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EFFECT OF TEMPORARY CONTRACTS ON PERCEIVED WORK CHARACTERISTICS AND JOB STRAIN: A LONGITUDINAL STUDY

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This longitudinal study investigates differences in perceived work characteristics and job strain as a function of employment status. The study examines the effects of a change from involuntary temporary to permanent status ($N = 75$) compared to staying permanent ($N = 257$), as well as comparing temporary contract and permanent contract employees at Time 1 and a second-wave comparison that included new temporary contract employees ($N = 92$) and new permanent contract employees ($N = 34$). Results suggest that temporary employment status is associated with negative and positive consequences. On the negative side, temporary status reduced perceptions of job security and participative decision making, which had deleterious effects on job strain. On the other hand, temporary employees had fewer strain-inducing role demands (in particular, lower role overload). The net effect was that temporary employees had lower job strain, which analyses suggested was due to indirect effects of the lower role demands.

Understanding the effects of being employed on a temporary contract is crucial given the vast growth in the number of contingent employees (Bureau of Labor Statistics, 1997); that is, employees who do not have an implicit or explicit contract for on-going employment (Polivka & Nardone, 1989). The current article is a longitudinal investigation of the effects of temporary employment status on employees' perceived work characteristics and their level of job strain.

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Most of the speculation about the effects of temporary employment status on variables such as job strain assumes negative effects of temporary status (e.g., Belous, 1989; Feldman, 1995). However, this strength of opinion is not matched by research. There are very few systematic studies of the effects of temporary contracts (Beard & Edwards, 1995; Kochan, Smith, Wells, & Rebitzer, 1994), and the evidence from those studies that do exist is inconsistent. Some studies support the view that temporary contracts negatively affect employee outcomes such as mental health (e.g., Burchall, 1994), whereas other studies show that temporary contract status can be associated with lower job strain (e.g., Lee & Johnson, 1991; Russell-Gardner & Jackson, 1995).

The different conclusions drawn from research in the area highlight the need for additional work to determine the reasons for inconsistency in findings. To date, the main research development in this respect has been to consider the moderating effect on outcomes of employee choice over employment status. For example, studies have shown that employees who are voluntarily contingent workers have higher job satisfaction than those who are involuntary (e.g., Feldman, Doeringhaus, & Turnley, 1995; Lee & Johnson, 1991). Voluntary status is important within labor markets such as Singapore, where many employees enter contingent working by their own choice (van Dyne & Ang, 1998). However, this issue is less pertinent in situations (such as the current study) where employees have largely been forced into contingent work because practices such as downsizing have reduced the number of permanent jobs. In labor markets where these situations are typical, such as the U.S. (Rousseau, 1997) and the U.K., other questions concerning the work experiences of contingent employees are important. In particular, as we argue next, there is a need to investigate how work characteristics are affected by temporary employment status, and to investigate whether work characteristics partly account for the link between employment status and outcomes such as job strain (see also Beard & Edwards, 1995; Pearce, 1993). Such research will help to clarify inconsistent research findings and to build a deeper understanding of how this type of employment contract affects employees.

In addition, most studies in the area are cross-sectional in design, involving a comparison between those on temporary contracts and those on permanent contracts (e.g., Feldman et al., 1995; Krausz, Brandwein, & Fox, 1995; van Dyne & Ang, 1998). An obvious limitation of this approach is that, although efforts are typically made to control for some of the potential confounds, any observed differences of interest might reflect a variety of influences over and above the difference in employment status. For example, employees on temporary contracts might differ in their job aspirations compared to those on permanent contracts. A much

improved research design is to assess the effect of a change in employment status, comparing the consequences to a situation where there has been no change in status.

Our primary aim in this article is to investigate how employment status affects employees' perceived work characteristics and level of job strain using a quasi-experimental longitudinal design. We propose that employment status will have both positive and negative indirect effects on job strain, due to the impact it has on jobs and roles. On the negative side, temporary status reduces perceptions of job security and participative decision making, which has deleterious effects on job strain. However, on the positive side, temporary status reduces perceptions of role conflict and role overload, which has beneficial effects on job strain. Thus, although the net effect on job strain might be negligible, the effect on roles and jobs is not negligible. Figure 1 depicts the conceptual model that guides this research, and the theoretical background for the study is elaborated next.

Temporary Employment Contracts

Organizations adopt various employment strategies to respond more effectively to changing market conditions (Tsui, Pearce, Porter, & Hite, 1995; Tsui, Pearce, Porter, & Tripoli, 1997). A "mutual investment" (Tsui et al., 1997) or "high involvement" (Lawler, 1988) strategy is where employers create flexibility by developing and encouraging employees to adopt expandable work roles. However, a different way of achieving flexibility is through being able to freely hire and fire workers using a "quasi spot contract" approach to employment (Tsui et al., 1995). This approach is epitomized by the use of temporary employment contracts (Beard & Edwards, 1995; Feldman et al., 1995; Pfeffer & Baron, 1988). From this perspective, the lower cost associated with recruitment, training, fringe benefits, and severance of temporary contracts (Pfeffer & Baron, 1988; von Hippel, Mangum, Greenberger, Heneman, & Skoglund, 1997), allows employers to respond cost effectively to fluctuating markets by laying off and rehiring employees (Matusik & Hill, 1998).

These contrasting ways that employers achieve flexibility differ in the types of exchanges that take place between employers and employees (Tsui et al., 1997). The high mutual investment approach is based on a combined economic and social exchange model in which employers offer inducements beyond monetary rewards, such as providing job security, in exchange for employee contributions that extend beyond traditional agreements, such as employees taking on broader roles. However, the quasi spot contract approach, characteristic of contingent working, is based purely on an economic exchange model whereby the employer

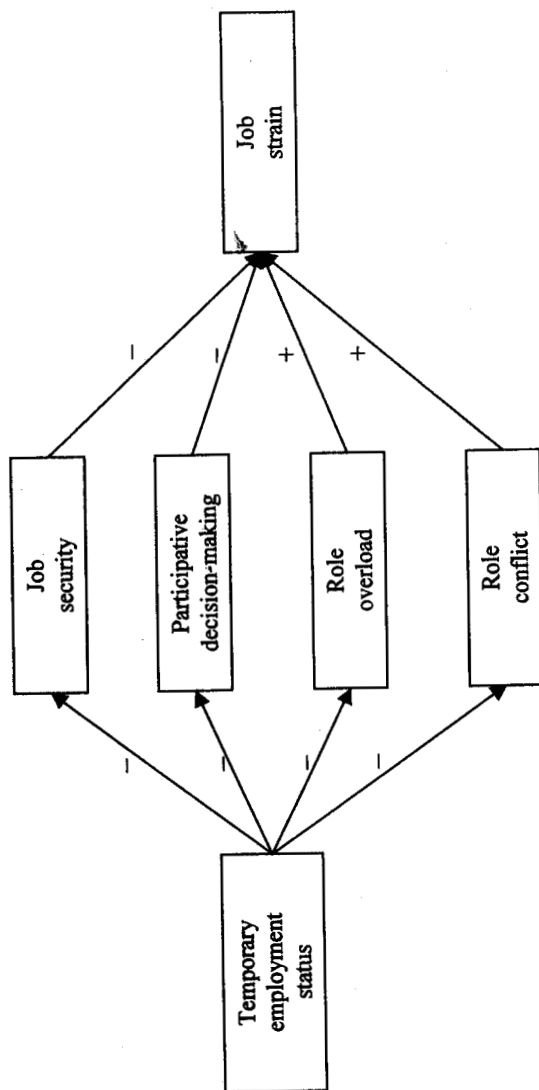


Figure 1: Conceptual Model of the Relationship Between Temporary Employment Status, Work Characteristics, and Job Strain.

offers short-term financial inducements in exchange for narrow and well specified contributions by the employee.

Employers often adopt both of these forms of employment relationships within a firm (as well as other forms, see Tsui et al., 1997) to achieve maximum flexibility for the whole organization (Tsui et al., 1995). Indeed, having a "peripheral" temporary workforce can be seen as essential for achieving a mutual investment relationship with the "core" permanent workforce. As Pfeffer and Baron (1988, p. 274) observed: "the very elements of bureaucratic and clan control that promise careers and continuity in return for loyalty and commitment may require a buffer work force to absorb fluctuations in environmental demands." The organization that the current study is based on adopted both approaches as part of its overall strategy for managing human resources. A large temporary work force was put in place essentially to buffer the core permanent work force from unpredictable market demands. The coexistence of different approaches to achieving flexibility within an organization suggests that tasks will differ, and the nature of work experience will vary, according to the type of employment relationship. We argue next that the different exchange basis of the relationships for temporary contract employees compared to those on permanent contracts, as well as other factors, means that temporary employees in the organization we investigate will tend to have some negative job features relative to the permanent counterparts (i.e., lower job security, less participative decision making) but also some positive job features (i.e., fewer role demands).

Employment Status: Negative Impact via Job Security and Participative Decision Making

Job security. An important element to the exchange relationship for contingent employment is that, in return for the narrow and well specified contribution, the inducements offered by the employer tend to be short term and purely economic (Tsui et al., 1997). The short-term nature of the relationship clearly has negative consequences for employees' job security. We therefore consider job security as a fundamental indicator of the effects of employment status.

Job security refers to an employee's sense of power that they can "maintain desired continuity in a threatened job situation" (Greenhalgh & Rosenblatt, 1984, p. 438). The perceived threat can be to the total job or to desired features of the job, such as opportunities for promotion or the type of responsibilities. Temporary contract employees face the threat of future job loss, yet typically lack the power to do anything about this potential threat (Beard & Edwards, 1995). Many researchers have

suggested that temporary contract employees will have low job security, especially if they are employed on this basis involuntarily (e.g., Feldman et al., 1994). A lack of job security has been linked to greater job strain, particularly amongst men (De Witte, 1999). The hypotheses for the current study therefore are:

Hypothesis 1a: Temporary status decreases perceptions of job security.

Hypothesis 1b: Lower perceived job security is associated with higher job strain.

Participative decision making. The employment of a temporary contract workforce is argued to be more suitable for tightly prescribed jobs with clear performance expectations (e.g., Osterman, 1988; Walton, 1985). Thus, where the performance requirements can be clearly defined and measured, an arrangement based on short-term economic inducements may enhance flexibility. Consistent with this view, it has been observed that simplified jobs low in technical and information complexity are more likely to be externalized (Davis-Blake & Uzzi, 1993). However, where tasks are complex and future requirements uncertain, the contribution required from employees will be broader and more emergent. An open-ended, high involvement relationship in which employers offer inducements beyond purely financial ones is argued to facilitate this broader contribution (Davis-Blake & Uzzi, 1993; Tsui et al., 1995, 1997). The implication from the exchange theory perspective is that temporary contract employees are likely to have simplified and more closely prescribed jobs than those with other types of employment relationship. Consistent with this proposition, Russell-Gardner and Jackson (1995) found that temporary contract employees in a production setting had less job autonomy and challenge than those on permanent contracts. Similarly, many commentators have described temporary contract employees as being "underemployed" and as "stranded in dead-end, low-level jobs" (Feldman, Doeringhaus, & Turnley, 1994, p. 57).

Moreover, even if temporary employees are not specifically recruited to carry out simplified jobs, this form of work design can emerge over time. Pearce (1993) found that managers tend to allocate temporary workers more basic tasks that require less organizational knowledge and decision making, and more challenging and interdependent tasks are allocated to permanent employees. Exchange theory would suggest that this situation partly arises because temporary contract employees will be less willing to take on more open-ended and complex tasks due to the short-term, closed inducements they receive for their contribution. In other words, temporary employees might feel the equity equation is

already balanced without informally expanding their roles through wider decision making.

Once a strategy to adopt a temporary contract workforce is in place, there are further factors that act to create and sustain narrow jobs for temporary contract employees. In particular, the flexibility afforded to employers of a temporary workforce depends on allocating these employees to jobs with minimal training and development costs (Hunter & MacInnes, 1992). The imperative is, therefore, to place those on temporary contracts in jobs that require less learning-by-doing or formal training (Pfeffer & Baron, 1988). Temporary employees are then less likely to receive on-going training and development because the short duration of contracts both reduces the incentive for employers to develop employees (Feldman, 1995) and reduces employees' incentive and opportunity to acquire skills. Permanent employees can also be unwilling to impart skills and knowledge if they fear that they are training their replacements (Pfeffer & Baron, 1988), which means that temporary contracts can reduce the chance for employees to obtain the informal, on-the-job learning that enriches job content (Krausz et al., 1995). In parallel with these types of job consequences, those in temporary positions also often lack the organizational power to change or influence the type of work they perform (Beard & Edwards, 1995). Temporary contract employees often have fewer employment rights (Hartley & Jacobsen, 1991) and they typically lack rank or seniority within the organization. As Beard and Edwards (1995, p. 115) described, "contingent workers must take on whatever work assignments are offered by the employer, as opposed to those that meet the worker's specific skills and preferences."

We therefore propose that, when hired to respond cost effectively to market demands, as in the current study, employees with temporary contracts will have less enriched and more tightly prescribed jobs than permanent employees. In the current study, we use the extent of participative decision making as an indicator of enriched jobs. Employee involvement in decision making is a key feature of both job enrichment and self-managing teams (Sagie & Koslowsky, 2000), the two major forms of enriched work design (Parker & Wall, 1998). We hypothesize that employees on temporary contracts will have less involvement in making decisions that affect their work, either because they have less opportunity for participation or because they are less motivated to do so because of their employment contract. Evidence from reviews suggest that the extent to which employees are involved in decision making is associated with lower job strain and strain-related outcomes such as job dissatisfaction (e.g., Locke & Schweiger, 1979; Spector, 1986; Warr, 1990). The hypotheses therefore are:

Hypothesis 2a: Temporary status decreases perceptions of participative decision making.

Hypothesis 2b: Lower perceived participative decision making is associated with higher job strain.

Employment Status: Positive Impact via Role Overload and Role Conflict

Role overload. The above arguments for a narrower role for temporary contract employees compared to permanent contract employees lead us to predict some positive consequences for temporary contract employees. We expect that those on temporary contracts will have fewer tasks because the nature of the employment relationship that characterizes contingent work is not conducive to employees taking on extra work load, and because many tasks are likely to require considerable organizational knowledge that temporary employees do not possess. These latter types of tasks are likely to be allocated to employees on permanent contracts. We therefore predict that temporary contract employees will have lower role overload, or less excessive work demands, than those on permanent contracts. Role overload been found to be associated with greater job strain (e.g., Beehr, 1985; Jackson & Schuler, 1985; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). The hypotheses therefore are:

Hypothesis 3a: Temporary status decreases perceptions of role overload.

Hypothesis 3b: Lower perceived role overload is associated with lower job strain.

Role conflict. In the same vein, we propose that temporary employees will report lower role conflict. Role conflict refers to a lack of congruent expectations between and within role (Kahn et al., 1964). Compared to their permanent counterparts, temporary contract employees' jobs will be simpler and less complex because of the narrow financial-based inducements offered by the temporary contract relationship, and because of the imperative for those on short term contracts to learn their jobs quickly. Therefore, it is likely that there will be less conflict inherent in the tasks required of these employees. Many studies have demonstrated that high levels of role conflict are associated with job strain (e.g., Beehr, 1985; Jackson & Schuler, 1985). The hypotheses therefore are:

Hypothesis 4a: Temporary status decreases perceptions of role conflict.

Hypothesis 4b: Lower perceived role conflict is associated with lower job strain.

Method

Organizational Background

The study involves two surveys conducted 18 months apart in a U.K. company that manufactures and assembles large vehicles. At the time of the first survey, approximately 25% of production employees were on temporary contracts. Employing a large temporary contract work force was a relatively new approach within the company. Although small numbers of temporary contract employees had always been used to cope with unanticipated production changes and employee absence, the use of a temporary work force on a large scale was unprecedented and reflected an explicit senior management strategy. Senior management's rationale for developing a large contingent work force was to cope with changing demand for the product in a cost-effective way and to protect the permanent workforce from market fluctuations. The manufacturing director stated "We've adopted a philosophy of keeping 760 people as the sort of core group of people that we would like to retain in the business, even when the troughs come in through world-wide recession. So the people we are recruiting today are temporary." Local unemployment rates were high, and there was a large pool of skilled labor to draw from due to the closure of nearby manufacturing plants. All temporary jobs were full time.

It was widely understood that the temporary contract employees were keen to obtain a permanent contract within the company, which was recognized as one of the best local employers. Many temporary employees hoped that if they performed well, they would eventually be employed on a permanent contract. In the past, most temporary contract employees had been made permanent, although it was also acknowledged that the current situation was different due to the much larger number of temporary employees and greater market uncertainty. Some employees reported that they had been promised that they would receive a permanent contract after working in the company for 6 months. These employees were angry and frustrated that this promise had not been fulfilled. Overwhelmingly, the feeling was one of uncertainty as to whether temporary contract employees would ever be given permanent status. Illustrative comments from temporary contract employees written in the open-ended section of the survey were: "I have been an employee for 9 months. . . When I started, I signed a temporary 6-month contract. It worries me that I have not been given a permanent contract"; "I am not happy with being temporary labor. I would prefer something permanent"; "Despite promising people contracts after 6 months, some 11 months later and we are still waiting, which in turn creates a gloomy pic-

ture with no job security, which again makes an unhappy workforce"; "no one from higher management or the union is prepared to answer questions about job security for temporary workers"; and "As a temp I would like to know if or when a new contract would be offered instead of feeling in limbo."

At the time of the first survey, management was unclear about what they were going to do about the temporary work force. Management was discussing the issue with the union, who were keen for temporary employees to be given permanent contracts but, at the same time, wanted to protect the job security of the core workforce. Some temporary employees were approaching a tenure of 2 years, and U.K. employment law states that people cannot be employed on a temporary contract beyond a period of 2 years.

By the time of the second survey, 18 months later, the company had undergone substantial organizational change (Parker, 1998). Shortly after the initial survey, the family-owned company was bought by their major customer, an American-owned multinational corporation. This takeover was largely unexpected amongst the general work force. The takeover led to expanded order books and the implementation of various changes throughout the organization. Most pertinent to the present study was that, because the new owners were confident about the increased demand for the product and because they had the necessary capital, almost all of the temporary employees were given permanent employment contracts. As the demand for the product continued to increase, a new temporary work force was recruited so that by the second survey, new temporary employees made up about one-fifth of the production workforce.

Within production, other changes were introduced during the period that were likely to simplify job tasks and reduce participative decision making. The new management installed a moving assembly line within one area of production, resulting in reduced discretion of work timing and methods for the operators involved. Another change that negatively affected the degree of participative decision making was a general emphasis on lean production principles, including simplifying and standardizing work procedures. The latter was facilitated by the introduction of a new department that assumed responsibility for this goal. An initiative involving employee participation in continuous improvement groups was also scaled down, and gradually replaced by the incremental introduction of cell-based lean production teams. As well as these changes that affected job content, the organization was discussing plans to build another plant that manufactured the same product. The goal was to reduce dependency on a single supplier, which was a global strategy adopted by this particular multinational company. Although such a plan had not

gone ahead by the time of the second survey, many employees were worried and uncertain about the long-term prospects for the site.

Procedure and Sample

Participants completed confidential questionnaires during work time in group sessions facilitated by the researchers. The response rate was over 80% at Time 1 and at Time 2. All participants were men. The longitudinal sample included 332 employees who were permanent at Time 2 and completed surveys at both Time 1 and Time 2 (75 of whom were on temporary contracts at Time 1). This sample had ages at Time 1 that ranged from 17 to 62 ($M = 36.28$, $SD = 9.59$) and tenure at Time 1 that ranged from less than 1 year to 21 years ($M = 4.90$, $SD = 5.87$). The new temporary hires at Time 2 ($N = 92$) were aged between 17 and 50 ($M = 31.43$, $SD = 7.20$) and had an average tenure of 0.22 years ($SD = 0.44$). The new permanent hires at Time 2 ($N = 34$) were aged from 18 to 43 years ($M = 31.84$, $SD = 7.46$) with a mean tenure of 1.31 ($SD = 0.82$).

Measures

The questionnaire contained a range of measures obtained as part of a larger organizational study (Parker, 1998). Job security ($T1\alpha = .83$; $T2\alpha = .84$) was assessed using a four item scale derived from Caplan et al. (1975). Demonstrating convergent validity, the scale has been shown to correlate with other measures of job security (Ashford, Lee, & Bobko, 1989). Respondents indicated how certain they felt "about what your future career looks like, about the opportunities for promotion and advancement which will exist in the next few years, about whether your job skills will be valued 5 years from now, about what your responsibilities will be like 6 months from now." They responded on a 6-point response scale from 1 = *very uncertain* to 6 = *very certain*.

Participative decision making ($T1\alpha = .77$; $T2\alpha = .72$) refers to the degree of employee involvement in making or influencing decisions that affect their work. It was assessed by asking employees to rate on a 5-point response scale from 1 = *not at all* to 5 = *a great deal* the extent that they "influence decisions about changes that might affect their work," "influence decisions about the long-term plans and directions for their work area," "influence decisions about the long term plans and direction for the company," and "have the opportunity to contribute to the development of new models and/or new products."

Role overload ($T1\alpha = .80$; $T2\alpha = .79$) was assessed using four items derived from Caplan, Cobb, French, Van Harrison, & Pinneau's (1975)

measure of quantitative work load. Employees indicated how often they "find work piles up faster than they can complete it, find themselves working faster than they would like to complete their work, have to work very hard," and "feel like they have too much work for one person to do." The response scale was from 1 = *rarely or never* to 5 = *constantly*.

Role conflict ($T1\alpha = .85$; $T2\alpha = .86$) was measured using a 7-item version of the scale developed by Rizzo, House, and Lirtzman (1970) that has been used in many studies and has been shown in several reviews to be highly appropriate for research in organization (e.g., Jackson & Schuler, 1985; Van Sell, Brief, & Schuler, 1981). Four items focused on person–role conflict ("I have to do things that I believe should be done in a different way; I have to do things that are against my better judgement; I am expected to do things that are not part of my job"; and "I have to break a rule or policy in order to carry out an assignment") and three items concerned intersender conflict ("Different people I work with expect conflicting things from me, I receive incompatible requests from two or more people," and "My boss sends me conflicting messages about what is important.") The response scale was the same as that used for role overload.

Job strain ($T1\alpha = .86$, $T2\alpha = .88$) was assessed using a shortened version of Warr's (1990) measure of this construct. Job strain has been shown to be distinct from related concepts (e.g., job satisfaction, context-free well being) and to be correlated with demographic and job variables in ways that are consistent with previous research (Warr, 1990). Two subscales assessed by the measure, job-related anxiety–contentment and job-related depression–enthusiasm, were highly correlated in the current study ($T1, r = .68$; $T2, r = .75$) and did not produce separate factors in an exploratory factor analysis. We therefore chose the six highest loading items from a factor analysis (principal axis factoring) specifying one factor. Employees were asked to indicate on a 5-point scale from 1 = *never* to 5 = *all of the time*, how much of the time, in the past month, their job had made them feel a variety of affective states, including happy, relaxed, comfortable, contented, enthusiastic, and miserable. Positive items were reverse scored.

Tenure was assessed by asking employees how long they had been in their present job in years.

The questionnaire asked employees to indicate their: age (in years), gender (*male* = 1, *female* = 0), and temporary status (*permanent* = 0, *temporary* = 1). Employment status data was cross-checked against personnel records.

TABLE 1
Sample and Research Design For the Study

Group	N	Group description	Research design			
				Time 1	Time 2	
1	75	Changed from temporary to permanent	N	O	X	O
2	257	Continuously permanent	N	X	O	O
3	92	New temporary hires at Time 2	N			O
4	34	New permanent hires at Time 2	N		X	O

Notes: N signifies that the groups are nonequivalent, X signifies a permanent employment contract, and O signifies a measurement point.

Research Design

The study hypotheses are tested using a quasi-experimental design (see Table 1). The design makes use of the fact that, during the period of the study, employees who were initially employed on temporary contracts became permanent and a new group of individuals were employed under temporary contracts. The design is similar to pretest-posttest nonequivalent groups design (Cook & Campbell, 1979), but the design is expanded to include additional comparison groups that help to reduce threats to internal validity. Four groups of employees can be identified. Group 1 was 75 employees who were employed on a temporary status at the start of the study, but were given a permanent employment contract approximately 3 months after the Time 1 survey, such that by the Time 2 survey, they were on permanent contracts. A change in perceived work characteristics, in line with that hypothesized, is expected for these employees. Nevertheless, a change in work characteristics for these employees does not necessarily mean that employment status caused these changes because other changes might have occurred over the same period (i.e., history or maturation threats to internal validity). Group 2 acts as a comparison group. Group 2 had 257 employees who were on permanent contracts at Time 1 and who continued to have a permanent contract throughout the period of the study. Comparing the degree and type of change in Groups 1 and 2 provides a measure of the effect of a change in employment status.

The third and fourth groups were new employees hired after the Time 1 survey. Group 3 was 92 new temporary contract employees who were not in the organization at Time 1 but were hired on a temporary contract just prior to Time 2. Group 4 was 34 employees with permanent employment contracts who were newly recruited into the organization at Time 2. These groups of employees are included in the comparisons of permanent and temporary status at Time 2. Examining

TABLE 2

*Means, Standard Deviations, and Correlations Among All Measures
at Time 1 and Time 2 and Between Time 1 and Time 2*

	Mean	SD	1	2	3	4	5
Time 1							
1. Temporary status	0.23	0.42	1.00				
2. Job security	2.95	1.25	-.38***	1.00			
3. Participative decision making	1.79	0.69	-.15**	.22***	1.00		
4. Role overload	2.39	0.78	-.17**	.01	.05	1.00	
5. Role conflict	1.96	0.83	-.24***	-.11†	.00	.26***	1.00
6. Job strain	2.58	0.72	-.20**	-.13*	-.14*	.19***	.42***
Time 2							
7. Temporary status	0.20	0.40	n/a	n/a	n/a	n/a	n/a
8. Job security	2.53	1.11	-.04	.31***	.14*	-.11†	-.20***
9. Participative decision making	1.58	0.56	-.04	.20***	.41***	-.06	-.10
10. Role overload	2.35	0.75	-.07	-.03	.03	.66***	.27***
11. Role conflict	1.73	0.69	-.08	-.11*	.01	.17**	.54***
12. Job strain	2.72	0.79	.04	-.19**	-.10	.04	.26***
13. Tenure	5.22	5.88	-.47***	.28***	.09	.18**	.11†

work characteristics for these additional comparison groups strengthens the research design by allowing for an examination of any cohort or testing effects.

Results

Table 2 shows the means and standard deviations of the major variables as well as the correlations for all measures. Correlations within Time 1 and between Time 1 and Time 2 are based on the longitudinal sample (Groups 1 and 2). Correlations within Time 2 are based on the full sample (Groups 1 to 4).

The analyses that were used to test the core hypotheses are presented next, followed by the results from these analyses. We then investigate how the link between temporary status and job strain might be accounted for by indirect links between temporary status and work characteristics.

Analyses To Test Core Hypotheses

The hypotheses concerning the effect of temporary status on perceived work characteristics (i.e., Hypotheses 1a, 2a, 3a, and 4a) were tested using repeated measures ANOVA with time as the repeated measures variable and group as the independent variable. This approach involves examining change in work characteristics for Groups 1 and 2;

TABLE 2 (continued)

6	7	8	9	10	11	12	13
1.00							
n/a	1.00						
-.24***	-.24***	1.00					
-.17***	-.16***	.38***	1.00				
.11*	-.23***	-.06	-.06	1.00			
.26***	-.03	-.19***	-.12*	.35***	1.00		
.53***	-.14*	-.27***	-.18***	.17***	.29***	1.00	
.17**	-.42***	.13**	.14**	.17***	-.06	-.01	1.00

Note. Correlations within Time 1 and between Time 1 and Time 2 are based on the longitudinal sample ($N = 332$). Correlations within Time 2 are based on the full sample ($N = 458$). * $p < .05$ ** $p < .01$ *** $p < .001$ $^t p < .10$

followed by examining differences in work characteristics between temporary and permanent employees at both Time 1 and Time 2.

To assess change in work characteristics, we first expected a Group \times Time interaction, signifying that the groups changed differentially over time. If the Group \times Time interaction was significant, we then looked at the simple effect tests obtained from the repeated measures ANOVA that assessed change within each status group. We expected different patterns of change within the groups consistent with the hypotheses but also consistent with the broader changes that took place in the company.

To investigate group differences in work characteristics, we assessed the simple effect tests for differences between Group 1 and Group 2 at each time period. We expected significant differences between the Group 1 temporary employees and the Group 2 permanent employees at Time 1, but no significant differences at Time 2 when all employees in Groups 1 and 2 were permanent. These comparisons, however, only give a partial answer to the question concerning group differences in the key variables because they do not include the information available from the two additional comparison groups at Time 2. We therefore carried out a planned ANOVA contrast at Time 2 that compared new temporary employees (Group 3) with the other three groups of permanent employees (i.e., Groups 1, 2, and 4).

TABLE 3
F Values for Repeated Measures ANOVAs at Time 1 and Time 2 for the Longitudinal Sample, and Planned Contrast at Time 2

Expected effect	Longitudinal sample (Groups 1 and 2)					Time 2 sample (Groups 1 to 4)	
	Group \times Time interaction <i>F</i> (1,327)	Change in Group 1 (temps to permanent) <i>F</i> (1,327)		Change in Group 2 (continuously permanent) <i>F</i> (1,327)		Time 1 <i>F</i> (1,326)	Time 2 <i>F</i> (1,326)
		Significant interaction	Significant change	No change	Significant difference		
Job security	31.65*** (28.42***)	8.76** (9.37**)	40.69*** (13.89***)		50.15*** (31.47***)	0.43 (0.23)	24.01*** (18.66***)
Participative decision making	4.23* (4.14*)	0.09 (0.42)	23.83*** (16.40***)		7.73** (5.35*)	0.66 (0.01)	8.42** (4.16*)
Role overload	5.14* (4.80*)	7.57** (8.91**)	0.11 (1.02)		9.60** (3.74*)	1.69 (0.47)	13.54*** (11.26**)
Role conflict	13.20*** (13.27***)	0.55 (1.13)	39.16*** (16.24***)		19.97*** (14.81***)	1.98 (0.94)	0.25 (0.16)
Job strain	18.80*** (18.18***)	40.26*** (42.45***)	6.96** (9.01**)		12.80*** (6.38*)	0.48 (0.01)	4.91* (5.74*)

Note: Values in parentheses are *F* values after controlling for tenure.

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

Table 3 shows the Group \times Time interaction effects and simple effect tests for the repeated measures ANOVAs, and the planned contrasts. To ensure that the findings do not simply reflect the confounding variable of tenure (which was negatively correlated with temporary employment status), all of these analyses were repeated with tenure as a covariate. Results with tenure as a covariate are shown in brackets. Figure 2 shows the mean scores for the perceived work characteristics for each group at Time 1 and Time 2.

To test the hypotheses concerning the link between work characteristics and job strain (i.e., Hypotheses 1b, 2b, 3b, 4b), we first inspected the relevant cross-sectional correlations at both Time 1 and Time 2. As a more stringent test, we then carried out hierarchical regression analyses for each work characteristic predicting Time 2 job strain. In the first step of the regression equation, job strain at Time 1 was entered to control for initial levels. The Time 1 work characteristic was then entered in the second step, which shows the lagged effects of the work characteristic on job strain. However, we did not expect work characteristics at Time 1 to affect job strain at Time 2 because work characteristics changed for many people over the study period. We therefore focus on Step 3, which was the entry of the Time 2 work characteristic. This step shows the association between the work characteristic and job strain after controlling for initial levels of job strain and the work characteristic. Although causality cannot be demonstrated by significant beta weights at this step, this analysis provides a stronger test of the association between the work variables and job strain than cross-sectional associations because the effects of stable common causes (e.g., personality) are controlled (Kessler & Greenberg, 1981), and because autoregressive effects are excluded (Gollob & Reichardt, 1987). As recommended by Meyer and Allen (1988), we carried out the analysis for each work characteristic separately to show the effects of measured rather than residualized variables on job strain. Table 4 shows the results of the hierarchical regression analyses.

We now summarize the findings from the above analyses for each of the hypotheses.

Employment Status: Negative Impact Via Job Security and Participative Decision Making

Job security. Table 3 shows there was a significant Group \times Time interaction for job security, $F(1,327) = 31.65$, $p < .001$, suggesting differential change for the groups. Investigation of the simple effect tests and mean scores (see Figure 2a) showed that, consistent with Hypothesis 1a, individuals who were temporary at Time 1 but became

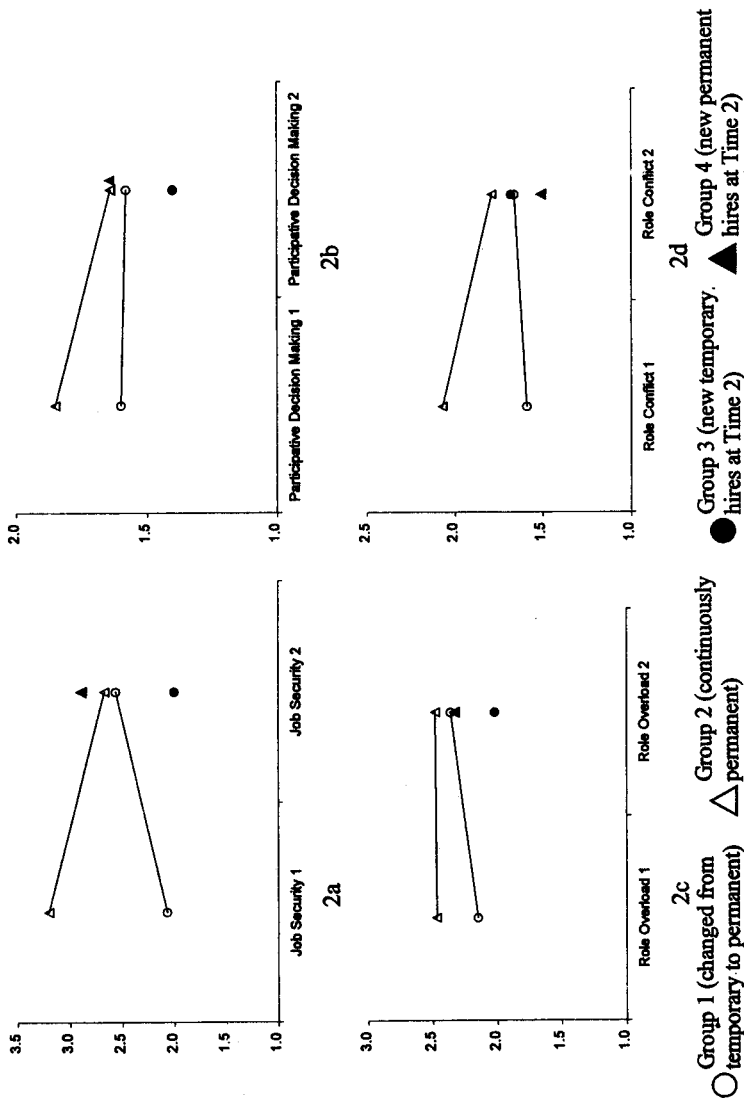


Figure 2: Comparison of Groups of Employees at Time 1 and Time 2 for Job Security (2a), Participative Decision Making (2b), Role Overload (2c), and Role Conflict (2d).

TABLE 4
*Separate Hierarchical Regression Analyses Predicting Time 2
 Job Strain from Perceived Work Characteristics*

Step	Variable	β at Step 2	β at Step 3	Change in R^2
2	Time 1 job security	-.11*	-.06	.013*
3	Time 2 job security		-.18**	.029***
2	Time 1 participative decision making	-.05	.02	.002
3	Time 2 participative decision making		-.16**	.020**
2	Time 1 role overload	-.089	-.18**	.008
3	Time 2 role overload		.14*	.011*
2	Time 1 role conflict	.04	-.04	.001
3	Time 2 role conflict		.16**	.017**

Notes: Step 1 was the entry of job strain. The beta weight for job strain in Step 1 was .51, $p < .001$, and the change in R^2 was .26, $p < .001$.

permanent at Time 2 (i.e., Group 1) had increased job security over the study period, $F(1,327) = 8.76$, $p < .01$. In contrast, those employees who remained permanent (Group 2) showed a significant decrease in job security, $F(1,327) = 40.69$, $p < .001$, suggesting certainty about future jobs reduced across the site. Consistent with these results, temporary employees had lower job security than permanent employees at Time 1, $F(1,326) = 50.15$, $p < .001$. At Time 2, as would be expected because all employees were permanent at this point, there were no significant differences in Groups 1 and 2, $F(1,326) = 0.43$, $p > .05$. Incorporating the additional comparison groups available at Time 2, the new temporary hires had significantly lower job security compared to the three groups of permanent employees, $F(1,440) = 24.01$, $p < .001$. Together, these results provide strong support for a negative effect of temporary employment status on job security (Hypothesis 1a).

Job security also had a significant negative correlation with job strain at both Time 1 ($r = -.20$, $p < .01$) and Time 2 ($r = -.27$, $p < .001$). In addition, Time 2 job security was a significant predictor of Time 2 job strain after controlling for initial levels of job strain and job security ($\beta = -.18$, $p < .01$; see Table 4). Together, these findings support Hypothesis 1b and suggest that increased job security is associated with lowered job strain.

Participative decision making. There was a significant Group \times Time effect for participative decision making, $F(1,327) = 4.23$, $p < .05$. As expected, at Time 1 temporary employees in Group 1 had significantly less participative decision making than the permanent employees in Group 2, $F(1,326) = 7.73$, $p < .01$, and there were no significant differences in these groups at Time 2 when all the employees were permanent, $F(1,326) = .66$. However, this pattern of results was achieved by a sig-

nificant reduction in the permanent employees' level of participative decision making ($F[1,327] = 23.83, p < .001$), rather than through the predicted increase in participative decision making for the temporary contract employees ($F[1,327] = .09, p > .05$; see Table 3 and Figure 2b). Although this pattern of findings does not fully support Hypothesis 2a, it is consistent with a process in which a change in status for temporary employees results in them becoming more like permanent employees. In a context where the permanent employees had reduced participative decision making, those initially on temporary contracts maintained their levels of this aspect with a change a status. In other words, it is possible that if those initially on temporary contracts had not changed status, they would have shown a similar decline in participative decision making to those who were continuously permanent. The design cannot test this possibility. However, the proposition that change in status buffered the temporary employees from a decline in participative decision making is supported by the analyses using the additional comparison groups available at Time 2. The new temporary hires (Group 3) had significantly less participative decision making compared to the three groups of permanent employees, $F(1,440) = 8.42, p < .01$.

Participative decision making had a significant negative correlation with job strain as expected, both at Time 1 ($r = -.14, p < .05$) and Time 2 ($r = -.18, p < .001$), supporting Hypothesis 2b. In addition, Time 2 participative decision making was a significant predictor of Time 2 job strain after controlling for initial levels of job strain and participative decision making ($\beta = -.16, p < .01$; see Table 4).

Employment Status: Positive Impact via Role Overload and Role Conflict

Role overload. There was clear support for Hypothesis 3a that temporary status decreases role overload. There was a significant Group \times Time effect for role overload, $F(1,327) = 5.14, p < .05$, suggesting differential change across the groups (see Table 3 and Figure 2c). Individuals who were temporary at Time 1 and became permanent at Time 2 reported increased role overload, $F(1,327) = 7.57, p < .01$, consistent with what would be expected; whereas employees who remained permanent showed no change in perceived role overload, $F(1,327) = 0.11, p > .05$. Also as expected, temporary employees had significantly lower role overload than their permanent counterparts at Time 1, $F(1,326) = 9.60, p < .01$, but there was no significant difference between Groups 1 and 2 at Time 2, $F(1,326) = 1.69, p > .05$. After including the additional comparison groups available at Time 2, the new temporary employees had lower role overload, $F(1,440) = 13.54, p < .01$ than the collective set of permanent employees, providing further support for Hypothesis 3a.

Consistent with Hypothesis 3b, role overload had a significant positive correlation with job strain at Time 1 ($r = .19, p < .001$) and Time 2 ($r = .17, p < .001$). Also supporting this hypothesis, Time 2 role overload was a significant predictor of Time 2 job strain after controlling for initial levels of these variables ($\beta = .14, p < .05$; see Table 4).

Role conflict. There was also Group \times Time effect for role conflict, $F(1,327) = 13.20, p < .001$. In addition, as expected, temporary employees had significantly lower role conflict than permanent employees at Time 1, $F(1,326) = 19.97, p < .001$, but not at Time 2 when employees in both groups were permanent, $F(1,326) = 1.98, p > .05$. Although supportive of Hypothesis 4a, this result was achieved through a different process to that hypothesized. There was no increase in levels of role conflict for the Group 1 employees who were temporary at Time 1 and became permanent at Time 2, $F(1,327) = .55, p > .05$; rather, those employees who remained permanent showed a significant decrease in role conflict, $F(1,327) = 39.16, p < .001$ (see Figure 2c for means). Although this pattern of results does not fully support Hypothesis 4a, it is consistent with a process in which a change in status for temporary employees results in them becoming more like permanent employees.

Up to this point, the pattern of results provide some support for the idea that temporary status is associated with lower role conflict. However, including additional comparison groups led to a more complex picture. The new temporary employees at Time 2 did not significantly differ from the permanent groups in their level of role conflict, $F(1,440) = .25, p > .05$. Inspection of the means shows that the new permanent employees had particularly low levels of role conflict. These results suggest that the role conflict findings do not provide straightforward support for Hypothesis 4a.

Role conflict had a strong and significant positive correlation with job strain at Time 1 ($r = .42, p < .001$) and Time 2 ($r = .29, p < .001$), consistent with Hypothesis 4b. Providing further support for the hypothesis, Time 2 role conflict was a significant predictor of Time 2 job strain after controlling for initial levels of role conflict and job strain ($\beta = .16, p < .01$; see Table 4).

In summary, there was support for the prediction that temporary employment status is associated with lower job security and less participation in decision making (Hypothesis 1a and 2a, respectively). In turn, decreases in these variables were associated with enhanced job strain (Hypothesis 1b and 2b), suggesting some negative strain consequences of temporary employment status. However, there were also positive consequences. There was support for Hypothesis 3a regarding lowered role overload as a function of temporary employment status. In turn, lowered role overload was shown to be associated with reduced job strain as

expected (Hypothesis 3b). Role conflict was also associated with job strain as hypothesized (Hypothesis 4b), although the results only partially support the idea that temporary contract status is negatively associated with role conflict. In further support of the hypotheses, controlling for tenure had little effect on the pattern of findings.

Employment Status and Job Strain

There was a significant, albeit small, negative correlation between temporary employment status and job strain at both Time 1 ($r = -.20$, $p < .01$) and Time 2 ($r = -.14$, $p < .05$), suggesting temporary contract employees were less stressed. This conclusion was supported by repeating the above repeated measures ANOVA procedure with job strain as the dependent variable (see Table 3 and Figure 3). There was a significant Group \times Time effect, $F(1,327) = 18.80$, $p < .001$. Inspection of simple effect tests and means showed that job strain increased considerably for Group 1, the temporary contract employees who were made permanent, $F(1,327) = 40.26$, $p < .001$. Job strain also increased, but to a lesser extent, for Group 2 employees who remained permanent throughout, $F(1,326) = 6.96$, $p < .05$. At Time 1, the employees on temporary contracts (Group 1) had significantly less job strain than those on permanent contracts (Group 2), $F(1,326) = 12.80$, $p < .001$. There was no significant difference between the groups at Time 2, $F(1,326) = 0.48$, $p > .05$, when both groups of employees had permanent contracts. Taken together, these results suggest that temporary status is associated with less job strain. However, this result is tempered by the finding that job strain increased for those with no change in status, which suggests that there are other forces enhancing strain for employees across the site. The planned comparison analysis including the new temporary and permanent hires at Time 2 showed that the new temporary hires had significantly lower levels of job strain than the three groups of permanent employees, $F(1,440) = 4.91$, $p < .01$, adding weight to the picture that temporary employment status is associated with less job strain.

Further analyses were conducted to investigate whether this effect of temporary status on job strain was in any way attributable to lower role demands reported by the temporary contract employees. We repeated the above repeated measures ANOVA for job strain with a series of covariates. Essentially, we compare the effect of temporary status on job strain co-varying out the effects of job security and participative decision making (which are predicted to lower job strain) to its effect when co-varying out the effects of role conflict and role overload (which are predicted to increase job strain).

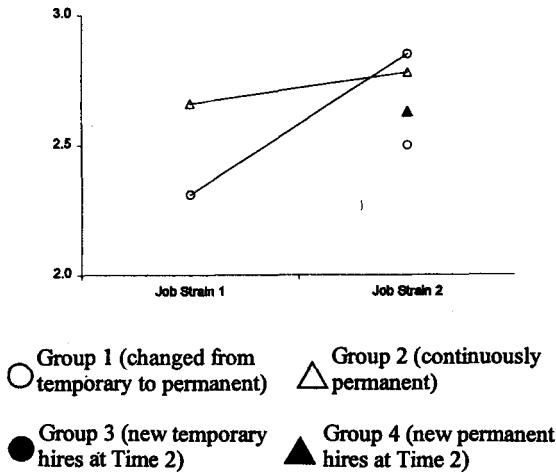


Figure 3: Comparison of Groups of Employees at Time 1 and Time 2 for Job Strain

Table 5 reports the Group \times Time interaction results of these analyses. An initial analysis includes no covariates and, for comparison purposes, replicates the F test that was reported in Table 3 and also reports the variance explained by this interaction. The second analysis includes job security and participative decision making as covariates. Job security was an almost significant covariate, $\beta = -.10$, $p < .10$, and participative decision making was a significant covariate, $\beta = -.12$, $p < .05$, with both being associated with lower levels of job strain. We expected that controlling for these positive aspects should enhance the differences in job strain between temporary and permanent employees, and hence the Group \times Time effects should be greater. This was the case. The Group \times Time effect was increased from $F(1,327) = 18.80$ to $F(1,327) = 24.53$. We expected the reverse pattern of results when controlling for role conflict and role overload, as these were predicted to be positively related to job strain. Both role conflict and role overload were significant covariates ($\beta = .11$, $p < .05$ for both), and when these covariates were included, the Group \times Time effect was reduced from $F(1,327) = 18.80$ to $F(1,327) = 12.25$, which was the opposite pattern to that obtained when partialling out the effects of job security and participative decision making.

TABLE 5
Repeated Measure Analyses of Covariance for Job Strain

	Regression weights predicting job strain			
	Analysis 1	Analysis 2	Analysis 3	Analysis 4
<u>Covariates</u>				
Job security	—	-.10 _t	—	-.10 _t
Participative decision making	—	-.12*	—	-.11*
Role overload	—	—	.11*	.13*
Role conflict	—	—	.11*	.11*
<i>F</i> value for Group × Time interaction, <i>F</i> (1,327)	18.80***	24.53***	12.25***	18.30***
η^2 for Group × Time interaction	.054	.073	.038	.056

t *p* < .10, **p* < .05 ***p* < .01 ****p* < .001

This data from the covariate analyses suggests that the relatively weak effects of employment status on job strain can partly be explained by counter directional indirect effects of employment status on perceived work characteristics. The lower participative decision making for temporary employees, and to a lesser extent the lower job security, contributed to increased job strain. However, these negative effects for temporary employees were outweighed by them having lower levels of stressful role demands. Consistent with this suggestion of counterbalancing indirect effects, when all covariates were included (i.e., Analysis 4), the Group × Time *F* value was similar to that when no covariates were included in the analysis.

Discussion

In response to inconsistent research findings and the lack of theoretical development about the work experiences of employees on temporary contracts, we set out to develop a better understanding of how and why temporary status affects perceived work characteristics and employee job strain. The results of this longitudinal study suggest that the employment of a temporary contract workforce can result in these employees experiencing different levels of perceived work characteristics to those on permanent contracts, and that these variables play an important role in affecting strain outcomes.

Summary and Implications

Negative aspects of temporary employment such as poorer quality jobs have received most research attention and our results echoed some of these concerns (e.g., Belous, 1989; Feldman et al., 1995). First, unsurprisingly given the short-term nature of their contracts, temporary

employees appear to have less job security. Job security was negatively associated with job strain. Thus, employees at the start of the study had lower job security, and when they moved onto permanent contracts, they developed higher levels of job security. The fact that this increase occurred during a period when other production employees on permanent contracts had reduced job security supports the importance of permanent contracts for job security. Also supportive was the finding that new hires who came into the organization on temporary contracts at Time 2 had lower job security than all the permanent employees.

Second, there was evidence that temporary employees have less participative decision making, an aspect of work that was also negatively associated with job strain. Thus, temporary employees had lower participative decision making at the start of the study, and although the level of decision-making authority did not increase with permanent status, it did not decrease in the way that it did for the employees who remained permanent. The latter decrease in decision-making opportunity was probably attributable to the lean-production style of work reorganization that occurred in the company over the study period, including the introduction of a moving assembly line, a program to simplify and standardize work procedures, and the scaling down of a continuous improvement group initiative. The fact that decision making did not decline for temporary contract employees who became permanent in this context suggests that the change in status might have counteracted the effects of other changes. New temporary hires at Time 2 also had less participative decision making than permanent employees. The combination of less job security and less involvement in decision making is consistent with an employment relationship characterized by a balanced exchange in which employers offer closed, short-term inducements in return for narrower contributions (Tsui et al., 1995).

Despite the disadvantages of temporary status in terms of less job security and less involvement in decision making, this study suggests there can also be benefits. A potential advantage of being on the "periphery" appears to be that temporary contract employees are protected from some of the stressful role demands experienced by the core work force. Although the results were not quite as supportive for role conflict, the evidence strongly suggested a link between temporary employment status and lower role overload.

One explanation of the particular pattern of work experiences reported by temporary contract employees in this study is that permanent contract employees carry out broader activities beyond the immediate set of tasks that are more demanding than core tasks yet that also create greater opportunity involvement in decision making in the organization. For example, permanent employees might liaise directly with their in-

ternal suppliers to sort out problems, or meet with customers to discuss requirements. In Ilgen and Hollenbeck's (1991) terms, the two groups perhaps carry out the same type of "established" or prescribed tasks, but permanent employees engage in more "emergent" tasks, or the more dynamic activities that arise in complex environments. Exchange theory would suggest that such a situation arises because temporary employees will be less motivated to take on broader activities because of their short-term, financially focused inducements. However, it might also be that temporary employees lack the organizational knowledge to engage in these tasks, and this could inhibit them taking on broader roles or reduce the extent to which they are allocated such roles. For example, Pearce (1993) observed that managers allocate more complex and demanding tasks that require organization-specific knowledge to permanent contract employees rather than contract laborers. More in-depth research is needed to investigate these various possibilities.

At a more general level, this study supports the proposition that the effects of temporary status on employees' job strain depends at least in part on how perceived work characteristics are affected. The results from the covariate analyses suggested that the positive consequence of temporary status on role demands outweighed the negative effects of reduced job security and participative decision making, resulting in an overall effect of temporary employees experiencing less job strain. These findings challenge widely held views that having a temporary contract when a permanent one is preferred will inevitably result in poorer mental health. Rather, these findings suggest that the impact of temporary status on strain outcomes is not straightforward, but depends on how particular work characteristics are affected in the particular situation.

The idea that the overall effect of employment status on employee strain depends on the way status affects work characteristics helps to explain why studies show inconsistent effects of involuntary temporary contract status on employee outcomes. It is likely that the effect of employment status on work characteristics will depend on the situation, particularly the employer's strategy underpinning the use of temporary contract employees. In situations where organizations hire a temporary workforce to enable cost-effective responses to fluctuating demands, we expect to see patterns of relationships between employment status and perceived work characteristics similar to those observed in this study, and therefore a similar effect on outcomes like job strain. However, different patterns are expected if temporary employees are hired for other reasons. For example, firms that hire contingent workers as highly skilled "technical experts" on complex projects (e.g., product development) are typically aiming to import valuable performance-enhancing knowledge into the firm (Matusik & Hill, 1998). Given this strategy, temporary em-

ployees are unlikely to be carrying out simplified tasks compared to permanent employees. Likewise, such highly qualified, and perhaps highly sought after, temporary contract employees might be less likely to experience stressful job insecurity. An important follow-up to this study is to identify how work characteristics might be differentially affected according to the strategy for using a contingent work force.

In addition to considering the moderating effect of strategy, there are many ways the ideas we have tested here can be developed. One way is to investigate further potential moderators of the relationship between temporary employment status and work characteristics, including other organizational-level variables (e.g., production uncertainty) as well as individual-level variables (e.g., personality factors such as locus of control). Another development would be to assess the impact of employment status on a broader range of work characteristics (e.g., levels of performance monitoring) and a wider range of outcomes. For example, regarding the latter, there is some evidence to suggest that temporary employees engage in less organizational citizenship behavior (van Dyne & Ang, 1998). This outcome, and many others (e.g., commitment, safety, task performance, contextual performance, absence), could be considered in further studies.

Developing these sorts of ideas will help practitioners and policy makers to move away from prescriptive assumptions about the effect of employment status on outcomes. Most importantly, if it is recognized that the effect of employment status on employee job strain and other outcomes such as performance can be affected by work characteristics, then employers can take a proactive approach to promoting these outcomes by positively influencing perceived work characteristics. For example, although it might not be possible to offer a permanent contract and thereby increase temporary contract employees' job security, managers could take steps to increase their involvement in decision making. At the same time, employers could consider and manage how the presence of a large contingent work force might affect the jobs of permanent employees through factors such as higher role demands.

Limitations

A strength of this study is the quasi-experimental research design, which overcomes some of the interpretational problems associated with cross-sectional research. The objective change in employment status also addressed the potential criticism that common method variance might account for the link between employment status and perceived work characteristics. However, a limitation with our longitudinal study is that changes affecting perceived work characteristics over and above

a change in employment status occurred over the period of investigation. In particular, the company introduced changes that led to reduced job security as well as simplification, or de-enrichment, of job content. The use of a comparison group (i.e., employees who remained permanent throughout the study) helped to tease out the likely effects of these other changes, although one cannot rule out the possibility that changes were introduced for the permanent employees that were unique to their employment status (i.e., a selection by treatment effect). We cannot, therefore, be totally confident in asserting causal links between temporary employment status and work characteristics. Ideally, a further comparison group involving employees who remained on a temporary status throughout the study period would have been used. Such a design would call for a shorter time frame than the one used in this study. Temporary employees do not typically retain their status as "temporary" over extended periods.

Limitations of the study also apply to the part of the study in which we examined the link between perceived work characteristics and job strain. Self-report measures were used to assess both work characteristics and job strain, giving rise to the possibility that common-method variance could account for the observed effect of including covariates. However, it appears unlikely that the differential effects of job security and participative decision making compared with role overload and role conflict could be explained by common measurement method. It is also possible, but rather unlikely, that job strain causes work characteristics rather than the proposed causal direction. Although they are few in number, there are longitudinal studies that show an objective change in work characteristics can cause change in employee well being (see Parker & Wall, 1998 for a review).

A further limitation is that this study is based on a single site, and we do not know whether the results would be replicated elsewhere. We have suggested that this particular pattern of results would be replicated in situations where a large temporary workforce is hired to allow cost-effective and flexible responses to changing demands, but whether this is the case or not remains an empirical question. Our aim is to generalize the idea that it is important to look at work characteristics to understand the experiences of temporary contract employees, rather than to generalize the specific pathways.

Conclusion

Research concerning contingent working has given little attention to the notion that temporary contract employees are likely to have different work characteristics than those on permanent contracts, which could in

part account for differences in strain levels. However, the nature of the employment relationship that characterizes much temporary work has clear implications for the type of work carried out by these employees. In this study, where an employer hired a large contingent work force to enable flexible responses to changing production demands, temporary contract employees had lower job security and less perceived participative decision making, but they also experienced fewer role demands. As a result, temporary employees experienced advantages and disadvantages that resulted in lower overall levels of job strain. Thus, the results suggest that the overall impact of employment status on outcomes like job strain depends on how employment status is associated with particular work characteristics and how these work characteristics in turn are associated with the outcomes.

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