

Effects of a Workplace Intervention on Parent–Child Relationships

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Abstract This study tested whether effects of a workplace intervention, aimed at promoting employees' schedule control and supervisor support for personal and family life, had implications for parent–adolescent relationships; we also tested whether parent–child relationships differed as a function of how many intervention program sessions participants attended. Data came from a group randomized trial of a workplace intervention, delivered in the information technology division of a Fortune 500 company. Analyses focused on 125 parent–adolescent dyads that completed baseline and 12-month follow-up home interviews. Results revealed no main effects of the intervention, but children of employees who attended 75 % or more program sessions reported more time with their parent and more parent education involvement compared to adolescents whose parents attended <75 % of sessions, and they tended to report more time with parent and more parental solicitation of information about their experiences compared to adolescents whose parents were randomly assigned to the usual practice condition.

Keywords Parent–adolescent relationships · Parental employment · Work and family · Workplace intervention · Randomized trial

Introduction

Social, economic and demographic changes have dramatically altered families' connections to the labor force. Arguably one of the greatest changes over the past 50 years is mothers' involvement in the labor force (Casper and Bianchi 2002; Sayer et al. 2004). Today, whether because they are single parents or in dual earner families, most parents must coordinate job and family responsibilities, with little back-up at home (Casper and Bianchi 2002; Moen and Chesley 2008; Neal and Hammer 2007; Schieffman et al. 2009). In the U.S., limited public policy means that work organizations are left to develop programs and practices that support working families (Kelly 2005; Waldfogel 2005; Wertheimer et al. 2005). Although past decades have seen efforts by employers to develop family friendly policies, there are few systematic data on the effectiveness of those policies for improving the well-being of employees, and in the face of a small body of correlational studies on parents' work and family roles, we know almost nothing about whether and how family-oriented work policies benefit employees' children—the next generation of the labor force.

The job demands-resources model (JD-R; Bakker and Demerouti 2007) provided the conceptual frame for the current study. From this perspective, work demands can conflict with family roles and responsibilities, but work resources help employees manage demands and thereby can have positive effects on employees and their families. We focused on job resources in two domains: supervisor

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support for employees' personal and family lives and employees' perceived control over their work schedules. Prior correlational studies documented links between both of these resources and employees' work–family conflict (Galinsky et al. 1996; Hammer et al. 2009; Moen et al. 2008). With respect to schedule control, a recent quasi-experimental study found that white collar employees who participated in an intervention designed to promote schedule control showed greater decreases in work–family conflict and greater increases in health behaviors (e.g., hours of sleep) than did employees from the same company who had not yet experienced the roll out of the company's new practices (Kelly et al. 2011). Such findings on the potential impacts of promoting workers' schedule control are consistent with those from a study of self-scheduling, which showed that nurses who participated in an intervention that was designed to increase self-scheduling exhibited greater improvements in work–life balance compared to those in the comparison group (Pryce et al. 2006).

Turning to supervisor support, correlational studies documented that employees' reports of supervisor support were positively associated with family satisfaction and negatively associated with role stressors and work–family conflict (Ford et al. 2007; Hammer et al. 2009; Michel et al. 2010). Hammer et al. (2011) randomly assigned grocery stores from a national chain to receive a novel intervention designed to increase supervisor support for employees' personal and family lives. Findings revealed that work–family conflict moderated the effects of the intervention, such that, at the 6-month follow-up, employees in the experimental group with higher work–family conflict at baseline showed greater increases in job satisfaction and indices of physical health relative to employees in the usual practice or control condition. However, employees in the intervention group with low work-to-family conflict at baseline showed lower job satisfaction and poorer health relative to those in the usual practice group at the 6 month follow up.

Beyond their effects on employees, JD-R theory proposes that workplace experiences can cross over to affect employees' family members, and a small body of correlational research, focused mostly on work stressors, documents links between workplace demands and parent–child relationships (Bianchi and Milkie 2010; Menaghan and Parcel 1990; Stewart and Barling 1996). Prior correlational studies showed, for example, that high job demands were linked to lower levels of parent–child shared time and warmth and higher levels of conflict (Milkie et al. 2004; Ransford et al. 2008). Fewer studies have examined job resources, such as schedule control, but one study of employees with school-aged children found that employees' reports of schedule flexibility were positively

associated with their ratings of parent–child relationships, with parent–child shared time mediating this linkage (Roeters et al. 2010). Using a measure of job quality that included items on schedule control, Strazdins et al. (2010) found that mothers' reports of positive work experiences were negatively related to their reports of their preschoolers' emotional and behavioral problems. A quasi-experimental study of the effects of promoting schedule control found no main effects of a workplace intervention on parent–child relationship, but mothers in the intervention group who reported having fewer than three meals per week with their children at baseline exhibited significantly greater increases than comparison group mothers in the frequency of meals at follow-up (Hill et al. 2013).

Supervisor support is less well-studied as a workplace resource that has implications for employees' relationships with their children. Using a daily diary design in which mothers rated their work and family experiences each day for 2 weeks, however, Gassman-Pines (2011) showed that, on days when low income mothers reported more positive interactions with their supervisors, they also reported more positive parent–child interactions.

As noted, findings of links between parents' work conditions and parent–child relationships are consistent with JD-R theory, and importantly, they move the field from its prior focus on mothers' job status, that is, on whether and how much time mothers work, to study the implications of potentially malleable job characteristics for employees' families. Most prior research on work–family processes, however, has been limited to employees' self-reports of both job and home characteristics and experiences, meaning that the observed positive associations may be inflated by mono-reporter biases. In addition, the correlational and largely cross-sectional designs of prior research limit what we can glean about direction of effect and about the causal role of work experiences in parent–child relationship dynamics: Employees with more psychosocial competences may be able to position themselves in higher quality jobs, with fewer demands and more resources, such that unmeasured third variables account for the positive associations between work characteristics and parent–child relationships that have been reported to date.

The present study was designed to contribute to the work–family literature by testing the effects of an innovative workplace intervention, following employee–parents and their adolescent-age offspring over a 12 month period, and collecting youths' reports of parent–child relationships at baseline and at the 12 month follow-up, to assess potential effects of the workplace intervention on employees' children. The STAR (Support, Transform, Achieve Results) intervention program was implemented in the Information Technology (IT) division of a U.S. Fortune 500 company over a 3-month period. The intervention included training sessions

for managers to learn about the intervention and about strategies to support employees' personal and family lives while maintaining a high level of work performance. The supervisor support training also included a self-paced, computer-based training followed by real-time self-monitoring of managers' supportive behaviors via an iPod TouchTM with an alarm reminder to log support behaviors. The intervention also included 8 hours of work group participatory training sessions (four sessions) for managers and employees. These sessions were highly scripted to focus on targeted areas for change (e.g., attitudes and assumptions that more hours spent at the office reflected greater commitment or productivity). The sessions also were highly interactive and aimed at identifying new work practices that would focus employees' time and attention on key work results rather than on face time. The intervention is described in detail (Kelly et al. 2014), and materials are available online (<http://projects.iq.harvard.edu/wfhn/toolkits.achieve-workplace-change>). During the intervention, a member of the program staff attended 80 % of the program sessions and scored each session in terms of whether or not each focus of training was covered versus not covered. Program fidelity was considered to be achieved if 85 % of training concepts were covered. Across all sessions and workgroups, 62.50 % of sessions achieved this high level of fidelity.

The first analyses of the effects of STAR documented that the intervention had its predicted, positive effects on employees' reports of schedule control and supervisor support for family and personal life at the 6-month follow-up, as well as smaller effects on work–family conflict: Employees who were randomly assigned to the intervention reported more supervisor support and schedule control and less work family conflict than did those in the usual practice (UP) condition. Additional analyses revealed significant group differences in employees' work practices: Employees in the intervention condition almost doubled their hours of work at home as compared to only a small increase in hours of work at home among employees in the UP condition. Those in the intervention condition also were more likely than employees in the UP group to describe their schedules as “variable” at follow-up. Furthermore, employees in the intervention group were significantly higher in their reports of having adequate time to spend with family members (Kelly et al. 2014). In addition to intent to treat analyses, the investigators tested whether attendance at intervention program sessions had implications for the targeted outcomes. Results revealed that intervention effects on schedule control, supervisor support, work–family conflict and time adequacy were stronger for employees who attended 75 % or more of program sessions; results were small or nonsignificant for employees who attended <75 % of the sessions. Although these latter analyses introduced selection effects, the authors

argued that including non-participating employees in the intervention group likely dampened estimation of the potential size of treatment effects, and also may have masked possible negative implications of the intervention on employees who had been assigned to, but did not participate in the intervention.

In the present analyses, we built on this work to address two goals: (a) to test whether the intervention had positive effects on parent–child relationships using reports at the 12 months follow-up provided by employees' adolescent-age offspring of their parents' warmth, solicitation of information about their daily experiences, involvement in their education activities, and time spent in shared activities; (b) to determine whether employees' level of participation in the intervention, indexed by their attendance at program sessions, had implications for these four dimensions of parent–child relationships, testing the hypothesis that youths whose parents exhibited higher levels of participation would report more positive parent–child relationships at the 12-month follow-up as compared to those with both low attender parents and parents in the UP group.

Method

The data came from the baseline and 12-month follow-up waves of a field experiment aimed at testing the effects of a workplace intervention on the health and well-being of employees, their families, and the work organization. The research team partnered with a high tech, Fortune 500 company, pseudonym TOMO, to recruit study participants from its IT division. We used a group randomized design: Following baseline data collection, teams of employees who worked together and/or reported to the same supervisors ($N = 56$ work groups) were randomly assigned to the intervention or to the usual practice (UP) condition. Given the differing sizes and functions of the work groups, we used a modified biased-coin randomization approach for work group assignment (Bray et al. 2013; Frane 1998) that was aimed at ensuring a balance across the intervention and UP conditions in job function, team size, and executive (vice president) leader.

The STAR intervention was introduced by the organization's IT executives as a company-sponsored pilot program. The intervention was developed jointly by our research team and outside consultants who customized the materials for the targeted IT work force. For instance, the intervention at TOMO included a videotaped endorsement of STAR by a top IT executive in the company, examples of supervisor support that involved ensuring that the IT employees had access to needed tools and other resources and were aware of the company's family-oriented policies, and participatory training sessions targeted at IT-relevant

issues such as coordination with staff from sites in other time zones around the world and managing high time demand periods such as roll out of new software. Four group facilitators delivered the STAR intervention to supervisors and employees. A separate group of research staff, blind to participants' group assignment, was responsible for data collection.

Participants

The sample of employee–parent for the present analyses was drawn from the larger sample of employees who participated in workplace interviews ($N = 823$ at baseline). All employees with a child 9–17 years of age who was living in their home at least 4 days per week were invited to participate in an additional set of home interviews with their child; if there was more than one age-eligible child in the family, we chose the child closest to 13 years of age. At baseline, 71.80 % ($N = 148$) of eligible dyads completed the home interviews. Our analyses were based on 125 parent–youth dyads that completed both the baseline and 12-month follow up home interviews (84.46 % of the baseline sample). Missing data were minimal, though the N for each analysis differed slightly because of missing

data on specific dependent variables (see Table 1). Tests for differential attrition (t - and Chi squared tests) revealed no differences between those who remained versus left the study at 12 months as a function of demographic or work characteristics (i.e., age, gender, income, race, marital status, number of children in the household, job tenure). The one exception was work hours: those who dropped out averaged fewer weekly work hours ($M = 43.50$) than those who completed the 12-month follow-up ($M = 46.45$).

Families in the analysis sample were relatively demographically advantaged. Average annual income of employees fell in the range of \$80–\$90,000, and the majority (80.8 %) had a bachelor's degree or more education. In addition, 83.2 % of the sample was married, almost 6 % were cohabiting, and about 11 % were single parents. Most participants (67 %) were White, non-Hispanic, with smaller percentages of Asian/Pacific Islander (20 %), Hispanic (9.6 %), Black, non-Hispanic (1.6 %), and multi-racial (1.6 %) employees. Employees averaged 45.05 years of age ($SD = 6.03$), 46.45 h of work per week ($SD = 5.94$) and 12.73 years employed by the company ($SD = 6.45$). Youth participants ($n = 69$ girls, 55.2 %) were biological, step or adopted children, aged 9–17 years ($M = 13.34$ years, $SD = 2.30$).

Table 1 Coefficients (and Standard Errors) from MLM analyses comparing parent–child relationship characteristics as a function of intervention participation and attendance

	Parent–Youth Shared time ^b	Parental Warmth ^b	Parents' Education involvement ^b	Parental Solicitation ^b
Intercept	2.79*** (.49)	1.79 *** (.51)	2.79*** (.58)	3.52*** (.57)
Baseline parent–child relationship	.59*** (.09)	.66*** (.09)	.66*** (.08)	.56*** (.08)
Usual practice ^a	−.21 ⁺ (.11)	−.01 (.12)	−.21 (.13)	−.27 ⁺ (.14)
Low attendance ^a	−.33* (.15)	−.078 (.16)	−.45** (.18)	−.25 (.18)
Parent education	.06 (.13)	.03 (.14)	.00 (.15)	.03 (.16)
Parent is female	−.02 (.11)	.15 (.11)	.09 (.12)	.08 (.13)
Child age	−.09*** (.02)	−.05* (.02)	−.13*** (.03)	−.13*** (.03)
Child is female	−.18 ⁺ (.11)	.03 (.11)	−.04 (.12)	−.19 (.13)
AIC	228.5	236.6	232.2	266.2
N	123	122	116	121

^a Reference group is high attendance

^b Shared time was indexed by a measure developed by McHale et al. (2001), parental warmth by a scale by Schwarz et al. (1985); education involvement by a measure developed by (Smith et al. 1997); and parental solicitation using a measure by (Stattin and Kerr 2000)

⁺ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

Procedures

Trained interviewers conducted face-to-face interviews with employees at the worksite and with employees and their children at their homes at baseline and again at the 12 month follow up. Data collection began with informed consent/assent procedures, and then interviewers read questions to employee/parents and youths about their individual well-being and family relationships and entered their answers into laptop computers. The worksite interview averaged 60 min and the home interview averaged 30 min for parents. The youth home interview averaged 60 min. Employees received \$20 for the worksite and \$30 for the home interview, and youth received \$50 for the home interview.

Measures

Parent–youth relationships were assessed along four dimensions. Youths reported on *parental warmth* using an eight-item, 5-point rating scale (1 = *not at all*; 5 = *very much*) from the Children’s Report of Parents’ Behavior Inventory (CRPBI; Schwarz et al. 1985), e.g., “My mother/father understands my problems and worries.” Cronbach alpha averaged .88. Youth also rated their parents’ education involvement (e.g., “How often does [parent]: help you with your homework? Ask about how well you are doing in school?”) using a five item, 5-point rating scale (1 = *not at all*; 5 = *more than once a day*) adapted from Smith et al. (1997). Cronbach alpha averaged .81. We also assessed parents’ solicitation of information about youths’ daily experiences given prior research showing that it is central to parental monitoring and youth adjustment (Stattin and Kerr 2000). Youths rated the extent to which their parents made efforts to learn about their daily experiences [e.g., “How often does (parent): Try to keep track of where you are going and what you are doing? “Ask you about your free time activities?”] using a five item, 5-point rating scale (1 = *almost never*; 5 = *almost always*) developed by Stattin and Kerr (2000). Cronbach alpha averaged .85. Finally, youths reported on *time spent with parent* during the past month using a 5-point scale (1 = *not at all*; 5 = *more than once a day*) to rate five categories of activities including eat a meal at home and free time activities like sports, hobbies and outings (McHale et al. 2001).

Family background information was collected via self-reports of employee–parents and included their marital/partner status, education, occupation, work hours, years employed by the organization, household income, and race/ethnicity as well as biological relatedness to the targeted youth and youths’ date of birth and gender.

Employees’ attendance at the STAR Program sessions was collected by the intervention program facilitators

during each program session. Of the 70 parent–employees in this analysis sample (i.e., those randomized to receive the STAR intervention), 4.11 % attended none of the four sessions, 5.48 % attended one session, 20.55 % attended two sessions, 32.88 % attended three sessions, and 36.99 % attended all four sessions. For the analyses, employees were dichotomized into two groups. Low attenders ($n = 22$) were employees who attended <75 % of the sessions and high attenders ($n = 48$) were employees who attended 75 % or more of the sessions.

Data Analyses

To address our first research question, whether the intervention had an effect on parent–child relationships, we used a multi-level modeling (MLM) approach. Specifically, we conducted a series of multi-level linear regressions (using PROC MIXED in SAS) that took into account the clustering of employees within workgroups within experimental condition. To address our second question, whether changes in parent–child relationships among the STAR participants varied as a function of the number of program sessions attended, we also used a MLM approach, this time including two dummy variables to compare the high attending group (i.e., STAR participants who had attended 75 % or more of the sessions) to the low attending and to the UP groups. Analyses included a control for the baseline level of the dependent variable, as well as demographic characteristics of the parent (i.e., education level and gender) and child (i.e., age and gender), in order to minimize the impact of background factors that may be associated with both attendance and parent–child relationships. To illustrate the magnitude of the differences across groups, we graphed the means of the parent–child relationship variables and calculated Cohen’s d as a measure of effect size at the 12 month follow-up.

Results

The results of comparisons between the intervention and UP groups at baseline revealed no significant differences. Further, controlling for baseline parent–child relationship ratings as well as parent and youth gender, youth age, and parent education, the results revealed no significant effects of the intervention at 12 months. Nor was there evidence of moderation effects by parent gender, youth gender or youth age.

The results of analyses designed to test the effects of attendance also revealed no differences between the high attending, low attending and UP groups at baseline. By 12 months, however, youths with employee–parents in the high attendance group reported greater parental

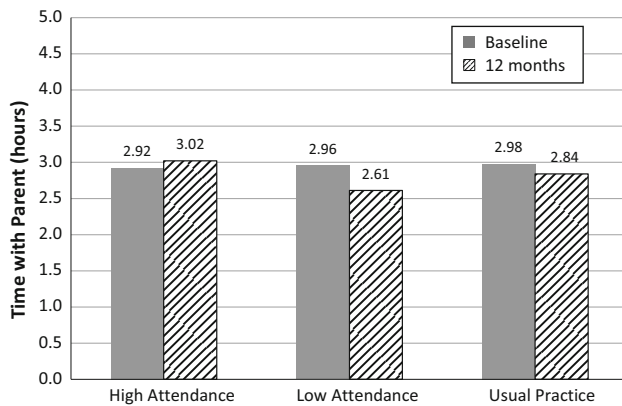


Fig. 1 Youth reports of time with parents as a function of parents' intervention group assignment and intervention program attendance

involvement compared to youths with parents in the low attendance groups, as shown in Table 1. Beginning with *parent-child shared time*, as Fig. 1 illustrates, results revealed that the high attendance group differed significantly from the low attendance group (Cohen's $d = .60$) and at trend level, from the usual practice group ($d = .24$) group, effect sizes in the moderate and small range, respectively: Children of employees who attended at least 75 % of the STAR sessions exhibited small increases in their time with parent whereas those in the low attending and UP groups exhibited small declines, the normative pattern of change in parent-child shared time across adolescence (Lam et al. 2012).

Turning to youths' reports of their *parents' education involvement*, results revealed that high attender employees were rated by their children as being relatively more involved at the 12 month follow-up compared to low attender employees ($d = .63$). As Fig. 2 illustrates, high attender parents maintained their involvement whereas youth reports of low attender parents exhibited a decline. Although the means for the UP group showed a slight increase over time, the change in their involvement did not differ from either the high or low attender groups.

Finally, with respect to *parents' solicitation of information* about their child's daily experiences, findings revealed that youths with high attender parents reported relatively higher levels of parental solicitation at the 12 month follow-up than did youth with parents in the UP group ($d = .44$). As Fig. 3 illustrates, the group of youths with high attender parents was the only group that exhibited an increase over time in parental solicitation; both UP youth and those with low attender parents exhibited a decline in this dimension of parental involvement, which is normative across adolescence (Collins and Laursen 2004).

There were no group differences in changes in *parental warmth*.

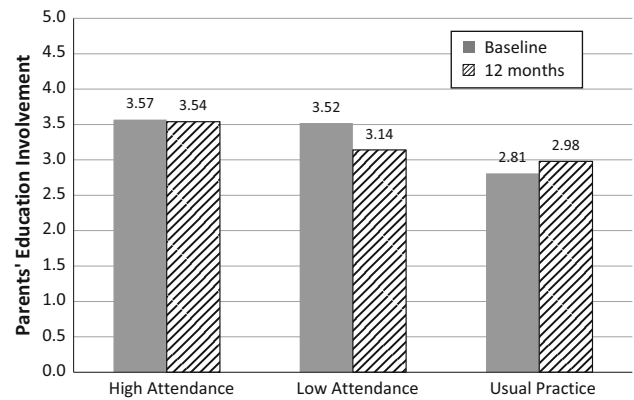


Fig. 2 Youth reports of parents' education involvement as a function of intervention group and intervention program attendance

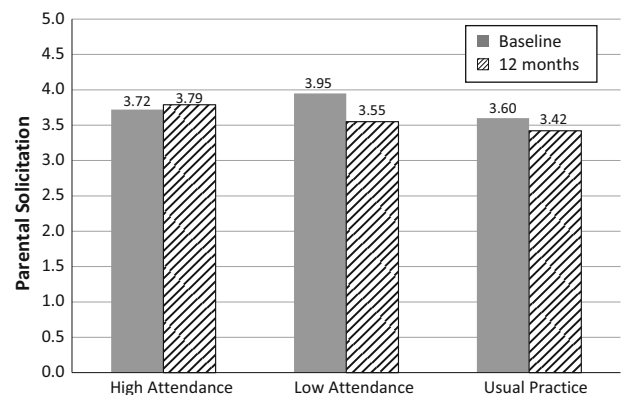


Fig. 3 Youth reports of parental solicitation as a function of intervention group and intervention program attendance

Discussion

We built on a small set of correlational studies that documented links between parents' workplace experiences and their parenting to test whether the effects of a workplace intervention, designed to increase employees' experiences of schedule control and supervisor support for personal and family life, crossed over to affect the quality of employees' parent-child relationships, as reported by employees' adolescent-aged offspring. Although our published results revealed significant effects of the intervention on the two workplace resources targeted for enhancement by the program, employees' schedule control and supervisor support for family and personal life (Kelly et al. 2014), the results of intent-to-treat analyses failed to support our hypothesis that the intervention would have positive effects on parent-child relationships. We found instead that employees who attended the majority of the program sessions had children who tended to report more positive parent-child relationships in the domains of parental solicitation and time with parent relative to children of

employees who had been randomly assigned to the usual practice group, and that these youths also reported relatively more time with and more education involvement by their parent than youths whose parent attended none or <75 % of the program sessions. The pattern of means suggested that the parent–child relationships of high attender employees remained stable over the year of the study in face of declines in these domains of parental involvement that were apparent in the comparison groups. Importantly, declines in parental involvement are common during adolescence as youths become more oriented to the world beyond the home, even though maintaining involvement is protective for youth adjustment (Collins and Laursen 2004). In this way involvement in the STAR intervention may have served a protective function for youth via the observed crossover effects.

Failure to document main effects of the intervention means that we are unable to draw causal conclusions about effects of the workplace intervention on parent–child relationships. Although there were no background differences between high and low attending parents on demographic and background characteristics or the baseline measures of parent–child relationships, unmeasured third variables, such as personality characteristics of parents or work and family demands or resources that we did not assess, may explain both parents' attendance at the intervention sessions and parent–child relationship quality at 12 months.

Our study was limited by a small and relatively homogeneous sample of parent–employees in one industry. An important direction for future research is to test STAR's effects on the children of employees from more diverse backgrounds in other kinds of work organizations. With respect to sample size, although participation rates were high (over 70 % of eligible parents and youth completed the baseline home interviews and our attrition rate at the 12 month follow up was only about 15 %), power to detect effects, including potential gender and age moderation effects, was limited. Effect sizes, however, fell in the small to moderate range for the differences between the intervention and UP groups and in the moderate range for the differences between the low and high attender groups. It is important to emphasize however, that we tested the effects of the intervention on youths' reports of their parent–child relationships. In this way our study contrasts with prior correlational and experimental studies, which have relied almost exclusively on employee–parents' self-reports of both their work and family experiences to examine spillover effects from work to home. Notably, youths in this sample reported generally positive relationships at baseline (i.e., above the midpoint of each scale), particularly in the domain of parental warmth, such that ceiling effects may have limited the amount of positive change that could be effected by the intervention program. That effects were

evident on parent–child shared time, and in turn, parents' solicitation of information about their children's experiences and their involvement in their children's education, is consistent with the idea that the intervention may have promoted parents' availability for parent–child interactions through its documented effects on employees' schedule control: As noted, adolescence is a time when youth become increasingly involved in activities outside the home, and their busy schedules of school and extracurricular activities mean that parents increasingly need to be available when their children have free time if they are to maintain an involved relationship.

Adolescence also is a time during which parent–child relationships face new challenges, and thus researchers have developed a number of parenting and family intervention and prevention programs that directly address parent–child relationships during this developmental period. In one of the most comprehensive experimental field trials to date, over one thousand families participated in a 7 week program, the Strengthening Families Program. Findings from this study showed statistically significant differences between intervention and comparison group families on almost all measures of parenting and parent–child relationships (Redmond et al. 2009). Effect sizes for these outcomes, however, failed to reach the cutoff of .20 for small effects based on the Cohen's *d* statistic, but ranged from $d = .06$ to $d = .12$. Such effect sizes provide a context for the effects we observed. The STAR program included no components that actually focused on family or parent–child relationship dynamics. Further, although the work group intervention sessions were participatory, most of the parents in our sample were the only employees in their work groups with adolescent-age offspring, and as such, may have been disinclined to bring up their parental responsibilities during discussions of work re-design. Thus, findings for the high attender group should be interpreted in light of the fact that increasing parental involvement was not a focus of the intervention. Future efforts to modify workplace practices and policies that directly target the challenges parents face in integrating work and family life may yield more consistent effects, because parent–employees who already are stretched for time, see the intervention as meaningful and therefore are more motivated to participate. In addition, directly addressing how employees' increased schedule control and managers' support for parenting responsibilities can enhance parent–child relationships may promote crossover effects of workplace policies and practices to employees' children.

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