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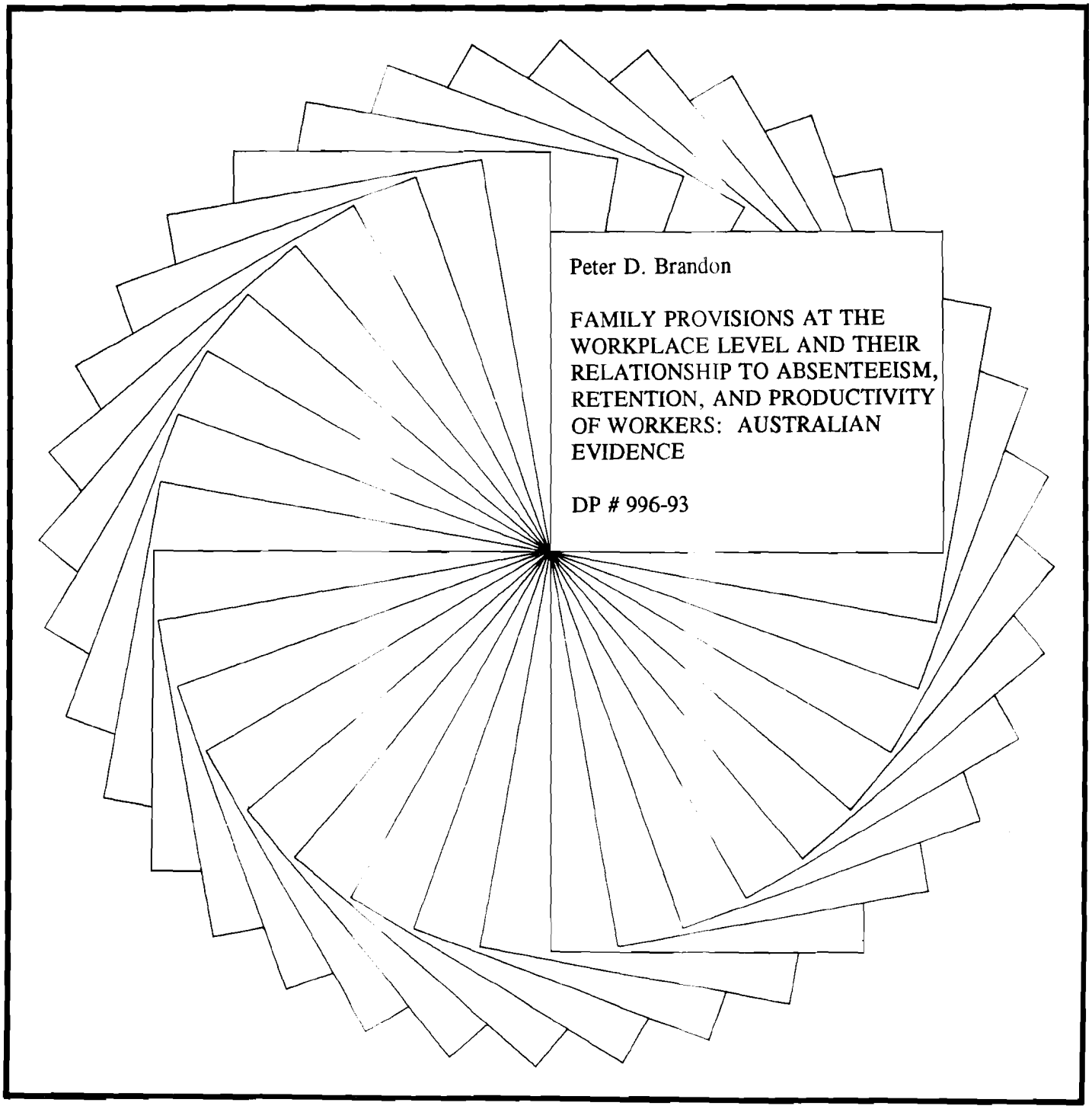

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FAMILY PROVISIONS AT THE WORKPLACE LEVEL AND THEIR RELATIONSHIP TO ABSENTEEISM, RETENTION, AND PRODUCTIVITY OF WORKERS: AUSTRALIAN EVIDENCE

DP # 996-93

Institute for Research on Poverty
Discussion Paper no. 996-93

Family Provisions at the Workplace Level and Their Relationship to Absenteeism, Retention, and Productivity of Workers: Australian Evidence

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February 1993

This research was supported by funds from the Australian Research Council and is sponsored by the Center for Corporate Change at the Australian Graduate School of Management. I would like to thank Matt Kahn and other researchers at NORC and the AGSM for their support and assistance.

Abstract

This paper analyzes how employer-based child care and family leave affect worker absenteeism, turnover, and productivity. It finds that on-site child care is negatively associated with absenteeism and positively associated with worker performance. Family leave is also associated with decreased absenteeism. Analyses also suggest that human-resource managers are as important as unions to worker performance, and that in some cases firm attributes, such as size, motives, and shift work, are other important predictors of worker performance and retention. Data are from a nationally representative sample of Australian workplaces.

Family Provisions at the Workplace Level and Their Relationship to Absenteeism, Retention, and Productivity of Workers: Australian Evidence

Increases in the rates of divorce and in the number of working women, including mothers, have altered employment patterns, the composition of the work force, and the roles that mothers and fathers perform in the family. This mixing of traditional gender roles and the feminization of the work force have not gone unnoticed by employers. In fact, a growing number of employers are increasingly aware that family and work demands can conflict and that this conflict can affect worker morale, productivity, and retention. This concern has even led some companies to build on-site child-care facilities or to add family leave to benefit packages. These businesses have assumed that pro-family initiatives will reduce friction between home and work demands and thereby increase worker productivity, decrease absenteeism, and reduce turnover.

The assumption that workers and employers both benefit when employers accommodate workers' family needs is appealing but lacks empirical verification. Few studies have established that worker performance is related to child-care provisions or flexible leave policies. Indeed, few studies have sampled a representative group of workplaces to investigate the question: Do work-based child-care and family-leave provisions improve worker performance?

This study, however, does use representative data, instead of data gained from select samples or case studies, to answer this question. Data collected from a representative sample of Australian workplaces are used to test whether these provisions improve worker retention and performance.

The paper has five sections. Section I provides background material. Section II theorizes why employers would provide on-site child care and family leave; it also discusses factors that should affect both the provision of these benefits and worker performance. Section III first describes the Australian Workplace Industrial Relations Survey, which provides the data used in the analyses, and

then discusses the methods. Section IV reports results and compares them to other findings. Finally Section V draws some conclusions from the analyses.

I. BACKGROUND

Due to dramatic demographic changes in the work force, the welfarist approach to human-resource management has resurfaced. In the past, benefits to individual workers were emphasized; today, family provisions are the centerpiece of the new corporate welfarism.

Although employer-supported child care and family leave characterize contemporary corporate welfarism, most research has focused only on employer-supported child care. Friedman (1986) cites figures suggesting that child care is becoming a major employee benefit. In the late 1980s, over 3,500 major companies in the United States offered some form of child-care support to their employees (Edgar, 1988); 775 of these companies supported on-site child-care centers. Mayfield (1985) and Grant, Sai-Chew, and Natarelli (1982) cite figures suggesting that Canadian employers have supported various forms of child care for twenty-five years.

The limited scope of existing studies makes generalizations about the extent of employer-supported child care across sectors and industries difficult to make. Burud, Aschbacher, and McCroskey (1984) have claimed that their figures provide insights into how employer-based child care in the United States has changed over time. Yet, their tabulations are generated from unscientific, choice-based samples taken at different points in time in different parts of the country. They found that in 1978, 71 percent of employer-based child-care programs were found in hospitals and only 9 percent in industry; the other 20 percent were in public agencies and unions. In contrast, in 1982 only 47 percent of programs were attached to hospitals and another 47 percent were associated with industry; the rest (6 percent) were in public agencies and unions.

Burud et al.'s study typifies most studies of employer-based child care: it simply documents the prevalence of employer-based child care, sometimes stratified by public and private sectors. Few studies have moved beyond this descriptive line of research and used uncensored, representative samples to identify workplaces with family provisions, to examine how workplaces with child care differ from workplaces without child care, and to gauge how child-care provisions influence worker outcomes.

Although the existing evidence is anecdotal and not generalizable, it has still been used to anchor the argument that benefits accrue from employer-supported child care. In particular, many advocates of employer-based child care claim that it reduces absenteeism and labor turnover. Mann (1984), Perry (1981), Burud et al. (1984), and Alisberg (1984) reported huge falls in absentee and labor turnover rates once some form of employer-sponsored child care was introduced. Alisberg cited a survey of fifty-eight companies whose absentee rate fell by 72 percent. In another study, researchers used a cost-benefit approach to quantify the gains from child-care centers if they were established at the work site. They estimated that reductions in absenteeism and turnover amounted to 2 percent and 15 percent of the average employee's salary, respectively (Department of the Prime Minister and Cabinet, 1989).

Apart from citing figures that indicate reductions in labor-related costs, these studies argue that employer-based child care improves employee morale, reduces recruitment costs, enhances corporate image, improves industrial relations, makes shorter maternity leaves possible, and has tax advantages. Yet, beyond research on employee morale,[1] most of these claims remain unconfirmed.

Overall, these studies argue that gains from employer-sponsored family provisions outweigh costs, but they have not come to their conclusions using nationally representative samples that compared workplaces with and without family provisions, that identified factors that affected

provision of family services, or that controlled for other correlates when quantifying the impact that workplaces with family services had upon worker outcomes.

So, existing results still lack support from findings generated by either randomized experiments or probability-based samples. Results from well-executed surveys are especially important given that, in the past, weak study designs produced biased results that could not be corrected. This study fills this gap by producing new, cross-sectional estimates on the incidence of workplace family provisions, by identifying factors that co-vary with workplace family provisions, and by quantifying the effects of such provisions on several worker outcomes.

II. THEORY

Firms create employment conditions that maximize employee performance and minimize unnecessary losses of workers. Managers therefore provide on-site child care or add family leave to benefit packages when these provisions meet these criteria. Meanwhile, employees work where they can receive the best compensation packages. Workers with family responsibilities accept jobs that either compensate them for being unable to meet family duties or permit them to jointly meet work and family demands.

Given that some workers demand family services and that some firms are willing to supply them, mutually beneficial employment contracts, which include family services, should be observed between some workers and firms. Moreover, the theory of compensating differentials predicts that the value of on-site child care or family leave will be capitalized into workers' wage rates (Rosen, 1986). That is, workers with family constraints accept lower wages in return for family amenities. In models of worker performance, therefore, family provisions--which in these analyses include on-site child care and family leave--should decrease turnover and absenteeism, and increase worker productivity.

Several other factors should affect the provision of child-care facilities or family leave, such as the ages, experience, and education of workers at a particular firm. The gender composition of employees at a workplace should have an impact, too, since it is working mothers (rather than husbands) who make the child care arrangements for their children (Brandon, 1991). Higher representations of women at workplaces should increase the likelihood that child-care services are provided.

Organizational features of workplaces are also expected to influence outcomes. This study tests whether the presence of traditional mechanisms that firms and workers have used to assess and address each others' demands--namely, human-resource managers and unions--influence turnover, absenteeism, and productivity. Finding that union presence is an important correlate may mean that unions have remained pivotal to worker performance--at least in Australia.

Moreover, the size of a firm's work force, how the firm organizes its process of production, and whether it operates for profit should also play key roles in determining worker performance. Workplaces that are independent organizations and not parts of larger entities, and workplaces that are commercial, private enterprises seeking profits, should, on average, be more aware of the costs of poor worker performance. Albeit the data cannot address this notion, it may be that independent workplaces or profit-driven entrepreneurs are less likely to train workers so they are more easily replaced.

Many workplaces operate rotating shifts, which could affect worker performance. Research suggests that doing shift work influences working parents' child-care choices (Presser, 1986). Also, many managers believe that recruiting and retaining shift workers are easier if child-care services are offered. Alternatively, the shift-work dummy variable[2] in the models may be identifying workplaces such as hospitals or schools that are likely to offer employer-supported family services. Section IV further highlights how these workplace features affect worker retention and performance.

III. DATA DESCRIPTION AND METHODS

The analyses use data from the Australian Workplace Industrial Relations Survey (AWIRS). The AWIRS collected data so that patterns in industrial relations could be summarized and so that differing equity and efficiency outcomes at the workplace level could be analyzed.

The survey was comprised of a main survey of 2,004 workplaces with twenty or more employees covering all industries with the exception of defense and agriculture, across all states and territories; and a smaller survey of managers at 349 workplaces with between five and nineteen employees. The main survey is based on a multistage, stratified probability sample of workplaces across Australia. The response rate to this survey was 87.1 percent.

The main survey consisted of four different questionnaires, three of which were administered to the on-site managers who had the day-to-day responsibility for workplace industrial relations (see AWIRS [1991]). Data used in these analyses come from three of the four survey modules: the Employee Relations Management Questionnaire (ERMQ), the General Management Questionnaire, and the Employee Profile Questionnaire.

The AWIRS is well suited for analyzing the determinants of workplace family provisions and for assessing the effects of these provisions on worker outcomes. The comprehensiveness of its information allows for an investigation into the determinants of family provisions at the workplace. Heretofore, no nationally representative sample of workplaces, with microlevel data, has been available to cross-tabulate the provision of family services with other workplace characteristics such as demographic composition, earnings, organizational structure, and industry sector.

Furthermore, data on the utilization of workers across workplaces and in the distribution of award payments and conditions of employment allow for instructive contrasts between workplaces with family provisions and those without such provisions. Such comparisons are of special interest

because hitherto no studies have examined whether workplaces with family services differ from other workplaces on award agreements, worker utilization, and fringe benefits.

Other features make these data especially attractive. The data include information--at the workplace level--about unions, human-resource specialists, and other work sites within the organization. Second, the sample includes measures of workplace efficiency. Particularly important for the empirical work are measures of labor turnover, absenteeism, and labor productivity. These are the types of measures needed for testing propositions that child care and family leave increase worker productivity and worker retention.

The generalizability of this probability-based sample is further enriched by the addition of workplace weights (see AWIRS [1991]). Because these weights adjust sample statistics and parameter estimates for workplace size and industry, valid inferences about the population of Australian workplaces can be drawn. No previous data have had this asset.

Although the sample has assets, it also has deficits. One problem lies with the definition of the workplace. The workplace, which is the unit of analysis for the AWIRS, is equivalent to the Australian Bureau of Statistics (ABS) definition of a work location. The ABS defines a work location as "a single, unbroken physical area, occupied by an enterprise, which . . . is engaged in productive activity on a relatively permanent basis . . ." (ABS, 1983). The difficulty lies with multilocation organizations where the AWIRS-sampled workplace is centrally controlled. Estimates, therefore, are upwardly biased because effects of organizational structure are incorrectly added to the estimated effects of variables measured at the workplace level. Some of this bias can be reduced by using the questionnaire items that identify single, independent workplaces and that pinpoint the level at which managerial decisions are made.

Furthermore, many survey items are poorly measured or measured at levels that mask variation in the sample, diminishing the power of statistical tests and strictly limiting the types of analyses that can be performed.

Added to problems of data definition and collection is missing information on workers' ages, educational levels, and job experiences. This dearth of information on workers, in conjunction with scant data about employment contracts, means that sorting models cannot be fitted to the data and that a compensating differentials theory cannot fully explain trends in the data.

Because no data are available in the AWIRS on workers' educational levels and ages, few other worker characteristics can be included in models. However, data on occupational groupings at workplaces allow for testing whether differences across occupational types affect worker performance. Of special interest is testing whether workplaces with larger managerial and professional staffs (whose members are usually harder and more costly to replace and better educated) are more likely to perform better.

Another difficulty is endogeneity of workplace sites. Managers do not randomly select geographic locations for workplaces. They systematically pick work sites so the capital and labor are available at minimum cost. Minimizing costs may include locating where there are location-specific tax incentives and specific types of labor. If site selection is related to unobserved spatial factors, then estimates are again biased (see Dye and Antle [1984] and Brandon and Garvey [1992]).

Hence, the statistical portrait of employer-based family services and the analyses of how these services affect worker outcomes are only partial. The data, because of their nature, cannot refute rival hypotheses that could account for the systematic patterns observed in these cross-sectional data. Hence, the results serve only as alternatives to those offered in case studies and choice-based samples. Nevertheless, the richness of the sample provides a unique opportunity to study this understudied, yet important, aspect of modern-day working life.

Models of how child care and family leave affect worker outcomes utilize linear and nonlinear regressions. As the worker turnover variable is a continuous measure, ordinary least squares (OLS) regression estimates are presented. But because worker productivity and absenteeism are ordinal scales in these data, nonlinear models are used. The binary dependent variables have mutually exclusive and exhaustive categories. For instance, a workplace either has high absenteeism or it does not. The means and standard deviations of the dependent variables are presented in Table 3.[3] The reduced-form logistic regression models are specified in the standard way, and the coefficients of the estimated models are interpreted as the partial derivatives of the log of the odds ratio of two alternatives (see Aldrich and Nelson [1986]). For example, the influence of any predictor variable on the odds of having high absenteeism is relative to not having high absenteeism.

Two different indicators of worker performance are used: unapproved absenteeism, and workers' productivity relative to others. Worker retention is measured by the percentage of permanent employees who voluntarily resigned over the past calendar year. (See Table 2 for distributions of the response variables.)

IV. RESULTS AND DISCUSSION

An analytic strategy is developed to address the question: Do employer-based child care and family leave affect worker productivity and worker retention?

This section brings evidence to bear on the question first through a set of tables that simply describe mean values for several variables cross-classified by the two types of family provisions, and second, by a set of weighted[4] reduced-form multivariate linear and nonlinear regressions further establishing which factors are salient to worker performance. Table 1 details the variables contained in the regression models.

TABLE 1

Summary Definition of Variables

Variable	Definition
Employee number	Number of employees at the workplace
Female	Percentage of female workers at the workplace
Managerial	Percentage of workers classified as managers
Wage bill	Mean weekly wage bill for the workplace (in 1990 Australian dollars)
Unionized	1 if unionized workplace, 0 otherwise
Paid over-award	Percentage of weekly pay which is over-award rate
HR manager	1 if human-resource manager is present at the workplace, 0 otherwise
Worker attachment	Percentage of workers at site more than 10 years
Sole workplace	1 if only workplace in organization, 0 otherwise
Restructured work	1 if major workplace restructuring occurred, 0 otherwise
Shift work	1 if workers work shifts, 0 otherwise
Non-core	Percentage of non-core workers at workplace
Non-core female	Percentage of non-core workers who are female
Private commercial	1 if commercial, private workplace; 0 otherwise
Monitored	1 if workers watched by supervisor, 0 otherwise
Workplace age	1 if workplace over 10 years old, 0 otherwise
Child care	1 if workplace has child-care facility, 0 otherwise
Family leave	1 if workplace has family leave, 0 otherwise
High absenteeism	1 if the percentage of workers absent without approval is above the 67th percentile, 0 otherwise
Turnover	Percentage of permanent employees resigned as of September 1989
Relv-prod.	1 if management considers labor productivity a lot higher than other comparable workplaces, 0 otherwise

TABLE 2

Selected Characteristics of Workplaces by Presence of Child-Care Facility or Established Family-Leave Policy

Variable	With Child-Care Facility	No Child-Care Facility	Family Leave	No Family Leave
Family leave	0.091	0.086	n/a	n/a
Child care	n/a	n/a	0.016	0.12
Employee number	373.36	105.23	144.69	105.95
Female	0.495	0.416	0.469	0.413
Managerial	0.557	0.207	0.381	0.198
Wage bill	632.29	477.29	514.33	476.59
Private commercial	0.297	0.710	0.387	0.730
Unionized	0.690	0.833	0.994	0.818
Paid over-award	0.080	0.070	0.036	0.073
HR manager	0.491	0.338	0.383	0.337
Worker attachment	0.127	0.070	0.033	0.073
Sole workplace	0.160	0.187	0.091	0.194
Restructured work	0.178	0.132	0.172	0.109
Shift work	0.651	0.294	0.333	0.296
Non-core	0.301	0.187	0.147	0.192
Non-core female	0.134	0.096	0.085	0.098
Turnover	0.192	0.286	0.150	0.296
High absenteeism	0.056	0.130	0.129	0.130
Workplace age	0.219	0.178	0.105	0.185
N	31	1,505	119	1,417

Source: AWIRS (1991).

TABLE 3

Means and Standard Deviations of Variables Used in Modeling Workplace Family Provisions and Their Effects on Worker Outcomes

Variable	Mean	Standard Error
Employee number	237.20	460.64
Female	0.389	0.283
Managerial	0.184	0.387
Wage bill	490.85	144.50
Unionized	0.880	0.324
Paid over-award	0.07	0.119
HR manager	0.458	0.498
Worker attachment	0.095	0.294
Sole workplace	0.130	0.337
Restructured work	0.134	0.340
Shift work	0.391	0.488
Monitored	0.134	0.341
Non-core	0.173	0.228
Turnover	0.264	0.403
High absenteeism	0.157	0.364
Relv-prod.	0.103	0.304
Private commercial	0.714	0.451
Non-core female	0.086	0.147
Child care	0.020	0.140
Family leave	0.073	0.270
Workplace age	0.171	0.376
N = 1,536		

Source: AWIRS (1991).

Table 2 is a weighted contingency table that demonstrates differences across workplaces with respect to on-site child-care and family-leave policies. The descriptive statistics are for the sample of 1,536 workplaces that had either a child-care facility (N=31) or a family-leave policy (N=119) in 1989. Table 2 shows that at workplaces with family leave, workers are less often paid above the award rate than are workers in work sites without family leave. In contrast, at workplaces with child-care facilities, workers are paid above award rates about as often as workers at work sites without child care. There are also differences in the use of non-core workers (i.e., non-permanent labor). Work sites with child-care facilities are more likely than other places to use non-core workers, but workplaces that have family leave are less likely than other places to use non-core labor. Furthermore, there is a higher likelihood that females will be represented among the pool of non-core workers when workplaces have child-care facilities. A greater percentage of workplaces that have family leave, and of workplaces that do not have child care, are unionized. Finally, settings with either child care or family leave have higher wage bills than do settings without such provisions.

These trends are informative, but multivariate models are needed to test for the fixed effects of variables that were discussed in Section II. Table 3 contains the unweighted means and standard deviations of variables that were included in the models about to be discussed. Table 3 shows as well how the incidence of on-site child care is slight as compared with the incidence of family-leave policies. Finding that on-site child care across workplaces is so rare should cast doubt on others' theses that workplace child care is popular among enterprises and continues to grow.

Effects of On-Site Child Care on the Performance of Workers

The results for effects of on-site child care on measures of worker performance and retention are presented in Table 4. Before discussing these results, however, let us examine other variables that significantly affect absenteeism, turnover, and relative productivity. Using non-core workers lowers the probability that workplaces have high absentee rates but increases worker turnover;

TABLE 4
Effect of On-Site Child Care on Three Worker Outcomes
(Parameter Estimates and Standard Errors)

Variable	Worker Outcomes: High Absenteeism	Turnover	Relative Productivity
Employee number	0.44*	-0.12	-0.28
	(0.26)	(0.54)	(0.50)
Female	0.23	0.24	0.65
	(0.23)	(0.49)	(0.42)
Managerial	-0.28	-0.05	0.63**
	(0.19)	(0.03)	(0.31)
Wage bill	-0.001**	-0.004***	0.13*
	(0.0005)	(0.001)	(0.07)
Unionized	0.304**	-0.08*	-0.43*
	(0.181)	(0.03)	(0.27)
Paid over-award	-0.24	0.10	-0.18
	(0.58)	(0.11)	(0.91)
HR manager	0.05	-0.007	0.10
	(0.13)	(0.02)	(0.21)
Worker attachment	0.36***	-0.10**	0.50
	(0.22)	(0.04)	(0.36)
Sole workplace	0.10	-0.07**	0.10
	(0.16)	(0.03)	(0.28)
Restructured work	0.35**	-0.02	0.43*
	(0.17)	(0.03)	(0.26)
Shift work	-0.07	0.05**	0.08
	(0.13)	(0.02)	(0.23)
Non-core	-0.99***	0.46***	-0.29
	(0.30)	(0.05)	(0.48)
Monitored	-0.11	0.02	0.61**
	(0.17)	(0.03)	(0.26)
Workplace age	0.26**	0.05*	0.28
	(0.15)	(0.03)	(0.25)
Child care	-1.62**	-0.14	1.75***
	(0.94)	(0.11)	(0.59)
Private commercial	0.003	0.09***	0.34
	(0.17)	(0.03)	(0.31)
Intercept	-0.66*	0.39***	-3.39***
	(0.36)	(0.07)	(0.61)
Log likelihood	-847.19	n/a	-343.92
Chi-square	44.90**	n/a	41.78**
Adj R-square	n/a	0.13	n/a
F(16,1393)	n/a	13.82**	n/a
N	1,436	1,410	1,056

Source: Author's calculations based on AWIRS (1991).
* $p < .10$.
** $p < .05$.
*** $p < .01$.
n/a = not applicable.

increases in the weekly cost of labor lower the probability that workplaces have high absentee rates and increase workers' relative productivity; unionized workplaces are more likely to have higher absenteeism but lower turnover rates; and workplaces that directly monitor worker performance are more productive.

Now to child care. Table 4 shows that the provision of on-site child care lowers the likelihood of high absentee rates and raises the likelihood that managers judge workers as relatively more productive. (As productivity measures in these data are poor, this result is more suggestive than conclusive.) Although on-site child care lowers turnover rates, the effect is statistically insignificant.

These findings support those of previous studies concerning the effects of on-site child care. The difference, though, is that the present results have been generated from multivariate models that use a probability-based sample and that control for other correlates of worker retention and performance.

This study also differs from others in arguing that two forces drive the significant estimate of on-site child care's effect on absenteeism. First, when on-site child care is provided, workers have less need to take unapproved leave to meet family duties--child care's direct effect. But also, when on-site child care is provided, managers can quickly verify the legitimacy of workers' time-off requests and can better account for the time their workers spend away from work.[5] This indirect effect that on-site child care has on the monitoring of workers has not been considered in other studies.[6]

Effects of Family Leave on the Performance of Workers

Section IV ends with a discussion of the effects of family leave on the performance and retention of workers. Again, separate models for workplaces with family leave are specified and results are presented in Table 5.

TABLE 5

Effect of Established Family Leave on Three Worker Outcomes (Parameter Estimates and Standard Errors)

Variable	Worker Outcomes: High Absenteeism	Turnover	Relative Productivity
Employee number	0.35	-0.20	-0.13
	(0.25)	(0.54)	(0.47)
Female	0.24	0.27	0.59
	(0.23)	(0.49)	(0.42)
Managerial	-0.31	-0.05	0.66**
	(0.19)	(0.03)	(0.31)
Wage bill	-0.001**	-0.004***	0.14*
	(0.0005)	(0.001)	(0.07)
Unionized	0.34**	-0.08**	-0.53*
	(0.18)	(0.03)	(0.27)
Paid over-award	-0.26	0.10	-0.001
	(0.58)	(0.11)	(0.90)
HR manager	0.05	-0.008	0.13
	(0.13)	(0.026)	(0.21)
Worker attachment	0.33	-0.10**	0.58*
	(0.22)	(0.04)	(0.35)
Sole workplace	0.10	-0.07**	0.09
	(0.16)	(0.03)	(0.28)
Restructured work	0.35**	-0.02	0.43
	(0.17)	(0.03)	(0.26)
Shift work	-0.08	0.05**	0.14
	(0.13)	(0.02)	(0.23)
Non-core	-1.03***	0.46***	-0.08
	(0.30)	(0.05)	(0.47)
Monitored	-0.15	0.02	0.61**
	(0.17)	(0.03)	(0.26)
Workplace age	0.26**	0.05*	0.33
	(0.15)	(0.03)	(0.25)
Family leave	-0.45*	-0.05	-0.21
	(0.24)	(0.04)	(0.30)
Private commercial	-0.02	0.09***	0.21
	(0.17)	(0.03)	(0.31)
Intercept	-0.63*	0.39***	-3.28***
	(0.36)	(0.07)	(0.61)
Log likelihood	-847.61	n/a	-347.81
Chi-square	44.06**	n/a	34.01**
Adj R-square	n/a	0.13	n/a
F(16,1393)	n/a	13.77**	n/a
N	1,436	1,410	1,056

Source: Author's calculations based on AWIRS (1991).
* $p < .10$.
** $p < .05$.
*** $p < .01$.

Although the effects of family leave on worker turnover and relative productivity are insignificant, family leave, like child care, lowers absentee rates.

And again, workplaces that directly monitor worker performance have more productive workers. In addition, workplaces with larger managerial staffs are more likely to have higher worker productivity; increases in weekly costs of labor lower absenteeism and turnover rates and increase the probability that employees are considered relatively more productive; unionized workplaces are more likely to have higher absenteeism but lower turnover rates and lower reported worker productivity; and workplaces that have long-term employees have lower turnover rates and higher reported worker productivity.

There are several explanations for the findings on family leave. Family leave is more flexible than, say, maternity or paternity leave, which are strictly tied to births. If family leave was only approved for major events, such as births, its effects on worker outcomes (e.g., worker performance) would be meager, because such events occur so infrequently.[7] The effect of family leave is large precisely because family leave can be taken for a number of circumstances, major and minor. Moreover, even if parental leave could be used at any time, female working parents, not male working parents, historically have been the parents to take unauthorized time from work to care for young children. Furthermore, because family leave is part of workers' benefit packages, its effect, if any, should be more closely associated with worker retention outcomes, not necessarily with worker performance outcomes. And indeed in these data, family leave lowers turnover rates, but not by a magnitude that is statistically discernible.

These speculations imply that more empirical work is needed to further understand how businesses and workers come to agree upon family-leave provisions. Each type of leave is different and, as apparent from reported (and unreported) analyses, the impact of each policy on worker outcomes is different. Better measures of productivity, larger samples, and more data on workers and

their employment contracts and wage rates would have helped decipher whether any fixed effects for family leave existed.

V. CONCLUSIONS

Managers have probably been wise to cautiously approach the creation of family provisions because hitherto no studies have persuasively shown that child-care provisions and family leave significantly lower absenteeism and turnover rates, or increase labor productivity. The results reported here indicate that family provisions may enhance firms' abilities to retain workers and increase worker performance but that these effects operate in conjunction with other workplace features. That is, the results suggest that a constellation of economic, demographic, and organizational features need to be ascertained and controlled before the true effects of child care and family-leave on worker retention and performance can be detected.

Moreover, past studies on this topic have not emphasized enough how managers match workers to workplaces so that workers will perform at their best and will stay at their job. Family services, at least in these models, which control for other factors, appear to be part of that process.

And, past studies have not sufficiently considered how the provision of collective amenities (public goods)--like child care--are conditioned on how many workers demand similar types of amenities. Nor have these studies considered that workers have preferences over reimbursement packages; some workers may prefer wage supplements to benefits like family-leave which tend to lower wage rates. History already chronicles how the welfarist approach has waxed and waned with workers' desires to protect their jobs and wages (Dunford, 1992).

In addition, it remains unclear whether work organizations are best equipped to provide child-care services. State agencies may be better able to provide child-care services for low-income workers who can afford neither expensive child care nor wage cuts, while the market may be better

able to serve the needs of higher-income parents who are willing to pay for quality child care. Indeed, it may be imprudent for public policymakers to saddle employers with new duties that they are ill-equipped to handle and for which there are very uncertain returns. Child-care policies that encourage employer-supported family initiatives may be preferable to policies mandating employer-based family initiatives. There are subtle differences between the two approaches, and each has important implications for the provision of child-care services, the allocation of firm resources, and the structure of workplaces.

Overall, these results from a nationally representative sample of workplaces in Australia support some findings reported in analyses that used case studies or select samples. In summary:

* On-site child care is negatively associated with absenteeism.
* Managers are more likely to judge workers as more productive at workplaces with on-site child care.
* Family-leave provisions are negatively associated with absenteeism.

More findings are needed, however, from other probability-based samples to buttress the findings here. Ideally, new studies should build more reliable measures of workplace characteristics than the measures used here. Moreover, future studies should have uniform measures of the geographic and spatial variables that are important to workplaces.

Notes

[1]Friedman (1986) looked at employee morale and found that the stress of balancing work and family led to increased depression among employees.

[2]Several variables in these data are dichotomous, that is, have a value of one if the attribute is observed, zero otherwise.

[3]The response variable "Family leave" is conditioned on the joint distribution of sampled workplaces having established paternity-leave and family-leave policies. Survey items that ask about both policies are in the ERMQ, Section F (AWIRS, 1991).

[4]See Section III for a brief discussion of weights.

[5]For example, if a worker at a firm with on-site child care was excused to check on his or her child, then that worker's manager can call the child-care facility and verify that the worker indeed was there.

[6]An extension of this argument is that on-site child care may actually increase the occurrences of approved absences from the workplace.

[7]Separate analyses were run using paternity leave as a predictor. This variable affected worker outcomes in the expected directions, but as forecasted, its effects were statistically insignificant.

References

ABS. (1983) *Australian Standard Industrial Classification: Volume 1.* The Classification ABS Cat. No. 1201.0. ABS Canberra.

Aldrich, J. H., and F. D. Nelson. (1986) "Linear Probability, Logit, and Probit Models." *Sage University Papers*, No. 45. Beverly Hills, Calif.

Alisberg, H. (1984) *Public/Private Partnership: A Cost Effective Model for Child Care Services.* United Way of Connecticut, New Haven, CT.

Australian Workplace Industrial Relations Survey (AWIRS) 1989-1990: Technical Report and Data Release. (1991) Social Science Data Archives. Canberra: The Australian National University.

Brandon, Peter D. (1991) "The Role of Extended Families, Fathers, and Economic Constraints in Mothers' Child Care Choices." Unpublished Ph.D. dissertation, University of Chicago.

Brandon, Peter D. and G. Garvey. (1992) "Self-Selection, Fringe Benefits, and Labor Turnover." Mimeo. Institute for Research on Poverty, University of Wisconsin.

Burud, S. L., P. Aschbacher, J. McCroskey. (1984) *Employer Supported Child Care: Investing in Human Resources.* Boston: Auburn House Press.

Callus, R., A. Morehead, M. Cully, and J. Buchanan. (1991) *Industrial Relations At Work: The Australian Workplace Industrial Relations Survey.* Commonwealth Department of Industrial Relations. Canberra: Australian Government Publishing Service.

Department of the Prime Minister and Cabinet. (1989) "Child Care in the Workplace: A Cost-Benefit Study of Employer Provided Child Care." Canberra, Australia: Australian Government Printing Office.

Dunford, R. W. (1992) *Organizational Behavior: An Organizational Analysis Perspective.* Sydney: Addison-Wesley Publishing Co.

Dye, Ronald, and R. Antle. (1984) "Self-Selection via Fringe Benefits." *Journal of Labor Economics* 2(3): 388-411.

Edgar, Don. (1988) "Corporate Responses to Workers with Families." *Family Matters*. The Australian Institute of Family Studies, Melbourne. Summer.

Friedman, D. (1986) "Child Care for Employees' Kids." *Harvard Business Review* 64(2): 28-34.

Grant, L., P. Sai-Chew, and F. Natarelli. (1982) *Children at Work: An Inventory of Work-Related Day Care in Canada*. Social Planning Council of Metropolitan Toronto, Toronto, Ontario.

Mann, J. (1984) "Child Care Public Policy Report." *Young Children* 40(1).

Mayfield, M. I. (1985) "Employer-Supported Child Care in Canada." Mimeo, Faculty of Education, University of Victoria, Victoria, British Columbia.

Panckhurst, F. (1984) "Workplace Child Care and Migrant Parents." National Women's Advisory Council. Canberra: Australian Government Publishing Service.

Perry, K. S. (1981) *Employers and Child Care: Establishing Services through the Workplace*. Women's Bureau, U.S. Department of Labor, Washington, D.C.

Presser, H. P. (1986) "Shift Work among American Women and Child Care." *Journal of Marriage and the Family* 48: 551-563.

Rosen, S. (1986) "The Theory of Equalizing Differences." In O. Ashenfelter and R. Layard (eds.), *Handbook of Labor Economics*. Amsterdam: North Holland.

Zigler, E. F., and M. Frank. (1990) *The Parental Leave Crisis: Toward a National Policy*. New Haven: Yale University Press.