

THE EFFECTS OF ON-SITE CHILD CARE ON EMPLOYEE ATTITUDES AND PERFORMANCE

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Using a quasi-experimental posttest design, this study compared supervisor perceptions of performance and absenteeism and employee attitudes of 155 child care center users and waiting list employees. Although child care was not related to supervisor views of performance or absenteeism, employees were more likely to receive favorable appraisals if absenteeism was low. Child care had greatest impact on females and employees without a family buffer. Child care positively influenced users' attitudes toward managing work and child care responsibilities, and views on the attractiveness and administration of benefits. The greater the use of care across all dependents, the more favorable the attitudes. A "frustration effect" occurred involving the lowering of waiting list employees' perceptions of the attractiveness and fairness of child care. The study suggests that child care benefits are more likely to significantly effect employee attitudes and membership behaviors such as recruitment and retention than performance or absenteeism.

Currently, about 12% of U.S. firms with at least 100 employees provide child care benefits, one fourth of which offer on- or near-site care (Friedman, 1990). Existing research on the productivity impact of employer-sponsored centers has generally been flawed (Friedman, 1989; Miller, 1984). Prior studies usually have had poor control groups, often comparing users to nonuser groups in the general employee population, which typically include fewer single and dual career parents, fewer women, and more individuals in the lower salary ranks (Friedman, 1989). Additionally, studies have usually treated center use as a dichotomous variable. As a result, analyses have not considered the extent of use across all child dependents, which reflects the amount of assistance received relative to need. This approach also underestimates

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the influence of supplemental arrangements, both familial and nonfamilial, and overlooks the fact that most parents make more than one arrangement per child (Galinsky, 1989). Despite these shortcomings, a number of employer advantages of on-site care can be reasonably concluded: positive effects on turnover (Auerbach, 1988; Friedman, 1989; Marquart, 1988; Milkovich & Gomez, 1976; Youngblood & Chambers-Cook, 1974), recruitment (Auerbach, 1988; Marquart, 1988) and satisfaction and morale (Goff, Mount, & Jamison, 1990; Shellenbarger, 1992).

Research on child care's positive influence on productivity such as absenteeism and performance, however, has had mixed results. Although the literature has implied a favorable performance impact (cf. Milliken, Dutton & Beyer, 1990; Zigler & Lang, 1991), a study by Milkovich and Gomez (1976) is the only published work to compare ratings between users and nonusers of on-site care, and no significant differences were found. The lack of findings were attributed to central tendency error, as most (80%) employees were rated satisfactory. Regarding absenteeism, only Milkovich and Gomez (1976) found a positive significant difference between users and nonusers, unlike more recent work by Goff, Mount, & Jamison (1990). This latter study, which is one of the first to use complex modeling, may have had its power reduced by having too small a sample to be able to analyze a full path analytic model at one time. It also had a control group that may have systematically differed from the user group.

Research Focus and Model

The study was designed to enhance the current literature and to develop a model comparing the effects of using an on-site center on attitudes, absenteeism, and performance. Consistent with Kossek's framework (1990), Figure 1 shows that employee's work/family background variables, such as gender, child care resources, and dependent arrangements profile are believed to influence employee attitudes and behaviors. Specifically, gender (1), child care resources which include the degree that an employee can rely on a family member to care for a sick child or "family help" (2), the amount of supervisor support for work/family conflict (3), dependent care arrangements profile, that is: employer care, the number of total child care hours using an on-site center (4) and other care, the number of total child care hours using off-site nonfamilial care (5) are believed to either moderate problems with care arrangements (6) and/or directly or indirectly effect attitudes toward managing work and child care responsibilities (7). The fewer the problems with care and the more positive the attitudes, the lower the absenteeism (8) and the better

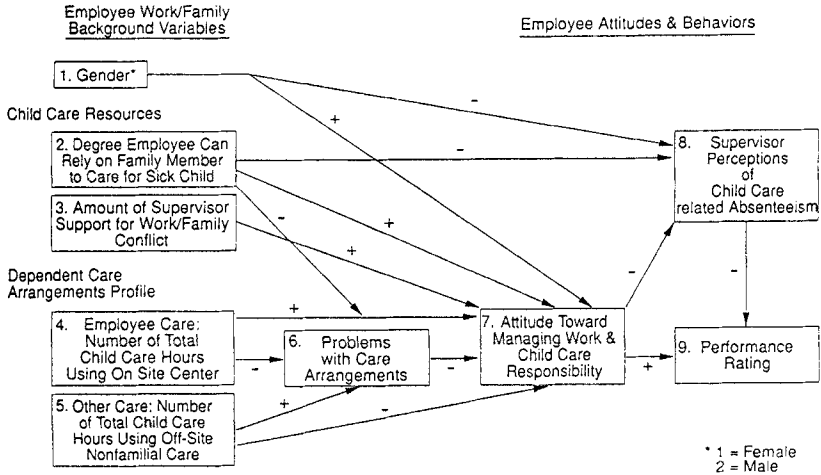


Figure 1: Hypothesized Relationships Between Use of On-Site Child Care and Employee Attitudes and Behaviors

the performance (9). Rationale for including each variable in the model follows below.

Child Care Outcomes: Attitudinal, Absenteeism and Performance Links

Because centers cannot care for sick children, absences due to child illness will probably increase. However, given that center users would be likely to have fewer problems with child care arrangements, and that the children would be transported to the same location as the parent, overall absences among users will be lower. Absenteeism also will directly influence performance. While many factors effect appraisals of subordinate performance, showing up regularly for work and being able to work the hours needed are likely to color a supervisor's view. Attending work is a necessary but insufficient condition for receiving a favorable appraisal.

Recalling Dunnette's notion (cited in Campbell, & Pritchard, 1973) that performance is a function of ability, opportunity, and motivation, on-site care also may provide the "opportunity to perform." Employees who are freed from child care worries may hold better attitudes about managing work and care, be better able to concentrate, and less frequently have to play catch up on the job. On-site care enables workers to have greater control over work family conflict, thereby reducing negative spillover between the domains (cf. Goff & Mount, 1991). Child

care may enhance perceptions of self-efficacy (cf. Bandura, 1986) among women regarding the degree to which they doubt their abilities to perform well at both maternal and work roles, despite conventional socialization that they cannot "have it all" and must choose between family or career (cf. Schwartz, 1989). A center is a visible organizational support to help create a climate in which it is considered normal for women with young children to view work as a priority.

Gender

Despite the greater involvement of many men in parenting than was common in previous decades, research consistently shows that working married and single female parents spend more time on child care than do males (Googins & Burden, 1987; Pleck, 1985). Women are also more likely than men to experience greater spillover from family to work, particularly if they have small children (Crouter, 1984). Given women's greater responsibility for child care and a prevailing societal view that it is more acceptable for women to allow family issues to interfere with work than for men, family-responsive employer policies may have the greatest positive effect on the work-related attitudes and behaviors of women (Greenberger, Goldberg, Hamill, O'Neil, & Payne, 1989). Women in this study are expected to hold less favorable attitudes about managing work and care than men, which will negatively influence performance. Since it is well documented that women with young children have higher absenteeism rates than single females or males (Englander-Golden & Barton, 1983; Klein, 1986), a direct absenteeism link was also theorized.

Child Care Resources: Supervisors and Families

Employees garner child care resources from two main areas: supervisors and their families. Rodgers and Rodgers (1989) contend that the U.S. national family policy lies in the hands of first-line supervisors. Clearly, the extent that a supervisor is viewed as supportive can have a major impact on an employee's ability to effectively handle work/family conflict (Galinsky, 1988; Greenberger et al., 1989), especially since the administration of personnel policies regarding work/family integration is largely done by supervisors. Indeed, one study of women who had just given birth found that having a supportive supervisor had approximately the same positive effect on stress as having a supportive husband (National Council of Jewish Women, 1987). Regardless of gender, an employee's ease in managing child care is largely determined by the degree to which a supervisor is sympathetic of the need to juggle work and

family obligations. It is predicted that the greater the amount of supervisor support for work/family conflict, the better the employee's attitudes toward managing work and care, and the better the performance.

One of the most common but stressful difficulties of working parents is finding care for a sick child. Regardless of overall health, nearly all children get ill during any given year; yet most child care programs are not capable of caring for sick children (Copeland, 1988). Research shows that the greater the access to familial care, the fewer problems with care arrangements (Kossek, 1990). Consequently, the more that an employee can rely on a relative for care in case of sickness or emergency, the fewer the problems, the better the attitudes about managing work and child care, and the better the performance. Having a lot of family help with care is also believed to directly lower absenteeism, since a family member is more likely to be willing to care for a sick child than is a nonrelative.

Dependent Care Profile: Assessing the Mix of On- and Off-site Care

Previous research has employed a dichotomous variable to measure center use (cf. Goff et al., 1990; Milkovich & Gomez, 1976). For the current study, we measured the extent of use of on-site care. This approach assesses the total number of child care hours being provided and reflects employees' differential access to employer care, which often is of higher quality due to subsidization and more reliable than other forms of nonfamilial care. The greater the number hours of center use each week [Employer Care (4)], the fewer problems with care arrangements.

Because parents typically make multiple arrangements for child care (cf. Kammerman, 1980), even employees with access to the center, may need supplementary care. Perhaps they have multiple children (one enrollee and one school-age) or work hours when the center is closed. It is believed that the greater the use of care other than by a spouse or by a relative that was not employer-sponsored [Other Care (5)], the greater the child care problems, the less favorable the attitudes toward managing work and care, and the worse the performance. Direct negative attitudinal effects from Other Care (5) and positive attitudinal effects of Employer Care (4) are also hypothesized due to users' easier access to children for visiting and in emergencies, and greater ease in transportation than nonusers.

The combined effects of Employer Care (4) and Other Care (5) on the model account for the effect of using familial child care, since employees who use little or no on-site or off-site nonfamilial care rely on family to provide care. These measures also assess the effects of the total number of children on problems and attitudes. Previously, number of children in and of itself has been found to be unrelated to work/family

conflict (Goff et al., 1990). We believe that the total number of weekly child care hours to be managed is a clearer indicator of the magnitude of family matters to be managed while at work.

Methodology

Design and Sample

The data were collected at two mid-western hospitals owned by one corporation. The hospitals were selected because they both have provided on-site child care to employees for over a decade and are affiliated with the same parent organization, which is in the health care industry where child care centers are prevalent. (For a description of the history of on-site child care in the firm, see Brown, 1991.) One hospital had 350 beds and was located in a small city surrounded by a rural area. The other had 525 beds and was located in a city which is part of a major metropolitan area. Both centers were quite popular and had fewer spaces available than employee demand warranted, and both had maintained waiting lists for many years. The lists were organized on a first come first serve basis and gave priority for positions that were in high demand.

A naturally occurring quasi-experimental posttest design (Cook & Campbell, 1979) was selected in which employees who were on a center waiting list were the control group and employees whose children were enrolled in the center were the treatment group. The waiting list and user groups were good comparison groups. Both included employees with young children of about the same age that could afford and had need to use the center. The samples included a similar distribution of single parent, dual career families, and working mothers, and were more likely to lack access to family assistance than employees who had no interest in the center.

Two complementary surveys were conducted: (a) a mail survey of 356 employees who were either currently using the on-site center or were on the waiting list, and (b) a phone survey of the supervisors of these employees. The response rate of the employee mail survey, which was sent to employees' homes in order to ensure privacy, was 52% and yielded 186 surveys containing complete information. This sample was comprised primarily of females, as 92% of the respondents were women. A third (32%) of the participants were currently on the waiting list. Data for the supervisor survey was collected via phone interviews with 122 supervisors at work (with continued calling to boost the sample) for a total of 316 interviews for a response rate of 88%. Over half (57%) of the supervisor sample were males and most (80%) were married.

In combining the employee responses and their matched supervisor's responses, the final sample was trimmed to 155 cases for which we had complete data. Of these cases, 44 were on the waiting list and 111 were users.

Procedure and Measures

Recursive path analysis was used to assess the direct and indirect effects of using on-site child care, since causal flow and covariation between theorized pairs of variables was believed to be significant (Asher, 1990). Using Hunter and Hamilton's (1990) Path Program, the ordinary least squares method of estimating the path coefficients from the correlations was utilized to assess relationships between the measures. The first seven measures were developed from the employee survey and the last two measures were from the supervisor survey.

Gender (1) was coded 1 for females and 2 for males.

Degree employee can rely on family member to care for sick child (2) or "family help" is an adaptation of Goff et al.'s (1990) measure of the availability of family help with child care in case of illness or emergency. Our scale ranged from 1 = almost never available to 5 = almost always available.

The amount of supervisor support for work/family conflict (3) perceived by the employee was measured using a modified version of Fernandez's (1986) scale. Sample items: "My supervisor's managerial style makes it easy for me to deal with child care problems during work hours," and "My supervisor is supportive of my need to juggle work and family responsibilities."

Employer care (4) was a continuous measure of the total hours of weekly care received in the on-site center for all children.

Other care (5) indicated the total number of weekly child care hours using off-site nonfamilial care for all children.

Problems with care arrangements (6) was measured using a version of Kossek's scale (1990), which had been adapted from scales developed by Burud, Aschbacher, and McCroskey (1984) and Fernandez (1986). It assessed the magnitude of problems with care for each child, which was summed and divided by the number of children. Using an average is a very conservative estimate, which probably underestimates problems. The scale ranged from 1 = no problem to 5 = major problem. Sample items: cost of care, hours of care, and provider dependability.

Attitude toward managing work and child care responsibilities (7) was measured using a version of Kossek's (1990) scale. It assessed attitudes toward managing work and child care responsibilities. Sample items: "My productivity has been helped by my child care arrangements." "I

have considered quitting my job because of my child care responsibilities." The lower the score, the more negative the attitudes regarding managing work and child care.

Supervisory perception of child care-related absenteeism (8) was based on our version of Marquart's (1988) scale. Using a scale ranging from 1 = almost never to 3 = sometimes and 5 = almost always, supervisors gave their view on the extent to which child care affected attendance in such ways as: getting to work, being late for work, missing work, being able to stay late, and needing to leave work. The higher the mean, the greater the negative effect of child care on attendance. We believed that this scale was a better measure of child care related absences than employee records, since the firm had a very liberal policy combining vacation, personal time, and sick care, making it impossible to distinguish which absences were due to child care. If an employee was going to have to miss all or part of the work day for care, the supervisor would have been given a reason for the absence.

Although we also collected self-report data from employees on their absenteeism, the supervisor scale was used for the model since it was believed to best assess the impact of child care absenteeism on a performance rating. It also had higher reliability ($\alpha = .80$) than the employee rating ($\alpha = .68$). While the self-report of absenteeism was significantly correlated with the supervisor scale ($r = .176, p \leq .02$), the employee scale was generally higher than the supervisor's, indicating that some supervisors may have underestimated absenteeism and that the model's measure was a conservative assessment.

Employee performance rating (9) assessed supervisors' ratings of 10 performance items, and was an enhanced version of Fedor and Rowland's (1989) scale. The scale had five points with the following anchors: 1 (unsatisfactory), 2 (below average), 3 (average), 4 (above average), and 5 (outstanding). The higher the mean, the more favorable the performance. This scale was believed to have more variation and to better reflect true performance than the firm's existing appraisal system, since often appraisals on file do not effectively distinguish performance except in cases of extremely high or low performance (cf. Tsui and O'Reilly, 1989).

In addition to the above measures, several exploratory scales were developed from the mail survey to compare general attitudes between users and nonusers. These scales are not included in the model because they are not posited to influence performance or absenteeism. They were developed to explore views regarding the attractiveness of the center as a benefit and provide sample background data.

The *perceived quality of care* that the youngest child received from the center, for center users, or from a primary provider, if they were

on the waiting list, was measured using a 10-item scale developed on the basis of a review of the literature (cf. Howes, & Rubenstein, 1985; Phillips, 1987). Previous center surveys used to collect data for national accreditation were also examined as background. Sample items: "When I pick up my child after work, I am satisfied with the quality of care they received that day"; "The child-caregiver ratio is optimal for my child"; "I believe that using my provider enhances the intellectual and social growth of my child."

The *perceived impact on recruitment and retention* was based on Marquart's (1988) dissertation. Using a 5-point scale (1 = not at all; 5 = to a great extent), employees answered two items: "To what extent does the availability of on-site care influence your decision to stay employed at organization X?" and "To what extent have you recommended employment at organization X because of the on-site child care center?"

The *perceived value of center to the organization* was based on the extent of agreement (1 = strongly disagree; 5 = strongly agree) with four items: "Extending child care assistance to a greater number of employees will substantially improve work force productivity"; "Even if it meant less resources were available for other programs, it would be a good investment for organization X to expand its child care services"; "The benefits of the on-site center outweigh the costs"; and "Overall, on-site care is preferable to other child care arrangements."

The *perceived unfairness of access to the center* was based on the extent of agreement with two items: "The priority system for getting into the center is fairly run," and "In order to get into the child care center, you need to know someone." The items were scored so that the higher the mean the less positive the view.

The *extent of personal responsibility for care* was a modified version of an item developed by Goff et al. (1990) that assesses the extent to which child care responsibility is shared. Our scale ranged from 1, indicating that the spouse had sole responsibility to 5, where the employee had sole responsibility.

Two exploratory items related to the way the child care programs were administered were also developed. Although these items were not used in the quantitative analyses, since they ended up being tailored to each hospital's needs based on input from employee focus groups and staff, they helped with data interpretation. The first issue involved the amount of the center subsidy. The centers at the 325 bed hospital was subsidized about 40% annually by the employer. Employees rated whether they thought this amount was too much (1), about right (3) or too little (5). Interestingly, managers at the other hospital, which had a lower subsidy of 25–30% asked that this item be deleted from an initial draft in order not to unduly accentuate the subsidy.

The second exploratory item measured perceptions toward the practice of giving priority to use the center to positions that were in high demand. For the hospital in the city near a major metropolitan area, nurses and physical therapists were given priority. At the hospital in the small city surrounded by a rural area, doctors were given priority in addition to nurses and therapists. We also measured these employee background variables: management status, employment hours, total children, marital status, position and organizational tenure, time off from work since birth of youngest child, and cost and stability of care.

Results

Table 1 shows reliabilities, means and standard deviations and inter-item correlations for nine variables in the model. The table shows high reliability and the existence of significant relationships in the predicted directions for all measures in the model. Factor analysis (principal components with varimax rotation) was conducted on the four attitudinal scales: supervisor support (3), employee attitude toward managing work and child care (7), absenteeism (8) and performance rating (9). The analysis indicated these constructs were conceptually distinct from each other. The first factor (eigenvalue 6.80) regarded performance (9) and explained 23% of the variance. The second factor (eigenvalue 4.13) involved supervisor support (3) and explained 14% of the variance. The third factor (eigenvalue 2.98) regarded absenteeism (8) and explained 10% of the variance. Factors 4–6 all related to the attitude toward work and child care measure. Factor 4 (eigenvalue 2.63) explained 9% of the variance and involved employee satisfaction with and/or the attitudinal impact of child care on the employee while at work. Factor 5 (eigenvalue 1.1) explained 3.7% of the variance and measured employee perceptions regarding the ease in finding reliable care and intention to turnover. Factor 6 (eigenvalue 1.0) explained 3.4 % of the variance and measured perceptions of how an employee's child care created problems at work for coworkers or themselves. Because factors 5 and 6 have eigenvalues close to one, were conceptually related to employee beliefs about the interaction between their child care situation and work, and had been reliably associated with the items in factor 4 as one scale in previous studies (cf. Kossek, 1990), the items in factors 4–6 were combined to measure employee's overall attitude toward managing work and child care responsibilities.

Table 2 summarizes the demographic backgrounds of users and waiting list employees and also contrasts general perceptions regarding the center. Users and nonusers were essentially similar in regard to gender, marital status, managerial status, total number of children, percentage

TABLE 1
Inter-Item Correlations and Descriptive Statistics for All Variables (N = 155)

	M	SD	Variables ^a																	
			1	2	3	4	5	6	7	8	9									
1. Gender ^b	1.07	.26	—																	
2. Family help: degree that employee can rely on family member to care for sick children	2.96	1.34	-.03	—																
3. Supervisor support	3.78	.90	.05	.03	.91	—														
4. Employer care: hours of on-site care per week	25.13	25.13	.15	.01	.06	—														
5. Other care: weekly hours of off-site nonfamilial care	12.54	18.99	-.09	-.11	-.20*	-.23*	—													
6. Problems with care arrangement	1.91	.64	-.12	-.27*	-.17*	-.17*	-.28*	.84	—											
7. Attitude toward managing work and child care responsibilities	3.55	.68	.18*	.27*	.21*	.24*	-.21*	-.68*	.76	—										
8. Child care-related absenteeism	2.04	.76	-.19*	-.23*	-.10	.01	.01	.09	-.20*	.80	—									
9. Performance rating	4.12	.65	.20	.02	.01	.03	.12	.02	.16*	-.32*	.92	—								
Number of items			—	1	5	—	—	12	9	5	10		—							

Note: Variables 2, 3, 6-9 used scales ranging from 1 (negative) to 5 (positive). Reliabilities noted in the diagonals where appropriate.

^aDecimal points omitted.

^bWomen were coded "1"; men were coded "2."

*p < .05

TABLE 2
Comparison of Sample Backgrounds

	Waiting list		On-Site user		t test*
	M	SD	M	SD	
Gender ^a	1.02	.15	1.09	.29	n.s.
Management status ^b	1.05	.22	1.12	.32	n.s.
Employment hours ^c	1.55	.50	1.12	.50	n.s.
Extent of personal responsibility for care	4.53	.91	4.49	1.00	n.s.
Marital status ^d	1.93	.26	1.95	.23	n.s.
Total children	1.73	.82	2.00	.80	n.s.
Position tenure (years)	3.58	.54	4.43	.42	<i>p</i> < .05
Organizational tenure (years)	6.48	4.41	8.61	5.12	<i>p</i> < .05
Time off since birth of youngest child (months)	2.83	3.52	2.55	1.43	n.s.
Perceived quality of care ^e	4.15	.67	4.46	.48	<i>p</i> < .05
Total months youngest child in care arrangements	15.64	16.27	22.46	17.59	<i>p</i> < .05
Total average weekly cost of nonfamilial care (\$)	61.17	40.78	95.86	54.41	<i>p</i> < .05
Perceived impact on recruitment and retention ^e	2.5	1.43	4.0	1.12	<i>p</i> < .05
Perceived unfairness of access to center ^e	3.45	1.13	2.38	1.08	<i>p</i> < .05
Perceived value of center to organization ^e	4.16	.53	4.40	.51	<i>p</i> < .05

^aWomen "1"; men coded "2."

^bNon-managers coded "1"; managers coded "2."

^cWorked 40 or more hours per week coded "1"; worked less than 40 hours per week coded "2."

^dNot married coded "1"; married coded "2."

^eScale ranged from: 1 (low) to 5 (high)

*Pooled variance n.s. = Not significant; waiting list: *n* = 44; users: *n* = 111

working full time, the amount of time off from work since the birth of the youngest child, and whether they had primary responsibility for care. The only significant differences in employee background variables found were for organizational and position tenure, which were both slightly higher for users than nonusers. While investigating the effects of using on-site care on tenure is not the main goal of this study, it can be noted that one of the most frequently cited benefits of offering on-site care is a favorable impact on retention (Friedman, 1989; Miller, 1984). A *t* test of significant differences for the perceived impact on recruitment and retention scale ($\alpha = .78$) supports the tenure results. Waiting list employees were significantly less likely than users to view the center as a factor in whether they recommended employment to a friend and in deciding to stay employed at the firm.

Significant differences related to the cost, quality and stability of child care arrangements were also noted. Based on ratings of the *quality of*

care scale ($\alpha = .87$), users perceived quality to be significantly higher than employees using other primary care arrangements. The *total number of months that the youngest child was in its primary child care arrangements* was also significantly higher for center users than nonusers. An ANOVA of the months the youngest child was in child care with organizational or position tenure as covariates (1 = less than 5 years and 2 = more than 5 years) and user as a main effect showed both forms of tenure to significantly covary with the length of time in primary child care arrangements ($p \leq .05$). Even while controlling for the effects of tenure, however, a significant main effect was still found for the length of time the youngest child was in their care arrangements ($p \leq .05$). These results support the general belief that on-site care helps recruitment and retention. Alternatively, this difference might be attributed to one hospital's practice of giving center priority to younger siblings of enrollees. In addition, we believe that center users tended not to change primary care arrangements once their child was enrolled, unlike waiting list employees who may have experimented with a number of alternative arrangements or had providers quit or fired. Research has generally shown that the longer the provider has a relationship with a child and the more stable the arrangements, the higher the quality of care (Berk, 1985; Clarke-Stewart & Gruber, 1984), which is consistent with our findings that users perceived higher quality care than nonusers.

A third difference was that the average weekly total *cost* of care was significantly higher for users than nonusers. This variation may be attributed to the fact that waiting list employees used significantly more hours of familial care each week, which an ANOVA showed to be lower in total cost than other forms of care to a marginally significant extent ($p \leq .056$). Waiting list employees were also heavier users of such non-familial care as babysitters and family day care providers, which was less costly than center care. While cost cannot necessarily be equated with quality, it appears that the care received by users' children was generally higher than the care received by those of nonusers.

Significant differences were also found regarding the *perceived value of the center to organization* ($\alpha = .74$) and *perceived unfairness of access to center* ($\alpha = .70$). Waiting list employees saw the center as being of slightly less value and were less likely to view access as fair. Lastly, it can be noted that analysis of exploratory attitudes regarding the amount of the subsidy of the center found that waiting list employees at the site with the center that was subsidized up to 40% annually, were significantly more likely to think that the amount was too little. Their mean was 3.8 versus a mean of 3.4 for users ($t = 2.34, p \leq .05$).

Despite differences in the size and geographic location of the two hospitals, the sample differences noted in Table 2 were virtually identical for users and nonusers at both centers. In order to make sure that none of these differences could be attributed to tenure, the only demographic variable found to significantly differ between the samples, analyses of variance with organizational or positional tenure as covariates and user as a main effect were conducted with each of the scales where significant differences are noted in Table 2. Organizational tenure did not covary with any of these measures with the exception being the aforementioned difference in the time the youngest child was in primary care arrangements. Position tenure also covaried with the perceived value of the center to the organization ($F = 4.79$) and the perceived impact of the center on recruitment and retention ($F = 5.27$). However, a significant main effect was still found for being a user and the extent to which the center was viewed as adding value to the organization even while controlling for the effects of position tenure ($F = 11.35$). A marginally significant main effect ($p \leq .12$) for being a user and viewing the center as favorably influencing recruitment and retention was also found after the effects of position tenure had been considered ($F = 2.44$). In summary, with the exception of a positive relationship between tenure and center use, which we cannot unequivocally state as being necessarily causally linked, the demographic backgrounds of the treatment and control groups were essentially similar. It appears however, that the quality of child care was slightly higher for center users than nonusers. In effect, this study can be viewed as comparing the effects of using quality on-site care versus alternative off-site arrangements.

Path Analyses

Although all measures in the model had high reliability, in order to remove measurement error, all of the correlations were correlated for attenuation prior to the analyses, which Hunter and Hamilton (1990) recommend (see Figure 2). Virtually all of the correlations in the model are significant at the probability level of less than or equal to .05. Figure 3 shows the results of the path analysis, with six of the path coefficients being statistically significant at ($p \leq .05$).

The results show that the greater the number of hours that an employee uses off-site nonfamilial care [Other Care(5)] or the lower the degree to which an employee could rely on a family member to care for a sick child (2), the greater the problems with care (6). Having problems with care (6), was associated with holding negative employee's attitudes about managing work and child care (7). Employees who frequently lacked family help with care (2) and who were female (1) also

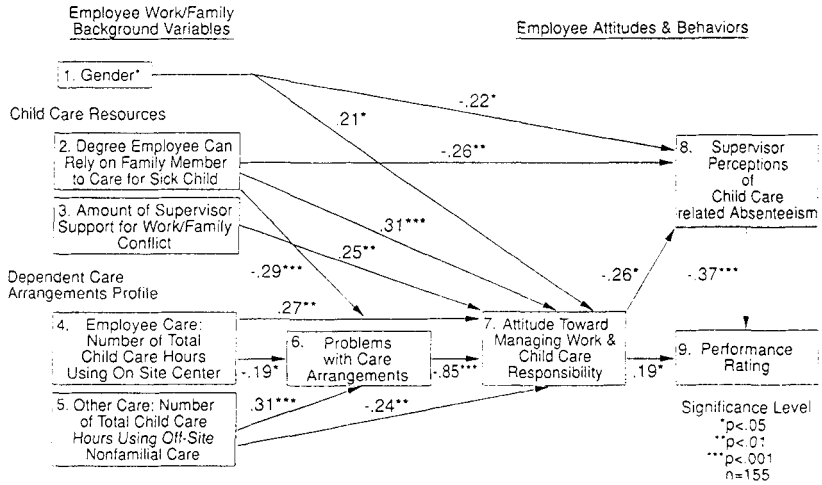


Figure 2: Correlations Corrected for Attenuation Between Work/Family Variables, Employee Attitudes, and Employee Behavior

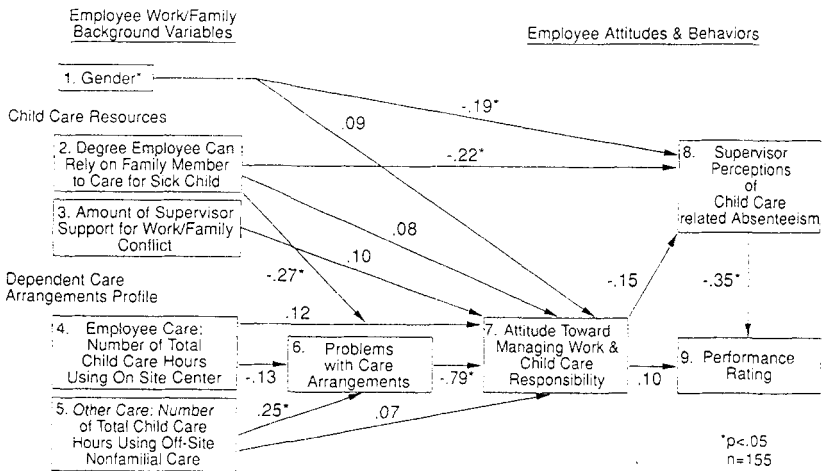


Figure 3: Path Coefficients: Relationships Between Work/Family Variables, Employee Attitudes, and Employee Behaviors

TABLE 3
Reproduced Correlation Matrix and Residual (Error) Matrix (N = 155)

Variables	1	2	3	4	5	6	7	8	9
1. Gender	—	00	00	00	00	-10	08	-01	12
2. Family help	03	—	00	00	00	00	00	00	-10
3. Supervisor support	05	03	—	00	00	-13	10	-08	-02
4. Employer care	15	01	06	—	00	00	00	08	-02
5. Other care	-09	-11	-21	-23	—	00	00	-07	17
6. Problems with care arrangements	-03	-29	-07	-19	31	—	-02	-09	17
7. Attitude toward managing work and child care responsibilities	13	31	15	27	-24	-83	—	-01	01
8. Supervisor view of child care related absenteeism	-21	-26	-04	-07	08	20	-25	—	00
9. Performance	08	12	03	05	-05	-15	18	-37	—

Note: Numbers above the diagonal represent residuals (errors); numbers below the diagonal represent the reproduced correlations. Decimal points have been omitted.

had higher absenteeism (8). The more a supervisor perceived an employee was absent due to child care, the lower the performance rating. Using the center was positively indirectly linked to performance, but not to a significant degree. However, it can be noted that a *t* test of some key items of the performance scale such as performance quality, for example, did indicate that the quality of waiting list employees was rated slightly lower than that of users (waiting list $M = 4.1$; user $M = 4.3$, $p \leq .01$).

Table 3 summarizes the residual and reproduced correlations. The bottom diagonal of Table 3 shows the path coefficients, (i.e., betas or standardized regression coefficients, which are the predicted correlations from testing the model) and the top diagonal shows the residuals (that is, the error matrix representing any differences between the original correlations). If errors appear in the matrix that are larger than the expected standard deviation error, then it can be assumed that improper pathways are specified in the model. The general "fit" or significance of an overspecified model—in which more paths exist than are specified—can be tested by comparing the *Q*-value, calculated from the sum of squared errors and the standard deviation of the errors, against the standard chi-square statistic based on degrees of freedom. (Winer, 1971). The *Q*-value indicates that the results for the entire path analysis model shown in Figure 3 and Table 3 are an excellent fit for the data and correlational structure. The computed *Q* was 9.86. Compared against

TABLE 4
Summary of Analysis of Covariance for Outcome Variables

	6. Problems with care arrangements		7. Attitudes toward managing child care responsibility		8. Supervisor perception of absenteeism		9. Performance	
	MS	F	MS	F	MS	F	MS	F
Covariates								
1. Gender	.64	1.85	.14	.72	3.87	7.43*	2.33	5.69*
2. Family help	7.12	20.49*	.01	.04	5.23	10.07*	.34	.84
3. Supervisor support	1.15	3.30+	.53	2.73+	1.38	2.65+	.40	.98
4. Employer hours	1.36	3.90*	1.87	9.65*	.00	.00	.26	.62
5. Other hours (non-familial care)	1.23	3.54+	.48	2.48	.22	.43	1.60	3.90*
Main effect								
User	1.41	4.06*	3.71	19.18*	.43	.82	.07	.80
Means for main effects* controlling for covariates ^a								
User	1.82*		3.55*		2.01		4.13	
Waiting list	2.14*		3.12*		2.08		4.09	

^aFrom MANOVA

+ $p \leq .1$; * $p \leq .05$

the chi-square statistic ($p \leq .001$, 12 degrees of freedom), the Q statistic did not exceed the critical value of 32.90, indicating a very good fitting path model. Calculation of the 5% alpha level/error standard deviation index shows none of the individual paths hypothesized in the model is inappropriate. The error matrix in Table 3 contains no differences between the empirical and the predicted correlations larger than the absolute value of .16. However, the error standard deviation index exceeded .24, a number greater than any of the errors calculated in the matrix.

We also wanted to analyze the results using a formal quasi-experimental design. Table 4 shows a summary table of analysis of covariance where users/nonusers is the independent variable, the variables in the model including problems with care (6), attitudes toward managing work and child care responsibilities (7), absenteeism (8), and performance rating (9) are the dependent variables, and the work/family background variables (1-5) as control variables. Means for main effects after the influences of the covariates have been removed using a MANOVA are also summarized in the table. Problems with care arrangements was significantly related to having family help (2), the total number of employer hours across children (4), and was a significant main effect for users even after removing the covariates' effects. Attitudes toward managing work and child care arrangements (7) significantly covaried with the extent of

employer hours across all children (4) and was also a significant main effect for users. Supervisor perceptions of absenteeism (8) significantly covaried with gender and family help, but was not significantly related to use of the center after the effects of the covariates were removed. Performance rating (9) was significantly related to gender (1) and to the total number of hours using off site nonfamilial care (5), but there was no main effect for center use after controlling for the background variables.

Discussion

Consistent with Milkovich and Gomez (1976), this study found that using on-site child care was unrelated to performance. Fringe benefits such as child care were more likely to favorably influence organizational membership behaviors such as recruitment and retention than performance. For example, users had higher tenure and held more positive attitudes regarding child care's effects on recruitment and retention than waiting list employees. Child care did not necessarily improve performance because its use was not directly linked to performance. Use of the center was available to employees independent of their performance levels, that is, star performers had the same child care privileges as deadwood. It appears the main performance link of on-site child care may be through Dunnette's notion (cited in Campbell, & Pritchard, 1973) of the opportunity to perform. On-site care frees employees from some child care worries. As the study found, users of the center were significantly more likely to hold positive attitudes toward managing their work and family responsibilities and were significantly less likely to experience problems with care. Thus, child care benefits may be viewed as creating a favorable climate conducive to enabling good performance by alleviating problems and allowing employees to focus on their jobs. Motivation, however, must be provided by other human resource policies such as the compensation and performance systems.

While using child care will not necessarily motivate employees to work harder, ironically, it appears that *not* using the center and having to wait to use a benefit that one desires may result in a "frustration" or "sour grapes" effect. Waiting list employees were significantly less likely to perceive the benefit as fair and had lower ratings of the attractiveness of the benefit, that is, its perceived value to the firm. The frustration effect for child care benefits is similar to Folger and Greenberg's (1985) view that perceived fairness is related to satisfaction with pay and Grover's (1991) finding that perceived fairness of a hypothetical parental leave policy mediated attitudes toward users. Future research might wish to apply Vroom's (1964) expectancy theory to see if over the long run, waiting list employees lowered their effort on the job because they are

denied a benefit. The frustration effect is an unexpected employee relations consequence of an employer's inability to assist all employees in need of on-site care.

The study showed that being viewed as not missing work due to child care was a necessary but insufficient condition for favorable performance assessments. Supervisors were more likely to rate employee performance highly if child care-related absenteeism was viewed as being low. This relationship is also indicated via supervisors tendency to rate women as having higher absenteeism due to child care, which carried over to our finding that the men in our study received significantly higher performance ratings than did the women.

Our study did not find a direct significant association between center use and absenteeism, which is in line with the findings of Goff et al. (1990) but contradicts Milkovich and Gomez (1976). Our results could differ because our entire sample included employees with children enrolled in child care so the variance may not have been as great as in the Milkovich and Gomez (1976) study's sample where only a third of which were enrolled in child care. Also, unlike Milkovich and Gomez (1976) our measures were perceptual, and perhaps supervisors underestimated true child care absenteeism. A *t* test of employee self-report data on absenteeism, which was significantly higher for users ($M = 2.18$) than nonusers ($M = 2.48$) ($p \leq .05$), backs up this notion. Given the greater stability of on-site care, we suspect that the positive relationship between absenteeism and center use may be stronger in an organization that has a sick or emergency care policy. For example, a *t* test of center users who have little or no family help with emergencies and sick care ($M = 2.27$) compared with users who frequently had sick care help ($M = 1.85$) showed that supervisors rated the absenteeism of users without family help as being significantly higher than the other group ($p \leq .05$).

This research indicates that child care is more important for employees without a family buffer. For employees without familial care or back-up, employer-sponsored child care may be a critical support. Employees using off-site nonfamilial care reported significantly greater problems with care and had poorer attitudes toward managing work and care than center users or employees using familial care. Similarly, employees without family back-up also had significantly greater problems with care and higher absenteeism. These results suggest that organizations might consider focusing on policies that allow for greater family involvement with care. Paradoxically, most companies have chosen to address child care by offering add-on programs to enable employees to find or help pay for nonfamilial care (i.e. referral programs and dependent care accounts) or by building or supporting on- or near-site centers (Conference Board,

1989). Organizations have preferred augmentative programs that continue to segment family matters from the workplace, which may be easier to implement, rather than to change existing human resource policies and organizational norms to allow for part-time work, work at home arrangements, new alternative career tracks, and employee flexibility to leave work to handle unexpected child care problems. Such policies would enable greater family involvement with care, but would also increase the blurring of work and family boundaries, which U.S. firms have generally preferred to avoid (Cook, 1989).

Another significant finding from the study is that the more people make use of child care (multiple children), the fewer the problems with care and the more positive the attitudes. It should be pointed out that our variables, employer care (4) and other nonfamilial care (5), which summed the total weekly hours of care across total children, were better measures for the model than simply using total number of children, which was not significantly related to any of our measures. Perhaps the lack of significant relationship for total number of children was due to lack of variance since all of the individuals in our sample had at least one child in child care, unlike samples in most previous published studies (cf. Goff et al., 1990). Also, our measures captured the effects of familial care in the model, which total number of children would not account for alone. For example, an employee with two children in familial care might have fewer problems with care and resulting negative work influences than an employee with one child in child care.

Future research is needed that includes both archival and attitudinal measures collected longitudinally and that involves samples of on-site users, waiting list employees, employees whose children are in child care but who do not desire the center, and a control group. The results of this study must be viewed with caution, since they are based on only two hospitals of one organization. With the exception of the employee's demographic work/family backgrounds, all our measures were perceptual. There is potential for bias and perceptual errors with such measures, as well as the possibility of common method variance. The use of the waiting list as a control group was both a strength and a weakness of the study. On the one hand, it compares the attitudes and work behaviors of two employee groups most interested in receiving on-site child care assistance, in effect, the internal market for direct child care aid. It is possible, however, that the results of the waiting list employees may have been overly tainted by the frustration effect. For example, the study had a lower response rate for the waiting list group than the user group. While this rate is additional data suggesting frustration, in that waiting list employees were less motivated to complete a mail survey at their home on child care if they were being denied access to the center, there

is the chance that only the most disgruntled nonusers participated in the study.

Regarding the idea that child care enables the opportunity to perform, future studies might investigate whether employees with quality employer-sponsored care, have greater perceptions regarding their self-efficacy, specifically, their ability to effectively perform well at managing both work and child care duties. Work is also needed to compare the effectiveness of child care aid that allows for greater family involvement with care (e.g., flexible policies for care emergencies, shorter work weeks, etc.) to other forms (e.g., centers, spending accounts, referral programs, etc.).

The frustration effect and its potential effects on attitudes and motivation, as well as issues of procedural justice in the administration of child care benefits are likely to be important future issues for research, organizational practice, and policy development. Realistically, a high quality child care center, as was the case in this study, cannot necessarily be offered or made affordable to all employees with child care needs because of space and/or cost limitations. While theoretically unlimited on-site care has the potential to benefit all employees with need, the reality is that an employer is probably unable to offer inexpensive on-site care to all who desire it, even if this is the most preferred form of aid. While many on- or near-site child care centers are successful, a growing number of them are running into problems because they have fees that are too high for many workers to afford (Shellenbarger, 1991). Despite the fact that they rated the center as significantly lower in adding value to the firm than did users, waiting list employees at the center that was subsidized up to 40% annually (which is generally greater than most employers offer) were also significantly more likely to think that the amount was too little. Following Grover's (1991) finding that policy fairness perceptions are based on an egocentric bias grounded in such factors as whether one intends to have children or to use a child care benefit, one can suspect that employees who do not desire to use the center would be more likely to rate the subsidy as too high, and even less likely to appreciate the center's added value, particularly if the center is viewed as resulting in less resources being available for other benefits of greater personal interest.

Issues of fairness and limited accessibility raise a fundamental question: Is it counterproductive to offer and advertise an expensive benefit that will not be used or readily available to all employees? Are there hidden costs associated with employer involvement in child care options that cannot be offered to all in need? In terms of overall added value to the organization, do the positive attitudinal and behavioral effects on center users outweigh the negative effects on nonusers who are waiting

for access? The directors of the child care centers and the vice presidents of Human Resources had taken great pains to develop what they believed to be a fair system for allowing entry that also gave priority to positions experiencing labor market shortages in order to enhance recruitment efficiency. Yet less than a third (30%) of the employees and little more than half (56%) of the supervisors believed that positions that are hard to recruit for should have priority for getting into the child care center. Regardless of economics, is there a point where the headaches from managing the equity issues associated with on-site care become such an overwhelming problem that offering this assistance is viewed as not being worth the trouble? Over the long run, does a center's negative potential for dividing the workforce and having a detrimental influence on morale outweigh the benefits? The answer may partly depend on the organization's industry and labor market conditions.

Consistent with previous research (cf. Greenberger et al., 1989), we found that child care had a greater impact on females than males. Even with the small number of men in our largely female sample, half of whom worked less than forty hours a week, gender was significant in the model. The health industry is experiencing serious shortages of medical technologists, technicians, and nurses who comprise a primarily female labor market (Knapp, 1990; Meyers, 1990). Despite the hefty cost and the difficulties involved in operating an on-site center, many firms operating in the health care industry have taken the lead in adopting on-site care perhaps because it may pay off economically. The executives who make the decisions regarding which alternatives to adopt in these firms probably have greater direct awareness of the ways in which child care problems interfere with recruitment and retention of women in their child bearing years. And as one of the child care directors in this study suggested, health care executives may have lower fear of entering into the child care domain because, compared to the liability insurance and cost considerations related to offering health care, the extra cost and liability associated with on-site care seems relatively small (Conlin, personal communication, December 14, 1990). Consequently, future research should focus on the study of overall organizational work/family strategies and climates, which may be more fruitful than analyzing specific child care programs separately since, in the effort to be more "family friendly," many companies have adopted a number of child care programs as opposed to a single initiative. Although this study has attempted to do so, it may be increasingly difficult to isolate effects of individual work/family policies. Rather, study should center on ascertaining which pattern of policies and climates regarding work/family integration are congruent with certain types of work forces and organizational conditions. Such

research would investigate which particular strategies lead to higher employer benefits in terms of some of the favorable attitudinal and productivity impacts noted in this study, presumably because of the increased fit with the labor market conditions, work force characteristics, human resource philosophy, and competitive business environments.

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