some influence here but to a much more limited degree. There were also small contributions from country differences (3-6%) but again very little from the sector level. Further analyses revealed that the organizational level explained some variation in individual attitudes such as job satisfaction and organizational

¹ Variance not explained by individual and organizational control factors introduced.

commitment. For health-related outcomes, there were only very small contributions from higher levels. Again, the conclusion was that similarities between participating countries were larger than differences.

A final but important note must be made about the test of interactions between country and sector on the relationship between type of contract and outcome variables as well as the relationship between PC variables and outcome variables. The aim was to check whether the relationships that we found differed between countries. There were very few interpretable interactions meaning that the conclusions discussed above seem to be valid in all participating countries. Violations of the psychological contract thus seem to have similar negative effects on employee satisfaction and well-being in all participating countries.

Further implications

The changing nature of employment and especially the increase of various forms of temporary employments contracts has been the focus of discussions among both researchers and political debates among policy makers and social partners across Europe. The deviation from the standard employment contract, i.e. open-ended full-time employment, has been the topic of much concern and the implications are important for all those involved in the shaping of future labour market. Council directives have supported various measures in favour of equal treatment of temporary and permanent workers building on agreement between social partners. A general conclusion from PSYCONES research is that although the sample largely includes temporary workers with relatively stable employment, striving towards equal treatment seems to have been successful to some extent. An example would be that employers to a large degree describe no difference (53%) or small differences (35%) in their treatment of workers on temporary and permanent contract compared to permanent workers. Still, there remain variations in the equality of treatment in HR practices both between participating sectors and countries and these differences are important to highlight. Furthermore, we show that level of inequality seems to be relevant since it is negatively related to how managers report that their employees fulfil their obligations to the organization. A high level of equal treatment is related to higher levels of fulfilment of obligations.

Results for employee well being confirm, that there are indeed differences remaining between contract types. The most critical aspect concerns informal relations between managers and subordinates in the workplace: i.e. the breadth of the psychological contract in terms of promises and commitments exchanged, and even more important, the fulfilment of these promises. In this case, however, permanent employees seem to be the losers with broader psychological contracts more difficult to fulfil. These results indeed highlight the need for equality of treatment as an important issue in the work place with far-reaching consequences both for employers and employees. In addition to equality however, future policies should perhaps emphasize justice in treatment as a second main catchword.

The research was conducted in the context of a policy debate and a series of European legislative activities that have been based on the assumption that those on temporary contracts are significantly disadvantaged. One of the critical negative features of temporary work is job security. The findings in PSYCONES, consistent across participating sectors and countries, were somewhat of a paradox. A majority of the temporary employees with relatively stable contracts reported that they would prefer a more secure contract and they perceived lower

levels of job security than their permanent colleagues. Nevertheless, they reported higher levels of well-being than those on permanent contracts controlling for every possible confounding factors that we could think of. One of the clues to this paradox seems to lie in the psychological contract. If job security is not part of the PC of temporaries they don't experience the negative effects of a perceived breach in the same way as permanents do.

While we can support the importance of protection of workers including temporary workers, we find no evidence of an exploited, insecure minority in our sample. On the other hand, our research, perhaps with a somewhat biased sample, does highlight the heterogeneity of temporary workers.

For permanent workers however it seems more important than we expected to discuss the implications of job insecurity. Furthermore, there are conditions in the work place that could mitigate the negative effects of job insecurity. Support from supervisors and feeling of fair treatment are such examples elucidated in our results

Implications for employers

In the aftermath of repeated organizational change and personnel reductions it seems to be important that consequences of perceived violations or breaches of the psychological contract need to be taken care of. Issues of job quality among permanent employees need to be addressed. Low level of support from the organizations is another critical factor related to employee wellbeing. Permanent employees need better job design and deserve as much organisational support as the newcomers or temporaries in the work place.

Equal treatment and non-discrimination of temporary workers continue to be important both in a formal and informal sense. The formal part concerns HR policies and practices in the organization, the informal part entails a need to highlight relations in the work place. The content of the psychological contract, i.e. the exchange of employer and employee commitments, and to a greater extent that the promises and commitments made are fulfilled to a reasonable degree are important in this regard. To avoid violations of the PC seems to be critical and restructuring and organisational change have to be managed without violations.

Finally, there are some questions about the accuracy of employer perceptions of temporary workers from our research. A majority of employers report high levels of equal treatment of temporary and permanent workers. At the same time both employers and employees consistently report that temporary employees have less extensive commitments towards the organization than permanents. In line with this both parties report also that employer promises are less far-reaching for temporaries compared to permanent employees.

Implications for unions

Job quality and in particular the workload of core workers needs to be considered to avoid future stress related problems. The evidence suggests that unions should continue to support progressive HR practices in the interests of their members. Also from a union perspective, it seems important to strive for flexibility, security and quality of jobs.

Union membership is generally low among temporary workers in all countries. It seems important for the future of unions to increase the support for temporary workers. In some cases it seems that temporary work can be an (not-so-bad) alternative to permanent employment but only under certain conditions elucidated here such as: relative stability of contract, support from the organisation and supervisors, increase employability and chance to

get extensions of contracts. Also for temporaries it seems just as critical to avoid violations of the promises and commitments made by the organisation.

Union membership in our results seems to be related to several positive outcomes also on the company level such as higher levels of organisational commitment. Also there seems to be differences in the psychological contract of union members. However, these results are still preliminary and will be published within a few months.

Implications for future research

One of the limitations to the PSYCONES project is the cross-sectional data. Future research needs to conduct longitudinal studies of temporary work in different life cycles and with a longer time frame. Future studies also need to incorporate casual workers to a higher degree and perhaps other sectors.

Our data do not really support notions about distinctions in attitudes between sub-groups of temporary workers divided by qualifications or education. Results cannot confirm arguments about a distinction between high skill/"free workers" who voluntarily enter into temporary employment versus low skill/precarious worker who want more security made by e.g. Marler, Barringer and Milkovich (2002). In the PSYCONES results, education level has almost no association in the regressions with outcomes. The professionals in our sample, teachers, do not seem to be more positive towards temporary employment than the sales personnel in retail or the blue collar workers in manufacturing. Neither the free agent nor the precarious employment types seems to be sufficient in an effort to adequately explain our findings.

The psychological contract and especially the fulfilment of mutual obligations proved to give some possible clues to explain the diversity. Furthermore, it is no longer enough to use fulfilment – non-fulfilment as the only dimension for violation/breach. Our research has confirmed the value of the added measure of violation. Since it seems so important for outcomes, the further development of a robust measure of violation should be a priority.

Earlier research has to a very high degree concentrated on what the organisation promise to its employees and mostly how the PC is perceived by employees. In this study, focussing on the employer's side has proved its value for the exchange and needs further exploration and inclusion in theoretical models. Finally, the measures of promises and commitments from employees - the employee side of the PC is another of the dimensions of the psychological contract which has not been studied to a large extent. Agreement or disagreement and matching of both parties is definitely an exciting area for future research, touched upon in this study.

Gender issues related to employment contract is one of the research questions still remaining to be reported from the PSYCONES study. There seems to be important gender related differences in the motives to accept temporary work and in the meaning that it has for the individual. At least one paper about this topic is in preparation and will be presented during 2006.

Another interesting road to travel for future studies and theories concerns the meaning of job insecurity. Maybe we need to re-think the nature of job insecurity. It seems important for outcomes but the more insecure temporary workers have more positive outcomes. Evidence suggests that temporaries suffer less from job insecurity than permanents: while job insecurity results in poor well-being, unfavourable attitudes and unproductive behaviour for permanents, no such effects are found for temporaries. Research on the psychological contract may be useful in understanding this interaction effect: initial evidence suggests that job security is not

part of temporaries' expectations as part of their psychological contract, and hence, job insecurity does not breach their psychological contract (De Cuyper & De Witte, in press).

Last but not least, the similarities between participating countries were larger than the differences. Although we included participants from north, south, east (Germany) and west we still feel that it would be valuable to replicate the study in some of the new Eastern European member states.

2. Background and objectives

The dramatic changes in most of the Western world during the last decades have had fundamental effects on the labour market. Changing employment relationships are at focus in the PSYCONES project and the effect these changes have had on almost every organization and every working man and women in Europe. PSYCONES aimed to investigate the interplay between organizations and their employees as it is mirrored in the changing nature of employment contracts and relations between managers and employees. Outcomes were chosen to show effects both on organisations and on the well being of individual workers.

The major driving force for this development was the structural changes of the technical and economic environment that started in the beginning of the 1970s. Over this period we have witnessed the introduction of information technology, resulting in far-reaching effects on the organization of work (see e.g., Gallie, White, Cheng, & Tomlinson, 1998).

Secondly, increasing global competition and trade has resulted in the decline in traditional manufacturing industries across Europe, with profound consequences for regions and countries across the continent. The growth of global trade, cheaper products from abroad, the switch of manufacture and more recently some services abroad to cheaper overseas locations and the ability of international organizations to move capital and labour at short notice all contribute to a sense of employment insecurity.

The shift in the economy from manufacturing to services is another characteristic feature of the development over this period, variously labeled the post-Fordist era, late capitalism and the knowledge society. The consequences for organizations and workers in Europe have been far-reaching. Debate among researchers and policy makers is still ongoing as to whether the development leads to more qualified jobs or, in a more pessimistic scenario, to the de-skilling of work tasks. The apparent risk for polarization of the labour market with a primary market for the most qualified professionals and a secondary market for unqualified workers was clearly an issue already in the 1970s (see e.g., Wilkinson, 1981).

One last element in the list of driving forces has been the need to cut public expenditure in many European countries, resulting in a change from growth to a decline in public sector employment. Privatization and a general trend towards commercialization of the public sector in some countries became the definite proof for all citizens that jobs were no longer secure, not even in the public sector (Burchell, Lapido & Wilkinson, 2002).

One of the potentials of new technology has been a radical reduction in the number of workers, although the realization of these possibilities has taken several decades. The recessions of the 1980s and '90s fully proved this potential, however. Together with the loss of manufacturing industries and large-scale budget cuts in the public sector, this has in many countries resulted in unemployment levels not seen in Europe since the depression of the 1930s. A typical feature of the social climate towards the end of the twentieth century was 'more pressure, less protection', following mass unemployment, changes in labour laws and deregulation (Burchell, Lapido & Wilkinson, 2002).

Employment contracts are changing

As described above, a general tendency in all European countries during the 1990s was that perceptions of job insecurity became more widespread (OECD 1997). A clear sign of this development came from the increasing use of flexible contracts of employment during the last decade. Employment flexibility became a management mantra and there is evidence that the various forms of employment flexibility have been increasingly applied in advanced industrial societies in recent years (CRANET surveys reported by MacShane & Brewster, 2000). Flexibility has adopted several forms. Numerical or contractual flexibility is probably the most relevant here because of its effects on changing patterns of employment relations, perceptions of job insecurity and employees' well-being and health. Numerical flexibility allows the numbers of staff used to vary according to the needs of the business. It includes fixed term contracts, temporary, seasonal or casual employment, outsourcing, subcontracting, etc.

Research relating contract type to organizational outcomes however, yields mixed results. Von Hippel et al (1997) summarise the benefits for employers in the United States in terms of cutting costs, increasing flexibility and avoiding restrictions. Consistent results have been found for turnover intention: more temporary workers (hereafter referred to as temporaries) intend to quit their job than permanent workers (hereafter referred to as permanents) (e.g. Goudswaard, Kraan & Dhondt, 2000). However, as noted by Guest and Clinton (2005), this does not imply that they intend to quit before the end of the contract. Compared to permanents, temporaries are less likely to engage in organizational citizenship behaviour (e.g. Klein, Hesselink, Koppens & Van Vuuren, 1998; Guest, Mackenzie Davey & Patch, 2003). For organizational commitment, mostly restricted to its affective component, scores for temporaries are lower than or equal to those of permanents (e.g. De Jonge & Schalk, 2005).

With organizations' increased focus on temporary employment, researchers have warned against its detrimental effects for the individual. In this regard, Atkinson's (1984) Flexible Firm is the dominant theoretical perspective. In this model, temporary workers are part of the organization's periphery. Compared to core workers, they have lower social status, second-rate job characteristics and inferior prospects. These aspects are assumed to affect various outcomes in a negative way.

Research to a certain extent confirms the view of the disadvantaged temporary worker. For example, temporary employment is likely to exacerbate job insecurity (e.g. De Witte & Näswall, 2003; Klandermans & Van Vuuren, 1999; Parker, Griffin, Sprigg & Wall, 2002). Compared to permanents, temporaries experience less autonomy and perceive their job as less challenging. Furthermore, they are less involved in decision-making and informal work relationships, and feel that they have fewer training opportunities. Related to these topics, temporary employees are more likely to be involved in work related accidents (e.g. Goudswaard & Andries, 2002; Paoli & Merllié, 2001; Quinlan, Mayhew & Bohle, 2000). They also have less control over their working life: most temporaries do not choose their temporary status (e.g. Krausz, 2000), but are compelled to accept temporary work to avoid unemployment ('push-motive'). Only a small minority prefer temporary employment, citing so-called 'pull' motives relating to freedom, work-life balance and desire for variety (for an overview see De Cuyper, Isaksson & De Witte, 2005). Similarly, Swedish research found that temporaries less often than permanents worked in their occupation or workplace of choice (Aronsson & Göransson, 1999).

However, research also points to a more complex picture. Study of job characteristics other than autonomy, control and participation yields inconsistent or inconclusive results. For example, compared to permanents, temporaries report having a lower workload, they experience less role conflicts, less role overload and greater role clarity. In addition, no significant differences are found regarding physically demanding work and skill utilization (e.g. Goudswaard & Andries, 2002; Paoli & Merllié, 2001). Israeli research on employability (Cohen, Haberfeld & Ferber, 1993) suggests furthermore that temporary workers are not always part of the secondary labour market (Krausz & Stainvartz, 2005).

Also with regard to well-being, evidence on the disadvantaged position of temporaries is inconsistent. For instance, Dutch, German and Spanish research found lower job satisfaction levels among temporaries compared to permanents. However, no such differences were found in Belgium, Israel, Sweden or the UK (De Cuyper, Isaksson & De Witte, 2005). Similarly, inconsistent results based on contract type were found for job involvement and sick leave. Little research has been conducted relating the employment contract to the effect of work on life outside the workplace (for an exception see e.g. Goudswaard et al., 2000). This is remarkable because it has been suggested that temporary employment could improve the work–life balance (Van der Toren, Evers & Commissaris, 2002).

Despite the fact that the proportion of flexible employment contracts is still relatively low, (mean for EU as a whole is 13% with a variation between 3-33%) the level of political, economic and social attention has been remarkable. Probably the most important reason for public concern is that the return of insecurity and precarious employment represents a profound deviation from the development of the welfare state, which has been a central goal in most European countries during the second part of the 20th century. Issues of equal treatment of workers on fixed-term or temporary contracts in terms of wages, access to training as well as health and safety have been the aim of negotiation and regulations in the EU. In conclusion, our review confirmed the need for clearer evidence about the benefits and inherent risks associated with increased employment flexibility, and in particular employment contract flexibility for workers, and about the policy implications for the social partners and policy makers in the European Union.

The psychological contract

The psychological contracts held by employers and workers in organizations is proposed here as a possible intervening factor between actual degree of job permanency and individual well-being (for an overview of the concept and research see De Cuyper, De Witte & Isaksson, 2005). The concept tries to capture the reciprocal promises and obligations implied in the employment relationship. The psychological contract deals with commitments made by both parties starting with the formal employment contract. In contrast to the formal, often written agreement based on labour market laws, regulations and collective agreements, the psychological contract consists of the subjective perceptions held by both employer and employee of the formal and informal entitlements and obligations between them. These perceptions are dynamic and highly sensitive and susceptible to change in times of organizational restructuring. Apart from the content, researchers have also investigated the basis for the psychological contract in terms of mutual trust and justice. Furthermore, and perhaps what makes the concept potentially interesting in the context of organizational

change, is the perceived fulfillment of promises and obligations. Perceptions of breach or even violation of the psychological contract seem to be the rule rather than the exception especially during organizational change. By implication, we assumed the psychological contract contributes to the explanation of levels of satisfaction and well-being, including health, among workers. For example, a narrow, well-defined temporary contract with a trustworthy employer can thus be perceived as more satisfying than an objectively more secure contract that was only partially fulfilled.

To understand the complex dynamics underlying the success and failure of employment practices on a European level, we need a rich understanding of the roles of society, firms, and individuals in shaping employment relations. As social scientists, we are interested in the extent to which the formation and maintenance of psychological contracts in employment is a generalizable process. More specifically, in this study we were interested in what aspects of psychological contracting occur across societies and what societal core dimensions were relevant to the psychological contract. Negotiations about employment relationships take place within a cultural context that varies across the European countries, affecting the terms and conditions that society allows either the worker or the firm to negotiate (i. e. the zone of negotiability, see Rousseau & Schalk 2000). Cross-national investigation and mapping of this cultural context seems crucial for the understanding of future development of the European labour market and for the well-being of citizens of the union.

Research objectives

PSYCONES was based on a European collaboration between researchers in six countries from North to South and also including Israel for comparative purposes. The project focused on the well-being of European citizens and the outcome measures included indicators of satisfaction at work and in life, various measures of well-being and health indicators of employees, collected from employees by questionnaires in all countries. In addition a few organization related outcomes were included. The balance of the employment relationship across companies/sectors and countries was addressed by also investigating the employers and matching replies between employers and employees in the same company. Finally, legal, social and cultural differences between countries, identified as likely to influence the zone of negotiability of employment relationships were mapped out through integration with earlier EU projects and complementary expert interviews.

The overarching objective for the study was to examine how the changing nature of employment relations in general and different forms of employment contract in particular affect the job security, well-being and health of workers in Europe and for comparative purposes Israel.

The specific objectives were to:

1. Integrate results from earlier relevant EU projects (e.g. NUEWO) in order to identify legal, labour market and cultural indicators affecting employment relations and thus assumed to influence the use and impact of employment contracts.
2. Select three sectors employing individuals on a variety of employment contracts, and approach companies/organizations within these sectors. Sectors have been chosen on the basis of their assumed importance for future EU policy and will therefore include (1) Food & Drink industry, (2) Retail & Sales, and (3) Educational sector in all countries.

3. Conduct surveys across countries and sectors with employees on different employment contracts to investigate antecedents of psychological contracts and perceived violations and the role of employment and psychological contract for the well-being of employees.

4. Conduct interviews with managers (HRM and line managers) and union representatives in the employing organizations about policy and practices concerning the content and state of the psychological contract with permanent and fixed term/temporary workers in their organization.

5. Pool data and compare health and well-being for employees across sectors and countries.

6. Disseminate the results to three main target groups: participating companies (employers and workers), social partners and policy makers on a national and EU level

An exploratory pilot study was conducted between September 2001 and summer 2002 in order to develop a model and research instruments to be integrated in a larger comparative study. During this period we developed a first conceptual model for the project and constructed and translated a questionnaire for employees on the basis of this model. During winter 2001-2002 validity and reliability of the questionnaire items and scales were tested across all countries. Further, interview schedules were developed to investigate the employer side of the psychological contract. These forms were tested as part of the pilot phase. Finally some preparations were made to find relevant dimensions along which to compare employment relations and contracts (the zone of negotiability) across countries.

The same partners were involved already at that stage and it became a very important starting point for the PSYCONES project which commenced in December 2002. Although the focus of the pilot was exploratory and the pilot samples were far from representative, the initial phase gave indications of critical issues for the main study and allowed preliminary tests of the model.

Based on experience during the pilot phase of the project we decided to change the method of data collection for employers. In the pilot study we tested a simple interview guide. The content of the guide was acceptable but the qualitative interview data proved difficult and very time consuming to analyse. It became obvious that we needed more structure than a semi-structured interview with open-ended questions. As a result we decided to use a short questionnaire to employers in our main study asking for information about the organization, its prospects and practices as well as matching data about the psychological contract.

A second important change compared to original plans, and again based on our experience from the pilot phase was the decision not to interview representatives from unions in the targeted companies. The pilot study proved time consuming and there were unexpected difficulties to find suitable companies for participation. One reason was that we wanted samples of both temporaries and permanents in equal numbers and with the same occupation. Furthermore, our request to conduct union interviews became an obstacle in itself and lead to increased difficulties. A decision was taken within the research team that union interviews were optional partly because it was not always possible (due to management opposition, no union was recognized or no union rep was present). As a result the union issue was addressed through other questions to employers and workers. It was clear that if we had persisted, any meaningful comparison on this dimension would have been impossible. Areas covered in questionnaires were e.g. the presence of unions in the company and their role and influence over HR policies and decision making..

A final example of necessary revisions concerned the difficulties to compare agency employment across countries. Regulations and agreements for this category varied to such an

extent that we decided not to study temporary agencies as a sector. Instead we decided to include agency employees when we encounter them in companies on assignments of varying duration.

Conceptual models

An important part of the pilot study was to further develop the theoretical model to be tested in the large comparative study in the seven participating countries. A model by Guest (1998) served as a starting point. In essence the model should reflect the hypothetical relationship between employment contract and employee well-being. We adopted a broad definition of well-being to include satisfaction at work and in life as a whole, indicators of effective functioning (e.g. self-efficacy, work performance), mental health and work-life balance. We also collected data on some behavioural indicators such as accidents, sick-leave and work attendance while ill. The psychological contract, defined in terms of content, and state (trust, fairness and delivery of ‘the deal’) was assumed to have the status of a mediating variable.

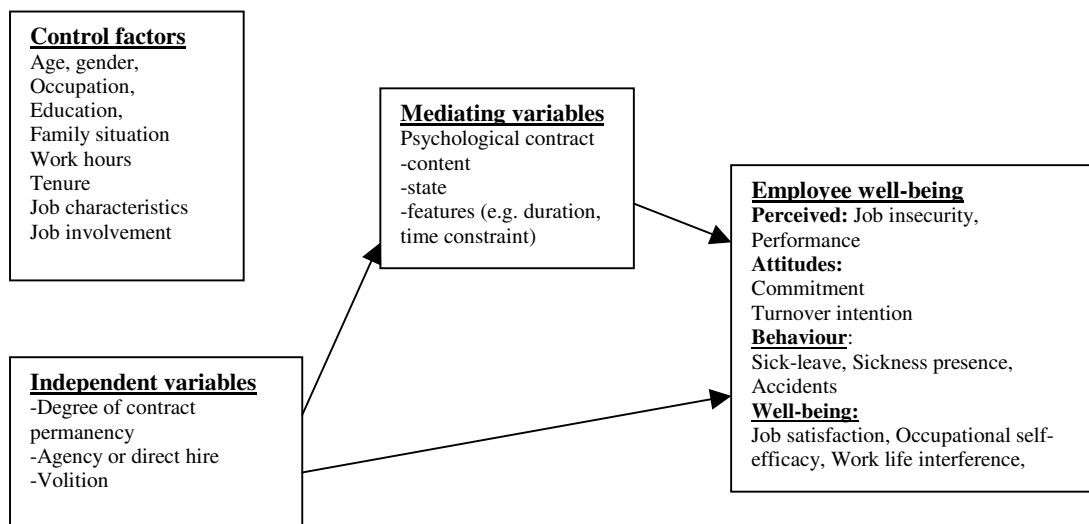


Figure. 1. Initial conceptual model for analyzing employee well-being in PSYCONES.

Results from data analyses of the pilot study led to some revisions of the original model. Although the role of the psychological contract as a relevant factor for the well-being of employees was supported, the precise nature of the relationship was far from clear. While there were some signs of mediating or partially mediating effects of the psychological contract on the relationship between formal contract and individual outcomes, at this stage there were stronger indications of direct effects. However, evidence based on pilot data needed to be tested with improved measurements in the main study and the main research question was retained.

Conclusions from the state of the art review

Overall, the review of literature- supported the notion that merely investigating the direct relationships between contract type and employee well-being and organizational outcomes might be insufficient to fully understand the effects of temporary employment. Most recent reviews (see De Cuyper, Isaksson, & De Witte, 2005) suggest that researchers should use more complex research designs in order to understand the relationship between contract type and outcomes.

In the final research design, this was achieved by including several possible intervening variables such as employee prospects, contract of choice, job characteristics and organizational as well as social support together with the psychological contract. Particular attention focused on job insecurity and control over working life in terms of ‘contract of choice’ and ‘work of choice’. These variables were highlighted because of their firm relationship with temporary employment, and because they proved important in predicting employees’ health, attitudes and behaviour in previous research (Aronsson, Dallner & Gustafsson, 2000). Additional explanatory variables, such as motives, social support and employability, have not yet been included in research in this field. Furthermore, the limited number of studies comparing job characteristics of temporaries and permanents is surprising, given its centrality to most theoretical models (e.g. the Flexible Firm). Figure 2 below suggests a range of possible intervening variables, in addition to the psychological contract affecting the relationship between temporary employment and the outcomes. In developing our analysis of the role of the psychological contract, we included several dimensions including content, state, fulfilment and violation, responding to the need for more complex studies.

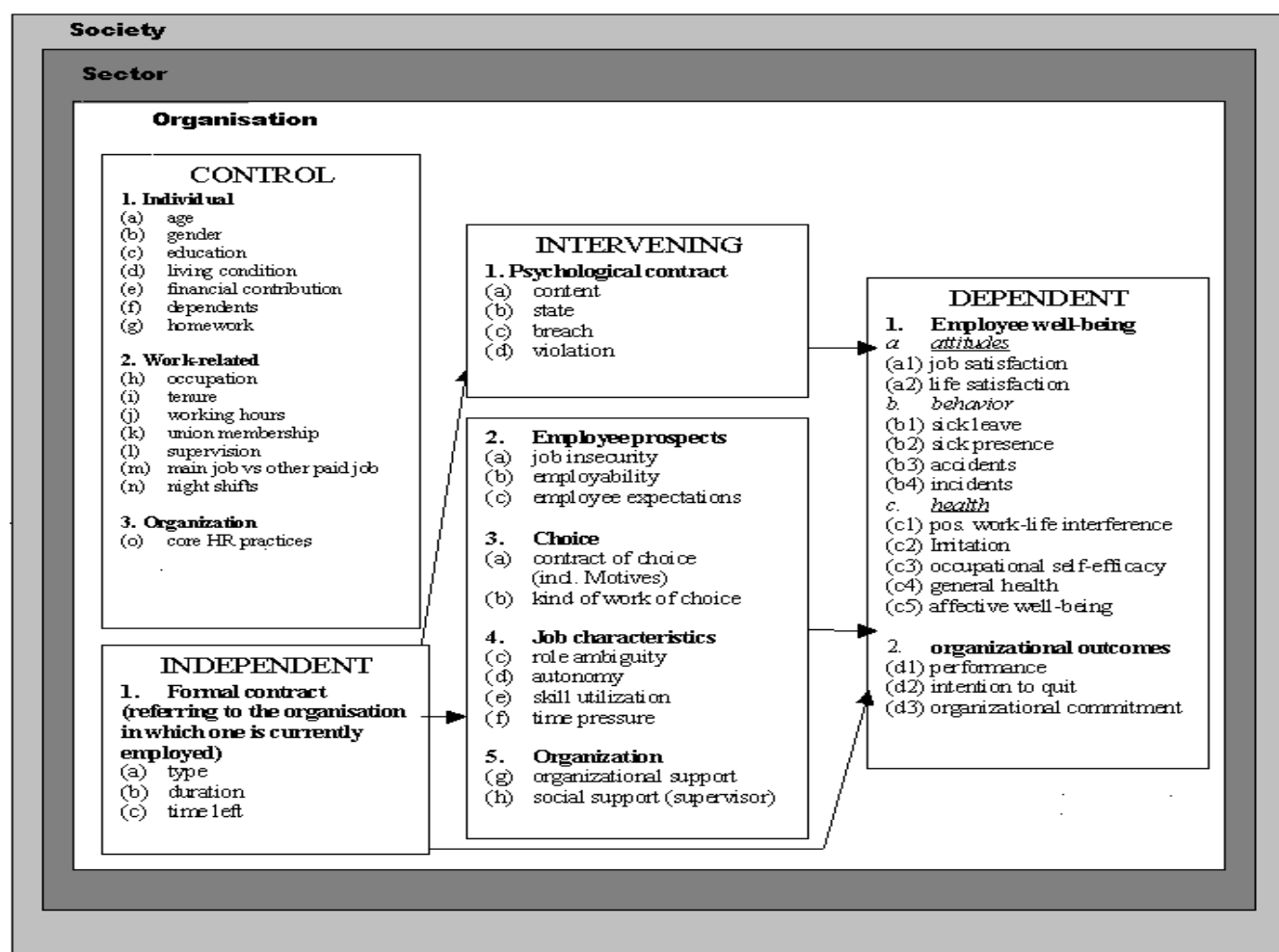


Figure 2. Revised conceptual model

Conceptual model for employer side

There has been less conceptual development of the employer's perspective on the employment relationship. We addressed this in two ways. The first was to include some organizational level variables in the questionnaire for workers, most notably their experience of a number of core human resource practices. The second was to collect from employers some core and essential organizational data such as size, ownership and performance indicators as well as parallel indicators of the psychological contract to those obtained from workers. For analytic purposes, a provisional model was developed to analyse the employers' responses which is set out in Figure 3.

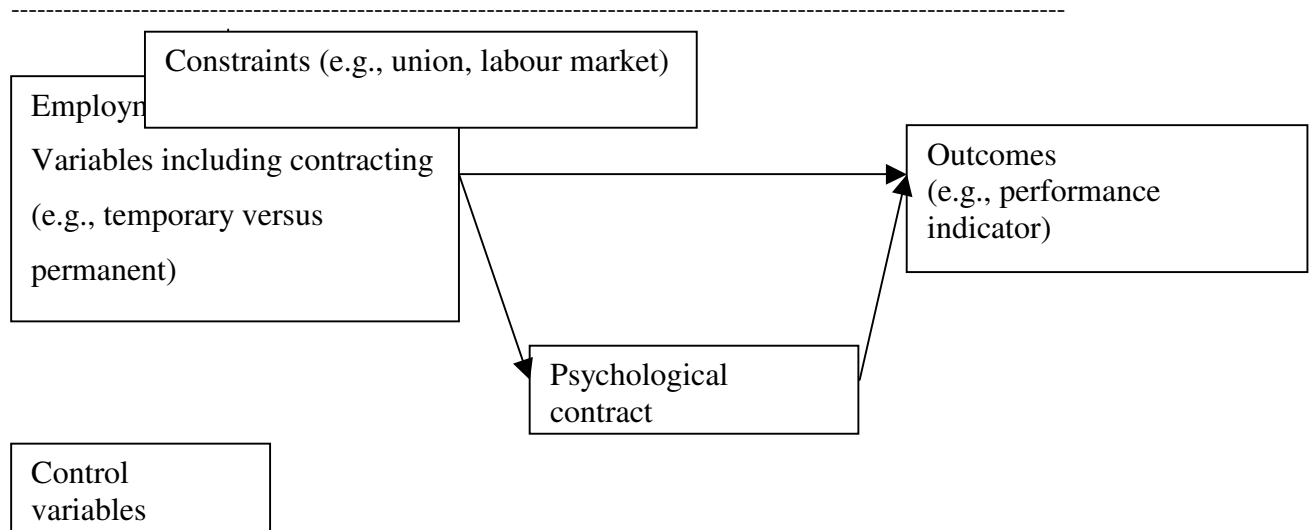


Figure 3. Model of the employer data

Having the psychological contract as core variable in the name and in the model of the PSYCONES project, and defining the PC as reciprocal obligations, our first and extensive aim is of course to get information from both sides – the employee and the employer. The further aims for the employer survey are:

- (1) To understand the context of employee responses by collecting information about the organization to be used as control factors.
- (2) To provide specific information that can serve as a cross-check against employee responses – for example on sickness absence or intention to quit versus actual quit rates,
- (3) To provide an understanding of company policy, practice and rationale with respect to employment of workers on different types of contract. It will be helpful not just to know what proportion of the workforce is employed on different types of contract but also the rationale for company employment policy and whether in practice the policy objectives are being achieved. We also need to know whether an employer as a matter of policy treats workers on different types of contract differently.
- (4) To look at the psychological contract from the employer's perspective and thereby permitting an analysis of levels of agreement and their impact. A plausible hypothesis might be that where there is a better match, there will be higher levels of trust and fairness.
- (5) One of the benefits of a study on the scale envisaged is the opportunity for multilevel analysis. The research question is whether it is factors at the individual, organisational or national level that are most likely to explain variations in employee attitudes and behaviour; or whether type of employment contract overrides them all!

Societal dimensions relevant to the psychological contract

The PSYCONES team agreed with the argument of Rousseau and Schalk (2000b, pp. 10-13) that psychological contracts can usefully be viewed in a cross-national way given: (1) expansion of multinational firms and labour markets, (2) advancing scientific knowledge regarding psychological contracts and their generalisability across societies, and 3) public policy implications of psychological contracts.

Societal contexts, varying across the EU, are assumed to determine the zone of negotiability, the content, and the state of the psychological contract. PSYCONES aims (1) to identify those societal core dimensions relevant to the psychological contract; and (2) to provide quantitative data on the identified dimensions for cross-national comparisons in order to characterise the currently participating countries.

Adapting a broad definition, cross-cultural research implies the comparison of at least two cultures in terms of values (Smith, Fischer, & Sale, 2001) and institutions. On top of this cultural dimension, a special aim for the study was to look for other core societal dimensions affecting the psychological contract. Westwood, Sparrow, and Leung (2001) stressed the need to test psychological contracts across national cultures and other cross-national differences. While the main focus is “between societies”, we recognise that “within societies” large differences may exist at, for example, the industrial, the organisational, and the individual level (e.g. Sels, Janssens, Van den Brande, & Overlaet, 2000, p. 64; Krausz, 2000, p. 134).

Analysis of earlier research (e.g. the NUEWO project) and suitable statistics, as well as structured interviews with experts, resulted in identification of six core societal dimensions.

1. Laws and regulations
2. Industrial relations system
3. Labour market and economic system
4. Educational system
5. Family orientation
6. Cultural values

We integrated these core societal dimensions in the framework of Kabanoff, Jimmieson, and Lewis (2000). In Figure 4 below we acknowledge the interaction between the societal dimensions (Scandura & Lankau, 1997; Johnson & Lenartowicz, 1998; De Paola & Scoppa, 2001). This means that the societal dimensions probably operate interdependently. Historical/cultural background includes a mix of political, social, economic, religious, and cultural environments. Examples of historical/cultural background are: political system, occupation, colonisation, revolution, war, societal order, evolution of production system, industrialisation, development of labour management (including labour relations), membership of the European Union, globalisation, immigration/emigration, and religious diversity. The historical/cultural background influences the interacting societal dimensions that in turn influence organisational policy and practices on the one hand, and the psychological contract on the other hand.

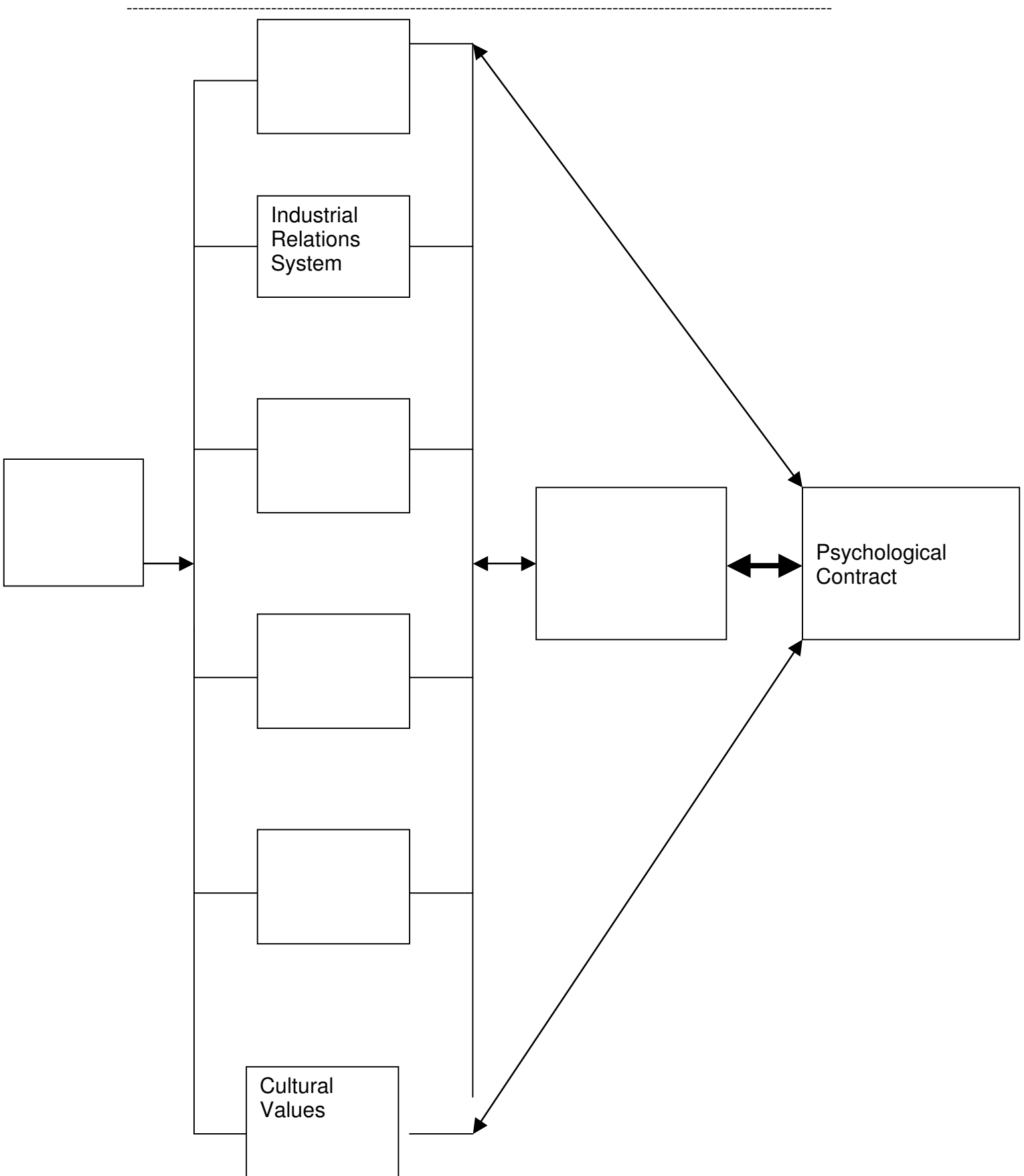


Figure 4. Societal core dimensions linked to the psychological contract

Firms do not respond passively to societal pressure; rather they react to and sometimes shape societies in several ways (recruitment and selection practices, training and development activities). Societal factors can act as constraints on or supports for a firm's actions (Rousseau & Schalk, 2000b, p. 23-24). Kabanoff, Limmieson, and Lewis (2000, p. 32-33) stressed that the linkage between HRM practices and the psychological contract is reciprocal. It is stronger than the linkage between HRM practices and societal factors, and also stronger than the linkage between the psychological contract and societal factors. HRM practices are one of the major mechanisms through which employees come to understand the terms and conditions of their employment (e.g. when confronted with appraisals, rewards etc).

“Laws and regulations” include the whole range of legal facilitators and constraints shaping the conditions for both the formal employment contract and the psychological contract.

“Industrial relations system (IRS)” was defined by Pettinger (2000, p.1) as “the system by which workplace activities are regulated, the arrangement by which the owners, managers and staff of organisations come together to engage in productive activity. It concerns setting standards and promoting consensus. It is also about the management of conflict”. Marginson and Sisson (2002, p.671) formulated it briefly as “the regulation or governance of the employment relationship”. The framework of industrial relations is usually regarded as tripartite (following the landmark 1958 volume of John T. Dunlop). The traditional three sets of actors are: employers, their representatives and associations; employees, their representatives and trade unions; and the government through direct negotiation involving governmental officials, governmental mediation of employee-employer agreements, and the creation of laws and statutes specifying conditions of employment.

Since PSYCONES is an EU project, we address briefly some implications of European integration on industrial relations. Pettinger (2000) described the European Union view on industrial relations as based on social partnership and integrative bargaining/social dialogue. This EU approach was formalised by the European Social Charter of The Maastricht Treaty of 1992 and it was further incorporated in The Amsterdam Treaty of 1997. Marginson and Sisson (2002) concluded that a European multilevel IRS (e.g. Community, national, industry, firm) is “in the making” and that there is no “pre-assumed end point” for developments (p. 686).

“Labour market and economic system” is defined as the exchange of labour supply and demand within the broader economic system. Dallago (2002, p. 954) defined an economic system as “a coordinated set of formal and informal institutions” that “bounds economic actors, directs their efforts, and constrains their expectations with respect to economic interaction”. Examples of formal institutions are company laws, economic actors such as firms and banks, relations between labour and capital, competition practices, government policy. Examples of informal institutions are family, work habits, consumption habits. According to Cipolletta (1998) the economic system must foster change, for example by introducing flexibility (such as part-time work) into the labour market, to solve problems such as unemployment. Welfare in a country results from the combination of production factors such as labour, capital, natural resources, etc. The degree of welfare in a society, as an outcome of the economic system, may influence the psychological contract.

“Educational system” refers to the provision of education, development and training of children, youth and adults in society. National public expenditure on education gives an

indication of the importance of promoting and maintaining high qualification levels in the working population.

“Family orientation” refers to family structure and family ties. It includes a special focus on gender issues such as female employment and societal attitude towards working women. The reason is that issues in the debate about new forms of employment has touched upon offering possibilities for women to work versus keeping women trapped in low paid and low status jobs.

“Cultural values” represent, according to Schwartz (1999), “implicitly or explicitly shared abstract ideas about what is good, right, and desirable in a society” (p. 25). Cultural values “are the bases for the specific norms that tell people what is appropriate in various situations” (p. 25). “The explicit and implicit value emphases that characterise a culture are imparted to societal members through everyday exposure to customs, laws, norms, scripts, and organisational practices that are shaped by and express the prevailing cultural values” (p. 25).

Markus and Kitayama (2003) stressed the cultural shaping of psychological processes. The societal cultural values are reflected and promoted by customs, norms, practices and institutions. These become lived experiences in “local” worlds (e.g. the workplace) and result in a set of habitual psychological tendencies (ways of thinking, feeling, and acting). The psychological contract can be seen as a specific work-related experience where employee and employer live out their core cultural values.

Operationalising the societal-level variables

In summary, the six dimensions suggested were based on extensive literature reviews and expert interviews dealing with societal dimensions and their impact on the psychological contract in cross-national studies (e.g. involving at least two countries). To operationalise the dimensions we needed quantitative indicators for these dimensions. The following criteria were used for a first screening of indicators:

- Defined in a clear and identical way across sources
- Quantitative
- Suggested by experts
- Available for PSYCONES countries, then for other EU member states, then for EU candidate member states
- Minimum three indicators per dimension.

The development of these indicators is further described in the Methods section below.

3. Scientific description of the project results and methodology

Methods

One of the most discussed issues in cross-national research is the equivalence of measures used. The need for standardised translation procedures and quality management are also stressed to be important problems that have to be solved in cross-national research (Smid & Hess, 2003, p.57).

In order to fulfill these points, we adopted a general plan for quality management. The steps are summarised in table 1.

Table 1. Quality Management

- | |
|--|
| <ol style="list-style-type: none"> 1. The same shared conceptual model, developed by all researchers involved 2. Input harmonisation, by preparing an English Master-questionnaire 3. A thorough translation process (translation – back translation recommended) 4. The same sampling procedures in all countries 5. Strict guidelines for the coding of data 6. Standards for the evaluation of psychometric properties of scales, and tests for equivalence |
|--|

Design and samples

Choosing sectors and companies

The variation in types of employment contracts used across sectors and the differences in regulations, collective agreements etc. made it necessary to try limit the variation by choosing only three sectors to sample from. Based on our experience in the pilot phase of the project and discussions with the NUEWO project we were aware of the problems of getting access to similar companies in all countries. The following criteria for the choice of sectors were used:

- (1) Has to be present in all participating countries,
- (2) A reasonable amount of temporary employed employees can be found within the sector, and
- (3) Sectors represent a broader class of organisations.
- (4) Likely to be important in terms of future employment.

Following these criteria, we could agree on the following three sectors: Food manufacturing, Education, and Retail. In these three sectors we have private companies, as well as public organisations, we have a broad variety of educational, and skill levels, and we have

manufacturing as well as service. Each sector is present in each country and likely to be so in the future. The three sectors provide our sampling frame.

Within this frame, we came to an understanding of further specifications that limit the breadth of the target population, but makes comparisons more valid. We agreed to sample only professionals within the education sector, and only blue collar workers doing tasks in the core business of food industry plants. We also considered the sampling requirements to enable us to undertake multilevel analysis.

The sample size that is needed to perform a multilevel analysis is not easy to determine (Snijders & Bosker, 1993). For a “simple” two level model, some authors speak of more than 100 groups to be on the safe side - in other words, to prevent an underestimation of group level variance components and standard errors (e.g. Busing, 1993). However the exact power of a multilevel model, especially when exceeding two levels can only be calculated accurately post-hoc, because the power is influenced by many parameters within the model (cf. Snijders & Bosker, 1999). Theoretically we have at least four possible levels within our research model: nations/societies, sectors, organizations, and individuals. Some groups might even be divided into subgroups. As a given fact of the project we have to deal with seven countries on the macro-level of society. We decided that at least 100 organisations across countries would provide sufficient power for multilevel modeling. A second goal was to get a more or less balanced sample across groups on different levels, we came up with the guideline to gather data from at least 7 organisations per sector per country ($7 \text{ Countries} * 3 \text{ Sectors} * 7 \text{ Organisations} = 147$).

In order to limit the impact of one organization on the overall results, we agreed to limit the maximum share of any one organization sub-sample to one third of employees in a sector. We set the same parameters for the subgroups of permanents and temporary workers. In addition, at least 5 employees should have a temporary contract in any organization sampled.

If a country faced problems in the sampling from any of the three sectors we decided to allow samples from a similar sector remaining on the same professional level: Instead of the education sector- the second choice should be the health sector, Instead of the food industry- a different industry, in the sales sector it was possible to include also telephone travel agencies, banks, etc. Table 2 gives a summary of sampling strategy.

Table 2 Summary of the sampling strategy

	Country		
	Educational Sector	Food Industry	Retail and Sales
Description of the sector	Educational organisations (public, subsidized, private)	Food & Drink industry: No managerial staff sampled.	Shops, travel agencies, banks, assurance companies
Specification	Employees are professional staff in schools and universities (kindergarden/pre-primary included, cleaning staff, secretarial, etc. excluded).	Mainly workers that work in the core of the company's business	No restrictions
Number of companies	At least 7	At least 7	At least 7
Number of temporary workers	Minimum of 5 temporary workers in each organisation, not more than one third of temporary workers within one sector should be from one company, within one sector at least 100 temporary workers.		
Number of permanent workers	No limit per company. Within the sector, no more than 1/3 of the permanents from one organization		
Number per organization	Not more than 1/3 of the sector sample should come from one single organization		

Procedure for data collection

Data were collected using surveys to employees and interviews /questionnaires with HR managers, who were chosen to act as representatives and organizational agents. This procedure is consistent with similar work in organizational studies e.g. Kotter (1973) and Porter, Pearce, Tripoli and Lewis (2003). In order to collect data, the researchers either visited the organizations, distributed and collected the questionnaires or sent the questionnaires to the organizations and they then managed this process.

Questionnaires

Employee side

The questionnaire for employees was the core instrument of the project. Items and scales were chosen according to the conceptual model. The pilot study served as a test run for the instruments. Using criteria of dimensionality, reliability, and item characteristics, instruments for the main study were chosen, modified or constructed. Based on the literature review and compared to the pilot study, the conceptual model was subject to some extensions. Thus, a few instruments included in the main study had not been tested in the pilot.

The questionnaire was partitioned into the five sections:

- Present job and employment contract,
- Job characteristics and performance in your present job,
- Attitudes towards the job and organisation,
- Health and well-being, and
- Background information.

A complete list of all the variables and measures employed can be found in Appendix 2. A few critical measurement issues will be discussed below.

Defining employment contract – degree of contract permanency.

One of the biggest challenges in research on employment contracts is to find a coherent classification meeting national regulations and fitting cross-national research. Most research-oriented typologies are not focused on contract permanency as such. Rather, they suggest classification schemes referring to overall employment (e.g., Dekker, 2001; Benavides, Benach, Diez-Roux & Roman, 2000) or to flexible employment (e.g., Boockman & Hagen, 2001; Apel & Engels, 2002). Yet the debate continues - ‘... no agreement on the use of employment categories has been reached among researchers’ (Benavides, Benach, Diez-Roux & Roman, 2000, p.500) - probably due to large differences across countries.

For the purpose of this study an effort was made to find the critical dimensions to describe and define employment contracts and construct a useful definition. The definition should incorporate not only the “atypical” forms of employment (such as temporary or fixed term) but also apply to the changing circumstances of permanent employees. Job security was chosen as the most decisive dimension. Based on earlier research we also decided that the definition suggested should build on: (1) objective criteria, and not individual evaluations, (2) a time dimension of the contract, (3) a distinction between being employed directly or being employed by an agency. The pilot study tested a draft definition where job security was

assumed to vary according to degree of job permanency as decided by period of notice entailed in the contract. This led to four categories of direct and three forms of agency based employment: variable (subject to immediate notice), fixed-term (subject to notice) permanent (subject to notice) and permanent with no notice (life-long).

The pilot study gave some essential clues to the problems with this definition for cross-country comparisons. Our conception of employment permanency, based on period of notice and direct vs. agency employment with seven categories proved to be impossible to use. The main reason was that periods of notice vary across countries and sectors to such a degree that the seven categories could simply not be identified in a reliable way in all countries.

For the main study we decided instead to use the definition of temporary employment suggested by the OECD (2002): ‘A job may be regarded as temporary if it is understood by both employer and employee that the termination of the job is determined by objective conditions such as reaching a certain date, completion of an assignment or return of another employee who has been temporarily replaced. In simple terms, temporary employment is considered as dependent employment of limited duration, differentiating between jobs that offer the prospect of a long-term employment relationship and those that do not do so. Accordingly, permanency is a contract characteristic.

The OECD definition had several advantages. It is based on objective criteria inherent in the employment contract. Furthermore, it allows an international perspective in that legal definitions of temporary employment show considerable overlap. Finally, it has already been used in European research such as the Labour Force Study (e.g., Goudswaard & Andries, 2002). Therefore, the OECD definition (2002) will be used here, without claiming that it is the only one suitable for cross-national research.

The PSYCONES classification of different types of employment contracts based on the revised definition is shown in the figure below.

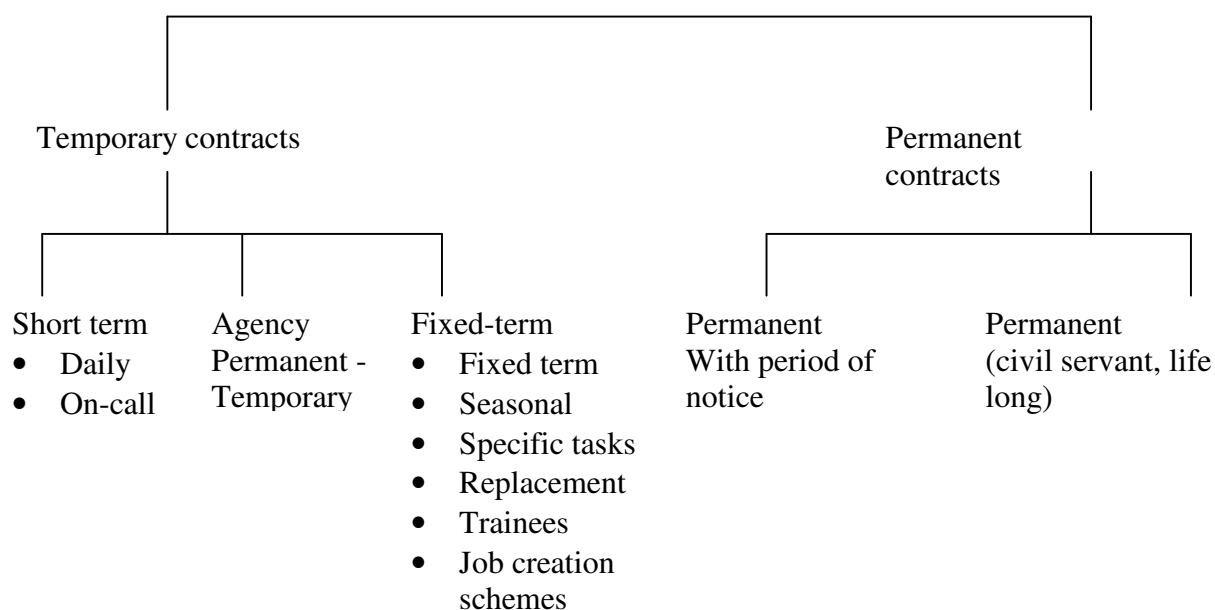


Figure 5. Categories of employment contracts based on contract type and duration

Figure 5 shows two main categories. For permanent contracts we identified two subgroups, those who have a period of notice and those who have a life-long employment. Temporary

contracts can be divided into three subgroups, those employed by agencies, those on fixed term contracts and finally, individuals employed on very short contract form (day, hour or on call). Instead of using period of notice as a decisive factor the model is based on duration of the contract as the most important dimension.

The model does not cover all aspects that may be relevant from a psychological point of view (i.e.: geographical flexibility, variations in working hours and schedules, voluntary choice or not, working for more than one agency, variations of wages and qualifications or task demands, etc.). However information on these factors was collected and included in the analysis.

Almost all studies point to the importance of controlling for a number of demographic variables in analyses assessing the effects of temporary employment (see the box on the left side of Figure 2). Previous research indicates that temporary workers are generally younger and less educated. In some countries, women dominate temporary employment. The family situation, the gender division of labour in the household, and the financial situation could all influence the decision of which contract form to accept. As well as these individual control variables, work-related variables also need to be controlled. The organizational position (e.g. blue collar, white collar, management) is related to job characteristics, which in turn influence employees' attitudes, well-being and behaviours. Other issues associated with temporary employment, such as tenure, working hours, union membership, supervision, main job versus other paid job and night shifts, also need to be controlled in order to rule out alternative explanations.

Psychological Contract

We construed the psychological contract as a multi-faceted construct and designed our measurement instrument in the light of this. First, we distinguish between employers and employees obligations. At this stage we focus on the employee as data source. Within these categories we distinguish between the content of the psychological contract and the “delivery of the deal” asking employees about the degree of fulfillment of promises and commitments from the organization.

Additionally, we assess the violation of the psychological contract. In contrast to the delivery of the deal which is rather seen as cognitive reaction along the dimension of fulfillment - breach, the violation of the contract is seen as an affective reaction to the psychological contract (cf. Morrison & Robinson, 1997)

In the context of studies of the employment relationship, the concept of the psychological contract has been broadened into a concept referred to as the state of the psychological contract incorporating measures of fairness and trust (Guest, 2004) We therefore included these in our instrument. The items indicate whether the employment relationship is perceived as just, fair and to what extent one can trust the employer (managers, supervisors). Figure 6 shows these constituent elements of the psychological contract at a glance.

We will not only ask for the perceived employer's obligations, but also for the promises and commitments of the employee towards his/her employers as well as the fulfillment of these obligations by employees. Taking both sides of contract-partners into account we follow the definition of the psychological contract as ‘...the perceptions of reciprocal expectations and obligations implied in the employment relationship (Isaksson, Peiró et al., 2003, p.3).’ The employer's side will be considered in the employer's questionnaire that will be described later on.

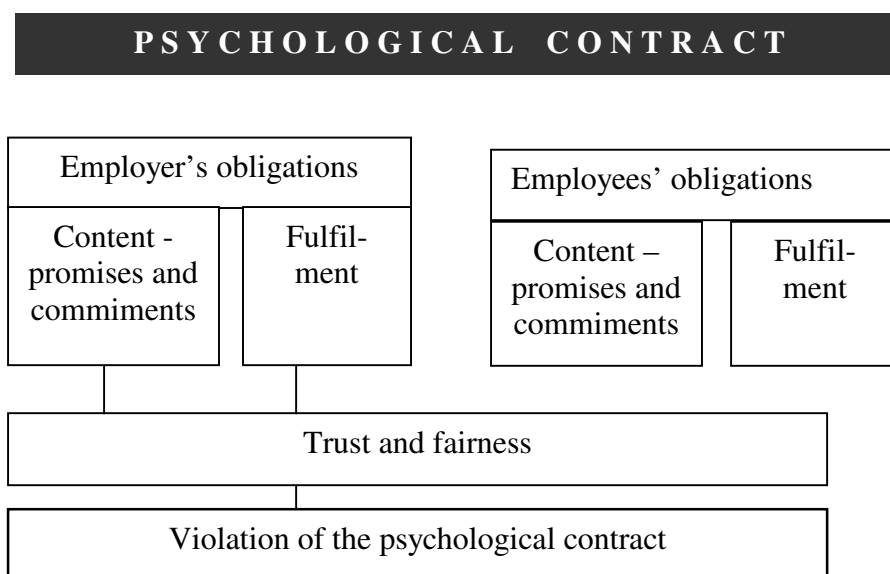


Figure 6. The constituent elements of the psychological contract in the questionnaire

Additional methodological comments

Appendix 21 shows a list of all the variables included in the questionnaire including psychometric properties of scales across countries. For each scale, the results of factor analyses (Principle Component Analyses; PCAs) were calculated for the whole sample, for each national dataset and then for both permanent and temporary samples. To assess reliability of the various scales in each sample the Cronbach's Alpha was calculated for the sample as a whole and for each country. In a number of cases, the omission of one or more items substantially enhanced the reliability of the scale. In such cases, this was indicated together with suggested improvements. The best version was used in the main data analyses presented below. A few items were specifically constructed for temporary employees (tenure on the job, duration of contract, expectation of contract extension and motives for temporary employment). Apart from these items, the data presented represents all of the data collected in organisations where responses were received from both permanent and temporary employees.

The conclusion was that most of the measures have acceptable psychometric properties and appear to be suitable for use both for the whole sample, each national sample and for both permanent and temporary employees.

The level of missing data seems to be fairly consistent across employment contract with similar proportions of missing values being found in both permanent and temporary samples. The two variables with slightly higher disparities, both with a higher proportion of missing values for temporary employees, are fulfilment of the PC (8.0% v 5.6%) and organisational tenure (3.3% v 1.8%).

Various points were made concerning the measurement of the PC variables and how they might best be combined. We used factor analysis to explore the presence of transactional and relational dimensions but failed to identify clear factors. In their absence, it was concluded that it would be most appropriate to focus on content breadth as a single dimension and degree of fulfillment of the items as a whole.

Employer interview/questionnaire

The questionnaire to employers aimed to collect background information concerning the organisation that can help to categorise different organisations, serve as background variables in regression analyses or as indicators of the organisational level for multilevel analysis. Furthermore the assessments of employees can be compared with the ratings of the HR Manager within one organisation. Appendix 2 shows items and scales used for the employer questionnaire.

The same standards as for the employees' questionnaire regarding the development of the employers' questionnaire were used. The questionnaire is partitioned in four sections:

- (I) Characteristics of the company / organisation,
- (II) Human Resources Policies and Practices,
- (III) Performance Indicators, and
- (IV) Employer-Employee Relations.

The employer variables will be describes in the following.

I Characteristics of the company / organisation

In this section we sought objective data describing the organisation such as size, ownership, proportion of temporary employees, union members etc. As it is highly relevant that we use the same contextual frame for this description, our definition of the organisation was given to the respondents: "When we refer to your 'organisation' we would like you to consider this as being the independent geographical site/plant/school within which you are located, even if the department/plant/school you are working for itself is a part of a larger company/organisation".

II Human Resources Policies and practices

HR practices are likely to influence the psychological contract. Kabanoff, Jimmieson, and Lewis (2000) put HRM (Human Resource Management) practices at the core of their organising model. The authors refer to Rousseau and Wade-Benzoni who in (1994) argued "that HRM practices are one of the major mechanisms through which employees come to understand the terms and conditions of their employment" (p.33). We asked about a set of core human resource practices, explored the motives that lead the organization to employ persons on a temporary basis, asked for ratings of satisfaction with the performance of temporary and permanent workers, the influence of unions or work council, and last but not least the difficulty of filling vacancies.

III Performance indicators

There is a vast quantity of possible performance indicators, ranging from profit, the growth of the organisation, the position in the market, the compliance to certain norms and rules (like ISO norms), and so forth. As we are looking for data that can be matched with the information we get from employees we used a rather restricted list of performance indicators. Without the relevance of other performance indicators, in the questionnaire we decided to focus on the dynamic of the work force (dismissals and voluntary quitting), on sick leave and accidents. By collecting these performance indicators within the wider conceptual framework, the study might help to understand the causes of workplace safety behaviour and accidents, and how this is affected by HR policies and the use of temporary contracts. In most countries all these questions were asked separately for permanent and temporary employees.

IV Employer-Employee Relations

We described the psychological contract and its operationalisation in detail for the employees' questionnaire. The rationale for asking employers is that the contract is reciprocal

and psychological contracts are formed and developed in a specific organisational context: The same questions as for employees were used, asking about content and fulfillment of promises and obligations by the organization and by its employees. As we are investigating the special situation of temporary employees, we divided the questions addressed to employers into their obligations for permanent and temporary workers and how these were reciprocated.

The proportion of missing data was relatively high among managers. Missing data from the employers' questionnaires is an important issue as the overall sample consisted of 202 managers compared to more than 5000 employee. A sizeable loss of respondents has implications for the statistical analyses that can be performed as well as for their power.

There were several types of and possible causes for missing values. In some cases, managers may have intentionally or unintentionally avoided certain questions or have failed to respond because they did not have the information available. For managers this seems to be more frequent for the performance indicators (e.g. sick leave for temporaries where 41% of managers failed to respond). Items with the highest levels of missing values were not used for further analyses.

Some of the missing data is an outcome of the format of the questionnaire itself. For example, in items measuring the content of the PC, we discovered that a number of both managers and employees failed to complete all items. The reason seems to be that some skipped an item instead of responding "no". Missing data in these cases have been recoded for the main analyses. Similar formats caused missing data in other parts of the employers' questionnaire. "Do not know" responses to some items were coded as missing data.

Identifying societal dimensions and indicators to measure them

The electronic databases Psyclit, Sociological Abstracts, Econlit, and the Web of Science for publications (theoretical or database) in English from 1993 were used to identify the six societal dimensions described above. In addition, we asked PSYCONES colleagues to search for publications in their native language (other than English). We checked the available deliverables of the project "New Understanding of European Work Organization (NUEWO).

The next step was to interview five experts (Flemish, Dutch) with broad perspectives on society (four sociologists and one philosopher) to further identify societal core dimensions relevant to the psychological contract. We asked these experts: (1) whether they considered other societal dimensions affecting the psychological contract or confirmed the six dimensions derived from the literature study, (2) their suggestions for the most relevant quantitative indicators for the societal dimensions.

We further interviewed eight experts for specific dimensions (Flemish, Dutch) in order to check the labelling and definition/description of each dimension. We asked for their expert judgement about the most relevant quantitative indicators and an eventual combination of indicators into indices.

For the bulk of the selected indicators, quantitative data were available in EUROSTAT, ILO, EIRO, OECD and the World Bank. For one dimension - cultural values – Schwartz (personal communication, 25/02/2003) provided mean scores per country on his seven cultural value types.

For four indicators defined (zone of negotiability, sanctions for violation, strength of family ties, societal attitude towards working mothers) we didn't find quantitative data in earlier research or in census data. We gathered data through two web-based surveys with subject

matter experts. We believe that expert judgements are authoritative (Budge, 2000) and guarantee data integrity (no repeated participation and no mischievous responding). Advantages of web-based surveys relevant to our study include the possibility of “expert interrogations” by addressing highly selected groups (Swoboda, Mühlberger, & Schneeweiss, 1997; Budge, 2000) at locations remote from us, and easy, low cost data collection (Anderson & Gansneder, 1995; Buchanan & Smith, 1999; Swoboda et al, 1997; Epstein & Dean Klinkenberg, 2002). Following suggestions by Schmidt (1997) and Swoboda et al. (1997) we dealt with possible problems occurring with web-based surveys. A complete list of country level indicators for the six dimensions is given in Appendix 3.

Data analyses

The main results to be presented come from hierarchical regression analyses and was carried out on the data in accordance with the research model of the project. These findings are presented in four steps (bearing in mind the conceptual framework): Firstly, data are presented showing the relationship between employment contract type and the psychological contract (PC) variables, the other intervening variables and each of the dependent variables; Secondly, the PC variables are assessed for any mediating properties within the relationships between employment contract type and the dependent variables; Thirdly, the alternative intervening variables are then assessed independently and in combination for mediation effects. Fourthly, analyses of a number of issues relevant only for temporary employees are presented. This last section uses several types of temporary contracts, whereas the bulk of analyses uses the dichotomous variable (temporary vs. permanent).

The regression results are presented in a number of tables. These tables include the individual standardised beta-weights of the individual elements within each model and the overall *R*-square statistic that indicates the percentage of variance explained by the set of independent variables in each model (and *F*-value of any *R*-square change where appropriate). Generally, only the findings pertaining to the main relationships of interest are discussed. Only strong relationships involving background variables are reviewed. Mediation is assessed using the method advocated for multiple regressions by Baron and Kenny (1986). Within this method, the hypothesised mediator is regressed onto the dependent variable as a second step of a hierarchical regression, with the independent and background variables included in a first step. Full mediation is indicated if the mediator is found to be significantly associated with the dependent variable and the relationship between the independent variable and the dependent variable changes from being significant to become non-significant at the second step. A partial mediation is indicated if the relationship between independent and dependent variable is reduced when the mediator is included in the model. Results that have *p*-values lower than 0.05 are presented as having statistical significance. It is important however to consider the large number of tests that are carried out and the implication this has on the various probability estimates, in that the probability of results being found by chance increases. Important also is to consider the power of the tests and appropriate effect sizes. The large sample size provides the statistical tests with a high level of power. As a result, even very small effect sizes are found to be significant (*e.g.* betas of 0.03). An appropriate interpretation of the findings requires a consideration of both these issues (Cohen, 1990).

Analyses were carried out to explore the relationship between the employee reports of the psychological contract (PC) and employer reports of the PC. This type of analysis is quite

complex as it involves measuring a concept (the PC) from two sources. Combined data from different sources, and in particular from different ‘levels’ (i.e. the employee *level* and the employer *level*), can be analysed descriptively but also lends itself to more sophisticated multilevel analyses. Multilevel analysis allows us to examine the contribution of higher-level variables (employer reports) to the variance within lower-level variables (their employees’ reports) in an appropriate way.

Multilevel analyses

Our study is a multilevel study, encompassing the individual and organizational level, as well as the sector level, and country level. In the PSYCONES project, data is gathered on three levels; the employee, the organization, and the country (see figure below).

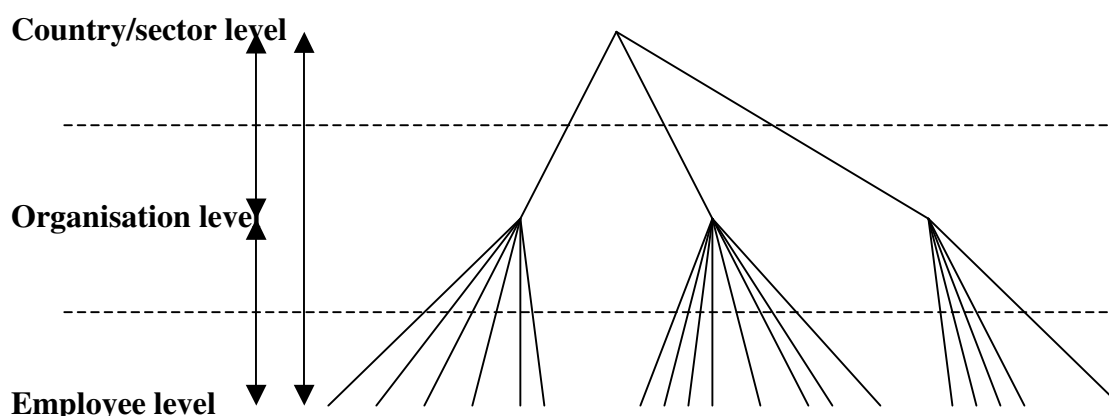


Figure 7. The levels in the PSYCONES project

The analyses started with an overview of the variance that can be explained by the different levels. That gives a first idea about the relative importance of the different levels. It provides an indication of whether well-being and health of employees are mainly determined by individual differences, or characteristics of organizations, sectors, or countries. The technical procedure we used for the calculations is the following:

In SPSS ‘mixed models’ we calculated

- a) the residual for a dependent variable (column 1)
- b) included organizational characteristics that were used in regression analyses as covariates and calculated the residual value (set as standard for evaluating the contributions of the different levels to 100%). Covariates used are: number of employees, number of permanent employees, organizational form (public/private), organizational form (independency), number of employees past three years, number of temporaries past three years, prospects concerning workforce, influence on employment contracts, influence on HR practices, influence on working conditions, and vacancies (column 2)
- c) included ORGANIZATION as a random factor.
- d) included respectively SECTOR, and SECTOR and COUNTRY as fixed-factors, and calculated the residuals of the main effects of all the factors and covariates.

The percentage of explained variance of each level is calculated by looking at the residual of the controlled (column 2) model. When SECTOR is included, it explains some of the variance in the dependent variable. When both SECTOR and COUNTRY are included these

levels explain variance. The percentages in the tables are calculated by dividing the residual of a certain level by the total residual of the model that was tested.

Results

Participating companies and employees

Table 3 presents information on the final employee sample, in terms of the overall number of responses of employees on permanent and temporary contracts that were collected across country and sector. Additionally, the numbers of organisations in which these individuals were employed are presented.

Initially, each country team targeted the food manufacturing, retail and education sectors to collect data. However, on occasions it proved very difficult to fulfil the sample criteria in several countries, therefore these sectors were broadened to manufacturing, retail and services and education. Thus, while the majority of organisations within the manufacturing sample are food manufacturers, there are a number of manufacturers of other products also. Similarly within the retail and services sample, the majority of organisations are retailers, however there are other organisations such as financial organisations, private healthcare organisations and registered charities, all of which have a ‘sales’ function or offer a ‘service’ of some kind.

One sample target was to collect data from at least 100 temporary and 100 permanent employees within each of the three sectors. This was possible in nearly all countries, providing an overall sample of 5288 employees across the countries, with 1981 temporary employees and 3307 permanent employees.

A further sample target was to collect data from at least seven organisations from within each sector. Information presented in Table 3 indicates that this was possible in the majority of cases. Overall, data were collected in over 200 companies. A sample requirement for multilevel analysis (MLA) is that data are collected from a minimum of three employees on each contract type within each organisation. It appears that this was also possible in the large majority of cases, providing 176 organisations in which there was an adequate employee-level sample for MLA.

Table 3. Frequencies of usable² responses across country and sector

Country		Type of Employment Contract			Number of organisations	
		<i>Non-permanent</i>	<i>Permanent</i>	<i>Total</i>	<i>Total</i>	<i>Minimum for MLA</i>
Sweden	Manufacturing	62	197	259	7	6
	Retail or Service	40	139	179	8	5
	Education	97	195	292	9	8
	Total	199	531	730	24	19
Germany	Manufacturing	91	124	215	9	9
	Retail or Service	79	108	187	9	9
	Education	116	110	226	14	10
	Total	286	342	628	32	28
Netherlands	Manufacturing	96	125	221	9	6
	Retail or Service	89	163	252	14	7
	Education	113	171	284	12	11
	Total	298	459	757	35	24
Belgium	Manufacturing	88	123	211	7	5
	Retail or Service	106	111	217	8	8
	Education	100	111	211	8	8
	Total	294	345	639	23	21
UK	Manufacturing	64	324	388	5	4
	Retail or Service	31	109	140	6	6
	Education	62	52	114	8	2
	Total	157	485	642	19	12
Spain	Manufacturing	156	224	380	17	17
	Retail or Service	115	154	269	10	10
	Education	104	179	283	20	19
	Total	375	557	932	47	46
Israel	Manufacturing	130	252	382	7	6
	Retail or Service	97	132	229	9	9
	Education	145	204	349	11	11
	Total	372	588	960	27	26
Total	Manufacturing	687	1369	2056	61	53
	Retail or Service	557	916	1473	64	54
	Education	737	1022	1759	82	69
	Total	1981	3307	5288	207	176

Participating companies - employer perspective

Table 4 presents some characteristics of the participating organizations. It's important to point out in the discussion of country differences that samples are non representative and that conclusions about country differences should be made with caution. Regarding organisational size, participating organizations from the Netherlands are generally larger than all other countries, except for the UK. The results of differences across countries regarding organisational ownership suggest that a large majority of participating organizations from Spain and Germany are private organisations, while the UK has the highest rate of public organisations. Organisational form also shows significant differences across countries;

² A questionnaire would be unusable if it had a large amount of missing data or questionable integrity.

Table 4. Means, and proportions of the structural variables across countries

Variable		1	2	3	4	5	6	7
	Total	SW	GR	NE	BE	UK	SP	IS
Organisational size (M)	508.2	179.5	201.5	840.2	223.1	1816.8	469.3	196.0
Per cent of permanent employees	69.03	61.52	67.28	74.86	68.15	70.32	73.39	63.54
Organisational ownership (% private)	68.34	74.07	81.48	71.05	77.27	35.29	81.82	33.33
<u>Organisational form (%)</u>								
a. Independent	40.72	0.00	51.85	44.74	45.45	53.33	45.24	47.83
b. Head office	10.31	0.00	14.81	7.89	9.09	20.00	11.90	13.04
c. One out of many national establishments	37.11	92.59	33.33	15.79	22.73	26.67	38.10	30.43
d. International owner, single establishment	2.58	0.00	0.00	13.16	0.00	0.00	0.00	0.00
e. International owner, one out of several establishment	9.28	7.41	0.00	18.42	22.73	0.00	4.76	8.70

Sweden has the highest proportion of establishments belonging to a large national company or organization. There were a few additional differences in structural variables as reported by employers in participating companies and organizations in the PSYCONES countries. First, countries differ in the rate of unionised employees, with Israel, and to a lesser extent Sweden and Belgium, having the highest level of unionised employees. Second, differences across countries were found regarding the influence of unions. Sweden, Israel and the Netherlands were found to be higher than Germany, Belgium, and Spain. Finally, differences across countries were found regarding the ease of filling vacancies, where Belgium was found to have a higher mean score than Sweden and Spain.

Sector differences between participating organizations were generally small. The findings regarding organisational size indicate that organisations are somewhat larger in manufacturing than in the retail/service or education sectors. The proportion of permanent employees is higher in the education sector than in the retail/service sector. Regarding organisational ownership, it appears that the lowest rate of private organisation is in the education sector.

In the use of various forms of temporary contracts, it appears that the education sector is higher than the retail/service sector in the use of fixed-term contracts and is lower than the other sectors in the use of temporary agency employees. For organisational unionisation, the manufacturing industry is higher than retail/service, whereas for union influence, the manufacturing industry report higher values than the education sector.

Next table presents differences across countries in HR policies and practices. Table 5 also presents means for the total sample concerning differences across employment contracts. Regarding inequality in HR practices in favour of permanent employees, several significant differences emerged across countries. The largest difference between permanent and temporary employees was found regarding support for non-work responsibilities. This was to a very high degree offered only to permanents in Dutch and Spanish compared to Swedish organisations.

Second, for inequality in performance appraisal, the differences show somewhat unusual trends: on the one hand, Sweden is higher than three other countries in favouring permanent employees in this variable, whereas Belgium is lower than four other countries to such an extent that it favours the temporary employees over the permanent employees (notice the minus sign for the Belgian value). Thirdly, regarding inequality in support for non-work responsibilities, it appears that the inequality in favour of permanent employees is higher in the Netherlands and in Spain when compared with the other countries.

Turning to sector comparisons several significant differences emerged in regard to HR practices. It appears that companies in the retail sector are higher than manufacturing or education in the use of performance appraisal both for permanent and for temporary employees and use of pay related performance for permanent employees. Concerning the inequality in favour of permanent employees, seven significant differences appear. It seems that the education sector displays lower inequality than the manufacturing or the retail/service sectors in most of these variables. Specifically, regarding inequality in opportunities to express views, in provision of interesting and varied jobs, and in support with non-work responsibilities, inequality is higher in manufacturing than the retail/service and the education sectors. In addition, for inequality in training and development, in performance appraisal, and in overall inequality, the manufacturing industry and the retail/service sectors are higher than the education sector. For inequality in performance-related pay, the retail/service sector is higher than the manufacturing industry, and in turn, the manufacturing industry is higher than the education sector.

Satisfaction with the performance of permanent and temporary employees does not differ among countries. The overall level of the managers' satisfaction with both types of employees is almost identical and generally quite high. Significant differences across countries do appear in quit rate for permanent employees, quit rate for temporary employees, dismissal rate for permanent employees, and sick-leave rate for permanent employees. However, no consistent between-country differences are observed.

Table 5. Means, standard deviations, and proportions of the HR practices variables across countries

Variable	Total	1 SW	2 GR	3 NE	4 BE	5 UK	6 SP	7 IS
<u>HR inequality in favour of perms (%)</u>								
Opportunities to express views ^a	14.14	18.52	14.81	8.33	5.26	13.33	18.18	17.39
Interesting and varied jobs	16.49	11.11	15.38	20.00	4.54	25.00	23.08	13.04
Support with non-work responsibilities	25.26	7.41	12.00	44.44	27.27	12.50	38.10	13.64
Equal opportunities practices ^a	7.65	13.85	0.00	8.82	5.26	0.00	13.95	14.29
Preventing harassment or bullying ^a	1.62	3.70	0.00	0.00	0.00	0.00	4.76	0.00
<u>Equal treatment</u> No difference	53.33	40.74	66.67	30.55	50.00	68.75	74.41	41.67
Small difference	35.38	51.85	22.22	52.78	45.45	25.00	16.28	37.50
Large difference ^a	11.28	7.41	11.1	16.67	4.55	6.25	9.30	20.83
<u>Training and development- Difference in favour of “perms” (%)</u>	11.34	11.15	8.75	16.30	16.58	8.46	2.63	20.95
<u>Performance appraisal Difference in favour of “perms” (%)</u>	57.30 9.89	61.48 31.85	45.00 11.15	54.38 10.00	76.82 -10.00	75.00 10.71	43.90 4.63	65.22 10.43
<u>Performance-related pay Difference in favour of “perms” (%)</u>	17.83 7.91	22.59 9.81	15.60 0.80	12.57 8.43	4.77 4.50	15.71 8.57	15.95 13.33	40.91 5.45

Motives for use of temps

Employers were offered 12 statements concerning possible reasons for using temporary contracts). The most commonly used motive in all countries is "It covers maternity or longer periods of staff absence", followed by "It helps to match staff to peaks in demand". Results revealed significant country differences in seven of the 12 motives. The most noticeable trend shows Israel to be different from some of the others: employers in Israel are less likely to cite the motive of covering maternity or other long-term absences and are more likely to cite the motives of offering trial periods before employing a permanent employee, saving training costs and saving fringe benefit costs. For the motive of use due to difficulties in filling vacant positions, Spain is higher than all other countries except Belgium and the UK. In the use of temporary employees as a way to probe their capabilities on the job prior to offering permanency, Sweden is higher than all other countries, except for the Netherlands and Israel.

Significant differences across sectors appear also in five motives for using temporary employees. Regarding the motives “it helps to match staff to peaks in demand”, “we offer trial periods before employing a permanent”, and “we would like to have personnel for unusual working hours,” the manufacturing industry and the retail/service/service sectors are higher than the education sector. In contrast, the education sector is higher than both the manufacturing and the retail/service sectors regarding the motive of “we are otherwise unable to fill vacancies”, and higher than the retail/service sector regarding the motive “we can bring in specialist skills.”

Psychological contracts, as reported by the companies

At a descriptive level, the results indicate that managers report high levels of reciprocal obligations for both permanent and temporary workers. On each obligation cited, over half the managers reported that they had made a promise to their permanent workers. They were generally more likely to say they made promises to permanent rather than temporary workers and on seven of the 15 items, the differences are statistically significant. Managers have even more robust views about employees' obligations to the organisation. On all 17 items, over half, and usually considerably over half the managers believed both permanent and temporary employees had made a promise or commitment to the organisation. Generally, managers felt that permanent employees had somewhat more extensive obligations than temporary workers and on four of the 17 items this difference was statistically significant. There was also one item – developing competencies to be able to perform more efficiently in the job – on which managers felt that temporary employees had a significantly higher obligation than permanent employees.

Managers reported a view that their organisation generally fulfilled its obligations to both permanent and temporary employees and mean differences between were not statistically significant. Managers were a little less positive about the extent to which employees met their obligations to the organisation. Across the 17 items, the mean score for fulfilment by permanent employees ranged from 3.27 to 3.91 and for temporary employees it ranged from 3.24 to 3.97. There are statistically significant differences on three of these items with permanent employees being rated more likely to fulfil their obligations on two out of the three.

Managers' perceptions of the extent to which employees fulfil their obligations is important because it is strongly associated with the key global outcome measure, namely satisfaction with employee performance. Scores on this were generally high – and mean values for permanent and temporary employees were on the same level. What, then, explains differences in managers' perceptions that employees have fulfilled their obligations? For permanent employees, this is more likely to be reported in smaller organisations, in private sector organisations, where union influence is high and where there is a low level of difference in application of HR practices to permanent and temporary employees. For temporary employees, managers rate their fulfilment of promises as higher in smaller organisations, in independent organisations and where there are few inequalities in the application of HR practices to permanent and temporary employees. It appears that as in the employee survey, human resource practices have an important role to play. Furthermore, unlike the structural variables, they are to a considerable extent under the control of management.

The role of psychological contracts (PC) - testing the employer model

The last section focuses on the pattern of structural relations among structural and HR practices variables, PC variables, and satisfaction with employees. In essence this means testing the role of psychological contracts for the evaluation of employee performance according to our theoretical model presented above. The primary question of interest was whether the PC variables accounted for variance in satisfaction with employees, above and beyond the structural and HR practices variables. Due to a sample size limitation, only a few primary variables could be

tested. The independent variables were organisational size, % of permanent employees, organisation ownership, and inequality in HR practices. Log transformations were used to make variables appropriate for the analyses. The mediating variables were the employers' and employees' fulfilment. The dependent variable was satisfaction with employees.

Three models were tested for each of the two dependent variables (satisfaction with permanent employees and satisfaction with temporary employees). The three models within each group:

1. The full models comprised paths from the structural and HR practices variables (independent) to both the PC and satisfaction (direct and indirect),
2. A direct model, where the mediating paths between the PC variables and satisfaction were removed.
3. A mediation model where the influence of organizational factors was mediated by the psychological contract. In the mediation models, the direct paths between the structural and HR practices variables and satisfaction were removed.

The direct and mediation models are each nested within the full model. Therefore, a chi-square difference test can be used to determine whether there is a significant difference between the fit of the direct and mediation models and the full model.

Table 6 presents the results of the model testing for permanent and temporary employees, respectively. The findings clearly indicate that fulfilment of obligations has a significant mediating role in the effect of structural and HR practices variables on satisfaction with employees. This pattern emerged for both satisfaction with permanent and temporary employees. As can be seen in Table 6, for both satisfaction with permanent and temporary employees, removing the direct paths had no detrimental effect on the model fit, as indicated by the non-significant chi-square differences. This result suggests that the direct paths are negligible. Moreover, the mediating models seem to fit the data well, as indicated by the low ratio of chi-square/*df* and the high values of the descriptive parameters. However, when indirect paths were removed, the overall fit of the models was worse than the fit of the full models, as indicated by the significant chi-square differences. The direct models (indirect paths removed) do not appear to fit the data at all, as indicated by the high ratio of chi-square/*df* and the low values of the descriptive parameters. These findings clearly indicate that the indirect paths, that is, the mediation of the fulfilment variables, are indeed needed. Figures 8 and 9 present the final indirect models for the prediction of satisfaction with permanent and temporary employees, along with standardized coefficients.

Table 6. Goodness-of-fit summary of three models testing for satisfaction with permanent employees as dependent variable (n=202)

<i>Models permanent</i>	χ^2	<i>Df</i>	χ^2/df	$\chi^2 diff.$	<i>df diff.</i>	<i>p diff.</i>	<i>NFI</i>	<i>CFI</i>	<i>RMSEA</i>
Full model	16.65	6	2.77				0.9	0.92	0.09
Direct model ^a	42.13	8	5.27	24.48	2	***	0.75	0.75	0.15
Mediation model ^b	19.59	10.00	1.96	2.94	4.00	---	0.88	0.93	0.07
<i>Models temporaries</i>									
Full model	16.41	6	2.74				0.88	0.90	0.09
Direct model ^a	35.04	8	4.38	18.63	2	***	0.74	0.75	0.13
Mediation model ^b	19.97	10.00	1.99	3.56	4.00	---	0.85	0.91	0.07

*** p < 0.001

^a Indirect paths removed ^b Direct paths removed

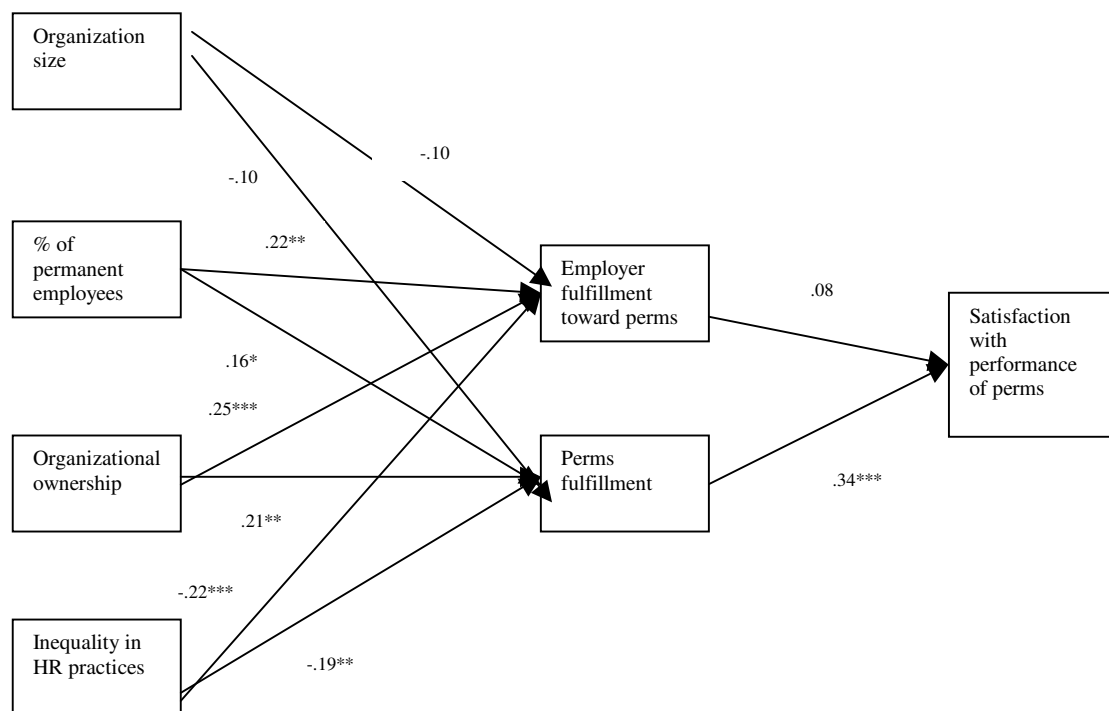


Figure 8. Final structural model (mediation) for satisfaction with permanent employees with standardized coefficients

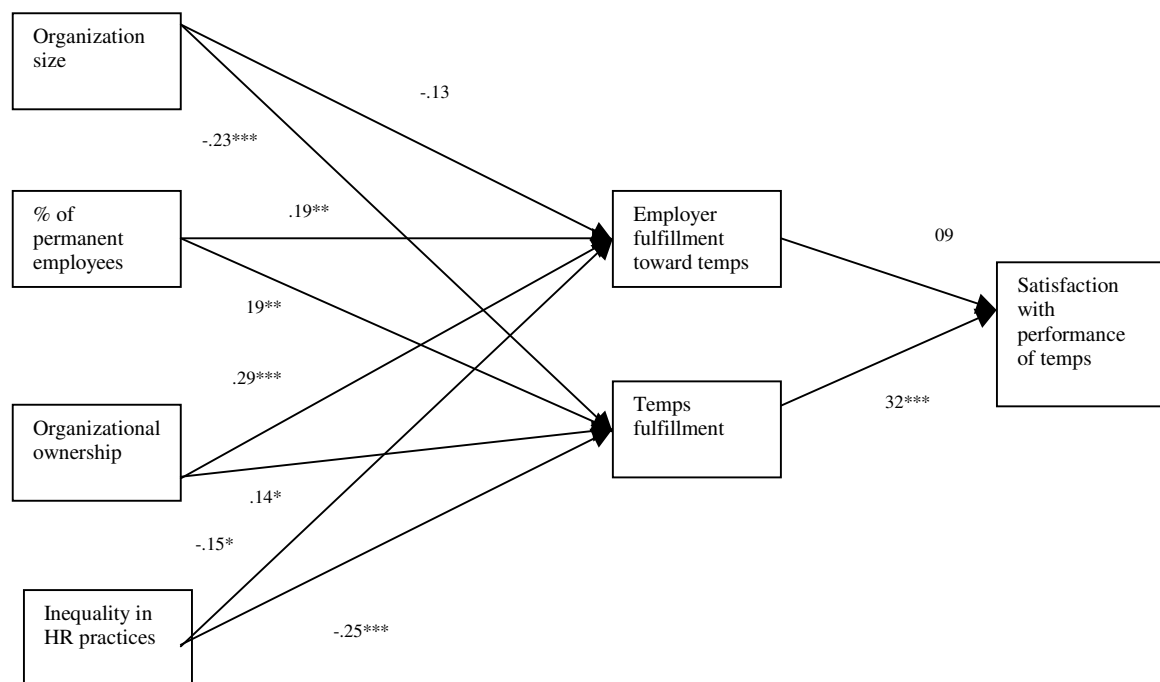


Figure 9. Final structural model (mediation) for satisfaction with temporary employees with standardized coefficients

Inspection of the partial coefficients among variables demonstrated in Figures 8 and 9, reveals a very similar pattern of relationships for predicting satisfaction with permanent employees and satisfaction with temporary employees. For both models, most associations between the predicting variables and the fulfilment variables are significant, except for the relationships between organisational size and employers' fulfilment of obligations towards permanent employees. However, in contrast to temporary employees, for permanent employees the relationship between organisational size and permanent employees' fulfilment is also not significant. In addition, for both permanent and temporary employees models, only employees fulfilment of obligations are positively related to satisfaction with employee performance.

Summary

The main purpose of this part was to report and analyse the responses from the 202 managers who were providing information as representatives of organisations employing both permanent and temporary staff. Relationships between several organisational characteristics and outcomes regarding employees' performance were explored and the role of the PC in mediating these relationships was tested. In addition, this report presents differences across countries and sectors on these measures.

The linkages outlined in our theoretical model above were tested through structural equation modelling. The structural model clearly supports a mediation model. The direct effect of the independent structural and HR measures on the outcome variable of employers' satisfaction with the performance of both permanent and temporary

employees is negligible. Only with the inclusion of PC measures as mediators does the role of these independent variables become clearer. More specifically, employers' perceptions of how well permanent and temporary employees fulfil their obligations mediate the effects of structural and HR variables upon the outcome measure. In other words, when a manager perceives that employees fulfil obligations that they (the managers) perceive the employees had made toward their employing organisation, they are satisfied with their performance. The finding that the same pattern applies to both permanent and temporary employees is particularly interesting.

Comparing employees across employment contracts

Distributions of work-related background variables by employment contract

Results based on questionnaires to employees are presented, starting with a descriptive account of individual and work related characteristics of permanent and temporary employees in participating companies. Table 7 presents information of the distribution of some work-related background variables by employment contract

Table 7. Work related background variables by employment contract

	Temporary	Permanent
Weekly hours (M)	32.8 (12.9)	36.3 (10.4)
Additional job (%)	16%	8%
Union member	30%	45%
Organizational tenure (years)	2.7 (4.4)	11.2 (9.4)
HR practices (1-8, M)	3.3	3.8

Data on working hours are actual hours worked, including overtime, rather than contracted hours. There is a variation in this average across employment contract, with permanent employees working three-and-a-half hours per week longer on average than temporary employees. There is also a higher degree of variation in the hours that temporary employees report working. A larger proportion of the temporary employees have an additional job. Furthermore, 15% fewer temporary employees are members of unions compared to permanent employees in this sample. There is a very large difference between tenure across employment contracts. Permanent employees report an average tenure of over 11 years compared to temporary employees who report average tenure of less than 3 years.

Looking at the combined measure of HR practices (e.g. HR practices aimed at enhancing participation and providing training and development) and policies (such as equal opportunities, support for non-work activities, prevention of bullying and harassment), respondents reported that they had experienced between three and four on average (out of eight) from their organisations over the course of the previous year. This was the case for both permanent and temporary employees, however the average for permanent employees was a little closer to four than the average for temporary

employees. It is important to note that the standard deviations are relatively high, indicating a high amount of variation in responses on HR practices.

Table 8 below shows job level by employment contract. Commenting on the overall sample, the two largest groups would appear to be intermediate white-collar workers and then unskilled blue-collar workers. Looking across employment contract it appears that among the temporary employees within the sample, a greater proportion are unskilled blue-collar workers in comparison to permanent workers. Correspondingly, a greater proportion of the permanent workers are skilled blue-collar workers, upper white-collar workers and management or director level.

Table 8. Job position/level by employment contract and for the overall sample

	Type of Employment Contract		
	<i>Non-permanent</i> %	<i>Permanent</i> %	<i>Total</i> %
Unskilled blue collar	29.6	19.9	23.5
Skilled blue collar	7.6	12.8	10.8
Lower level white collar	19.8	17.0	18.0
Intermediate white collar	28.5	28.8	28.7
Upper white collar	13.6	17.8	16.2
Management or director	1.0	3.7	2.7

n=5106

Distributions of individual background variables by employment contract

The table below gives an overview of individual differences in background variables by employment contract

Table 9. Individual back ground variables by employment contract

	Temporary	Permanent
Age (M)	32.2	40.0
Women	57%	54%
Education level (0-6, M)	3.89	3.67
Living with partner/spouse	49%	64%
Sole /main earner	39.1	48.9

Ages from 15 to 72 are represented within the sample. The average age of the sample is just over 37 years with just over a 10-year standard deviation. It appears that employees on temporary contracts in the sample are younger than permanent employees by almost 8 years on average. Mean level of education however is slightly higher among the temporary employees, close to 4 on the ISCED scale (= post-secondary school).

The overall sample contains slightly more females in comparison to males. There are also a slightly higher proportion of females among temporary employees in comparison with permanent employees.

Over half of the overall sample reports living with their partner/spouse, just under a third live with family or friends and the remainder live alone. A lower proportion of temporary employees report living with a spouse/partner – they are more likely to live with friends or family (this may be linked to the lower age of temporary employees).

There is a smaller proportion of sole or main earners among temporary employees compared to permanent employees. However, there is a far higher proportion of contributory earners among temporary employees, who earn less than 50% of the domestic financial contribution. Female respondents are more likely to report that they are joint or contributory earners.

Distribution of the specific temporary employee items

Types of temporary contracts

All ten of the different types of temporary contract identified during the pilot work are represented in the sample. The frequency of each is presented in Table 10. The temporary sample is dominated by fixed-term contracts, making up well over half of all of the contracts present in the sample. All other contracts contribute less than 10% to the overall temporary sample.

Table 10. Distribution of temporary contracts

Type of temporary contracts	Frequency	Valid Percent (%)
Fixed-term	1179	62.2
Permanent with agency	38	2.0
Temporary with agency	145	7.6
Daily/on call	87	4.6
Probation	88	4.6
Training	103	5.4
Seasonal employment	142	7.5
Job creation	40	2.1
Subcontractor	27	1.4
Contractor	10	0.5
Other	38	2.0

n=1897

Durations of temporary contracts

The different types of the temporary contracts were compared in terms of duration of current contract with their employing organisation, time remaining on current contract and contracts history, which is the amount of time employed on temporary contracts in the past, including the current contract. These features are presented for the overall temporary sample and for each contract type in the sample.

A striking characteristic of the results was the large amount of variation in contract features, even within each contract type group. Thus, the mean scores presented are averages for heterogeneous groups.

Overall temporary sample averages are contract durations of just over 14 months, almost seven months remaining on these contracts and an employment history on temporary contracts of almost three years. Due to the sample distribution, these

figures largely reflect the average figures for fixed-term contracts. Temporary employees that have substantially longer average duration of contracts are contractors/consultants (over four years) and those on training contracts (just under two years). Those with substantially shorter average duration of contracts are temporary agency employees, seasonal employees and daily/on-call employees, all of whom report contract durations of six to eight months. As may be expected, similar groups stand out when looking at time remaining on contracts, with contractors and those on training contracts having the longest time remaining on their contracts (both group averaging 11 months) and temporary agency employees, seasonal employees and daily/on-call employees reporting the shortest time (averaging two to three months). Groups with the longest history of working on temporary contracts are sub-contractors, employees of job creation schemes and daily/on-call employees, all having average histories of four years or above. Conversely, temporary agency employees and employees working on training contracts have histories of less than two years. The table can be found in Appendix 4.

Expectations of contract extension

Looking at the overall temporary sample, it appears that expectations of contract extension are some way above the mid-point on the five point scale, suggesting that on average the sample is reasonably optimistic about the possibility of employment continuation through their current employers. However, it seems that actual promises of a permanent contract are less frequent, with the average rating well below the mid-point on the scale. Also below the mid-point are reports of whether the temporary contract each employee has is their preferred type of contract. Thus it seems that, overall, the temporary sample would rather prefer to have permanent contracts.

There are differences in these reports across temporary contract types. Probation employees were more likely to expect employment continuation and were more likely to have been promised a permanent contract. Employees least likely to expect a contract extension are those working on job creation schemes and seasonal contracts. In terms of having one's preferred type of employment contract, no group had an average above the mid-point, indicating that the relative discontent with temporary contracts was universal. This was particularly the case for those employed through job creation schemes, on probationary contracts and fixed-term contracts.

In the context of average temporary contract durations of 14 months, an average of nearly half this time already completed and an average history of nearly three years working on temporary contracts, it is worth recalling that the average tenure of temporary workers with their current employers is 2.7 years. This suggests that in many cases this is not the first temporary contract with the present employer and may help to explain the relatively high level of optimism about contract extension.

Motives for temporary employment

Means for each of the motives for temporary working items and also the combined 'pull' motives measure are presented across temporary groups. Overall it is the small group of contractors/consultants and the group of employees on daily/on-call contracts who indicate that they were 'pulled' towards temporary work. Those on probationary contracts were the least likely to indicate this. Looking at each of the 'pull' items

individually, both contractors/consultants and daily/on-call workers were most likely to suggest that temporary work suited their present needs and gave them more freedom. Contractors/consultants were the only group to score above the scale midpoint with regards to temporary work offering a higher wage being a motive. Similarly, daily/on-call contracts were the only group above the scale midpoint with regards to temporary work offering a supplementary income as a motive. Job creation and training contract employees were most likely to indicate that gaining an experience with different tasks and jobs was a motive for working on their respective contracts.

Going through each of the items that represent more ‘push’ factors for temporary working, those on job creation contracts and temporary agency workers were most likely to indicate that it was difficult to find a permanent job. Job creation employees were more likely to indicate that their contract was the only type of contract they could get. Indeed, job creation and also probationary employees cited hoping to get a permanent contract as a motive. Probationary employees were also the most likely to indicate that their contract was just the one offered with the job they wanted.

Summary

1. This part of the report has presented the sample characteristics, and an initial comparison of the results for permanent and temporary workers using bivariate statistics. After excluding questionnaires with a large number of missing items, the final sample consisted of 5288 workers including 3307 permanent workers and 1981 with temporary contracts. The temporary workers were employed on at least ten types of temporary contract. Fixed-term contracts accounted for by far the largest proportion, 62.2%, followed by 7.6% working through temporary agencies.
2. The initial analysis revealed significant differences between permanent and temporary workers on most background and biographical variables
3. In line with previous studies (e.g. OECD, 2002) comparison across contract types reveals that permanent employees are generally older than temporaries. This probably also leads to that permanent employees more often are married or cohabiting and sole earners in the household. Looking at work characteristics, permanent employees work longer hours and have longer tenure with the company. They generally seem to have more qualified jobs although temporary employees are found on all job levels.
4. Taking a closer look at the temporary employees in our sample shows that their tenure on the job is relatively long, as too is the present contract and the time remaining on the job. The clearly most common form of temporary form is the fixed term contract. Expectations of contract extension seem to be relatively high in this group. Employees holding the different forms of temporary employment report large variations in the motives for accepting the specific employment contract.

Attitudes and well-being of employees across employment contracts

The mean scores on each of the scales used in the study are presented for the overall sample and across employment contract. Table 6 in appendix 4 presents means for the various intervening variables and dependent variables. Mean differences between temporary and permanent employees were first examined through a series of *t*-tests to assess the significance of any differences. Secondly, they were entered into regression analyses as dependent variables with individual and work related background factors entered in the first step and employment contract (temporary vs. permanent) entered in the second. These findings are summarized below.

Psychological contract

- Permanent employees report broader PCs, both in terms of what they are promised by their organisations and what they promise in return. However, it is the temporary employees who report that their PCs are more likely to be fulfilled by their organisations and they are more likely to report fulfilling their own obligations. Accordingly, temporary employees perceive more fairness and trust within their employment relationships whereas permanent employees indicate that they feel their PCs have been violated to a greater extent.

Employee prospects

- Temporary employees report far greater job insecurity than permanent workers. There is no difference in terms of employability.

Volition

- Permanent workers are far more likely to report being on their contract of choice. Results of simple mean comparison indicated that permanent workers were more likely to have the job and profession of their choice. When control variables were entered in regression analyses however, there was no significant effect from employment contract.

Job characteristics

- Permanent employees report greater autonomy in their jobs. However they also report a higher amount of workload in comparison to temporary employees. Effects of employment contract on role clarity and skill utilization however were not significant in regression analyses.

Support

- In terms of both organisational support and supervisory support, temporary employees report greater perceived levels of each.

Health and well-being

Work-related health

- Permanent employees report marginally greater levels of occupational self-efficacy, however they also report greater levels of irritation, work-related anxiety and work-related depression. No differences in mean values are found on positive work-life interference.

Reported behaviours/incidents

- Permanent employees report greater levels of both sickness absence and sickness presence. They are also marginally more likely to have reported experiencing incidents of harassment at work. No differences were found in reported accidents.

General health reports

- Temporary employees report more positively in terms of general health compared with permanent employees. No differences were found in terms of life satisfaction.

Work-related attitudes

- Temporary employees report greater levels of job satisfaction and are less likely to report that they intend to leave their organisations (before the end of their contracts). Conversely, it is permanent employees who report greater levels of organisational commitment and higher levels of self-reported performance. In regression analyses however, employment contract on commitment and performance appeared to have a suppressing effect, probably interacting with other measures.

Summary

1. Interesting differences between permanent and temporary employees are e.g. the lower value of volition in terms of being on the contract of choice and higher values on perceived job insecurity among temporaries
2. With respect to the PC, permanent workers have a more extensive reciprocal contract but it is less likely to be fulfilled. They also report higher levels of contract violation, lower fairness of treatment and lower trust. With respect to the dependent variables, the results are somewhat mixed but tend to reveal less positive results among permanent workers.

The role of the psychological contract

The PC was evaluated as an intervening (mediating) variable by entering the seven variables (content, fulfilment and violation of employer obligations, trust, fairness and content and fulfilment of employee obligations) as a second step in the regressions presented previously. The background variables are not presented in the tables, but are controlled for in all analyses. Theoretically, the PC may mediate a number of relationships between several of the background variables and the dependent variables (e.g. HR practices). However, as this was not a central research activity prescribed within this study, the focus is solely upon the impact that the PC has on relationships between employment contract and the dependent variables.

A first point to note is that for each of the work-related health measures, inclusion of the PC within the regression models contributes an additional 5-21% of variance explained. Thus it appears that the PC explains variance in work-related health above and beyond the combined association of background variables and employment contract.

Work related health

Regarding the evaluation of the mediational role of the PC, it appears that it does go some way to explain the higher levels of work-related health reported by temporary employees, i.e. the PC variables fully mediate the small association between employment contract and positive work-life interference and the larger association with work-related anxiety. The PC variables also explain a large proportion of the variance between employment contract and work-related depression and irritation, without fully removing the relationship. Therefore partial mediation is supported for these two variables.

Looking in more detail at which components of the PC appear to be most important in this mediational role, it appears that feelings associated with violation of the PC play the main role, i.e. the employees' affective reactions to the fulfilment of the PC by employers. Other aspects of the PC also are significantly related to work-related health, however to a lesser extent. Additionally, employees' obligations, and especially fulfilment of these obligations, are strongly and positively associated with self-efficacy.

Sickness behaviours and incidents at work

The PC adds between 2% and 5% of explained variance when included in the regression models above and beyond the background variables and employment contract alone. Again, some support is given to the mediational role of the PC. Its inclusion slightly reduces the strength of the relationship between employment contract and the two sickness behaviours and greatly reduces the (small) relationship between employment contract and reports of harassment and violence at work. Thus, the PC goes some way in explaining why permanent employee report greater sickness behaviours and more incidents of harassment and violence at work. In terms of the components of the PC that are responsible for this mediation, it appears that violation, fairness and fulfilment of employee obligations are most strongly associated with sickness behaviours (and the content of employee obligations with sickness presence). Regarding harassment and violence at work, it is fulfilment and violation of employer obligations that are most responsible for this mediation.

Work attitudes and performance

Result of regression analyses including the PC in models predicting work attitudes and performance indicate that the PC adds a large amount of variance explained for each of the measures beyond the existing group of variables (between 13-19%).

For job satisfaction and intention to quit, a partial mediating role for the PC is again supported, as the strength of the relationship between employment contract and these measures reduces once the PC enters the model. Therefore the PC again helps to explain the reports by permanent employees of less satisfaction and greater intention to quit compared with temporary employees. Again, it appears that violation of the PC is a particularly important component; however all other components, with the exception of the content of employers obligations, have some independent contribution. For organisational commitment and self-rated performance, there is some evidence that the PC may play some kind of suppressing role, as the beta weight for employment contract increases to become statistically significant once the PC

variables are controlled for. The most important part of the PC with regards to commitment and performance ratings appears to be fulfilment of employee obligations to the organisation, with several others having independent associations.

General health

Findings regarding the intervening role of the PC with regard to general health and life satisfaction showed that the PC once again explains variance above and beyond the existing variables in the model (6% and 9%). A mediating role is also supported, reducing the strength of the relationship between employment contract and general health reports (partial mediation) and completely removing the relationship between employment contract and life satisfaction (full mediation). Therefore the PC can be used to partially explain permanent employees' poorer reports of general health and fully explains their lower reports of life satisfaction when compared with temporary employees. Violation of employer obligations and fulfilment of employee obligations are strongly associated with reports of general health and the same two variables and also fairness are strongly associated with life satisfaction. These components are perhaps most responsible for the mediational effects. The table below gives an overview of the findings

Table 11. Results of regression analyses investigating the mediating role of the psychological contract

<u>Full mediation</u>	<u>Partial mediation</u>	<u>Other forms of association</u>
Positive work-home interference	Work related depression	Organizational commitment
Work related anxiety	Work related irritation	Perceived performance
	Sickness absence	Life satisfaction
	Sickness presence	
	General health	
	Incidence of harassment	
	/violence in work place	
	Job satisfaction	
	Intention to quit	

Evaluation of the impact of all intervening variables

As a final stage in the evaluation of intervening variables within the research model, all of the hypothesised intervening variables were added in a second step of the model. The reason for doing this was three-fold: firstly, to evaluate their overall contribution to the models; secondly, to evaluate the relative importance of each element regarding associations with dependent variables; and thirdly, to establish if the relationship between employment contract and the various outcomes still remained after all of the hypothesised intervening variables were accounted for. Below follows a list of all the possible intervening variables included in these regressions followed by results from all the analyses

Employer Obligations

Content of PC
Fulfilment of PC
Violation of PC
Trust

	Fairness
<i>Employee Obligations</i>	Content of PC
	Fulfilment of PC
<i>Employment Prospects</i>	Job insecurity
	Employability
<i>Volition</i>	Contract of choice
	Job of choice
	Profession of choice
<i>Job Characteristics</i>	Role clarity
	Autonomy
	Skill utilisation
	Workload
<i>Support</i>	Organisational support
	Supervisory support

Work-related health

The findings regarding some of the work-related health measures are presented in Table 12. In terms of overall contribution to the model, it appears that inclusion of all of the intervening variables within models predicting variance within work-related health measures greatly adds to the variance accounted for (9-27%). However, when considered together only some of the intervening variables can be seen as contributing to the models.

Work-related anxiety and depression are both related to similar intervening variables. Positive associations are found with violation of employer obligations, job insecurity and workload. Negative associations are found with employability, both organisational and supervisory support, job of choice, role clarity and autonomy, fulfilment of employee obligations and fairness. A number of other variables have smaller associations with anxiety and depression and are presented in Table 12.

Positively related to irritation are violation of employer obligations, job insecurity, skill utilisation and workload. A number of smaller negative associations with irritation were found also, including organisational support, employability and fulfilment of employee obligations.

In terms of explaining the relationship between employment contract and work-related health, there remains an unexplained relationship between employment contract and work-related anxiety, depression and irritation. Accordingly, this would suggest that either the reason why permanent employees report lower levels of work-related well-being on these measures is solely due to their contract-type or there is an alternative explanation for which we have not accounted for in the model.

General health

The findings regarding general health and life satisfaction using the full model are presented in Table 12. Looking at the overall contribution it is clear that the

intervening variables explain far more variance within each dependent variable than the employment contract and background variables together, as their inclusion more than doubles the proportion of variance explained in both cases. They therefore appear to be relatively important.

General health reports have moderate associates with content and fulfilment of employees' obligations, employability and autonomy (all positive), and also violation of employer obligations, job insecurity and workload (all negative). More variance was explained of life satisfaction, with the most important predictor variables being fairness, employability and organisational support (all positive) and workload (negative). A number of smaller associates are also presented in the table.

The relationship between employment contract and both general health and life satisfaction reports remains largely unaffected by the inclusion of all of the intervening variables within the analyses. Therefore it appears that permanent contracts are associated with lower responses on measures of general health.

Table 12. Evaluation of all the intervening variables and work related and general health

	Affective well-being: Anxiety		Affective well-being: Depression		Irritation		General health		Life satisfaction	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Permanent contract	0.11***	0.06***	0.14***	0.07***	0.13***	0.09***	-0.08***	-0.07**	-0.05*	-0.05*
<i>Employer Obligations</i>										
Content of PC		0,03		0.04*		0,01		-0,01		0,02
Fulfilment of PC		0,00		0,00		0,03		0,04		-0,01
Violation of PC		0.24***		0.29***		0.20***		-0.09***		-0.07**
Trust		0,01		0,03		0,05		-0,05		-0.06*
Fairness		-0.05*		-0.06**		-0,02		0,03		0.12***
<i>Employee Obligations</i>										
Content of PC		-0,01		-0,01		-0,01		0.06**		0.06**
Fulfilment of PC		-0.07***		-0.10***		-0.05**		0.11***		0.09***
<i>Employment Prospects</i>										
Job insecurity		0.14***		0.11***		0.12***		-0.10***		-0.05**
Employability		-0.09***		-0.09***		-0.05**		0.07***		0.12***
<i>Volition</i>										
Contract of choice		0,03		0.06**		0,03		-0,02		0,03
Job of choice		-0.04*		-0.12***		-0,02		0,01		0.07***
Profession of choice		-0.05**		-0,03		-0,03		0,03		0.05*
<i>Job Characteristics</i>										
Role clarity		-0.07***		-0.04**		-0.04*		0,01		0.05**
Autonomy		-0.08***		-0.06**		-0,04		0.07**		0.06**
Skill utilisation		0.05*		-0,01		0.11***		0,00		-0,03
Workload		0.27***		0.07***		0.25***		-0.09***		-0.15***
<i>Support</i>										
Organisational support		-0.08***		-0.08***		-0.07**		0,05		0.12***
Supervisory support		-0,04		-0.09***		-0,02		0,00		-0,02
Adjusted R ²	0,13	0,40	0,19	0,45	0,13	0,28	0,04	0,12	0,10	0,24
F-value for R ² change		84,87		89,89		40,79		17,40		34,35
n=		3421		3413		3422		3426		3423

N.B. Background variables are controlled for but not presented

Sickness behaviours and incidents at work

Findings regarding sickness behaviours and incidents at work are presented in Appendix 4. In terms of the overall contribution towards explaining variance in sickness behaviours, accidents and harassment/violence the second step of the model contributes above and beyond employment contract and background variables alone, yet the amount of variance explained remains relatively low (8-16%).

Violation of employer obligations, being on contract of choice, role clarity and autonomy are positively associated with sickness absence. Negatively related to sickness absence is fairness and fulfilment of both employer and employee

obligations. Sickness presence is also related to the PC in the same way, but positively related to both content and fulfilment of employee obligations. It is also positively related to workload and negatively related to contract of choice.

Only content of employer obligations (positively) and fulfilment of employer obligations (negatively) are related to the reporting of accidents. However, both relationships are small and only significant at the $p < .05$ level. Regarding harassment and violence at work, fulfilment (negatively) and violation (positively) of employer obligations are related to reports of harassment and violence, with smaller positive relationships being found with workload, employability and content of employee obligations.

The intervening variables were able to explain the relationship between both sick leave and reports of harassment and violence at work and employment contract, bearing in mind that the latter relationship was small in any case. No relationship existed for accidents. They were unable to account for much of the relationship with sickness presence, suggesting that either contract type alone, or something unaccounted for within the model explains why permanent employees report greater sickness presence.

Work attitudes and performance

The intervening variables were also entered into regressions together for work attitudes and performance measures. The findings are presented in Table x of appendix 4. A relatively high proportion of the variance of each dependent variable could be explained by the models (37-61%), around half of which was accounted for by the intervening variables. Thus the intervening variables add a great deal of explanatory power to the models when included.

A large number of associations are presented in the table; only the sizable effects are discussed. Job satisfaction was associated strongly and negatively with violation of employer obligations, and positively with being in job and profession of choice, skill utilisation and organisational support. Organisational commitment had high positive associations with the content and fulfilment of employee obligations and both organisational and supervisory support. Intention to quit was strongly and positively related to violation of employer obligations and employee prospect variables. Negative associations were strong with organisational support and being in job of choice. Perceived performance was strongly related to job characteristics, namely role clarity, autonomy and skill utilisation (positively). Fulfilment of employee obligations was very strongly and positively associated with performance. Fairness was negatively associated with perceived performance.

Even after inclusion of all intervening variables, employment contract remains associated with job satisfaction and intention to quit. In both cases it is the permanent employees indicating they are less satisfied and more intending to quit than temporary employees. Once again, this can either be interpreted as due to the nature of a permanent employment contract or due to an explanatory variable not accounted for within the model.

What are consistently the strongest associates of well-being?

Employment contract alone accounts for between 3-12% of the variation within the dependent variables after controlling for background variables and between 1-10% of the variation in the dependent variables after controlling for the background variables and all intervening variables. Therefore employment contract accounts for a proportion of unique variation in the dependent variables. However this proportion of variance is relatively small, with other aspects accounting for a far higher proportion of the variance. Table 13 presents the strongest associates with well-being.

Table 13. Average effect sizes of the strongest associates of well-being reports

	Average effect size
Violation of PC	-0.14
Fulfilment of PC (employee obligations)	0.12
Perceived Organisational Support	0.10
Job of choice	0.08
Autonomy	0.08
Workload	-0.07
Job insecurity	-0.07
Employability	0.06
Content of PC (employee obligations)	0.06
Supervisory Support	0.05
Profession of choice	0.05
Age	0.05
Permanent contract	-0.05

For these analyses only the work-related health, general health and work attitudes are included. The sickness behaviours and accidents/incidents were not included as only a small proportion of the variance was accounted for within the predictive models and the findings were inconsistent at times. The results represent the average variance accounted for by each element when all are entered into a regression. Employment contract accounts for about five per cent of the variance within well-being reports. A range of variables accounting for a greater or equivalent amount of variance within well-being are presented in the table. It would appear that the strongest associate of well-being is the PC. Reports of violations of the PC account for, on average, 14% of the variation in well-being reports. Reports of the content and fulfilment of employee obligations account for six and 12% of variance in well-being respectively. Support, both from the organisation (10%) and from supervisors (5%) is also consistently associated with well-being as too is job and profession of choice (8 and 5% respectively). The job characteristics of autonomy and workload account for eight and seven per cent of variance on average. Employee prospects also appear important, with job insecurity and employability accounting for seven and six per cent of the variance in well-being reports respectively. Age is the only demographic variable that is an equivalent associate of well-being as employment contract, explaining five per cent of the variance.

Summary

1. The initial analysis shows generally poorer outcomes among permanent compared with temporary staff. It also reveals that background variables other than type of contract also have a strong association with some key outcomes. The experience of more human resource practices and higher levels of work involvement consistently have a positive and sometimes very strong association with more positive outcomes.
2. The wide range of variables associated with the PC offer some full and partial mediation of the link between type of employment contract and the various outcomes. The addition of other intervening variables adds some explanatory power with respect to the outcomes, but provides no further evidence of a mediating effect. Despite all the control and mediating variables, permanent workers still report poorer outcomes on several of the health and well-being variables compared with temporary workers.
3. The key variables associated with employee well-being are mainly linked to the psychological contract. Yet even after taking this into account, workers on permanent contracts still report generally lower levels of health and well-being.

Comparison of types of temporary contracts

The regressions were run in a further step using an alternative measure for employment contract. Instead of the dichotomous variable used in the other regressions, in this set of regressions a series of dummy variables were entered that represented the different temporary contracts or groups of temporary contracts within the sample. Groups of temporary contract worker that were suitably large enough for inclusion in valid comparisons were maintained while other groups were combined with others that shared common characteristics. Six groups were used in the analyses: fixed-term workers, temporary agency workers, daily or on-call workers, permanent agency workers and subcontractors (indirectly employed by organisation), employees on probationary or training contracts (directly employed by organisation), and seasonal workers or worker employed through job-creation schemes. The reference group for the dummy variables was permanent contracts, so this allowed the contribution of each of the particular contract types to be examined within the various models. Part of the output of each of the regression models is presented within the following tables. Only the beta weights for each of the dummy variables are shown, although the same background variables were controlled for in the analyses.

Work-related health

A significant relationship was found between the dichotomous measure of employment contract and all of the work-related health variables. As shown in Table 14, these differences appear to be mainly due to fixed-term and temporary agency employees reporting more positive work-related health than those on permanent contracts.

Table 14. Beta weights for the dummy temporary contract types regarding work-related health

	Occupational self-efficacy	Positive Work-Life Interference	Affective well-being: Anxiety	Affective well-being: Depression	Irritation
	<i>n</i> =3910	<i>n</i> =3910	<i>n</i> =3908	<i>n</i> =3895	<i>n</i> =3912
<i>Non-permanent Group Dummies</i>					
Fixed-term	0.04*	0.03	-0.08***	-0.10***	-0.09***
Perm agency/Subcontractors	0.00	0.03	-0.01	-0.03	-0.03*
Temp agency	0.02	0.05**	-0.06***	-0.06***	-0.06***
Daily/On-call	0.02	-0.01	-0.02	-0.02	-0.04*
Probation/Training	0.00	0.02	-0.03*	-0.04*	-0.03
Seasonal/Job creation	-0.01	-0.02	0.00	0.00	-0.03

Sickness behaviours and general health

Relatively large effects were found for the dichotomous measure of employment contract with regard to sickness absence and sickness presence, indicating that permanent employees reported greater levels of both. A smaller, but still significant relationship was also found between permanent contracts and greater reporting of harassment and violence at work.

Significant effects are found for almost all of the temporary contract types with regard to both sickness absence (exception being seasonal/job creation contracts) and sickness presence (exception being permanent agency workers and subcontractors). All effects are negative, indicating that employees on permanent contracts report higher levels of both sickness absence and presence than almost all temporary employees. Only employees on probationary or training contracts report significantly lower accidents and only fixed-term employees report significantly lower incidents of harassment and violence at work.

Permanent employees were found to report lower general health than the group of temporary employees. Results comparing the different types of temporary contract on general health reports and life satisfaction indicate that only fixed-term employees report greater general health and life satisfaction. The other contract types do not differ significantly on these measures.

Work attitudes and performance

When using the dichotomous measure of employment contract sizeable relationships were found indicating that permanent employees reported lower job satisfaction and greater intention to quit. No relationships were found regarding commitment or performance. Results indicating whether these relationships are maintained across all temporary contract types are presented in Table 15. There are no significant effects regarding organisational commitment and only on-call or daily contract workers report lower levels of perceived performance. However, the beta weights representing the effect of fixed-term contracts are relatively large and highly significant for job satisfaction and intention to quit. Thus fixed-term employees indicate being more satisfied with their jobs and are less likely to intend quitting (before the end of their contract). Other significant results indicate that employees on probationary or training contracts report greater job satisfaction and are also less likely

to intend to quit (before the end of their contract), as are those on seasonal or job creation contracts.

Table 15. Beta weights for the dummy temporary contract types regarding work attitudes and performance.

	Job satisfaction	Organisational commitment	Intention to quit	Perceived performance
	<i>n</i> =3922	<i>n</i> =3921	<i>n</i> =3920	<i>n</i> =3895
<i>Non-permanent Group Dummies</i>				
Fixed-term	0.10***	0.02	-0.07***	-0.01
Perm agency/Subcontractors	0.01	-0.02	-0.02	-0.01
Temp agency	0.03	-0.01	-0.02	0.00
Daily/On-call	-0.01	-0.01	-0.01	-0.04*
Probation/Training	0.04**	0.01	-0.04*	0.00
Seasonal/Job creation	0.01	0.00	-0.04**	-0.01

What can we draw from these analyses?

It would appear that the group of workers most different to permanent employees are the fixed-term contract holders. They consistently report more positive outcomes than permanent workers. However this is not to say that they are the only temporary employees that report more positive attitudes than permanent employees, as this is the case for a number of other contract types with certain other variables. A key finding is that no temporary contract type compares unfavourably with permanent contracts. In the subsequent analyses, the dichotomous variable for employment contract is used for simplicity. However, it is important to note the level of heterogeneity within the reports of temporary contract workers.

In summary, the analysis of the different types of temporary contract reveals that there is a high level of consistency among them in their responses and that all groups tend to be at least as positive as permanent employees.

Intervening variables within temporary responses

Part of the research model looked to explain variance within the reports of temporary employees through features of their contract, expectations about contract extensions and motives for temporary working. In order to do this a dataset of only temporary employees was constructed and a number of regressions run in a similar way as previously. The same background variables were included with a number of additional variables. These additional variables were duration of contract, time remaining on contract, the length of time previously employed on temporary contracts (history), expectations of contract extension, expectations of a permanent contract and 'pull' motives for temporary working. These were regressed onto the same dependent variables as used in previous analyses. Due to the smaller sample sizes the statistical analyses have less power, resulting in effect sizes having to be larger to achieve statistical significance.

Work-related health

A fairly inconsistent picture emerges in Table 16, which presents the temporary measures regressed onto the five measures of work-related well-being. Expectations of contract extension is perhaps the most consistently associated with the dependent

variables, being positively related to self-efficacy and negatively related to work-related anxiety and depression. Duration of contract is positively associated with reports of work-related anxiety while ‘pull’ motives for temporary working are associated positively with positive work-life interference and negatively with work-related depression. None of the variables are associated with irritation after controlling for background variables.

Table 16. Associations of contract characteristics, contract expectations and motives with work-related health

	Occupational self-efficacy	Positive Work-Life Interference	Affective well-being: Anxiety	Affective well-being: Depression	Irritation
	<i>n</i> =1079	<i>n</i> =1082	<i>n</i> =1080	<i>n</i> =1079	<i>n</i> =1082
Duration of contract	0.02	0.03	0.10**	0.01	0.04
Time left on contract	-0.07	-0.08*	-0.04	0.01	-0.01
Contract history	0.00	-0.01	0.02	0.06	0.04
Expectation of contract extension	0.13***	0.02	-0.09**	-0.17***	-0.05
Expectation of permanent contract	-0.03	0.05	0.04	0.06	0.06
Pull motives for temporary work	0.04	0.11***	-0.05	-0.07*	-0.05
Adjusted R-square	0.16	0.21	0.10	0.17	0.13

N.B. Background variables are controlled for but not presented

Sickness behaviours and incidents at work

Contract characteristics, contract expectations and motives all have modest relationships with sickness behaviours and accidents and incidents at work. Duration of contract is positively related to sick leave frequency and reports of harassment and violence at work. Expectations of contract extension are negatively related to reports of harassment and violence at work, while expectations of a permanent contract are positively related to sickness presence. No associations with accident reports were found after controlling for background variables.

Work attitudes and performance

The findings regarding reports of work attitudes and self-rated performance are presented in Table 17. In this case, a strong and consistent set of associations is found with expectations of contract extension. This measure was positively and strongly related to job satisfaction, organisational commitment and performance ratings and, as one may expect, negatively and strongly associated with intention to quit. No other significant associations were found.

Table 17. Associations of contract characteristics, contract expectations and motives with work attitudes and performance

	Job satisfaction	Organisational commitment	Intention to quit	Perceived performance
	<i>n</i> =1082	<i>n</i> =1082	<i>n</i> =1081	<i>n</i> =1078
Duration of contract	0.00	-0.04	0.02	-0.01
Time left on contract	-0.01	0.03	-0.06	-0.02
Contract history	0.04	-0.05	0.03	0.05
Expectation of contract extension	0.20***	0.18***	-0.25***	0.11***
Expectation of permanent contract	-0.05	0.02	0.06*	0.02
Pull motives for temporary work	0.03	0.01	-0.02	0.04
Adjusted R-square	0.30	0.32	0.26	0.10

N.B. Background variables are controlled for but not presented

Finally, the findings regarding the measures of general health and life satisfaction indicated only one association. This indicated a positive relationship between expectations of contract extension and life satisfaction. No other associations were found after controlling for background variables.

In summary, expectation of a contract extension emerges consistently as a key variable within the temporary contract worker as a key factor associated with more positive outcomes.

Comparing Employee and Employer Responses on the Psychological Contract

Agreement on the content of the psychological contract

In this section, both descriptive analyses and multilevel analyses are presented. Descriptive data give the reader an idea of the basic relationships and differences between employee and employer reports of the PC. The multilevel analyses then identify more robust relationships within the PC.

Table 18 shows the proportion of agreement on the items describing employer obligations towards employees. The table shows the proportion of employees who have matching reports from their employers on each of the PC items regarding an obligation being made or not (*i.e.* an agreement).³ The table also shows similarities and differences between employees with regard to permanent and temporary employees. The most commonly agreed upon item among employers and employees is that employers should ‘provide employees with a safe working environment’ (62%), followed by ‘a good working atmosphere’ and ‘fair treatment’. Least agreed upon are ‘provide possibilities of working together in a pleasant way’ (19%), ‘provide employees with a career’ (22%) and ‘improve future employment prospects of the employees’ (22%). There are few differences in the level of agreement between employers and their permanent and temporary employees, with similar levels of agreement most often being found. However, a few differences were found, indicating

³ Note that the analysis only covers items on which one or both parties said there had been a promise. Items on which both parties agreed that no promise had been made are not included in the calculation of the level of agreement.

that, compared with temporary employees, permanent employees and their employers were more likely to agree on 'provide a reasonably secure job' (14% difference) and 'opportunities to advance', 'provide a career', and 'participate in decision making' (5% difference each).

Table 18 also shows a similar list based upon level of agreement on employees obligations towards their employer. Here, higher levels of agreement are evident compared to the other list. Most often agreed upon is 'respect the norms and regulations of the company' (78%), followed by 'being punctual', 'a good team player' etc. Again, differences between temporary and permanent employees were few. Differences in excess of five per cent were found on only three items: 'give innovative suggestions', 'assist others with their work', 'develop their skills'. For each difference, permanent employees were more likely to agree with their employers than temporary employees.

Table 18. Agreement between employees and employer reports of employers and employees obligations within the psychological contract

List of Employer Obligations	Agreement (%) Employers – permanent workers	Agreement (%) Employers – temporary workers	List of Employee Obligations	Agreement (%) Employers – permanent workers	Agreement (%) Employers – temporary workers
1. Provide employees with a safe working environment	62	61	1. Respect the norms and regulations of the company	78	78
2. Provide employees with a good working atmosphere	58	56	2. Be punctual (prompt)	75	75
3. Ensure fair treatment by managers and supervisors	55	53	3. Be a good team player	74	72
4. Help in dealing with problems encountered outside work	54	54	4. Meet the performance expectations for the job	74	75
5. Provide an environment free from violence and harassment	50	49	5. Assist others with their work	71	65
6. Provide employees with a reasonably secure job	52	38	6. Work overtime or extra hours when required	63	60
7. Provide employees with opportunities to advance and grow	46	35	7. Show loyalty to the organization	62	58
8. Provide employees with good pay for the work they do	40	40	8. Be polite to customers/public even when they are rude & unpleasant	60	60
9. Allow employees to participate in decision-making	37	30	8. Work enthusiastically on jobs they would prefer not to do	60	60
10. Provide employees with a job that is challenging	36	33	10. Volunteer to do tasks outside their job description	59	56
11. Be flexible in matching demands of non-work roles with work	33	30	10. Develop new skills and improve their current skill	59	54
12. Provide employees with interesting work	30	29	12. Protect your company's image	58	56
13. Provide employees with a career	24	18	12. Develop their competencies to be able to perform efficiently in the job	58	58
14. Improve future employment prospects of the employees	23	20	14. Provide the organization with innovative suggestions for improvement	43	34
15. Provide possibilities to work together in a pleasant way	20	17	15. Take the responsibility for their career	42	42
			16. Accept an internal transfer if necessary	36	35
			17. Go to work even if they don't feel particularly well	25	25

Antecedents of agreement between employees and employers about the content of the psychological contract

A new variable was constructed to reflect the level of agreement within the PC. Matched obligations were added together to form a sum score of number of obligations agreed upon. The proportion of agreement for each employee was calculated by dividing the sum score with the total number of obligations reported by each employee. The proportion of obligations agreed upon by both parties was calculated for both employer and employee obligations. The mean proportion of agreement on employer obligations was calculated at 0.64 (or 64%). For employee obligations the proportion of agreement was slightly higher (0.72 or 72%). Table 19 shows results of a multiple regression analysis aiming to identify the antecedents of agreement for employer and employee obligations.

A number of individual and organisational factors that were assumed to have an influence on level of agreement within the PC were chosen as independent variables. Employment contract was considered to be the most important variable of interest as it is the variable central to this study. Other individual factors that were thought to be potentially influential of the level of agreement were age, position/job level, tenure, working hours and union membership. The role of tenure was supported by a study from Tekleab and Taylor (2002). The more time spent in the work place the more one could learn about what may be expected from management and what is generally expected from employees. Union membership could also contribute to clarification of the terms implied in the psychological contract. Organisational size and ownership are added as possible contributing organisational factors. It is possible that anonymity and distance between managers and employees would be greater in larger organisations. The study by Tekleab and Taylor (2002) also showed that exchange between managers and employees in the company was related to a higher level of agreement. The same role could be played by HR policies and practices in the company.

The variance explained by the proposed antecedents was relatively similar for both measures of agreement. Having a permanent position in the organisation together with longer weekly working hours were significantly related to agreement on both employer and employee obligations. Older workers were less likely to have agreement on both groups of obligation. Company size was an important predictor; in both cases a smaller company was related to higher levels of agreement. Working in privately owned companies was generally related to a higher level of agreement. There were also some significant effects of differences between the sectors.

Table 19. Hierarchical regression analyses of the antecedents of agreement on the content of the psychological contract (adjusted for range of promises) Standardized β coefficients

	Agreement - employer promises n = 3742	Agreement - employee promises n = 3872
Manufacturing sector	.05**	.12***
Education sector	-.08***	-.06**
Age	-.07***	-.12***
Gender (0=woman, 1=man)	0.01	-0.01
Occupational Position	0.02	0.02
Union member	0.02	0.00
Tenure	-0.03	-0.02
Work hours	.07**	.10***
Employment contract (0 =not perm,1=perm)	.07**	.11***
Size of organization	-.06**	-.08***
Ownership (0=public, 1=private)	.16***	.08***
HR practices	0.00	0.04
Adjusted R ²	0.08	0.09

*** p < .001, ** p < .01

Comparison of mean scores of content and fulfilment of the psychological contract

The mean scores on the PC variables as reported by both employees and their employers are presented in Figures 10 and 11. Figure 10 presents reports on the content of the PC and figure 11 reports on reports of the fulfilment of the PC. It is important to point out that these are average scores and do not represent the diversity of views held by employees within each organisation. However, it is apparent that, on average, employers believe that they offer more to their employees than their employees report. However both employees and employers report that permanent employees receive more promises from their organisations. Reports regarding the obligations made by employees are more 'matched', with an agreement that permanent employees offer slightly more than temporary employees.

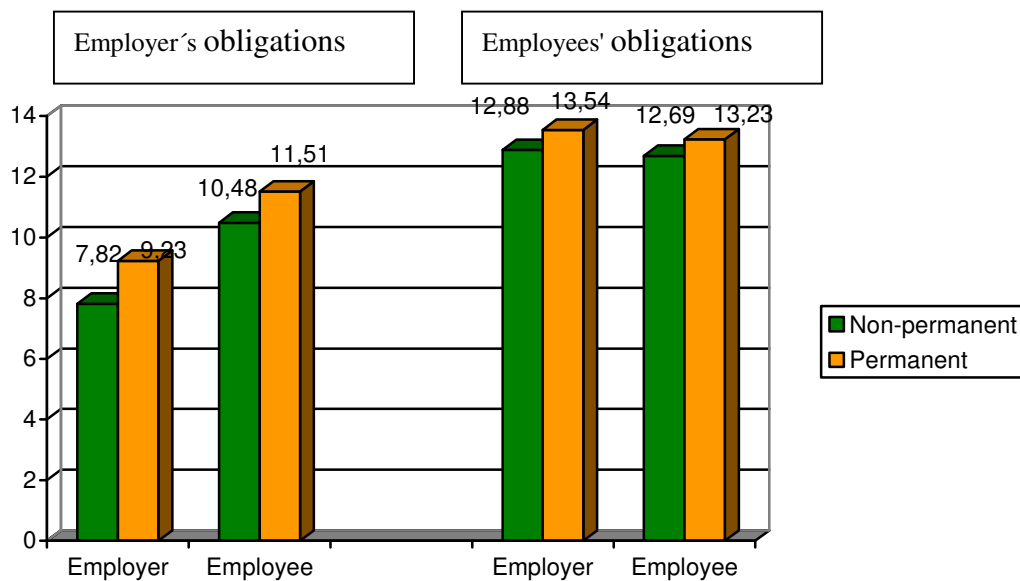


Figure 10. Employer and employees' reports of mutual obligations of permanent and temporary employees

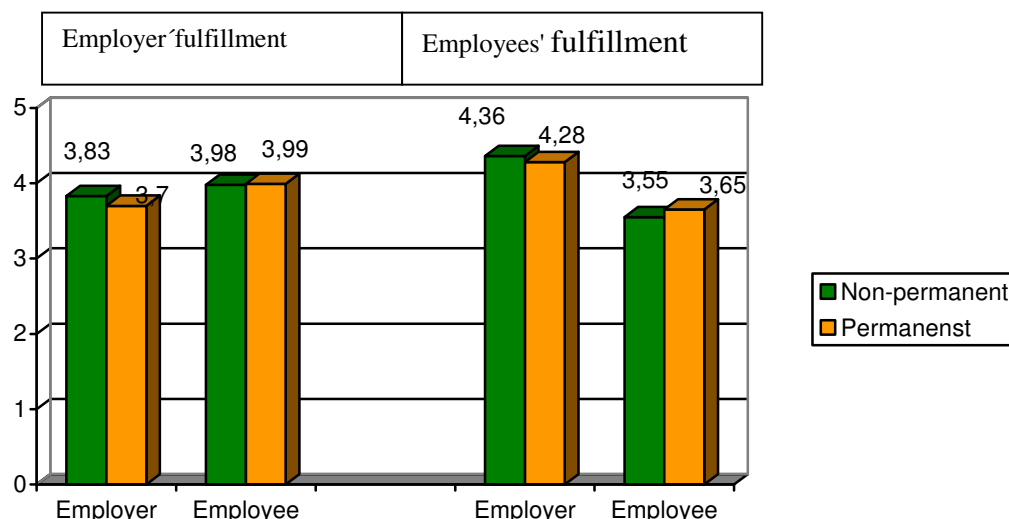


Figure 11. Employer and employees' report of fulfillment of the obligations of permanent and temporary employees

An interesting finding regarding the reports of the fulfilment of the PC is that employers report that they fulfil their obligations to both permanent and temporary employees to the same degree on average. In contrast, permanent employees report that their PCs are less fulfilled than temporary employees. Therefore a greater discrepancy exists between what employers and employees report regarding the PC of permanent employees.

Summary

This brief section has presented some preliminary findings exploring the extent to which employers and their employees agree about the promises made and the extent to which these promises have been met:

1. Levels of agreement are generally only modest.
2. Employers appear more likely to agree with their permanent employees about the promises that have been made.
3. Both 'sides' are more likely to believe that they have kept their own promises than the other 'side' has kept theirs.

Multilevel analyses of country and sector effects

Country level differences

As background for the exploration and interpretation of similarities and differences concerning the psychological contract between the PSYCONES countries, we describe the country contexts for the period during which the data-collection took place (2003-2004). Indicators for the six societal dimensions described earlier were updated to reference years as close as possible to the data-collection. Appendix 3 provides the six identified societal dimensions and their indicators with source and reference year.

“Laws and regulations” Firstly, laws and regulations define the zone of negotiability, the bargaining space for employer and employee. A narrow zone of negotiability may constrain the width of the psychological contract’s content. Secondly, sanctions for violation incorporated in laws and regulations may relate to fulfilment or breach of the psychological contract. Logically, numerous sanctions for violations may inhibit breach. Thirdly, laws and regulations concern the balance between social well-being in a welfare economy and self-help in a market economy. Box plots of the four indicators reveal that the UK is an outlier with a very wide zone of negotiability and very few sanctions for violations, while Israel is an outlier with a very low score for welfare state.

“Industrial relations system (IRS)” Since the IRS constructs employer-employee exchanges on various levels (societal, industry, organizational, and workplace), it may affect the psychological contract on the individual level as well. The power of the unions in the IRS is reflected by trade union density. The collective bargaining coverage determines bargaining boundaries in the psychological contract. Box plots of the two indicators show no outliers. However, when the countries are projected in a two-dimensional space by their trade union density and collective bargaining coverage (see Figure 12), the positions of the UK, Spain, Sweden and Belgium are in different ways, distinctive.

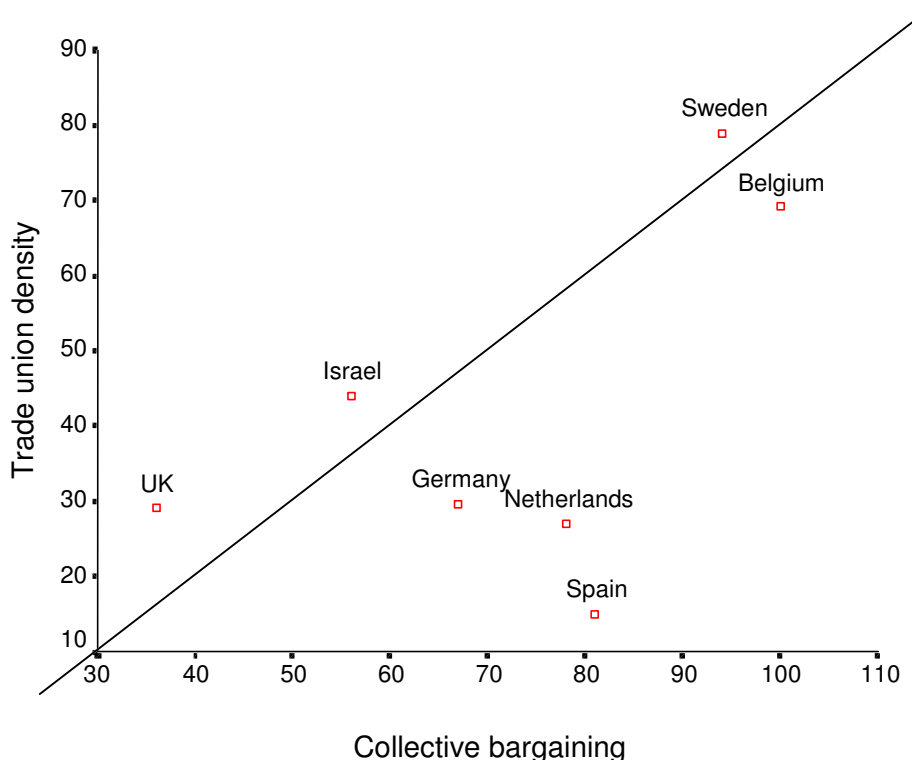


Figure 12. The relation between collective bargaining coverage and trade union density

“Labour market and economic system” The degree of welfare in a society, as an outcome of the economic system, may influence the psychological contract in its content, its fulfilment or breach, and its state. The current and anticipated labour market bears heavily on employment contracts and may affect the promises made and kept in the psychological contract. Plots of the five indicators only show outliers for part-time employment, namely the Netherlands has a very high rate while Spain has a very low rate.

“Educational system” The relationship of the educational system and the psychological contract is threefold. Firstly, the educational system constrains or facilitates the firms’ ability to obtain employees with the skills they need. Perhaps promises are better kept for employees that are scarce. Secondly, the educational system constrains the individual’s market power and as such his/her power in negotiating the content of psychological contract. Thirdly, the educational system establishes school-to-work pipelines and prepares for new employment and opportunities to engage in psychological contracts. Plots show one outlier, Israel, with very high percentage of educational expenditure.

“Family orientation” It includes a special focus on gender issues such as female employment and societal attitude towards working mothers. Where there are close family ties, reflected for example in a large family, single-parent household, and dual-earners household, employees may seek to negotiate psychological contracts that satisfy the family needs. Although we assume collective responsibility of society, employers, unions, and families for family-responsive initiatives, it is clear that individual informal arrangement between employee and employer (such as the psychological contract) can prevent and/or reduce work-family conflicts. Depending on the societal attitude towards their working, mothers may be under varying degrees of pressure to bargain their psychological contracts. Box plots of six indicators reveal several outliers.(i.e., fertility rate, divorces, family ties, and attitude towards working mothers). The fertility rate is very high in Israel, while Spain is an outlier with a very low fertility rate.

The PSYCONES web based experts’ judgment survey provides data on the strength of family ties. The correlation between the indicators “fertility rate” and “strength of family ties” is negative ($r=-.23$, $p=.63$, $N=7$). Especially, Spain has the lowest fertility rate and the strongest family ties (both outliers). Spain is also an outlier with very low divorce rate. The UK has a very low score on strength of family ties. Finally, Sweden is an outlier with a very positive attitude towards working mothers.

Finally, in relation to the psychological contract, “cultural values” can constrain one’s ability to enter into agreements in the first place (Rousseau & Schalk, 2000c, Schalk & Rousseau, 2001). Secondly, since culture is likely to shape perceptions of obligations, cultural values can influence the kinds of exchanges that are negotiable in the content of the psychological contract. Thirdly, since culture is likely to shape what constitutes breach, cultural values regarding the meaning of “promises kept” can affect the fulfilment or breach of the psychological contract. Fourthly, the state of the psychological contract can be determined by cultural values such as fairness and trust. Box plots of the seven indicators show that Israel is an outlier for three cultural values (low on Harmony, high on Embeddedness, and low on Egalitarianism) and Spain is an outlier for Egalitarianism with a high score. When looking at Schwartz’ cultural map of the world (Schwartz, 1994a), Belgium, Germany, the Netherlands, Spain and Sweden are in the “West Europe” region of values with high importance of egalitarianism and intellectual autonomy. “These are cultures in which individuals are viewed as autonomous but subject to legitimate expectations to concern themselves voluntarily with the welfare of their fellow citizens” (Schwartz, 1994b, p. 111). In these countries, values such as curiosity, broadmindedness, creativity, equality, freedom, helpfulness, honesty, loyalty, responsibility, and social justice, are important (Schwartz, 1994b, 1999). Israel and the United Kingdom are in the “English-speaking” region of values with high importance regarding affective autonomy and mastery. “These are entrepreneurial cultures in which mastering and controlling the environment are central goals” (Schwartz, 1994b, p. 111). In these countries,

values such as pleasure, enjoying and exciting life, varied life, ambition, choosing own goals, competence, daring, independence and success, are important (Schwartz, 1994b, 1999). All PSYCONES countries fall in these two adjacent regions of values and are thus rather similar in their scores on the seven cultural values dimensions.

Sector level

In the PSYCONES study, three sectors were selected for their variance in skill level: manufacturing (low skilled), Retail or service (medium skilled), and Education (high skilled). The rationale behind the choice for these levels relates to possible differences regarding employee well-being issues and regarding the expectations workers have towards the (hiring) organisation. Table 20 displays the number of organisations per sector (between brackets) followed by the number of respondents across these organisations.

Table 20. Samples according to sectors

	Sweden	Germany	Netherlands	Belgium	UK	Spain	Israel
Manufacturing	(7) 259	(9) 215	(14) 246	(6) 211	(4) 389	(15) 385	(7) 382
Retail or Service	(11) 179	(8) 187	(12) 267	(8) 217	(6) 140	(9) 264	(9) 229
Education	(9) 292	(11) 226	(12) 290	(8) 211	(7) 114	(20) 293	(10) 349

Below is the standardization of each sector as used in the PSYCONES sampling procedures:

1. *Manufacturing*: For the manufacturing sector, the main focus was directed towards manufacturing companies producing products for the consumer markets. Business-to-business manufacturers were not acquired. Hence, the focus was on organisations such as food manufacturers, computer manufacturers, etc. This sector was included to sample for lower-skilled workers.
2. *Retail or Service*: This sector includes organisations in the retail sector such as shops as well as organisations giving service to customers (e.g., insurance companies). The key criterion was that these organisations should sell products to consumers. This sector was included to sample medium-skilled workers, such as salesmen, but also back-office workers.
3. *Education*: The educational sector was used to sample for high-skilled workers. This sample includes primarily teachers or lecturers from several types of educational institutions. Grammar schools and High schools were included, but also colleges and universities.

Summary

There are differences between the PSYCONES countries for 12 of the 27 societal indicators across the six dimensions. No outliers are found for the dimension IRS. Tentative interpretation of differences concerning the psychological contract resulting from statistical analysis at the organizational and individual level in terms of societal indicators, suggests that:

1. Belgium and Germany are very similar to the other PSYCONES countries, since no outliers appear for these two countries.
2. Most distinctive is Israel with six outliers across four dimensions. This is an interesting finding because Israel was included especially to compare with EU countries. Israel has exceptionally scores on welfare state (low), educational expenditure (high), fertility rate (high), harmony (low), embeddedness (high), and egalitarianism (low).

3. Compared to other PSYCONES countries, the Netherlands had a high percentage of part-time work.
4. Spain has exceptional scores on part-time work (low), fertility rate (low), divorces (low), strength of family ties (high), and egalitarianism (high).
5. In comparison with the other PSYCONES countries, Sweden has a very favourable attitude towards working mothers.
6. The UK had exceptional scores for the zone of negotiability (large), sanctions for violations (low), and family ties (low).

Country and sector differences of the organizational variables

The results from multilevel analysis of structural factors in the organization are shown in table 21 below. The table should be read as follows. The first column (no control) shows the residual of the empty model. The second column (controlled) displays what is left of the residual after controlling for organizational and individual control variables. The percentage in the column indicates how much variance is NOT explained by the control variables. The columns ‘organization’, ‘sector’, and ‘country’ include the variances explained by these levels, compared to the column 2 data. The table shows that the types of temporary workers hired by organizations are mostly dependent on the organization level (between 74 and 100%) but also dependent on country (up to 20%), except for hiring temporaries on job-creation schemes (0%).

Results show that, when the total explained variance is put to 100%, a considerable part of the variance is explained by the differences between organizations (ranging from 51% through 97%), some part by the differences between the countries (up to 44%), and a minor part by the sector level (maximum 10%). Most country dependent are the percentage of union members and the influence of unions on HR practices. The lowest effects of country differences in this table come for HR practices where organizational factors account for most of the variance. The psychological contract as reported by managers follows the general pattern, most of the variance is explained by organizational differences but there are also some differences between countries that seem to have an effect. Reported employee content and delivery of deal have the highest values (12-16%). Again the effect of sector level differences is very small.

Table 21. Variances explained in organization level variables

	N	No control	Controlled (100%)	Organization	Sector	Country
Percentage temporary	194	0,07	92% 0,06	0,06 90%	0,00 6%	0,00 5%
Prospect concerning workforce	193	0,49	84% 0,41	0,36 88%	0,01 2%	0,04 10%
Vacancies	191	0,71	92% 0,65	0,60 91%	0,01 1%	0,05 7%
Percentage Union members	147	1078,69	69% 740,43	375,12 51%	36,78 5%	328,52 44%
Union influence: contracts	191	1,25	96% 1,20	1,05 87%	0,09 7%	0,06 5%
Union influence: Hr Practices	191	1,15	89% 1,03	0,75 73%	0,04 4%	0,24 23%
Union influences: Working con.	191	1,17	94% 1,10	0,89 81%	0,06 6%	0,14 13%
Content Employers Obl. perm	188	11,34	87% 9,83	8,77 89%	0,14 1%	0,93 9%
Content Employers Obl non-perm	186	13,43	83% 11,18	9,67 87%	0,19 2%	1,31 12%
Delivery Deal Employers Perm	187	0,30	80% 0,24	0,21 88%	0,00 2%	0,03 11%
Delivery Deal Employers non-perm	184	0,29	78% 0,23	0,20 88%	0,00 1%	0,03 11%
Content Employees Obl. Perm	202	27,15	59% 15,96	13,50 85%	0,12 1%	2,35 15%
Content Employees Obl. Non-Perm	202	29,86	64% 18,99	15,90 84%	0,05 0%	3,03 16%
Delivery Deal Employees Perm	183	0,32	83% 0,27	0,23 86%	0,00 1%	0,04 14%
Delivery Deal Employees Non-Perm	180	0,34	79% 0,27	0,23 86%	0,00 2%	0,03 12%
HR-Practices Permanents	202	0,94	100% 0,94	0,83 89%	0,05 5%	0,06 6%
HR-Practices all employees	202	1,89	76% 1,44	1,38 96%	0,02 2%	0,04 3%
HR-Practices temporarys	202	4,04	93% 3,76	3,51 93%	0,11 3%	0,14 4%

It is also interesting to look at the *composition of the temporary workforce* as reported by organizations in the PSYCONES-countries (see table in appendix 5). As for the different types of temporary workers hired by the companies the table can be found in appendix). The types of temporary workers hired by organizations are mostly dependent on the organization level (between 74 and 100%) but also dependent on country (up to 20%), except for hiring temporaries on job-creation schemes (0%). Post-hoc analyses of country differences shows some interesting tendencies. A clear difference between countries is the low percentage of *fixed-term workers* in Israel compared to most countries, while they have a relatively high number of *temporary agency workers*. Dutch organizations in the sample make relatively more use of *daily/on-call workers*, while Israel makes more use of *probation* employees. Israel also makes more frequent use of *consultants* in our sample.

Looking at the composition of the temporary workforce across the three sectors, three results are worth mentioning. First, the educational sector makes more use of *fixed-term workers* compared to the other two sectors. On the other hand, they make less use of *temporary agency workers* and *training arrangements*.

Next table (table 22) shows how companies in the different countries differ in their *motives for using temporary employees*. Generally, differences between countries are small and explain only a small part of the variance (see table in appendix). Motives such as replacement due to long absence, unfilled vacancies, limiting core workers, and testing new employees are partially determined by the country (up to 20%). On the level of the sectors, the *motive 'to cope with peaks in production'* is somewhat dependent on sector (9%). With respect to the motives for hiring temporary workers, some differences between countries were identified.

Israeli organizations make relatively low use of temporaries to *replace permanent workers on long absences* such as sickness and pregnancy. Spanish organizations in our sample make relatively more use of temporary workers to *fill vacancies*. Third, Swedish organizations report '*working unusual hours*' as an important motive for hiring temporaries. Differences between sectors were also unusual. The educational organizations report a lower use of temporary workers to *cope with peaks in production*. This is very logical because what kind of production would there be in education? However, they report a higher score on *hiring temps to occupy unfilled vacancies*.

Table 22. Post-hoc analyses on motives for hiring temporary workers

	N	F	Swe	Ger	Net	Bel	UK	Spa	Isr
Peaks in production	185	1,19	2,91	3,52	3,12	2,80	3,49	3,15	3,73
Replace due to short absence	188	1,65	2,77	2,62	2,70	3,25	3,72	2,73	2,44
Replace due to long absence	187	3,91**	3,73	2,94	3,36	3,95	3,22	3,37	2,18
Unfilled vacancies	182	7,40***	1,56	1,47	2,00	2,31	2,38	3,28	1,71
Specialized skills	184	1,58	1,82	1,64	2,31	1,73	2,10	2,35	2,07
Limiting core workers	183	4,74***	1,31	1,68	2,60	2,14	1,11	2,14	2,50
Improving performance	182	,62	1,93	1,88	1,87	1,81	1,96	1,51	1,99
Testing new employees	185	4,62	4,30	2,35	3,25	2,25	2,79	3,00	3,85
Working unusual hours	185	2,62*	2,46	1,31	1,54	1,73	1,65	1,54	1,76
Saving salary costs	184	1,63	1,34	1,97	1,88	1,53	1,15	1,90	1,91
Saving training costs	185	1,24	1,11	1,07	1,22	1,04	1,17	1,24	1,34
Saving benefit costs	184	2,90*	,97	1,64	1,51	1,04	1,44	1,70	2,16

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

Summary

Only taken into account clear significant results on variables not suffering from too many missing values, the conclusions with respect to the employer level variables are the following:

1. The major part of not individual variance is explained by the organization level.
Country has some effect and sector has only a minor effect.
2. In general there are more similarities between countries than differences.
3. The country differences are:
 - a) Sweden reports the highest influence of unions on HR practices. From the societal data we recall that Sweden has the strongest union density.
 - b) Within the HR practices, Germany reports the lowest training to both permanent and temporary employees. However, looking at the types of temporary workforce, Germany reports "training" as the highest.
 - c) Belgium reports the most narrow content of the psychological contract for both permanent and temporary employees. We recall from the societal data that Belgium has high collective bargaining coverage. Furthermore, Belgium reports a high percentage of fixed term within the types of temporary workforce.
 - d) Within the HR practices, the UK reports the highest training to temporary employees.
 - e) Spain reports the broadest content of the psychological contract for temporary employees.
 - f) Israel is exceptional in the types of temporary workforce with low percentage of fixed term and high percentages of temporary agency, probation, and consultants.

4. In general there are more similarities between sectors than differences.
5. The few sector differences seem logical and include: percentage of temporary and type of temporary workforce, union influence, HR practices, accidents.
6. There are only few interactions with country or sector. The significant interactions are hard to interpret.

Employee level explorations using multilevel analyses

This section presents similarities and differences between countries and sectors based on quantitative data gathered through questionnaires from employees. In this section we analyse also the individual level together with organization, sector and country level. Most interesting here is perhaps to look at the psychological contract together with some of the other intervening variables which could be influenced by several levels.

Table 23. Explained variances of the intervening variables

	N	No Control	Controlled (100%)	Individual	Organization	Sector	Country
Content employers obligations	5271	20,90	92% 19,21	17,52 91%	1,13 6%	0,21 1%	0,48 3%
Content employees obligations	5284	17,54	96% 16,81	14,79 88%	1,00 6%	0,35 2%	0,88 5%
Delivery deal Employers obl.	4999	0,70	91% 0,64	0,59 92%	0,04 6%	0,00 0%	0,02 3%
Delivery deal Employees obl.	5188	0,26	91% 0,24	0,22 92%	0,01 3%	0,00 0%	0,01 5%
Trust	5285	1,01	93% 0,94	0,84 89%	0,07 7%	0,00 0%	0,04 4%
Fairness	5294	0,87	92% 0,80	0,71 89%	0,05 6%	0,00 0%	0,04 5%
Trust/fairness combined (state)	5297	0,82	92% 0,75	0,67 88%	0,05 7%	0,03 0%	0,04 5%
Violation of PC	5183	0,75	91% 0,68	0,61 90%	0,04 7%	0,00 0%	0,02 4%
Core HR Practices	5118	4,02	94% 3,79	3,43 90%	0,40 10%	0,13 3%	0,11 3%
Employability	5310	1,12	88% 0,98	0,86 88%	0,04 4%	0,00 0%	0,09 9%
Job Insecurity	5311	0,97	83% 0,81	0,69 85%	0,09 11%	0,01 1%	0,04 4%
Autonomy	5291	0,81	74% 0,60	0,52 87%	0,05 8%	0,01 2%	0,02 3%
Skill Utilization	5296	0,89	69% 0,61	0,53 87%	0,05 8%	0,03 6%	0,01 1%
Workload	5322	0,79	82% 0,65	0,55 85%	0,08 12%	0,01 1%	0,04 6%
			-	-	-	-	-

With respect to the intervening variables, more or less the same order of importance of levels appears. The individual level explains 85% through 95% of the variance with the lowest values for working conditions such as work load and skill utilization, the organizational level 3% through 12%, the sector level 0% through 6% for skill utilization, and the country level 1% through 9% for employability.

To measure differences between countries, post hoc tests (Bonferroni) are used. When a country scores significantly different (maximum of $p < .05$) compared to four countries, the difference is signalled using bold fonts.

Table 24. Post-hoc analyses on intervening variables

	N	F	Swe	Ger	Net	Bel	UK	Spa	Isr
Content employers obligations	5271	17,24***	8,16	8,12	8,94	8,52	10,34	9,47	7,76
Content employees obligations	5284	9,42***	12,35	13,61	12,01	13,49	14,77	14,59	13,10
Delivery of the deal, employers obligations	4999	9,06***	3,50	4,01	3,72	3,77	3,73	3,68	3,62
Delivery of the deal employees obligations	5188	20,11***	4,17	4,46	4,20	4,24	4,34	4,35	4,45
Trust	5285	9,84***	2,93	3,41	3,40	3,40	3,05	3,26	3,00
Fairness	5294	14,11***	2,71	3,44	3,42	3,39	3,09	3,23	2,92
Trust & Fairness Combined	5297	13,30***	2,95	3,43	3,41	3,40	3,08	3,35	2,95
Violation of Psychological Contract	5183	10,23***	2,40	2,13	2,18	2,08	2,36	2,13	2,55
HR practices	5118	6,72***	3,35	3,55	4,22	3,77	4,19	3,33	3,70
Employability	5310	32,76***	3,23	2,54	3,10	2,95	3,52	3,34	3,42
Job insecurity	5311	9,74**	2,18	2,54	2,36	2,29	2,52	2,12	1,93
Autonomy	5291	6,54***	3,45	3,28	3,41	3,36	3,40	3,31	3,70
Skill Utilization	5296	3,32**	3,56	3,67	3,55	3,50	3,36	3,55	3,68
Workload	5322	11,52***	3,33	3,09	2,82	2,86	3,12	2,90	3,32

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

With respect to the *psychological contract*, the sample shows that employees in the UK expect more from their organizations in comparison to employees in the other countries. Together with Spain, UK workers also *promise* significantly more compared to other countries, while Dutch employees in the sample promise less compared to their colleagues from other countries. The data also show that *fulfilment of the employer's obligations* is highest in Germany. Swedish and Dutch workers generally *fulfil their promises* less compared to the other countries. With respect to the variables measuring the *state of the PC*, Swedish workers score low, together with Israel. However, Israel also reports a low *violation of the PC*.

As for the working conditions there is no significant difference in autonomy. However countries differ in how employees perceive skill utilization where Spain is lower than the others. As for work load, Swedish and Israeli employees report the highest values and the Netherlands is significantly lower than all other countries.

Looking at the variables measuring the psychological contract, the effect of sector is weak. Only the *content of the obligations* from both employers and employees is significant; workers in the manufacturing sector report higher expectations from both the employer and themselves. In addition, workers in the Retail and Sales sector experience to have significantly more *HR practices* compared to the other two sectors. Workers in the manufacturing sector report a higher level of job insecurity. Sector also influences job characteristics; with respect to autonomy and skill utilization, educational workers score higher compared to manufacturing and retail and sales.

Country and sector differences in health and wellbeing of employees

The outcome variables in the employee model are largely dependent on individual factors (explained variance ranging from 87% through 97%) (see table in appendix 5). On the higher levels, including organization, sector, and country, none of the variables is considerably dependent on each of these levels. Especially sector hardly has any influence (explained variance 0% and 1%). The organizational level explains some variation (up to 8%) attitudes with respect to the organization and the job, such as organizational commitment and job satisfaction. Health indicators are not dependent on organizational factors. Country does have some influence on these variables (up to 9%).

To measure differences between countries, post hoc tests (Bonferroni) are used. When a country scores significantly different (maximum of $p < .05$) compared to four countries, the difference is signalled using bold fonts.

Table 25. Post-hoc analyses on dependent variables

	N	F	Swe	Ger	Net	Bel	UK	Spa	Isr
Job Satisfaction	5331	11,46***	3,75	4,16	4,16	4,10	3,71	4,00	4,02
Sick leave	5268	6,15***	2,10	1,84	1,95	1,80	2,19	1,79	2,03
Sick presence	5249	29,75***	2,54	2,52	2,09	2,31	2,61	2,78	3,01
Accidents	5264	3,65**	1,25	1,13	1,12	1,14	1,21	1,20	1,17
Incidents	5252	1,88	1,27	1,19	1,23	1,22	1,34	1,19	1,20
Work-Related Mood: Anxiety-Contentment	5295	19,60***	2,26	2,62	2,24	2,45	2,63	2,56	2,51
Work-Related Mood: Depression-Enthusiasm	5278	16,86***	2,06	2,27	1,84	2,00	2,26	2,01	2,11
Irritation	5309	16,71***	2,79	2,76	2,57	2,99	2,90	3,01	3,27
Positive work-home interference	5288	23,58***	2,62	2,61	3,00	3,09	2,81	3,04	3,14
Occ. Self-efficacy (<i>low alpha!</i>)	5306	46,63***	3,90	3,68	3,94	3,81	4,07	3,96	4,30
Life satisfaction	5293	15,91***	4,96	5,02	5,51	5,24	5,02	5,33	5,28
General health - SF-36	5293	8,62***	4,01	3,88	3,98	3,83	3,85	4,02	4,10
Perceived Performance	5304	7,70***	4,00	4,08	4,04	4,04	3,97	3,92	4,17
Organizational Commitment	5330	12,51***	3,67	3,92	3,93	3,92	3,92	4,10	4,18
Intention to quit	5319	29,40***	2,27	1,43	1,76	1,73	2,21	1,66	1,85

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

On the health-related variables, there are many differences between countries. *Sick presence* is interesting; Israel scores higher compared to all countries but Spain. Sweden and the Netherlands report low scores on *Work-Related Mood: Anxiety-Contentment*. The Dutch employees also score low on the other psychological factor, *work-related mood: Depression-Enthusiasm*, while Germany and the UK report high levels of this variable. With respect to *irritation*, again, Dutch employees report a low mean, and Israel reports high levels of irritation. Germany and Sweden have a low mean with regard to *positive work-home interference*, and German employees also report low *occupational self-efficacy*. With respect to *life satisfaction*, Dutch employees report high levels of satisfaction, while Swedish employees are relatively less satisfied (although they still report a high level of life satisfaction). Belgian employees report the lowest *general health*.

With respect to the organizational attitudes, Israel again takes an interesting position. They score (significantly) highest on *perceived performance* and *organizational commitment*. With regard to the latter, Sweden scores significantly lower compared to other countries. This could affect *intention to quit*, on which Sweden scores high, together with the UK. The German data on the other hand show a low intention to quit.

Summary

Only taken into account clear significant results on variables not suffering from too many missing, the conclusions on the employee level explorations are the following:

1. The major part of variance is explained by the individual level. Organization has some effect (maximum 12% of explained variance) while country and sector have only a minor effects (maximum respectively 9% and 6% of explained variance). The few interactions country x sector are difficult to interpret.
2. There are largely more similarities between countries than differences.
3. The country differences are:
 - a) Sweden reports the poorest well-being. This coincides with low scores of choice variables and on social support. Also, the delivery of the employee deal and the state of the psychological contract are low in Sweden.
 - b) Germany reports poor well-being, in spite of high delivery of the employers' deal. Also, Germany scores low on employability but high on work involvement.
 - c) The Netherlands have good well-being. This coincides with low work load and with narrow content and delivery of the psychological contract for employees.
 - d) Belgium keeps a middle position within the PSYCONES countries. But for low general health there are no exceptional scores on employee data..
 - e) UK reports low work involvement and low skill utilization. It reports the broadest content of the psychological contract (both for employers and employees). We recall from the societal data that the UK has a wide zone of negotiability, few sanctions for violations and low union density and coverage. As well-being is concerned, the UK reports low job satisfaction, high depression-enthusiasm, and high intention to quit.
 - f) Spain reports broad content of the psychological contract for employees. It has no exceptional scores on well-being.
 - g) Israel is exceptional in terms of high work involvement, high role clarity, high sick presence, high irritation, and low job insecurity. Concerning the psychological contract, Israel reports the lowest score on the state and the highest on violation.
4. There are largely more similarities between sectors than differences.

4. Conclusions and policy implications.

The design of the PSYCONES project has given us comparable data from more than 5000 permanent and temporary workers employed in companies and organisations across six European countries and Israel. Three sectors are included in the study: education, food manufacturing and retail. The data also gives an overview of the opinions of both employers and their employees about temporary work. Furthermore, it is the first large-scale European study of the psychological contract. It provides data from a multi-faceted measure and permits analyses of the relative importance of different facets of the PC. Again, we have the advantage of matching employer and employee data. At this point, we are only beginning to report results, and more will emerge during the next few years. The large sample and variety of measures offer a lot of possibilities for further exploration of organizational behaviour and individual well-being. The summary below will give a brief overview of conclusions to be drawn from the first analyses of the seven-country sample.

1. Temporary work positively related to satisfaction and well-being

The aim of this large international study was to explore the relationship between type of employment contract and workers' satisfaction and well-being. An additional aim was to explore the role of the PC as a potential mediator of this relationship. The research was conducted in the context of a policy debate and a series of European legislative activities that have been based on the assumption that those on temporary contracts are significantly disadvantaged. Indeed, this was the basis of our first hypothesis. Our results failed to support this assumption and the related hypothesis. Indeed, those on permanent employment contracts report slightly lower levels of satisfaction and well-being on almost all our measures. This is even more surprising considering the additional finding that permanent employees were far more likely than temporary employees to indicate that they had their contract of choice. This result proved robust also when controlling for a range of possible confounding factors, both individual and work-related. It is important at this stage to emphasise that "lower" levels of satisfaction and well-being does not necessarily imply "low" levels. While there are significant differences between the two broad employment contract categories, both tend to be on average more positive than negative on most of the outcome variables. Therefore, we are left with the unanticipated and counter-intuitive but quite robust finding that those on permanent employment contracts report lower levels of satisfaction and well-being than those on temporary contracts.

How general are the results?

A critical question is of course the generalisability of these results. Although our sample of temporary workers was large ($n = 1981$) and heterogeneous, a majority (62%) had fixed term contracts. The fact that mean tenure on the job was relatively long (more than two years for temporary workers), as was time remaining on the job, gives an indication of relative stability. The most frequently reported motive by employers for hiring temporary workers was that they needed substitutes during longer absence of permanent workers. Although we have a variation of contracts among the temporary workers, the sample does not consist of casual workers to any large extent. The majority has relatively stable employment and seem to be relatively well

protected. Casual workers in really insecure employment and bad working conditions are not typically included. Thus, a careful conclusion is that the results at least can be generalized to relatively stable temporary workers on time-limited contracts of some duration. However, it's important to underline that fixed term contracts constitute the most common contract form among temporary workers across Europe.

A few additional comments need to be made about generalisability. The sample consisted of employees on different job levels with a large group of blue collar workers but also including intermediate level white collar workers and professionals. Although we had a limited range of occupations, the conclusion is that with some caution results seem to be valid across several job levels. Some caution is warranted however regarding conclusions about country and sector differences because the sample is not representative in this regard.

Is it then fair to say that temporary employment is better and more preferable to employees than the standard form? Our answer to this question would probably be 'Not in general'. There are several reasons for this argument:

Evidence from the survey to employees showed that temporary employees in all countries want a higher level of security of employment. Only a minority of the sample state that the temporary contract is the one that they prefer. Most of them report "push" motives (e.g. "It was the only type of contract I could get") instead of being pulled by positive motives towards accepting the contract (e.g. "It gives me more freedom"). Another point in the same direction is the strong negative association between perceptions of job insecurity and well-being, which seems to be stronger than the effect of employment contract. Similarly, expectation of contract extension was a dominant factor and strongly associated with well-being among the temporaries.

What we can say clearly however, is that a temporary job does not always seem to be precarious or entail negative health effects. To clarify this conclusion we use the multidimensional definition used by Rodgers and Rodgers (1989)⁴ and the ESOPE project (2004). They define precarious employment as low quality jobs which are bad for the well-being and health of employees. The definition builds on four dimensions:

1. Temporal - degree of stability or certainty of continuing the job
2. Organizational - control over working conditions, pace, income etc
3. Protection by law, collective agreements or practice against unfair treatment, dismissal etc, but also social protection in terms of access to social security benefits during illness, accidents, unemployment etc.
4. Economic in terms of low income and vulnerability

There is a variation in the conditions of temporary workers in our study and some are probably vulnerable in several of the senses listed above. However, the majority, with relatively long fixed term contract should perhaps be labelled flexible and not precarious. Their working conditions do not seem to affect either their job satisfaction or their health and well-being in a negative way. Their relatively long tenure with the company probably means that they are relatively well protected. Although temporary employees had a lower level of autonomy and skill utilization and often less qualified jobs compared to those on permanent open-ended contracts, we find other factors that seem to be more important. Several of these factors concern relations between managers and their subordinates in the workplace. Factors consistently associated with lower worker well-being are violations of the psychological contracts, low levels of fulfilment of perceived promises and commitments made by the

⁴ A similar argument and definition of precarious employment was presented in Cano (2000).

organisation, lack of support from supervisors and managers and last but not least a heavy work load. These factors apply to workers on permanent employment contracts at least as much if not more than to those on temporary contracts.

2. Violation of the psychological contract (PC) affects the relationship between employment contract and well-being

It seems plausible to hypothesise that permanent workers have a different kind of PC with more extensive, more complex and more ambiguous or relational reciprocal obligations, expectations and promises. These will be positive to the extent that they offer greater breadth and depth but may be more difficult to fulfil. The second broad hypothesis that guided the research was therefore that the PC, measured in a variety of ways, would mediate the relationship between the employment contract and the range of outcome measures. There was some support for this hypothesis in the evidence of full or partial mediation of a number of relationships. In this context, it was the measure of violation of the PC that appeared to be most strongly associated with outcomes. The content breadth had relatively little association with outcomes. On the other hand, workers' views on their own promises to their organisation and the degree to which these had been fulfilled did have rather more impact. These are interesting findings that merit much more analysis. Despite some mediation by the PC measures, there was still evidence that type of employment contract was significantly associated with a number of outcomes and that in most cases this showed that those on permanent contracts reported more negative outcomes than those on temporary contracts.

Since the PC only acts as a full mediator on two of the 13 dependent variables, this leaves much to be explained. The third implicit hypothesis in the study was that four other classes of variables - employment prospects (including perceived job security), volition, job characteristics and support - would act as additional mediators. However, the results showed very little support for this hypothesis. Given the quite extensive literature emphasising the importance of being on contract of choice, this was a surprising finding. We had expected that the PC would be the most important mediator and with the limited impact of the other variables, this view was supported.

A broader psychological contract implies more commitments and higher expectations from managers. If this is part of a fair deal where permanent employees feel that they get equitable rewards for their efforts, the broader PC would not be a problem. Results indicate however, that permanent employees often have the feeling that the contract has been violated by employers or that they are unable to fulfil their commitments themselves. The most problematic part of the work conditions reported is that of a high workload which would confirm results from other research. An example is a study from the UK, where Burchell, Lapido and Wilkinson (2002) reported that threats of job losses, downsizing and work intensification affect core employees more than temporary workers.

3. Fulfilment of promises and commitments affects satisfaction of both employer and employees

There was some further support for the mediating role of the PC in the analysis of the employer data. Although the sample was much smaller (n=202), and the results therefore have to be treated with some caution, there was evidence that employers' perception of the extent to which both permanent and temporary employees met their obligations to the organisation mediated the relationship between structural and policy variables – specifically organisation

size and differences in the application of HR practices – and employer satisfaction with the performance of permanent and temporary workers.

On the employee side there were similar results in the sense that if employees perceived that employers fulfilled their part of the psychological contract, this was related to higher levels of job satisfaction and a range of other indicators of well-being. The repeated occurrence of this result across a range of different outcomes gives strong support to the meaningfulness of introducing the PC concept in any analysis aiming to explain outcomes of working for both parties involved in the employment relationship.

4. Differences between the psychological contracts of permanent and temporary employees imply different treatment

The matching of employer and employee descriptions of the content of the PC and how it relates to the employment contract clearly confirms that both parties have higher expectations of mutual contributions for permanent as compared to temporary employees. The content of the psychological contract in terms of promises made is broader for the permanently employed. This means that employers have higher expectations and are prepared to give more in return as part of the employment deal. Also the permanently employed themselves report a wider responsibility towards their organisation compared to the temporary workers. Again this is matched with higher expectations of returns.

This is important especially against the background of reports from employers of equal treatment of permanent and temporary workers. A small majority state that there is no difference (53%) in treatment of workers on different employment contracts. This reply seems to be the official policy, whereas the more detailed reports about the promises and obligations made to permanent and temporary workers give an impression of more wide-spread inequality.

5. Type of employment contract not the most important predictor of well-being

It is important to recognise that the analysis of employee data has highlighted the role of the employment contract and its significant association with a range of outcomes associated with satisfaction and well-being. This needs to be set in context. While most of the potential mediators failed to operate in this role, they can still be strongly associated with a number of the outcomes and in so doing are more influential than the nature of the employment contract. A glance at Table 13 reveals that this was indeed the case. If we take the average variance accounted for in work related health, general health and work attitudes as an indicator of relative importance, permanent employment contract has a mean effect of 0.06, whereas workload (0.07) and violation of the PC (0.14) both have stronger effects. Receiving organizational support (0.10), lower fulfilment of the PC (0.12) and with higher job insecurity (0.10), a less fulfilled PC (0.11) job of choice (0.22) as well as autonomy (0.08) are other factors with relatively strong effects.

In short, most of the mediating variables are significantly associated with at least some of the outcomes and are often more strongly associated with them than type of employment contract. While these results provide a wider basis for understanding the factors associated with worker satisfaction and well-being, they do not detract from the significance of these findings highlighting the negative role of being in permanent as opposed to temporary employment. Despite all the different variables controlled for and investigated, permanent

workers still report poorer outcomes on several of the health and well-being variables compared with temporary workers.

6. Differences between countries explain part of variation between organizations

One critical part of the PSYCONES study was the exploration in more depth of differences between countries and sectors in the context of a multilevel analysis. The aim was to increase the relevance of results on a European level by efforts to estimate country effects and carefully defining societal dimensions and indicators to compare countries. The choice of multilevel analyses as the preferred way of comparing effects of individual, organization sector and country differences was a way of aiming further than previous research. Interpretations about country differences however, must be made bearing in mind the non-representative samples. This means that results are not typical for any of the countries but have to be limited to participating companies and organizations in the three sectors in each country.

The multilevel analyses showed that most of the variation remaining⁵ between structural features of participating work units could be explained by organizational level factors (85-90%). However, results indicated that country differences between the companies did have an impact, generally explaining about 10-15% of the remaining variance. On the other hand, and rather unexpectedly, sector differences explained almost none of the variation in organizational characteristics. The general conclusion however was that similarities between participating countries were larger than differences.

Most country-dependent factors were the percentage of union members and the influence of unions on HR practices. Further probing into the issue of union membership reveals that there seems to be a difference both in the psychological contracts of members and non-members of unions and in their attitudes towards the organization (Claes & Schalk, congress pres. 2005). Non-members generally appeared to perceive more promises made by the organization than members of unions. On the other hand, level of agreement with the employer on promises and commitments made was generally higher for union members. Furthermore, unionized employees reported higher levels of commitment towards the organization. Like several other issues at this stage of the project, there is more work to be done to understand and explain these findings.

7. Differences between organizations contribute to variation in individual attitudes

A second part of multilevel analyses was to investigate how the different levels could contribute to explaining variation in individual attitudes and job perceptions. The major part of variation in individual responses was explained by factors considered at the individual level (85-90%). However, the organizational level also had some influence here but to a much more limited degree (up to 12% of variance explained), highest for individual perceptions of working conditions such as workload but also job insecurity and HR practices. There were also small contributions from country differences (3-6%) but again very little from the sector level. Further analyses revealed that the organizational level explained some variation in individual attitudes such as job satisfaction and organizational commitment. For health-related outcomes, there were only very small contributions from higher levels. Again these multilevel analyses will be further explored as part of on-going work and publications.

⁵ Variance not explained by individual and organizational control factors introduced.

A final note must be made about the test of interactions between country and sector on the relationship between type of contract and outcome variables as well as the relationship between PC variables and outcome variables. The aim was to check whether the relationships that we found differed between countries. There were very few interpretable interactions meaning that the conclusions discussed above seem to be valid in all participating countries. Violations of the psychological contract thus seem to have similar negative effects on employee satisfaction and well-being in all participating countries.

Policy implications

The changing nature of employment, and especially the increase of various forms of temporary employments contracts, has been the focus of discussions among both researchers and political debates among policy makers and social partners across Europe. The deviation from the standard employment contract, i.e. open ended full time employment, has been the topic of much concern and the implications are important for all those involved in the shaping of future labour market. Council directives have supported various measures in favour of equal treatment of temporary and permanent workers building on agreement between social partners. A general conclusion from PSYCONES research is that although we have mostly relatively stable temporaries in our sample, strivings towards equal treatment seem to have been successful, at least to some extent. An example would be that employers describe no difference (53%) or small differences (35%) in their treatment of workers on temporary and permanent contract compared to permanent workers. Still, there remain variations in the equality of treatment in HR practices both between participating sectors and countries and these differences are important to highlight. Furthermore, level of inequality seems to be relevant since it is negatively related to how managers report that their employees fulfil their obligations against the organization. A high level of equal treatment is related to higher levels of fulfilment.

Results for employee well being confirm, that there are indeed differences remaining. The most critical aspect concerns informal relations between managers and subordinates in the workplace. This is indicated by the breadth of the psychological contract in terms of promises and commitments exchanged, and even more importantly, that these promises are fulfilled. In this case, however, permanent employees seem to be the losers with broader psychological contracts more difficult to fulfil. These results indeed highlight the need for equality of treatment as an important issue in the work place with far-reaching consequences both for employers and employees. In addition to equality however, future policies should perhaps emphasize justice in treatment as a second main catchword.

Implications for European policy makers

Definitions of temporary employment

Conclusions about the development of temporary employment have been hampered by variations in the definitions used. As a consequence both official statistics and research endeavours have been difficult to compare both within the EU and with other countries. The OECD definition that we used (see fig. 5) was not without shortcomings but still worked reasonably well and allowed comparing between participating countries and companies / organizations. Improved definitions and measurements seem critical for statistics which form

the basis both for conclusions about development and future policy endeavours. For the future, it seems critical to separate temporary and fixed term contracts from precarious forms of employment i.e. jobs with negative effects for health and well-being. Our results clearly indicate that improved definitions should be the basis for future measurement and statistics. It seems critical to better discriminate temporary workers in terms of time frame of contract and future prospects.

Job security

The research was conducted in the context of a policy debate and a series of European legislative activities that have been based on the assumption that those on temporary contracts are significantly disadvantaged. One of the critical negative features of temporary work is job insecurity. The findings in PSYCONES, consistent across participating sectors and countries, were somewhat of a paradox. A majority of the temporary employees with relatively stable contracts reported that they would prefer a more secure contract and they perceived lower levels of job security than their permanent colleagues. Nevertheless, they reported higher levels of well-being than those on permanent contracts controlling for every possible confounding factors that we could think of. One of the clues to this paradox seems to lie in the psychological contract. If job security is not part of the PC of temporaries they don't experience the negative effects of a perceived breach in the same way as permanents do.

While we can support the importance of protection of workers including temporary workers, we find no evidence of an exploited, insecure minority in our sample. On the other hand, our research, perhaps with a somewhat biased sample, does highlight the heterogeneity of temporary workers.

For permanent workers however it seems more important than we expected to discuss the implications of job insecurity. Furthermore, there are conditions in the work place that could mitigate the negative effects of job insecurity. Support from supervisors and feeling of fair treatment are such examples elucidated in our results

Job quality

Perhaps the most important result from our research reveals the “invisible” problem of permanent employment. Workload in terms of for example pressure for time appears as one of the critical factors affecting well-being in our study and values are consistently higher among the permanent employees across sectors and countries. Among the work characteristics, we find also higher levels of autonomy and skill development among the permanent employees compared to temporaries but these positive effects are clearly outweighed by the negative effects of the higher workload. Furthermore, the broader psychological contract among permanent employees means a broader commitment towards the job than temporary workers. The feeling that employers break their part of the deal seems to have a marked negative effect, in essence that permanent employees feel unfairly treated.

There is now a focus in Europe on job quality and our findings reinforce the importance of giving priority to this area. Legislation trying to balance flexibility and security needs also to include job quality and clarification and fulfilment of the promises mutually made in order to prevent stress and increases in the levels of sickness absence.

Implications for employers

In the aftermath of repeated organizational change and personnel reductions it seems to be important that consequences of perceived violations or breaches of the psychological contract need to be taken care of. Issues of job quality among permanent employees need to be addressed. Low levels of support from the organizations is another critical factor related to employee wellbeing. Permanent employees need better job design and deserve as much organisational support as the newcomers or temporaries in the work place.

Equal treatment and non-discrimination of temporary workers continue to be important both in a formal and informal sense. The formal part concerns HR policies and practices in the organization, the informal part entails a need to highlight relations in the work place. These consist of the content of the psychological contract, i.e. the exchange of employer and employee commitments, and even more important that the promises and commitments made are fulfilled to a reasonable degree. To avoid violations of the PC seems to be critical and restructuring and organisational change have to be managed without violations.

Finally, there are some questions about the accuracy of employer perceptions of temporary workers from our research. A majority of employers report high levels of equal treatment of temporary and permanent workers. At the same time both employers and employees consistently report that temporary employees have less extensive commitments towards the organization than permanents. In line with this both parties report also that employer promises are less far-reaching for temporaries compared to permanent employees.

Implications for unions

Job quality and in particular the workload of core workers needs to be taken care of to avoid future stress related problems. The evidence suggests that unions should continue to support progressive HR practices in the interests of their members. Also from a union perspective, it seems important to strive for flexibility, security and quality of jobs.

Union membership is generally low among temporary workers in all countries. It seems important for the future of unions to increase the support for temporary workers. In some cases it seems that temporary work can be an (not-so-bad) alternative to permanent employment but only under certain conditions elucidated here such as: relative stability of contract, support from the organisation and supervisors, increase employability and chance to get extensions of contracts. Also for temporaries it seems just as critical to avoid violations of the promises and commitments made by the organisation.

Union membership in our results seems to be related to several positive outcomes also on the company level such as higher levels of organisational commitment. Also there seems to be differences in the psychological contract of union members. However, these results are still preliminary and will be published within a few months.

Implications for future research

One of the limitations to the PSYCONES project is the cross-sectional data. Future research needs to conduct longitudinal studies of temporary work in different life cycles and with a longer time frame. Future studies also need to incorporate casual workers to a higher degree and perhaps other sectors.

Our data do not really support notions about distinctions in attitudes between sub-groups of temporary workers divided by qualifications or education. Results can not confirm arguments about a distinction between high skill/"free workers" who voluntarily enter into temporary

employment versus low skill/precarious worker who want more security made by e.g. Marler, Barringer and Milkovich (2002). In the PSYCONES results, education level has almost no association in the regressions with outcomes. The professionals in our sample, i.e. teachers, do not seem to be more positive towards temporary employment than the sales personnel in retail or the blue collar workers in manufacturing. Neither the free agent nor the precarious employment types seems to be sufficient in an effort to adequately explain our findings.

The psychological contract and especially the fulfilment of mutual obligations proved to give some possible clues to explain the diversity. Furthermore, it is no longer enough to use fulfilment – non-fulfilment as the only dimension for violation/breach. Our research has confirmed the value of the added measure of violation. Since it seems so important for outcomes, the further development of a robust measure of violation should be a priority.

Earlier research has to a very high degree concentrated on what the organisation promise to its employees and mostly how the PC is perceived by employees. In this study, focussing on the employer's side has proved its value for the exchange and needs further exploration and inclusion in theoretical models. Finally, the measures of promises and commitments from employees - the employee side of the PC is another of the dimensions of the psychological contract which has not been studied to a large extent. Agreement or disagreement and matching of both parties is definitely an exciting area for future research, touched upon in this study.

Gender issues related to employment contract is one of the research questions still remaining to be reported from the PSYCONES. There seems to be important gender related differences in the motives to accept temporary work and in the meaning that it has for the individual. At least one paper about this topic is in preparation and will be presented during 2006.

Another interesting road to travel for future studies and theories concerns the meaning of job insecurity. Maybe we need to re-think the nature of job insecurity. It seems important for outcomes but the more insecure temporary workers have more positive outcomes. Evidence suggests that temporaries suffer less from job insecurity than permanents: while job insecurity results in poor well-being, unfavourable attitudes and unproductive behaviour for permanents, no such effects are found for temporaries. Research on the psychological contract may be useful in understanding this interaction effect: initial evidence suggests that job security is not part of temporaries' expectations as part of their psychological contract, and hence, job insecurity does not breach their psychological contract (De Cuyper & De Witte, in press).

Last but not least, the similarities between participating countries were larger than the differences. Although we included participants from north, south, east (Germany) and west we still feel that it would be valuable to replicate the study in some of the new Eastern European member states.

5. Dissemination and/or exploitation of results

There are three major target groups for dissemination of results of PSYCONES both on a national and a European level: companies, social partners, and policy makers. The international research community forms a fourth major arena for the dissemination of results. All issues related to dissemination of results are described in more detail in the report from WP8.

A public *report from the pilot phase* of the project was published by the grant giver, SALTSA (Joint Programme for Working Life Research) in the beginning of 2003 (Isaksson et al, 2003). SALTSA is joint undertaking by the Swedish confederations of employees and Sweden's National Institute for Working Life. SALTSA is a channel to the Swedish unions and will be used for the dissemination and discussion of results from the PSYCONES.

As part of data collection, we contacted a number of companies including employers, employees and union representatives. *Feed back of results* and discussions of their interpretation gave ample opportunities to disseminate results. The total number of participating organizations was more than 200 and most of them have received some kind of written report about the results from their own company and comparing to other companies in the sector. Most of this work was already carried out during 2004 in all countries. National reports have been written in some countries. All national teams have been encouraged to arrange work shops to present results to the social partners both from the national and cross-national samples. Some activities have already taken place (see list below) and more will come in the beginning of 2006.

Several partners are frequently invited to give *lectures to managers* and other audiences in national congresses. In the beginning of the project period we presented results from the pilot study and discussed our theories and design for the PSYCONES. Towards the end of the project we have presented preliminary results. The list below gives several examples of presentations where preliminary results have been presented. We also arranged a work shop with the NUEWO project in Stockholm in April 2003 to exchange ideas and experiences during planning of our study.

The project has a *web page* (www.uv.es/~psycon), which was made open to the public already in August 2003. The public reports prepared as part of Work Packages have been published on the web page. Especially the state of the art report giving an overview of research on the relationship between employment contracts and employee and organizational well-being has a potential interest for a broader public. Researchers are probably the main target group but the summaries in the report could also be of interest both for policy makers, union and employer representatives. The *report* was published by the European Commission during 2005 (EUR 21 266). Extended national chapters have been published in an edited *book* by Ashgate during 2005 (De Cuyper, Isaksson & De Witte 2005).

The PSYCONES team has been active in most European *congresses* for researches and practitioners in our area during the whole duration of the project. Initially we presented and discussed results from the pilot phase but during 2005 results from the main study have also been presented. One symposium was arranged in the 11th European Congress of Work and Organizational Psychology in Lisbon in 2003. Two symposia with eight presentations of results from the project were arranged for the 12th European Congress of Work and

Organizational Psychology in Istanbul in May 2005. A symposium was also arranged at the European Congress of Psychology in Granada Spain in July 2005 with three presentations from our project. Additional contributions for 2006 have already been planned.

The young researchers have also been very active and successfully contributed by presenting posters and oral presentations of results based on pilot data from national samples. A list of reports and presentations is given at the end of this report. The project will result in 6-7 doctoral dissertations during the years to come.

Most partners have presented results in *national congresses*, e.g. Spain, Germany, Belgium and Sweden. A number of papers were presented in the Spanish congress of Social Psychology (Málaga), European Conference on Work and Organizational Psychology in Health Care (Vienna). A presentation in the Summer school 2004, organized by the Spanish Open University (July in Avila) has also been made by the Spanish partner.

A large number of *publications are planned* to come out mostly by joint work of two or more country teams. The content of the final book is also planned in a draft version and the work has been divided between us.

National teams are encouraged to arrange work shops in their countries with representatives from the three target groups (policy makers, managers, unions) besides from the scientific community. We have also expressed our willingness to present results in Brussels to policy makers on a European level at some suitable occasion in the near future. We feel convinced that this will be both relevant and meet great interest among both social partners and policy makers.

List of publications, conference- presentations and other papers

Publications from the whole PSYCONES team

Claes, R., De Witte, H., Schalk, R., Guest, D., Isaksson, K., Krausz, M., Mohr, G., & Peiro, J.M. (2002). Het psychologisch contract van vaste en tijdelijke werknemers (The psychological contract of permanent and temporary workers). *Gedrag en Organisatie*, 15(6), 436-455.

De Cuyper, N.; Isaksson, K. & De Witte, H. (2005) (Eds.). *Employment contracts and well-being among European workers*. Aldershot: Ashgate.

Isaksson, K., Bernhard, C., Claes, R., De Witte, H., Guest, D., Krausz, M., Mohr, G., Peiró, J.M. & Schalk, R. (2003). *Employment Contracts and Psychological Contracts in Europe*. SALTSA Report 2003:1.

PSYCONES (2003) Psychological Contracting across Employment Situations. State of the art report EUR 21 266. European Commission.

Dissemination activities by partners

1. National institute for working Life Sweden

Bernhard-Oettel, C. & Isaksson, K. (2005). Work-related well-being and job characteristics among temporary workers in Sweden. En N. De Cuyper, K. Isaksson & H. De Witte (Eds.). *Employment contracts and well-being among European workers*, pp. 177-200. Ashgate.

Isaksson, K & Krausz M. (2003). *Comparison of the Impact of Permanent and Contingent Employment Contracts on Psychological Contracts*. Paper presented in the 11th EAWOP congress in Lisbon, May 2003.

Isaksson, K. (2003). *Förändrade relationer i arbetslivet* (Changing employment relations). Oral presentation in the Swedish Association of Psychology, April 2003.

Isaksson, K. (2004). *Psykologiska kontrakt – förändrade relationer i arbetslivet*. (Psychological contracts and changing employment relations) Conference presentation based on a theoretical overview. April 28

Isaksson, K. (2005). *Comparative perspectives on the psychological contract and employee well-being*.

Introduction to the symposium at the XIIth European Congress on Work and Organizational Psychology, 12-15 May, Istanbul, Turkey.

- Isaksson, K. (2005). *New perspectives on temporary working*. Introduction to the symposium at the XIIth European Congress on Work and Organizational Psychology, 12-15 May, Istanbul, Turkey.
- Isaksson, K., Guest, D. & Bernhard-Oettel, C. (2005). *Agreement on the psychological contract: Antecedents and consequences*. Paper presented at the 9th European Congress of Psychology, 3-8 July, Granada, Spain.
- Isaksson, K.; De Cuyper, N. & De Witte, H. (2005). Employment contracts and well-being among European Workers. Introduction. En N. De Cuyper, K. Isaksson & H. De Witte (Eds.). *Employment contracts and well-being among European workers*, pp. 1-13. Ashgate.
- Isaksson, K. & Bellaagh, K. (2005). Psykologiska kontrakt – förändrade relationer i arbetslivet (Psychological Contracts – Changing Employment Relations) *Arbete och Hälsa* 2005:15.

2. University of Leipzig

- Rigotti, T. (2004). *Psychological contracts in employment. Regional group of saxonian of work- and organisational psychologists in the professional association of German psychologists*. October, 2004 in Dresden.
- Rigotti, T. (2004). *Psychological Contracts in the School context*. Conference of the cantonal cadres of schools of Switzerland. July 2004 in Leukerbad, Switzerland.
- Rigotti, T. (2005). Zwischen Unsicherheit und Flexibilität. *Impulse* 49, Landesvereinigung für Gesundheit Niedersachsen.
- Rigotti, T., & Mohr, G. (2003). *Der Psychologische Vertrag – so flexibel wie die Zukunft der Arbeit?* Paper presented in the 3rd . Tagung der Fachgruppe Arbeits- und Organisationspsychologie der DGPs, 22. - 24. September 2003, Mannheim.
- Rigotti, T., & Mohr, G. (2004). Der Erklärungswert des Psychologischen Vertrages in drei organisationalen Kontexten. In W. Bungard, B. Koop & C. Liebig (Eds.), *Psychologie und Wirtschaft leben. Aktuelle Themen der Wirtschafts-psychologie in Forschung und Praxis* (pp. 446-451). Mering: Rainer Hampp.
- Rigotti, T. & Mohr, G.(2004). *Versprochene Beeren füllen die Körbe nicht. Der Psychologische Vertrag als Prädiktor für Wohlbefinden und Gesundheit*. [Promised berries don't fill the basket. The psychological contract as a predictor of well-being and health]. Oral presentation on the 6th Congress of Health Psychology (Leipzig, 15.-17-03.2004).
- Rigotti, T. & Mohr, G. (2005). German flexibility: Loosening the reins without losing control. En N. De Cuyper, K. Isaksson & H. De Witte (Eds.). *Employment contracts and well-being among European workers*, pp. 75-102. Ashgate.
- Rigotti, T. & Mohr, G. (2005). *Inter pares? Gleiche Bedingungen und doch unterschiedliche Psychologische Verträge. Vortrag auf der 4.Fachtagung für Arbeits- und Organisationspsychologie*. Paper presented at the German Congress of Work and Organizational Psychology, 19-21 September, Bonn.
- Rigotti, T., Mohr, G & Schalk, R. (2003). *Cross-Country Comparisons of the Psychological Contract and Employee Well-Being*. Paper presented in the 11th EAWOP congress in Lisbon, May 2003.
- Rigotti, T., Mohr, G. & Müller, A. (2004). *Arbeitnehmerverpflichtungen: Eine vernachlässigte Dimension des Psychologischen Vertrages* [Employees' obligations: A neglected dimension of psychological contracts]. Oral presentation on the 44th Congress of German society of psychology (DGPs) (26.-30.09.2004).
- Rigotti, T., Mohr, G., Müller, A. & De Cuyper, N. (2004). *The Psychological Contract and its positive potentials: Making promises and keep them creates an atmosphere of trust and fairness*. Oral presentation on the 28th International Congress of Psychology (Beijing, 08.-13-08.2004).
- Rigotti, T., Mohr, G. & Pabst, A. (2005). *What makes the difference? Temporary contracts, personality traits and the psychological contract*. Paper presented at the XIIth European Congress on Work and Organizational Psychology, 12-15 May, Istanbul, Turkey.
- Rigotti, T. & Silla, I. (2005). *Employment relations: Looking at determinants for employees' well-being*. Paper presented at the 9th European Congress of Psychology, 3-8 July, Granada, Spain.
- Rödiger, A., Rigotti, T., & Mohr, G.(2003). *Flexibilisierung der Arbeitswelt und ihre Auswirkungen auf Zufriedenheit, Gesundheit und Leistungsbereitschaft*. Paper presented at the 9. Dresdener Symposium für Psychologie der Arbeit - Flexibilisierung der Arbeit, Dresden.

Scheel, T., Rigotti, T. & Mohr, G. (2005). *Der Psychologische Vertrag im Kontext organisationaler Determinanten. Vortrag auf der 4. Fachtagung für Arbeits- und Organisationspsychologie*. Paper presented at the German Congress of Work and Organizational Psychology, 19-21 September, Bonn.

3. Tilburg University

Jong, J. de & Schalk, R. (2004). *"It's only temporary... Exploring individual determinants of perceptions of equity among temporary employees"*. Paper presented at the EGOS Colloquium, Ljubljana, Slovenia.

Jong, J., Bernhard-Oettel, C., Silla, I., de Witte, H. and Cuyper, N. (2005). *Motives and preferences of temporary workers from a cross-national perspective*. Paper presented at the XIIth European Congress on Work and Organizational Psychology, 12-15 May, Istanbul, Turkey.

Jong, J. & Schalk, R. (2005). *Organizational Determinants of Perceived (In)Equality among Temporary Workers in the Netherlands: a Multilevel analysis*. Paper presented at the XIIth European Congress on Work and Organizational Psychology, 12-15 May, Istanbul, Turkey.

Jong, J. & Schalk, R. (2005). Temporary employment in the Netherlands: Between flexibility and security. En N. De Cuyper, K. Isaksson & H. De Witte (Eds.). *Employment contracts and well-being among European workers*, pp. 119-151. Ashgate.

4. Ghent University

Claes, R. & Schalk, R. (2005). *Unionisation, HR practices, psychological contract, organizational commitment, job satisfaction: Cross-national analysis of their cross-level links*. Paper presented at the XIIth European Congress on Work and Organizational Psychology, 12-15 May, Istanbul, Turkey.

5. University of Leuven

De Cuyper, N. & De Witte, H. (2003). *Contractual Flexibility and Job Insecurity. Main and Interaction Effects on Outcome variables*. Poster presented for the 11 the European Congress on Work and Organizational Psychology, EAWOP, Lisbon, May 2003.

De Cuyper, N. & De Witte, H. (2003). *Tijdelijk werk en Jobonzekerheid. Hoofd- en interactie-effecten op jobtevredenheid, organisatiebetrokkenheid, performantie en verloopintentie* (Temporary work and job insecurity: Main and interaction effects on job satisfaction, organizational commitment, performance and turnover intention). Paper presented for de Marktdag Sociologie in Nijmegen, 22 mei 2003.

De Cuyper, N. & De Witte, H. (2003). *Tijdelijk werk en jobonzekerheid. Of hoe objectieve en subjectieve arbeidskwaliteit interageren* (Temporary work and job insecurity. The interaction of objective and subjective insecurity). Paper gepresenteerd op de Arbeidsmarktonderzoekersdag 2003, Sessie 2: 'Kwaliteit van de arbeid onder druk?', VUB, Brussel, 26 mei 2003.

De Cuyper, N. & De Witte, H. (2003). *Tijdelijk werk en jobonzekerheid. De impact op jobtevredenheid, organisatiebetrokkenheid, performantie en verloopintentie* (Temporary work and job insecurity: the impact on job satisfaction, organizational commitment, performance and turnover intention). In: Herremans, W. (Red.), *De arbeidsmarkt in Vlaanderen. Verslagboek Arbeidsmarktonderzoekersdag 2003*. Leuven: Steunpunt Werkgelegenheid, Arbeid en Vorming, p. 95-114.

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De Cuyper, N. & De Witte, H. (2005). *Job characteristics: The case of temporary workers*. Paper presented at the XIIth European Congress on Work and Organizational Psychology, 12-15 May, Istanbul, Turkey.

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- De Cuyper, N.; De Witte, H. & Isaksson, K. (2005). Employment contracts. How to deal with diversity? En N. De Cuyper, K. Isaksson & H. De Witte (Eds.). *Employment contracts and well-being among European workers*, pp. 15-34. Ashgate.
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7. Annexes.

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Annex 1. List of Work packages and the status of deliverables

Table 1. List of Work packages and the status of deliverables

Deliverable No	Deliverable/title	Nature & Dissemination level	Responsible partners ⁶ / Status
1:1	Overview of current evidence concerning employment contracts and employee well-being	R / PU	5 and 3 / C
2:1	Results from pilot phase presented in workshop	W / Re	All / C
2:2	Results from pilot phase	R / PU	1 and 8 / C
	6-month progress report to the commission	R / Re	1 / C
3:1	Interview schedule for employers	R / CO	2 and 5 / C
3:2	Questionnaire for employees	R / CO	2 and 5 / C
3:3	Work book	R / CO	2 and 5 / C
	12-month progress report to the commission	R / Re	1 / C
4:1	Societal determinants of the psychological contract	R / CO	4 and 3 / C
	6-month progress report to the commission	R / Re	1 / C
5:1	Individual and organizational determinants of psychological contracts: data collection and analysis	R / Re	8 and 6 / C
6:1	Psychological contracts and employee well-being: data collection and analysis	R / Re	6 and 8 / C
	12-month progress report to the commission	R / Re	1 / C
7:1	Differences between sectors and countries affecting the psychological contract	R / Re	3 and 4 / C
8:1	A web page for the project.	W / PU	8 and 1 / C
8.2	List of publications, presentations from project	R / PU	8 and 1 / C
8:3	Summary of results presented to public by press release	R / PU	8 and 1 / C
8:4	Summary of results presented in web page	R / PU	8 and 1 / C
8:5	A book, bringing together the findings and lessons from the study, to be published after completion of the project.	To be published after project	
	Final report to the commission	R / PU	1 / C

R = Restricted, PU = Public, C = completed

⁶ Two partners had main responsibility but all partners were involved and contributed

Annex 2. List of items included in questionnaires to employees and the organisation representative

Table 2. Synopsis of the items of the employee's questionnaire

Item	Variable	Authors	k	Value Labels	Level of measurement
CONTROL VARIABLES					
Q30	Age	PSY	1	Number	Continuous
Q31	Sex	PSY	1	0 male 1 female	Nominal
Q36	Educational level	PSY		Differing between countries	Ordinal
Q36b	Years of full-time education	PSY		Number	Continuous
Q32	Private social support	PSY	1	1 no, alone 2 no with parents/family/friends 3 yes	Nominal
Q33	Financial contribution	PSY	1	1 sole earner 2 main earner 3 joint earner 4 contributory earner	Ordinal
Q34	Dependents	PSY	1	Number	Continuous
Q35	Homework responsibilities	PSY	1	1 no someone else 2 equally responsible 3 yes	Nominal
Q1	Occupation/Job	PSY	1	Text	Nominal
Q2	Position	PSY	1	1 unskilled blue-collar worker 2 skilled blue collar worker 3 lower level white collar worker 4 intermediate white collar worker 5 upper white collar worker 6 management or director	Ordinal
Q5	Supervision	PSY	1	0 no 1 yes	Nominal
Q7	Main job vs. other paid job	PSY	1	0 no 1 yes	Nominal
Q7a	Hours in additional job(s)	PSY	1	Number	Continuous
Q6	Union membership	PSY	1	0 no 1 yes	Nominal
Q3	Work hours	PSY	1	Number	Continuous
Q3a	Work system	PSY	1	0 no 1 yes	Nominal
Q4aym q4am Q4ad	Tenure	PSY	1	Numbers	Continuous
Q16a – q16h	Core HR-Practices	PSY	8	1 No 2 Yes 3 Don't know	Nominal
INDEPENDENT VARIABLES					
Q9	Type of contract	PSY	1	0 no 1 yes	Nominal
Q9_p	Different permanent contracts	PSY	1	Country specific (not asked in all countries)	Nominal
Q9_ta	Different non-permanent contracts	PSY	1	1 fixed term 2 permanent with agency 3 temporary with agency 4 daily / on-call 5 probation 6 training 7 seasonal employment 8 job creation 9 subcontractor 10 consultant 11 other	Nominal
Q9_tao	Other non-permanent contract	PSY	1	Text	Nominal
Q9_tby	Duration (years)			Numbers	
q9_tbm	Duration (months)	PSY	1		Continuous
q9_tbd	Duration (days)				
Q9_tcy	Time left (years)			Numbers	
q9_tcm	Time left (months)	PSY	1		Continuous
q9_tcd	Time left (days)				
Q9_tdy	History (years)			Numbers	
q9_tdm	History (months)	PSY	1		Continuous
q9_tdd	History (days)				

PSYCONES – Psychological Contracts across Employment Situations

Item	Variable	Authors	k	Value Labels	Level of measurement
INTERVENING VARIABLES					
Q17a-q17o	Employers Obligations (Content, breach)	PSY	15	0 no	Continuous
Q19a – q19q	Employees Obligations (Content, breach)	PSY	17	1 yes, but promise not kept at all 2 yes, but promise only kept a little 3 yes, promise half kept 4 yes, and promise largely kept 5 yes, and promise fully kept	
Q20a –q20g	State of the Psychological contract	PSY	7	1 not at all 5 totally	
Q18a- q18f	Violation of the psychological Contract	PSY	6	1 strongly disagree 2 somewhat disagree	
Q21d, q22b, q23d, q23h	Job insecurity	(De Witte, 2000)	4	3 partly agree, party disagree 4 somewhat agree 5 strongly agree	
Q21b, q21f, q22e, q23c	Employability	De Witte	4		Continuous
Q10a-q10d	Employee expectations	PSY	4		
Q12a-q12d	Contract of choice/Volition	PSY	4		
Q11a-q11i	Motives	PSY	9		
Q8a, q8b	Kind of work of choice	PSY	2		
Q13a, q13d, q13h	Role ambiguity	(Price, 1997)	3	1 rarely or never 2 not often	Continuous
Q13b, q13e, q13f, q13i	Autonomy	(Rosenthal, Guest & Peccei, 1996)	4	3 sometimes 4 rather often	
Q13c, q13g, q13j, q13k	Skill utilization	(Van Der Doef & Maes, 1999)	4	5 very often or always	
Q14a-q14d	Time pressure	(Semmer, Zapf & Dunckel, 1999)	4		
Q22d, q22i, q22m, q23f	Organizational support (POS)	(Eisenberger, Fasolo & Davis-Lamastro, 1990)	4	1 strongly disagree 2 somewhat disagree 3 partly agree, party disagree 4 somewhat agree 5 strongly agree	
Q21j, q22a, q22f, q23b	Social support by supervisor	(Van Der Doef & Maes, 1999)	4		Continuous
DEPENDENT VARIABLES					
Q21e, q21h, q22k, q23i	Job satisfaction	(Price, 1997)	4	1 strongly disagree 2 somewhat disagree 3 partly agree, party disagree 4 somewhat agree 5 strongly agree	Continuous
Q27a-q27f	Life satisfaction	PSY	6	1 very dissatisfied 7 very satisfied	Continuous
Q28a	Sick leave	PSY	1	1 never	Ordinal
Q28b	Sick presence	PSY	1	2 Once	
Q28c	Accidents	PSY	1	3 2-3 times 4 4-5 times	
Q28d	Incidents	PSY	1	5 more than 5 times	
Q26a-q26d	Positive work-home interference	(Mohr, 1986; Mohr & Rigotti, 2003; Wagena & Geurts, 2000)	4	1 rarely or never 2 not often 3 sometimes 4 rather often 5 very often or always	Continuous
Q25a-q25h	Irritation	(Mohr, 1986; Mohr & Rigotti, 2003)	8	1 strongly disagree 2 quite strongly disagree 3 somewhat disagree 4 pertly agree, partly disagree 5 somewhat agree 6 quite strongly agree 7 strongly agree	Continuous
Q21k, q22g, q22l	Occupational self-efficacy	(Schyns & Von Collani, 2002)	3	1 strongly disagree 2 somewhat disagree 3 partly agree, party disagree 4 somewhat agree 5 strongly agree	Continuous
Q29a	General Health	(Ware, 1996; 1999)	5	1 poor 2 fair 3 good 4 very good 5 excellent	Continuous
Q29b-q29e				1 definitely false 2 mostly false 3 not false, not true 4 mostly true 5 definitely true	
Q24a-q24l	Affective Well-being	(Warr, 1990)	12	1 rarely or never 2 not often 3 sometimes 4 rather often 5 verv often or always	Continuous

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Item	Variable	Authors	k	Value Labels	Level of measurement
Q15a.- q15f	Performance	(Abramis, 1994)	6	1 very badly 2 rather badly 3 neither well nor badly 4 rather well 5 very well	Continuous
Q21g, q22h, q22p, q23g	Intention to quit	(Price, 1997)	4	1 strongly disagree 2 somewhat disagree 3 partly agree, partly disagree 4 somewhat agree 5 strongly agree	Continuous
Q21a, q21i, q22j, q22n, q23a	Organisational commitment	(Cook & Wall, 1980)	5		Continuous
Q21c, q22c, q22o, q23e	Work involvement	(Kanungo, 1982)	4		

Table 2. List of variables in the employers questionnaire

Item	Variable	Author s k	Value Labels	Level of measurement
CHARACTERISTICS OF THE COMPANY / ORGANISATION				
Hr_1a	Number of employees	1		Continuous
Hr_1b	Number of permanent employees	1		Continuous
Hr_2a	Organisational form (public or private)	1	0 public 1 private	Nominal
Hr_2b	Organisational form	1	1 single independent establishment not belonging to another body 2 head office of different establishments 3 one of a number of different establishments within a larger UK-owned organisation/institution 4 the sole UK establishment of a foreign owned organisation 5 one of a number of different establishments within a larger foreign-owned organisation	Nominal
Hr_2c	Responsibility on HR-policies	1	1 yes, fully responsible 2 yes, joint responsible 3 no	Nominal
Hr_3a – hr_3k	Presents of non-permanent contracts	1 1	1 not present 2 present, but small minority 3 present, but minority 4 present, about half of the non-permanent workforce 5 present, majority 6 Present, large majority	Ordinal
Hr_4a	Percentage of union memers	1	0 none 9 don't know	Continuous
Hr_4b	Percentage of female employees	1	0 none 9 don't know	Continuous
Hr_5a	Number of employees past three years	1	1 yes, decreased 2 yes, increased 3 no change	Nominal
Hr_6	Prospect concerning workforce	1	1 grow 2 stay same 3 get smaller	Ordinal
HUMAN RESOURCES POLICIES AND PRACTICES				
Hr_7a- hr_7e	HR practices	5	1 No 2 Yes, but mainly to permanent workers 3 yes, to all workers 4 I don't know	Nominal
Hr_7f	Equal treatment	1	1 yes, exactly the same 2 no, small differences 3 no rather large differences	Nominal
Hr_8a	Permanent training	1	0 none 9 don't know	Continuous
Hr_8b	Non-permanent training	1	0 none 9 don't know	Continuous
Hr_9a	Permanent feedback	1	0 none 9 don't know	Continuous
Hr_9b	Non-permanent feedback	1	0 none 9 don't know	Continuous
Hr_10a	Permanent benefits	1	0 none 9 don't know	Continuous
Hr_10b	Non-permanent benefits	1	0 none 9 don't know	Continuous
Hr_11a- hr_11l	Motives	1 2	1 never 2 not often 3 sometimes 4 rather often 5 very often	Continuous
Hr_12a	Satisfaction non-permanents	1	1 very dissatisfied 7 very staisfied	Continuous
Hr_12b	Satisfactoin permanents	1	1 very dissatisfied 7 very staisfied	Continuous
Hr_13a	Influence on employment contracts	1	1 no influence 2 little influence 3 moderate influence	Continuous
Hr_13b	Influence on HR-practices	1	4 much influence 5 very much influence	
Hr_13c	Influence on working conditions	1		
Hr_14	Vacancies	1	1 very easy 2 easy 3 so-so 4 difficult 5 very difficult	Continuous

Item	Variable	Author s	k	Value Labels	Level of measurement
PERFORMANCE INDICATORS					
Hr_15a	Quit (permanents)		1		Continuous
Hr_15b	Dismissal (permanents)		1		
Hr_15c	Sick leave (permanents)		1		
Hr_15d	Accidents (permanents)		1		
Hr_16a	Quit (non-permanents)		1		
Hr_16b	Dismissal (non-permanents)		1		
Hr_16c	Sick leave (non-permanents)		1		
Hr_16d	accidents(non-permanents)		1		
EMPLOYER-EMPLOYEE RELATIONS					
Hr17a- hr_17o	Employers Obligations (Content / breach) - permanent		15	0 no 1 yes, but promise not kept at all 2 yes, but promise only kept a little 3 yes, promise half kept	Continuous
Hr18a- hr_18o	Employers Obligations (Content / breach) – non- permanent		15	4 yes, and promise largely kept 5 yes, and promise fully kept	
Hr_19a- hr_19q	Employees Obligations (Content / breach) permanent		17		
Hr_20a- hr_20q	Employees Obligations (Content / breach) – non- permanent		17		

Table 3. Reliability of scales across countries

	Sweden	Germany	Netherlands	Belgium	UK	Spain	Israel	Total
<u>Instruments/Items</u>	<u>alpha</u>	<u>alpha</u>	<u>alpha</u>	<u>alpha</u>	<u>alpha</u>	<u>alpha</u>	<u>alpha</u>	<u>alpha</u>
Contract expectations 3 item scale	0.85	0.91	0.83	0.79	0.74	0.85	0.74	0.91
'Pull' Motives 5-item scale	0.75	0.66	0.75	0.78	0.63	0.78	0.75	0.74
Violation of PC 6-item scale	0.86	0.79	0.82	0.88	0.85	0.89	0.83	0.85
Fairness & Trust 7-item scale	0.87	0.87	0.83	0.89	0.91	0.89	0.86	0.88
Fairness 4-item scale	0.78	0.78	0.73	0.81	0.82	0.82	0.75	0.78
Trust 3-item scale	0.75	0.80	0.72	0.83	0.86	0.82	0.82	0.81
Work Involvement 3-item scale	0.71	0.73	0.85	0.80	0.82	0.82	0.81	0.79
Job Insecurity 4-item scale	0.87	0.83	0.82	0.88	0.88	0.81	0.84	0.83
Employability 4-item scale	0.89	0.88	0.92	0.90	0.84	0.88	0.86	0.89

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<u>Instruments/Items</u>	Sweden	Germany	Netherlands	Belgium	UK	Spain	Israel	Total
Autonomy 5-item scale	<i>alpha</i> 0.82	<i>alpha</i> 0.84	<i>alpha</i> 0.80	<i>alpha</i> 0.74	<i>alpha</i> 0.80	<i>alpha</i> 0.82	<i>alpha</i> 0.74	<i>alpha</i> 0.80
Skill Utilisation 4-iem scale	0.81	0.80	0.79	0.76	0.86	0.80	0.85	0.81
Workload 4-item scale	0.82	0.76	0.76	0.73	0.79	0.83	0.68	0.77
Perceived Org. Support 4-item scale	0.86	0.79	0.83	0.83	0.85	0.83	0.80	0.82
Perceived Supervisory Support 4-item scale	0.81	0.80	0.83	0.82	0.90	0.89	0.81	0.84

PSYCONES – Psychological Contracts across Employment Situations

<u>Instruments/Items</u>	Sweden	Germany	Netherlands	Belgium	UK	Spain	Israel	Total
Job Satisfaction 4-item scale	<i>alpha</i> 0.81	<i>alpha</i> 0.84	<i>alpha</i> 0.81	<i>alpha</i> 0.83	<i>alpha</i> 0.84	<i>alpha</i> 0.81	<i>alpha</i> 0.79	<i>alpha</i> 0.82
Work-related Anxiety 6-item scale	0.81	0.84	0.81	0.83	0.84	0.81	0.79	0.82
Work-related Depression 6-item scale	0.83	0.79	0.85	0.88	0.87	0.85	0.75	0.83
Occupational Self-Efficacy 3-item scale	0.67	0.54	0.62	0.60	0.68	0.68	0.59	0.66
Positive Work-Life Interference 4-item scale	0.78	0.77	0.80	0.80	0.86	0.85	0.85	0.83

	Sweden	Germany	Netherlands	Belgium	UK	Spain	Israel	Total
<u>Instruments/Items</u>								
Irritation 8-item scale	<u>alpha</u> 0.89	<u>alpha</u> 0.87	<u>alpha</u> 0.86	<u>alpha</u> 0.90	<u>alpha</u> 0.88	<u>alpha</u> 0.87	<u>alpha</u> 0.83	<u>alpha</u> 0.86
Life Satisfaction 6-item scale	0.82	0.81	0.80	0.85	0.86	0.84	0.84	0.84
General Health 5-item scale	0.76	0.68	0.76	0.79	0.80	0.78	0.77	0.77
Intention to Quit 4-item scale	0.84	0.79	0.79	0.82	0.82	0.85	0.79	0.82
Organisational Commitment 4-item scale	0.67	0.67	0.69	0.73	0.69	0.78	0.69	0.72
Perceived Performance 6-item scale	0.78	0.76	0.77	0.79	0.82	0.79	0.78	0.79

Annex 3. List of indicators of societal dimensions

Table 1. Indicators for the six dimensions aiming to measure country differences

Indicator	Definition and/or Operationalisation	Source + year
Laws and regulations		
Zone of negotiability	Terms and conditions of employment that society allows either the worker or the firm to negotiate. Means on 1-7 rating scale.	PSYCONES 2003
Sanctions for violation	Sanctions for violating terms and conditions that were negotiated. Means on 1-7 rating scale.	PSYCONES 2003
Welfare state*	Percentage of GDP spent on social protection.	Eurostat 2001
Social benefits for unemployment*	Percentage of GDP spent on income maintenance and support in cash or in kind in connection with unemployment.	Eurostat 2000
Industrial relations system		
Trade union density*	Percentage of gainfully employed and salary earners (excluding unemployed).	EIRO 2000
Collective bargaining coverage*	Proportion of workers that have their pay or conditions set, at least to some extent, by collective agreement.	EIRO 1998-2001
Labour market and economic system		
GDP per capita*	GDP per head in EUR.	Eurostat 2002
Net annual income*	Mean/median net annual income (equivalised with EU15=13420).	Eurostat 1998
Total employment rate*	Percentage of civilian and armed employment and all persons aged 15-64 years who during a specified brief period were in paid employment or self-employment.	Eurostat 2002
Part-time employment*	Percentage of total employment.	Eurostat 2003
Unemployment rate*	Percentage of labour force: without employment during the reference week; available to start work within the next 2 weeks; actively sought employment at some time during the previous 4 weeks; had no employment and had already found a job to start later.	Eurostat 2003
Educational system		
Educational expenditure	Percentage of GDP for public and private education, all levels.	OECD 2000
School expectancy	Expected years of schooling of full- and part-time scholars under current conditions, excluding children under the age of five.	OECD 2001
Exposure to computers	Number of personal computers per 1000 people.	World Bank 2001
Family orientation		
Persons per household*	Household: having a shared residence and common arrangements. A household comprises either one person living alone or persons living at the same address with common housekeeping, i.e. sharing at least one meal a day or sharing a living or sitting room. Means.	Eurostat 2002
Fertility rate	Average number of children that would be born alive to a woman during her lifetime if current fertility rates were to continue.	Eurostat 2002 ^a
Divorces	Number of divorces per 1000 people.	Eurostat 2001 ^b
Female employment*	Percentage of total employment (15-64 years).	Eurostat 2002
Family ties	Strength of family ties. Means on 1-7 rating scale.	PSYCONES 2003
Attitude towards working mothers	Attitude towards working mothers. Means on 1-7 rating scale.	PSYCONES 2003
Cultural values		
Harmony	Cultural emphasis on fitting harmoniously in the environment. Means on -1 to 7 scale for student samples.	Schwartz 25/02/2003
Embeddedness	Cultural emphasis on maintenance of the status quo, propriety, and restraint of actions or inclinations that might disrupt the solidarity group or the traditional order. Means on -1 to 7 scale for student samples.	Schwartz 25/02/2003
Hierarchy	Cultural emphasis on the legitimacy of an unequal distribution of power roles and resources. Means on -1 to 7 scale for student samples.	Schwartz 25/02/2003
Mastery	Cultural emphasis on getting ahead through active self-assertion. Means on -1 to 7 scale for student samples.	Schwartz 25/02/2003
Affective autonomy	Cultural emphasis on the desirability of individuals independently pursuing affectively positive experience. Means on -1 to 7 scale for student samples.	Schwartz 25/02/2003
Intellectual autonomy	Cultural emphasis on the desirability of individuals independently pursuing their own ideas and intellectual directions. Means on -1 to 7 scale for student samples.	Schwartz 25/02/2003
Egalitarianism	Cultural emphasis on transcendence of selfish interests in favour of voluntary commitment to promoting the welfare of others. Means on -1 to 7 scale for student samples.	Schwartz 25/02/2003

* Data provided by Israeli colleagues ^a For Israel: World Bank 1998 ^b For Israel: Central Bureau of Israel 1999

Annex 4.Tables reporting results from questionnaires to organizations and their employees

Table 1. Means, standard deviations, and proportions of the HR practice variables across countries

Variable		1	2	3	4	5	6	7	Kruskal-Wallis Test (χ^2)	Sig.	Mann-Whitney U
8 (a,b). Training and development ^a	<i>M</i>	11.34	11.15	16.30	16.58	8.46	2.63	20.95			
	<i>(SD)</i>	(26.33)	(30.24)	(22.03)	(25.71)	(25.44)	(22.14)	(33.89)			
	<i>mean rank</i>	85.67	83.73	102.06	89.42	71.31	67.34	96.12	11.75	0.07	
9 (a,b). Performance appraisal ^a	<i>M</i>	9.89	31.85	11.15	10.00	10.71	4.63	10.43			
	<i>(SD)</i>	(35.85)	(37.52)	(43.84)	(40.59)	(36.89)	(22.48)	(33.36)			
	<i>mean rank</i>	118.85	93.12	94.28	65.27	89.25	87.63	99.11	16.45	0.01	1>3,4,6 4<2,3,6,7
10 (a,b). Performance-related pay ^a	<i>M</i>	7.91	9.81	8.43	4.50	8.57	13.33	5.45			
	<i>(SD)</i>	(26.44)	(24.67)	(29.62)	(17.12)	(30.34)	(26.38)	(35.68)			
	<i>mean rank</i>	96.48	86.60	100.74	84.52	80.46	104.61	86.48	7.90	0.24	
Overall inequality (in favour of perms) ^b	<i>M</i>	1.47	1.56	1.79	1.09	0.94	1.73	1.38			
	<i>(SD)</i>	(1.49)	(1.25)	(1.26)	(1.61)	(1.34)	(1.82)	(1.32)			
	<i>mean rank</i>	110.28	95.25	113.71	88.14	78.24	106.08	100.04	7.17	0.31	

^a % gap between perms-temps

^b no. of answers “inequality in favour of perms” from items 7a-7e plus no. of gaps over 10% from items 8a-10b

Table 2 Motives for employing temporary contracts as reported by employers (n = 202)

Variable		1	2	3	4	5	6	7				
	Total	SW	GR	NE	BE	UK	SP	IS	F	Sig.	η^2	Tukey
Reasons of using temporary employees												
11a. It helps to match staff to peaks	<i>M</i> (<i>SD</i>)	3.19 (1.38)	2.85 (1.37)	3.62 (1.23)	2.86 (1.72)	3.20 (1.37)	3.18 (1.31)	3.47 (1.26)	1.02	0.41	0.03	
11b. It covers staff short-term absence	<i>M</i> (<i>SD</i>)	2.80 (1.25)	2.96 (1.34)	2.56 (1.18)	3.32 (1.39)	3.20 (1.14)	2.69 (1.13)	2.42 (1.42)	1.52	0.17	0.05	
11c. It covers maternity or longer periods staff absence	<i>M</i> (<i>SD</i>)	3.25 (1.28)	3.85 (1.29)	2.73 (1.28)	3.86 (1.35)	3.20 (1.08)	3.21 (1.18)	2.21 (1.27)	5.35	0.00	0.15	4,1>2 1,3,4,6> 7
11d. We are otherwise unable to fill vacancies	<i>M</i> (<i>SD</i>)	2.12 (1.30)	1.74 (1.02)	1.35 (0.89)	2.14 (1.20)	2.47 (1.06)	2.93 (1.68)	1.71 (1.21)	5.66	0.00	0.16	6>1,2,3, 7
11e. We can bring in specialist skills	<i>M</i> (<i>SD</i>)	2.00 (1.16)	1.85 (1.23)	1.54 (0.94)	1.55 (1.10)	2.40 (1.05)	2.13 (1.18)	2.06 (1.43)	2.45	0.03	0.08	
11f. We need to freeze on permanent staff numbers	<i>M</i> (<i>SD</i>)	1.97 (1.34)	1.33 (0.37)	1.60 (1.29)	1.95 (1.49)	1.57 (0.64)	1.95 (1.34)	2.39 (1.65)	3.88	0.00	0.12	3>1,2
11g. It can improve our performance	<i>M</i> (<i>SD</i>)	1.78 (1.03)	1.73 (1.00)	1.81 (1.32)	1.73 (1.12)	2.14 (1.02)	1.53 (0.71)	1.94 (1.11)	0.85	0.53	0.03	
11h. We offer trial periods before employing a permanent employee	<i>M</i> (<i>SD</i>)	3.12 (1.58)	4.22 (1.28)	2.54 (1.58)	2.41 (1.50)	2.29 (1.43)	3.10 (1.57)	3.84 (1.34)	5.52	0.00	0.16	1>2,4,5, 6 7>4,5
11i. We would like to have personnel for unusual working hours	<i>M</i> (<i>SD</i>)	1.69 (1.11)	2.30 (1.58)	1.42 (0.85)	1.73 (1.31)	1.71 (0.91)	1.54 (0.92)	1.74 (1.24)	1.91	0.08	0.06	
11g. It saves wage costs	<i>M</i> (<i>SD</i>)	1.71 (1.08)	1.44 (0.93)	1.92 (1.44)	1.36 (0.72)	1.43 (0.64)	1.65 (1.00)	2.11 (1.24)	1.73	0.12	0.06	
11k. It saves training costs	<i>M</i> (<i>SD</i>)	1.19 (0.51)	1.07 (0.26)	1.04 (0.19)	1.09 (0.29)	1.29 (0.46)	1.17 (0.49)	1.63 (1.06)	3.42	0.00	0.10	7>1,2,4, 6
11l. It saves fringe-benefit costs	<i>M</i> (<i>SD</i>)	1.48 (1.03)	1.07 (0.26)	1.58 (1.27)	1.14 (0.35)	1.36 (0.63)	1.53 (1.17)	2.26 (1.36)	3.23	0.00	0.10	7>1,4

Table 3. Contract duration, time remaining on contract and contract history by contract type

		Contract duration	Time remaining	Contract history
		Months	Months	Years
Fixed-term	Mean	15.6	7.9	3.1
	N	1133	1068	1093
	SD	25.7	13.7	4.4
Permanent with agency	Mean	17.6	5.4	2.9
	N	36	34	32
	SD	51.5	20.5	5.4
Temporary with agency	Mean	5.9	3.1	1.6
	N	139	137	131
	SD	12.8	9.8	2.5
Daily/on call	Mean	7.8	2.2	4.0
	N	81	80	80
	SD	23.7	13.2	8.0
Probation	Mean	11.5	6.7	2.6
	N	86	82	80
	SD	16.2	11.4	3.9
Training	Mean	22.1	11.0	1.9
	N	93	95	92
	SD	17.1	20.0	1.7
Seasonal employment	Mean	6.6	2.2	2.3
	N	76	75	78
	SD	11.9	3.3	3.7
Job creation	Mean	10.4	4.2	4.6
	N	39	30	35
	SD	17.7	3.6	5.0
Subcontractor	Mean	13.8	2.9	5.2
	N	25	25	24
	SD	25.2	5.0	6.5
Contractor	Mean	51.7	10.7	3.6
	N	10	9	9
	SD	70.0	23.4	6.4
Other	Mean	13.0	5.5	2.8
	N	35	33	35
	SD	27.1	14.2	3.2
Total	Mean	14.3	6.8	2.9
	N	1753	1668	1689
	SD	25.1	13.7	4.4

Table4. Motives for temporary work by types of non-permanent contract

	q11a Difficult to find a permanent job.	q11b* Suits present needs (family, study, etc)	q11c* Higher wage than other contracts.	q11d* It gives me more freedom	q11e Hope to gain a permanent contract	q11f* Supplementary income	q11g* Gain experience with different tasks/jobs	q11h The contract offered with the job I wanted	q11i Only type of contract I could get	Pull Motives (*combined)
Fixed-term n=1179	Mean 2.38 SD 1.45	2.25 1.52	1.83 1.18	2.14 1.37	3.46 1.50	1.97 1.39	2.92 1.50	3.57 1.47	3.45 1.52	2.24 1.03
Agency - perm n=38	Mean 2.39 SD 1.50	2.42 1.50	2.06 1.43	2.27 1.42	3.71 1.59	1.82 1.21	3.09 1.53	3.59 1.42	3.24 1.54	2.33 0.99
Agency - temp n=145	Mean 3.02 SD 1.48	2.79 1.62	1.80 1.14	2.57 1.37	3.35 1.48	2.24 1.49	3.02 1.43	2.78 1.47	3.13 1.47	2.52 1.06
Daily/on call n=87	Mean 2.52 SD 1.56	3.39 1.58	1.85 1.14	2.96 1.37	2.51 1.36	3.13 1.64	2.88 1.34	3.01 1.43	3.22 1.48	2.84 0.96
Probation n=88	Mean 2.17 SD 1.42	2.23 1.48	1.73 1.12	1.78 1.17	4.01 1.38	1.70 1.23	2.75 1.60	3.85 1.42	3.44 1.60	2.04 0.96
Training n=103	Mean 1.89 SD 1.28	2.92 1.82	1.57 1.01	1.79 1.13	3.58 1.53	1.71 1.13	3.33 1.53	3.46 1.49	3.03 1.62	2.30 0.91
Seasonal n=142	Mean 2.62 SD 1.52	2.92 1.60	2.06 1.18	2.45 1.41	3.17 1.49	2.38 1.48	2.91 1.41	2.96 1.50	3.23 1.56	2.57 1.03
Job creation n=40	Mean 3.63 SD 1.61	2.41 1.35	1.44 0.86	1.76 1.07	4.31 1.25	2.21 1.25	3.40 1.06	2.00 1.52	3.86 1.55	2.29 0.71
Subcontractor n=27	Mean 2.75 SD 1.80	2.45 1.47	1.85 1.09	2.45 1.39	2.80 1.40	1.95 1.50	2.70 1.53	3.30 1.53	3.62 1.60	2.38 1.17
Contractor n=10	Mean 1.33 SD 0.52	3.29 1.70	3.14 1.77	4.29 1.25	2.00 1.15	1.71 0.95	2.29 1.11	3.14 2.04	2.00 1.53	2.94 0.57
Other n=38	Mean 2.46 SD 1.43	2.64 1.59	2.19 1.33	2.50 1.60	3.75 1.40	1.65 1.20	3.57 1.25	3.78 1.63	3.22 1.56	2.74 1.21
Total n=1897	Mean 2.44 SD 1.48	2.43 1.58	1.83 1.17	2.20 1.38	3.44 1.51	2.03 1.41	2.96 1.48	3.43 1.51	3.38 1.53	2.32 1.03

Table 5. Number and percentage of missing values for each study variable

	Total n=5344		Temp n=1993		Perm n=3351	
	Missing		Missing		Missing	
Age	118	2.2%	43	2.2%	75	2.2%
Sex	69	1.3%	22	1.1%	47	1.4%
Education	64	1.2%	17	0.9%	47	1.4%
Domestic situation	120	2.2%	43	2.2%	77	2.3%
Financial contribution	155	2.9%	65	3.3%	90	2.7%
No. financial dependents	244	4.6%	100	5.0%	144	4.3%
Domestic responsibility	179	3.3%	55	2.8%	124	3.7%
Work Involvement	30	0.6%	13	0.7%	17	0.5%
Occupational Level	182	3.4%	78	3.9%	104	3.1%
Hours	136	2.5%	58	2.9%	78	2.3%
Night shifts	120	2.2%	42	2.1%	78	2.3%
Tenure in years	127	2.4%	66	3.3%	61	1.8%
Supervision	79	1.5%	26	1.3%	53	1.6%
Union membership	80	1.5%	36	1.8%	44	1.3%
Additional job(s)	59	1.1%	18	0.9%	41	1.2%
Core HR-Practices	7	0.1%	4	0.2%	3	0.1%
Content (Employer Ob's)	74	1.4%	34	1.7%	40	1.2%
Fulfillment (Employer Ob's)	346	6.5%	160	8.0%	186	5.6%
Violation	162	3.0%	65	3.3%	97	2.9%
Fairness	60	1.1%	27	1.4%	33	1.0%
Trust	51	1.0%	23	1.2%	28	0.8%
Content (Employee Ob's)	61	1.1%	30	1.5%	31	0.9%
Fulfillment (Employee Ob's)	157	2.9%	67	3.4%	90	2.7%
Job insecurity	34	0.6%	16	0.8%	18	0.5%
Employability	35	0.7%	12	0.6%	23	0.7%
Volition	91	1.7%	23	1.2%	68	2.0%
Job of choice	81	1.5%	32	1.6%	49	1.5%
Profession of choice	171	3.2%	67	3.4%	104	3.1%
Role clarity	78	1.5%	37	1.9%	41	1.2%
Autonomy	54	1.0%	27	1.4%	27	0.8%
Skill utilisation	49	0.9%	21	1.1%	28	0.8%
Workload	23	0.4%	11	0.6%	12	0.4%
Organisational support	36	0.7%	18	0.9%	18	0.5%
Supervisory support	21	0.4%	8	0.4%	13	0.4%
Occupational self-efficacy	39	0.7%	16	0.8%	23	0.7%
Positive work-life interference	57	1.1%	23	1.2%	34	1.0%
Affective well-being: Anxiety	50	0.9%	20	1.0%	30	0.9%
Affective well-being: Depression	67	1.3%	24	1.2%	43	1.3%
Irritation	36	0.7%	13	0.7%	23	0.7%
Sick leave	77	1.4%	35	1.8%	42	1.3%
Sick presence	96	1.8%	44	2.2%	52	1.6%
Accidents	81	1.5%	35	1.8%	46	1.4%
Incidents at work	93	1.7%	41	2.1%	52	1.6%
Job Satisfaction	14	0.3%	6	0.3%	8	0.2%
Organizational Commitment	15	0.3%	6	0.3%	9	0.3%
Intention to quit	26	0.5%	14	0.7%	12	0.4%
Perceived Performance	41	0.8%	19	1.0%	22	0.7%
General health - SF-36	52	1.0%	23	1.2%	29	0.9%
Life satisfaction	52	1.0%	19	1.0%	33	1.0%

Table 6. Mean scores on the scales measuring intervening and dependent variables

	Total			Type of Employment Contract						t	sig
	Mean	SD	n	Non-permanent			Permanent				
				Mean	SD	n	Mean	SD	n		
Psychological contract											
Employer's obligations											
Content	8.68	4.57	5216	7.78	4.51	1947	9.21	4.52	3269	-11.03	.000
Fulfilment	3.69	0.84	4946	3.78	0.86	1823	3.64	0.82	3123	5.88	.000
Violation	2.29	0.86	5128	2.15	0.84	1916	2.38	0.86	3212	-9.03	.000
Fairness	3.18	0.93	5238	3.31	0.94	1958	3.10	0.92	3280	8.11	.000
Trust	3.17	1.00	5229	3.29	1.01	1954	3.10	0.99	3275	6.74	.000
Employee's obligations											
Content	13.39	4.17	5230	12.73	4.39	1951	13.78	3.98	3279	-8.66	.000
Fulfilment	4.31	0.51	5135	4.36	0.52	1914	4.29	0.50	3221	4.80	.000
Employee prospects											
Job insecurity	2.21	0.97	5254	2.67	1.01	1965	1.93	0.82	3289	27.418	.000
Employability	3.17	1.06	5253	3.19	1.01	1969	3.16	1.08	3284	1.03	.301
Volition											
Contract of choice	3.32	1.29	5198	2.32	1.07	1958	3.93	1.01	3240	-53.43	.000
Job of choice	3.70	1.14	5207	3.56	1.18	1949	3.78	1.10	3258	-6.62	.000
Profession of choice	3.65	1.23	5118	3.55	1.28	1914	3.72	1.19	3204	-4.68	.000
Job Characteristics											
Role clarity	4.30	0.83	5211	4.25	0.85	1944	4.33	0.81	3267	-3.48	.000
Autonomy	3.41	0.90	5235	3.23	0.91	1954	3.51	0.87	3281	-10.94	.000
Skill utilisation	3.56	0.94	5240	3.46	1.02	1960	3.62	0.89	3280	-5.58	.000
Workload	3.06	0.88	5266	2.83	0.89	1970	3.20	0.85	3296	-14.43	.000
Support											
Organisational support	3.27	0.89	5252	3.33	0.88	1963	3.24	0.89	3289	3.64	.000
Supervisory support	3.55	0.94	5268	3.65	0.91	1973	3.49	0.95	3295	5.79	.000
Work-related health											
Occupational self-efficacy	3.97	0.64	5250	3.94	0.66	1965	3.98	0.63	3285	-2.54	.011
Positive work-life interference	2.92	0.91	5231	2.93	0.92	1958	2.91	0.91	3273	0.74	.458
Irritation	2.92	1.21	5252	2.73	1.18	1968	3.04	1.22	3284	-9.26	.000
Affective well-being: Anxiety	2.47	0.74	5238	2.40	0.73	1961	2.52	0.74	3277	-5.78	.000
Affective well-being: Depression	2.07	0.72	5221	2.00	0.71	1957	2.12	0.73	3264	-5.91	.000
Reported behaviours/incidents											
Sick leave	1.95	1.02	5209	1.84	1.01	1944	2.01	1.02	3265	-5.98	.000
Sick presence	2.56	1.29	5195	2.33	1.25	1937	2.70	1.29	3258	-9.90	.000
Accidents	1.18	0.54	5207	1.17	0.53	1946	1.19	0.54	3261	-1.07	.286
Harassment	1.24	0.72	5195	1.20	0.67	1940	1.26	0.74	3255	-3.16	.002
General health reports											
General health	3.97	0.72	5236	4.03	0.71	1958	3.93	0.73	3278	4.91	.000
Life satisfaction	5.22	1.07	5237	5.23	1.11	1962	5.22	1.04	3275	0.39	.698
Work-related attitudes											
Job satisfaction	3.98	0.86	5274	4.03	0.85	1975	3.95	0.85	3299	3.31	.000
Organisational commitment	3.96	0.73	5273	3.89	0.76	1975	4.00	0.70	3298	-5.20	.000
Intention to quit	1.85	0.91	5262	1.76	0.87	1967	1.90	0.93	3295	-5.30	.000
Self-reported performance	4.04	0.52	5248	4.00	0.53	1962	4.07	0.51	3286	-4.76	.000

Table 7. Evaluation of all alternative intervening variables with sickness behaviour and incidents at work

	Sick leave		Sick presence		Accidents		Harrassment and violence	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Permanent contract	0.11***	0.04	0.12***	0.10***	0.04	0.01	0.05*	0.02
<i>Employer Obligations</i>								
Content of PC		0.03		0.04*		0.04*		-0.02
Fulfilment of PC		-0.05*		-0.06*		-0.06*		-0.13***
Violation of PC		0.09***		0.09***		0.04		0.09***
Trust		0.00		0.01		-0.03		0.05
Fairness		-0.09***		-0.09***		-0.03		-0.04
<i>Employee Obligations</i>								
Content of PC		-0.02		0.08***		-0.01		0.05**
Fulfilment of PC		-0.07***		0.06**		0.03		0.03
<i>Employment Prospects</i>								
Job insecurity		-0.01		0.00		0.00		0.02
Employability		-0.03		0.00		0.03		0.06**
<i>Volition</i>								
Contract of choice		0.06**		-0.05*		0.01		0.00
Job of choice		-0.01		-0.01		-0.01		0.01
Profession of choice		0.00		-0.02		-0.03		0.01
<i>Job Characteristics</i>								
Role clarity		0.05**		0.02		-0.02		0.01
Autonomy		0.06**		-0.02		-0.02		-0.02
Skill utilisation		0.01		0.01		0.04		0.03
Workload		-0.04		0.13***		0.04		0.05*
<i>Support</i>								
Organisational support		0.05		0.04		0.01		-0.01
Supervisory support		-0.02		-0.03		0.02		-0.05
Adjusted R ²	0.09	0.12	0.10	0.16	0.07	0.08	0.04	0.08
F-value for R ² change		7.12		14.81		3.85		9.99
n=		3415		3410		3419		3412

N.B. Background variables are controlled for but not presented

Table 8. Evaluation of all alternative intervening variables with work attitudes and performance

	Job satisfaction		Organisational commitment		Intention to quit		Perceived performance	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Permanent contract	-0.12***	-0.06***	-0.02	0.02	0.11***	0.09***	0.00	-0.02
<i>Employer Obligations</i>								
Content of PC		-0.02		-0.04*		0.04**		-0.02
Fulfilment of PC		0.05**		0.02		-0.02		-0.05**
Violation of PC		-0.19***		-0.06***		0.22***		-0.05*
Trust		-0.04*		0.01		0.01		-0.01
Fairness		0.03		0.09***		-0.04*		-0.10***
<i>Employee Obligations</i>								
Content of PC		0.05***		0.11***		-0.08***		0.05**
Fulfilment of PC		0.09***		0.18***		-0.05***		0.31***
<i>Employment Prospects</i>								
Job insecurity		-0.03*		-0.05**		0.10***		-0.06**
Employability		0.00		0.03*		0.09***		0.06***
<i>Volition</i>								
Contract of choice		-0.02		0.00		0.00		0.01
Job of choice		0.22***		0.08***		-0.20***		0.04
Profession of choice		0.14***		0.04**		-0.09***		0.03
<i>Job Characteristics</i>								
Role clarity		0.01		-0.02		-0.04*		0.15***
Autonomy		0.05**		0.04*		0.00		0.23***
Skill utilisation		0.12***		0.08***		-0.05*		0.10***
Workload		0.02		0.07***		0.01		0.03*
<i>Support</i>								
Organisational support		0.13***		0.19***		-0.12***		0.09***
Supervisory support		0.08***		0.14***		-0.05**		0.02
Adjusted R ²	0.31	0.61	0.29	0.54	0.23	0.48	0.12	0.37
F-value for R ² change		147.55		101.46		94.11		76.72
n=		3431		3431		3430		3419

N.B. Background variables are controlled for but not presented

Annex 5. Tables reporting results of multilevel analyses regarding country and sector effects

Table 1. Post-hoc analyses on temporary workforce composition

	N	F	Swe	Ger	Net	Bel	UK	Spa	Isr
Fixed-term	189	6,90***	2,94	2,00	2,28	3,64	2,26	1,69	,62
Temporary Agency	184	4,78***	,06	,19	,51	,64	,59	,32	1,02
Daily/on call	181	6,00***	,42	,53	1,33	,06	-,131	,39	,34
Probation	181	4,94***	1,07	,47	,39	,15	,88	,26	1,59
Training	183	5,14***	,78	1,07	,15	,16	,58	,26	,47
Seasonal employment	172	3,31**	,24	,26	,82	-,02	,76	,29	,60
Job creation Scheme	179	1,20	,50	,11	,10	,41	,02	,18	,32
Subcontractor	181	1,67	,46	,24	,08	,09	,16	,23	,41
Consultant	180	2,60*	,11	,17	,16	,25	,28	,21	,63

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

Table 2. Explained variances of types of temporary workers

	N	No control	Controlled (100%)	Organization	Sector	Country
Fixed term	189	2,802	96% 2,684	1,996 74%	0,142 5%	0,547 20%
Temporary Agency	184	0,619	71% 0,441	0,346 79%	0,035 8%	0,059 13%
Daily/ on call	181	0,957	98% 0,940	0,764 81%	0,005 1%	0,171 18%
Probation	181	1,198	79% 0,947	0,770 81%	0,045 5%	0,132 14%
Training	183	0,751	87% 0,656	0,527 80%	0,028 4%	0,101 15%
Seasonal employment	172	0,819	68% 0,553	0,488 88%	0,002 0%	0,064 11%
Job creation scheme	179	0,442	100% 0,443	0,442 100%	0,001 0%	0,000 0%
Subcontractor	181	0,325	81% 0,262	0,243 93%	0,005 2%	0,015 6%
Consultant	180	0,214	78% 0,167	0,142 85%	0,009 5%	0,017 10%
Other	189	1,018	107% 1,091	0,888 81%	0,026 2%	0,176 16%

Table 3. Explained variances motives for hiring temporaries

	N	No control	Controlled (100%)	Organization		Sector		Country	
Peaks in production	185	1,908	85% 1,629	1,417	87%	0,152	9%	0,060	4%
Replace due to short absence	188	1,562	92% 1,434	1,347	94%	0,003	0%	0,084	6%
Replace due to long absence	187	1,640	88% 1,444	1,217	84%	0,052	4%	0,175	12%
Unfilled vacancies	182	1,695	97% 1,652	1,258	76%	0,070	4%	0,325	20%
Specialized skills	184	1,359	93% 1,270	1,154	91%	0,060	5%	0,056	4%
Limiting core workers	183	1,808	90% 1,621	1,340	83%	0,046	3%	0,235	14%
Improving performance	182	1,062	94% 0,998	0,957	96%	0,020	2%	0,021	2%
Testing new employees	185	2,494	93% 2,309	1,939	84%	0,043	2%	0,326	14%
Working unusual hours	185	1,231	91% 1,126	1,001	89%	0,035	3%	0,090	8%
Saving salary costs	184	1,172	93% 1,095	1,023	93%	0,006	1%	0,065	6%
Saving training costs	185	0,265	66% 0,174	0,161	92%	0,006	4%	0,007	4%
Saving benefit costs	184	1,065	95% 1,016	0,916	90%	0,004	0%	0,096	9%

Table 4. Explained variances of the outcome variables

	N	No Control	Controlled (100%)	Individual		Organization		Sector		Country	
Job Satisfaction	5331	0,729	85% 0,620	0,554	89%	0,037	6%	0,002	0%	0,023	4%
Sick Leave	5268	1,044	92% 0,955	0,894	94%	0,045	5%	0,004	0%	0,017	2%
Sick Presence	5249	1,653	93% 1,542	1,440	93%	0,017	1%	0,007	0%	0,085	5%
Accidents	5264	0,287	85% 0,244	0,237	97%	0,005	2%	0,000	0%	0,002	1%
Incidents	5252	0,514	93% 0,480	0,465	97%	0,012	2%	0,002	0%	0,002	0%
WRM: Anxiety-Contentm.	5295	0,547	94% 0,516	0,482	93%	0,012	2%	0,001	0%	0,023	5%
WRM: Depression-Enth.	5278	0,524	92% 0,484	0,448	93%	0,019	2%	0,001	0%	0,019	4%
Irritation ⁷	5309	1,473	90% 1,332	1,262	95%	0,019	1%	0,014	1%	0,043	3%
Positive Work-home interf.	5288	0,830	93% 0,770	0,709	92%	0,018	2%	0,002	0%	0,040	5%
Occ. self-efficacy	5306	0,412	91% 0,376	0,341	91%	0,004	1%	0,001	0%	0,029	8%
Life Satisfaction	5293	1,139	92% 1,044	0,988	95%	0,020	2%	0,005	0%	0,030	3%
General Health	5293	0,520	97% 0,502	0,486	97%	0,007	1%	0,001	0%	0,008	2%
Organizational Comm.	5304	0,527	88% 0,466	0,405	87%	0,035	8%	0,006	1%	0,021	5%
Intention to quit	5330	0,824	93% 0,770	0,668	87%	0,037	5%	0,001	0%	0,065	8%
Perceived Performance	5319	0,272	90% 0,245	0,228	93%	0,010	4%	0,001	0%	0,005	2%

⁷ Note that Work-related Mood: Anxiety-Contentment, Work-related Mood: Depression-Enthusiasm, and Irritation are negative. A high score on one of these variables represents a high levels of Irritation, and mental strains.