Beep . . . beep . . . beep.

The sound of a pager pierces the night as Chris reaches across his bed to inspect the message: “Bill cycle 24 is down—please call help line ASAP.”

Chris sighs as he pulls himself out of bed and glances at the 3:00 A.M. reading on the clock. As he grabs his cell phone and heads toward his laptop, he laments that this is the third time this week that his pager has interrupted him in the middle of the night. Despite the fact that he and his team have been putting in 12-hour days for the past five weeks, the organization recently made the decision to put the development and testing of the new billing system on a 24/7 schedule. He knows that this software release is important for the company and he understands that the analysts expect the product to be fully functional and on the market in two weeks; however, he cannot help but feel dismayed at the all-consuming nature of this project. It’s been a grueling year, and even though his director insists that after this release “things will slow down,” he knows that both he and his team are beginning to feel the effects of the long hours and the continual disruption of their personal lives.

As he dials into the troubleshooting call, he wonders how long his team will put up with these hours and begins to think about what might happen if some of his top performers decide to leave the company. His

MANAGING WORK-LIFE CONFLICT AMONG INFORMATION TECHNOLOGY WORKERS

JAKE MESSERSMITH

As organizations continue to emphasize information technology (IT) to help them compete, IT professionals are being asked to overcome a growing list of challenges. This unrelenting emphasis on IT initiatives often results in longer working hours and around-the-clock support, placing IT workers at risk of suffering from work-life conflict. Human resource managers must skillfully manage this issue, with a particular focus on mitigating the consequences associated with work-life conflict. This article provides an analysis of the antecedents to work-life conflict in the IT profession, as well as solutions that organizations may implement to increase the work-life balance of IT professionals. © 2007 Wiley Periodicals, Inc.
thoughts are interrupted as a familiar voice on the other end of the line announces, “Hello, this is Steve with IS Test Management, who joined the call?”

“Hi Steve, it’s Chris, I hear that you guys are having bill-cycle troubles.”

Work-Life Conflict in the IT Profession

With information technology (IT) workers being increasingly stretched by extensive projects and aggressive timelines, this fictional example illustrates a problem faced by many organizations. While extended work demands are not the exclusive domain of IT professionals, mounting evidence indicates that workers in the IT sector are experiencing longer work hours, more work-life conflict, and higher indices of burnout than their coworkers in other functional areas (McGee, 2003). For instance, a survey of technology workers indicated that 50% of respondents felt that they achieved less work-life balance than their counterparts in other functions, and 58.3% of IT workers report that they do not feel they have an appropriate balance between their work lives and their personal lives (“CIO Research Reports,” 2001). Additionally, another recent study indicates that 71% of IT managers feel that IT employee burnout is a significant issue facing organizations (Leyden, 2003), while 94% of networking professionals indicate that they work in crisis mode at least some of the time (Fischer, 1998).

These statistics demonstrate that the increasing demands of today’s work climate are creating tumult within the lives of IT professionals. It also suggests that learning to manage this conflict is an important challenge facing managers and HR directors aiming to retain valuable IT workers. As a result of this pressing need, the focus of this article is on the antecedents, consequences, and management of work-life conflict among IT professionals. IT professionals are defined here as employees working directly with the development, testing, implementation, or support of information systems solutions. The article first looks at the documented consequences of work-life conflict and then details the antecedents of this conflict in the lives of IT professionals. Finally, practical solutions for providing IT workers with healthier levels of work-life balance are offered.

Work-Life Conflict and Its Consequences

Work-life conflict is a construct referring to the general interference that work life tends to have on an employee’s personal life. It is a more general form of work-family conflict, which is defined as “a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (Greenhaus & Beutell, 1985, p. 77). Work-life conflict can come in many forms and may represent intrusions of work into family time, leisure activities, or a general inability to mentally leave the work world behind when physically moving from one’s workspace to one’s home and personal space. For example, work-life conflict is experienced when meetings run long and family dinners are missed, pagers interrupt movie night with friends, or thoughts wander to work problems during a round of golf.

While work-life conflict touches every occupational area, IT workers may be more prone to its effects than other groups of employees. IT workers frequently face extended work schedules and often are asked to meet unrealistic deadlines without the necessary resources. IT workers frequently face extended work schedules and often are asked to meet unrealistic deadlines without the necessary resources (Longenecker, Schaffer, & Sczzero, 1999; Moore, 2000; Niederman & Sumner, 2004). Qualitative evidence of this phenomenon is seen in Hyman, Baldry, Scholarios, and Bunzel (2003), who relay the following quote from a software programmer, “... it can be quite disruptive ... I mean I have nights like I had last night, where I was actu-

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ally paged six times in the course of the night; although I only had to respond to two of those, it still disrupts your sleep” (p. 235). A technical architect laments, “It’s got more difficult as the years in Beta have gone on. It reached a point about a year ago when there wasn’t really a life; the mobile was left on the whole time . . .” (Hyman et al., 2003, p. 236).

The academic literature has documented numerous consequences of work-life conflict, including decreased levels of job satisfaction (Bruck, Allen, & Spector, 2002; Kossek & Ozeki, 1998; Parasuraman & Simmers, 2001; Rice, Frone, & McFarlin, 1992), career dissatisfaction (Parasuraman & Simmers, 2001), and increased turnover intentions (Boyar, Maertz, Pearson, & Keough, 2003; Greenhaus, Parasuraman, & Collins, 2001). Research specific to the IT profession has demonstrated that role conflict is associated with lower levels of job satisfaction and organizational commitment (Goldstein & Rockhart, 1984; Guimaraes & Igbaria, 1992; Igbaria & Greenhaus, 1992), as well as greater turnover intentions (Baroudi, 1985; King, Weidong, Campbell Quick, & Sethi, 2005; Moore, 2000). Of these, the most threatening consequence in the IT context is turnover. Those close to the industry concur that the IT occupation faces greater turnover challenges than nearly any other profession (Jiang & Klein, 1999; McGee, 2003; Rouse, 2001; Shachtman, 2000). One study estimated a 25–35% turnover rate for IT professionals in Fortune 500 firms (Jiang & Klein, 1999), while McGee (2003) indicated that as many as 50% of the IT workers surveyed plan to seek new opportunities in an improved market.

In addition to a direct effect on turnover intentions, work-life conflict has indirect effects through important job-related attitudes such as organizational commitment and job satisfaction. Studies of these mediating variables have consistently found that both organizational commitment and job satisfaction are significant predictors of employee turnover (Kammeyer-Mueller, Wanberg, Glomb, & Aihlburg, 2005). For instance, in a meta-analytic review of 178 studies of turnover, Tett and Meyer (1993) found that organizational commitment and job satisfaction both make significant and unique contributions to predicting turnover intentions. Moreover, turnover intentions were found to mediate the relationship between the aforementioned attitudinal variables and individual turnover decisions. A more recent meta-analysis by Griffeth, Hom, and Gaertner (2000) echoes these results, as the authors report that organizational commitment and job satisfaction are both negatively associated with turnover. In sum, as the work-life conflict experienced by IT professionals increases, research suggests that both organizational commitment and job satisfaction decrease, leading to increased IT employee turnover. Additionally, one study by Lee and Maurer (1999) suggests that certain family structure characteristics, such as being married, having children, and having a working spouse, exacerbate these relationships, making it more likely that individuals experiencing low levels of commitment will choose to leave the organization.

Considering the significant career mobility enjoyed by IT professionals (Boh, Slaughter, & Ang, 2001; Hacker, 2003; Watson, 2000), learning to effectively manage the conditions that lead to turnover in the IT workforce is a particularly important issue for HR managers to understand. For instance, Boh et al. (2001) found that the IT sector has characteristics of both a boundaryless profession and an occupational labor market. These characteristics mean that compared to other occupations, IT professionals are better able to move to different companies within the same occupation and also to change occupations with relative ease. This revolving door can prove to be quite costly to organizations, with one estimate suggesting that it costs a company approximately 120% of annual salaries when high-performing IT workers leave organizations (Vitalari & Dell, 1998). IT worker departures are particularly costly because the loss of this human capital includes the loss of tacit knowledge related to IT system functionality (Droege & Hoobler, 2003).
With the advent of IT outsourcing and the failures of several dot-com businesses, the IT sector has cooled slightly since its pre-2000 boom; however, IT professionals are still in relatively high demand (Horowitz, 2005). Evidence of the market demand for knowledgeable IT workers can be seen from any visit to an online job board where thousands of jobs are available for qualified programmers, analysts, and database administrators. Given this tight labor market, turnover among IT workers remains an important issue. Thus, it is increasingly important that organizations make efforts to understand the work-life conflict issues their IT employees face and attempt to mitigate such conflict whenever possible. The following section details the drivers, or antecedents, of work-life conflict among IT professionals.

Antecedents to Work-Life Conflict in the IT Profession

In their widely cited article on work-family conflict, Greenhaus and Beutell (1985) identify three main factors that lead to work-life conflict. The three factors discussed are behavior-based conflict, time-based conflict, and strain-based conflict (Greenhaus & Beutell, 1985). Behavior-based conflict refers to the notion that patterns or behaviors expected in one role may be in opposition with the desired characteristics of another role. In other words, behavior-based conflict exists when an individual is expected to behave one way in a certain context and an opposite way in another context. The academic literature has generally discussed behavior-based conflict as a phenomenon that occurs when individuals are expected to behave in an impersonal or emotionally reserved manner at work but are then asked to be emotionally open with a spouse or children at home (Greiff & Munter, 1980). Individuals in this type of situation have difficulty changing mind-sets in moving quickly from one set of role behaviors to another, which can lead to work-life conflict. Behavior-based conflict can be a problem for IT professionals who may be asked to work in a logical and assertive manner as they work on troubleshooting problems or developing new programs, and are then expected to be less analytical and more open to the needs of their loved ones once they transition into nonwork roles. While this general phenomenon certainly does occur in the lives of IT workers, it is not a unique problem, as many other professionals face similar difficulties. Instead, the literature points to time- and strain-based conflict as the most significant sources of work-life conflict in IT professionals (Hyman et al., 2003; Longenecker et al., 1999). As such, the focus of this article is on these sources of conflict and the mitigation strategies available for each.

Time-based conflict refers to the simple idea that additional time spent in one domain (i.e., work) precludes individuals from investing that time in another domain (i.e., personal relationships), while strain-based conflict suggests that one domain is affected by the stress created in another role (Greenhaus & Beutell, 1985). Thus, strain-based conflict is considered a psychological factor that is actualized when employees have difficulty leaving the pressures of work behind when transitioning to their personal roles. Numerous studies have examined the various antecedents to time- and strain-based conflict. Recent comprehensive reviews include a narrative review by Eby, Casper, Lockwood, Bordeaux, and Brinley (2005) and a meta-analysis by Byron (2005). These studies detailed a number of both work-domain and individual factors that serve as antecedents to work-life conflict. Each of these factors and its relationship to work-life conflict in the IT context is discussed below and summarized in Table I.

Table I: Antecedents to Work-Life Conflict in the IT Profession

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Role overload</td>
<td>Possibly is the greatest contributor to work-life conflict among IT workers.</td>
</tr>
<tr>
<td>For instance, a study of IT workers found an 18% burnout rate, with much of this burnout being attributed to overload.</td>
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</tbody>
</table>
### TABLE I  Antecedents to Work-Life Conflict

<table>
<thead>
<tr>
<th>Work-Domain Factors</th>
<th>Conflict Produced</th>
<th>Sample &amp; Author(s)/Publication Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Overload</td>
<td>Time-based conflict</td>
<td>• Meta-analysis (Byron, 2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fortune 500 company employees, various areas (Smith Major, Klein, &amp; Erhart, 2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• General population of British workers (White, Hill, Mc Govern, Mills, &amp; Smeaton, 2003)</td>
</tr>
<tr>
<td>Weekend Work, Shift Work, and Unpredictable Work Routines</td>
<td>Time- and strain-based conflict</td>
<td>• National sample, varied industries (Fox &amp; Dwyer, 1999)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• British software developers and call-center workers (Hyman, Baldry, Scholarios, &amp; Bunzel, 2003)</td>
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<td></td>
<td></td>
<td>• Hotel employees (Shamir, 1983)</td>
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<td></td>
<td></td>
<td>• Nurses (Staines &amp; Pleck, 1984)</td>
</tr>
<tr>
<td>Virtual Work/Telecommuting</td>
<td>Time- and strain-based conflict</td>
<td>• Dual-earner, white-collar employees (Batt &amp; Valcour, 2003)</td>
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<tr>
<td></td>
<td></td>
<td>• Married telecommuters in professional positions (Duxbury, Higgins, &amp; Thomas, 1996)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• IBM virtual and nonvirtual workers (Hill, Miller, Weiner, &amp; Colihan, 1998)</td>
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<tr>
<td></td>
<td></td>
<td>• Virtual workers in the telecommunications industry (Raghuram &amp; Wiesenfeld, 2004)</td>
</tr>
<tr>
<td>Technology Assisted Work</td>
<td>Strain-based conflict</td>
<td>• Dual-earner, white-collar employees (Batt &amp; Valcour, 2003)</td>
</tr>
<tr>
<td>Bringing Work Home</td>
<td>Time- and strain-based conflict</td>
<td>• British software developers and call-center workers (Hyman et al., 2003)</td>
</tr>
<tr>
<td>Pressure and Stress at Work</td>
<td>Strain-based conflict</td>
<td>• Meta-analysis (Byron, 2005)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• State government departmental personnel (Carlson, 1999; Carlson &amp; Perrewe, 1999)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• National sample, varied industries (Fox &amp; Dwyer, 1999)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Accountants (Greenhaus, Bedeian, &amp; Mossholder, 1987)</td>
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<tr>
<td></td>
<td></td>
<td>• Nurses (Grzywacz &amp; Marks, 2000)</td>
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<tr>
<td></td>
<td></td>
<td>• Hotel employees (Shamir, 1983)</td>
</tr>
<tr>
<td>Role Ambiguity</td>
<td>Strain-based conflict</td>
<td>• Furniture manufacturer employees (Boyar, Maertz, Pearson, &amp; Keough, 2003)</td>
</tr>
<tr>
<td>Individual Factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Involvement</td>
<td>Time- and strain-based conflict</td>
<td>• Virtual workers (Adams, King, &amp; King, 1996)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Meta-analysis (Byron, 2005)</td>
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<td></td>
<td></td>
<td>• State government departmental personnel (Carlson &amp; Perrewe, 1999)</td>
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<tr>
<td></td>
<td></td>
<td>• IS employees (Igbaria, Parasuraman, &amp; Badawy, 1994)</td>
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<tr>
<td></td>
<td></td>
<td>• Working graduate students in a dual-earner relationships (Parasurman &amp; Simmers, 2001)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fortune 500 company employees, various areas (Smith Major et al., 2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dual-career couples, varied industries (Tenbrunsel, Brett, Maoz, &amp; Stroh, 1995)</td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>Time- and strain-based conflict</td>
<td>• Dual-career couples, varied industries (Tenbrunsel et al., 1995)</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>Time- and strain-based conflict</td>
<td>• Dual-career couples, varied industries (Tenbrunsel et al., 1995)</td>
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</tbody>
</table>

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employee’s task demands exceed available time, often leading to higher levels of stress (Frone, Russell, & Cooper, 1992) and, if not addressed, to burnout (Jackson, Schwab, & Schuler, 1986). Role overload possibly is the greatest contributor to work-life conflict among IT workers. For instance, a study of IT workers found an 18% burnout rate, with much of this burnout being attributed to overload (Moore, 2000).

Within the IT context, role overload may occur for a variety of reasons. The most salient factors cited are a lack of manpower and resources to complete projects in combination with unrealistic deadlines for the implementation or completion of IT-related initiatives (Agarwal & Ferratt, 2001; Moore, 2000). Fischer (1998) relays this anecdote from one networking professional, “I’ve tried to get my boss to change deadlines . . . it doesn’t work. I go in to talk and end up getting two or three more jobs, without ever resolving the original issue” (p. 56). Additionally, evidence indicates IT professionals feel even more overload following layoffs and downsizing initiatives in recent years, leaving fewer employees to do the same amount of work (Higgins & Duxbury, 2005).

Role overload comes in the form of frequently extended work schedules that often require IT projects to be staffed on a 24/7 schedule (Engler, 1996; Perlow, 1998). This staffing schedule, once reserved for pushing major releases and meeting short-term demands, has been extended indefinitely for a number of IT organizations (Norman & Zawacki, 2002). These extended demands and aggressive deadlines also increase work-life conflict by forcing IT workers to bring additional work home at night, work weekends, and also engage in periodic shift-work and varied work routines. As Table I indicates, studies across various employee groups indicate that unpredictability and extensions in one’s work schedule can lead to work-life conflict (Fox & Dwyer, 1999; Hyman et al., 2003; Shamir, 1983; Staines & Pleck, 1984). Moreover, a large-sample study of Canadian workers found that employees involved with weekend work or nonstandard schedules suffered higher levels of burnout, emotional exhaustion, and health problems (Jamal, 2004).

These unpredictable work routines occur when individuals are asked to work a non-standard schedule and are not given sufficient lead time to adjust their personal schedules. This lack of routine may produce both time- and strain-based conflict, as employees are unable to plan personal matters in advance for fear they will have to cancel their plans as their work schedules change. For instance, employees with frequently changing work schedules have difficulty planning for child care or participating in the extracurricular events of their children. These conflicts place additional strain on employees and cause conflict between work roles and personal responsibilities.

Role overload among IT professionals may have dramatic effects on several organizational outcomes. For instance, Moore (2000) examined the lives of IT professionals and found that work overload was associated with work exhaustion, a significant predictor of turnover intentions. Sethi, Barrier, and King (1999) also found that work overload was associated with emotional exhaustion among IT workers. In addition, a recent study found that IT workers generally were much less likely to engage in organizational citizenship behaviors than their non-IT counterparts (Moore & Love, 2005). Organizational citizenship behaviors (OCBs) are discretionary behaviors that are not part of the job description, but often are invaluable to the organization (e.g., helping other employees learn a new software system, providing informal mentoring to new employees). These authors postulate that lower levels of OCB exhibited by these IT workers are attributable to perceptions of inequity with regard to work overload (Moore & Love, 2005).

Strain-Based Conflict

As mentioned previously, Greenhaus and Beutell (1985) note that strain-based conflict
occurs when the strain created in one role makes it difficult to meet the expectations of another role. Strain-based conflict leads to both adverse physical and psychological states that spill over into other areas of an employee’s life (Edwards & Rothbard, 2000). Research indicates that work stressors are likely to spill over into family and nonwork life, making it more difficult to effectively meet nonwork demands. For instance, in a study of employed parents, Williams and Alliger (1994) found that distress and fatigue at work led to immediate feelings of stress at home. Additionally, Repetti (1989) found that air traffic controllers experiencing negative moods at work were more likely to have strained interactions with family members in the evening. Moreover, in a recent meta-analysis, Byron (2005) reveals that job-related stressors are the most significant predictor of work-family conflict.1

Therefore, a host of work-related stressors, including those discussed previously in conjunction with time-based conflict, are likely to lead to additional strain that produces tension between work life and nonwork life. For instance, being on call, working long hours, and shift work all lead to disruptions in an employee’s nonwork life, which may affect and strain personal role responsibilities. Additionally, being asked to work overtime or at odd hours may lead to sleep deprivation, which physically drains an IT worker, producing greater strain in both their work and nonwork roles.

One of the most common factors creating both physical and psychological strain-based conflict for IT workers is the availability of technology that allows work to be completed from nearly anywhere at any time (Stokes, 1996). Fenner and Renn (2004) refer to the prevalence of workplace technology in the home as technology-assisted supplemental work (TASW) and have postulated that individuals impacted by TASW are more likely to experience work-family conflict. In fact, one study found that 68% of employees sampled felt that technology had increased their stress level and 70% felt that it had increased their overall workload (Higgins & Duxbury, 2005). Additionally, Batt and Valcour (2003) found that technology use was significantly associated with work-life conflict.

This is of particular concern to IT workers because their jobs may require them to plug into the office more regularly than their coworkers. For instance, most IT workers engaging in any type of project-related work or general support are likely to carry pagers, mobile phones, and laptop computers home on a nightly basis. While these tools allow for greater flexibility, they can also create both time- and strain-based conflict. Time-based conflict occurs as the employee is forced to spend additional time working from home instead of attending to other nonwork responsibilities. The psychological burden of disengaging from family or other nonwork activities in order to perform work duties creates additional strain-based conflict. IT workers often feel exhausted, sleep-deprived, and worn down by the constant mental presence of work (Hyman et al., 2003). Engler (1996) notes that one IT worker summed up her negative feelings toward the omnipresence of work by saying that her pager “has become a ‘ball and chain’” (p. 86). Thus, engaging in TASW is likely to both physically strain employees and emotionally separate them from their nonwork lives even when they are physically present in nonwork settings.

An additional element of strain-based conflict is role ambiguity. Role ambiguity exists when an employee is unsure of the demands of his or her job and how those demands should be met (Ilgen & Hollenbeck, 1991). Role ambiguity produces additional stress for employees as they are unsure of their job...
demands and the boundaries for their positions, leading to strain-based conflict. In addition, the lack of clear role definitions forces workers to expend additional mental resources to try to define and understand their positions in the organization (Boyar et al., 2003).

Role ambiguity can be particularly problematic for IT personnel because of the amount of boundary-spanning activity their roles involve. Boundary spanning occurs when employees are asked to cross departmental, as well as organizational, lines in the process of performing their job duties (Baroudi, 1985). Many IT professionals such as system analysts and designers engage in a great deal of boundary spanning, as their positions require them to interface with end users, developers, testers, marketers, and other extraorganizational sources such as vendors and suppliers (King et al., 2005). To be successful in such roles, IT professionals must balance the demands of multiple stakeholders, often resulting in ambiguity about the nature of their job responsibilities and expectations. This ambiguity can cause stress in the employee’s work life and may result in longer working hours or greater difficulty separating work and personal life.

These relationships were investigated empirically by Baroudi (1985), who found that higher levels of role ambiguity were associated with turnover intentions and with lower levels of job satisfaction and organizational commitment among a sample of analysts, programmers, and IT project managers. Additionally, Guimaraes and Igbaria (1992) found a negative relationship between role ambiguity and overall levels of job satisfaction. These findings signal the importance of helping new and experienced IT workers define their roles in order to reduce the potential for work-life conflict and its negative organizational and individual consequences.

Individual Factors

In addition to the job and organizational factors, a number of individual characteristics have been linked to work-life conflict. For instance, Tenbrunsel, Brett, Maoz, and Stroh (1995) found that both intrinsic motivation and organizational loyalty are related to higher indices of work-life conflict. Also, Igbaria, Parasuraman, and Badawy (1994) found IT employees with high job involvement demonstrated more boundary-spanning activities and higher levels of role stress, but also demonstrated higher levels of commitment to the organization.

These results echo those found in non-IT contexts, where several studies link career identity salience with the number of hours worked and ultimately to work-life conflict (e.g., Adams, King, & King, 1996; Beutell & Wittig-Berman, 1999; Smith Major, Klein, & Ehrhart, 2002). This can be attributed to the tendency for highly involved employees to spend a great deal of time and energy on the work domain, making it harder to meet extra work demands. Thus, despite the importance of involvement in sustaining job satisfaction and organizational commitment, involvement can have negative consequences to the extent that it leads to greater levels of work-life conflict.

These results are perplexing for HR managers, as organizational commitment, intrinsic motivation, and job identity are otherwise viewed as desirable characteristics. Certainly, firms want to select and invest in employees with exactly these types of characteristics, while still remaining cognizant of the potential work-life conflict these employees may face. Thus, this issue will be revisited in the next section of the article with specific prescriptions provided for managing the situation.

In sum, there are several salient issues that produce work-life conflict in the lives of IT professionals. From frequently changing requirements and around-the-clock support to meeting aggressive and often unrealistic timelines, IT workers today continue to face time- and strain-based conflict. Are they alone? Certainly not. Workers in all areas of
the organization face demanding job requirements that often spill over into their family and leisure activities; however, the IT workforce is a special case for a multitude of reasons. First, technology never sleeps and may “behave badly” at any hour of the day. If a server goes down at 4:00 A.M., the organization generally cannot wait until 8:00 A.M. to have someone come in and make repairs. Additionally, many important routine maintenance operations must be completed during noncore business hours. Compound these factors by the rapidity with which IT changes. Those involved in the design and implementation of systems must continually adjust their skills and replace outdated technology, which frequently leads to additional working hours, shift work, and on-call support. Thus, it is important that organizations recognize the prevalence of factors leading to work-life conflict among IT workers and take steps to minimize the organizational consequences associated with work-life conflict.

Managing Work-Life Conflict in the IT Profession

Organizations can explore a number of potential avenues to improve the work-life balance of their IT employees. These mitigation strategies, practical implementation guidelines, and expected outcomes are summarized in Table II.

Promoting Family-Friendly Policies

One of the most common, and potentially most effective, ways for dealing with work-life conflict is to establish family- and life-friendly policies. The literature in this area has suggested a number of practices associated with favorable employee perceptions of work-life balance. These practices include offering dependent care, implementing work flexibility policies, and providing strong supervisory support (Adams & Jex, 1999; Batt & Valcour, 2003; Carlson & Perrewé, 1999; Hyman et al., 2003; Thomas & Ganster, 1995; White, Hill, McGovern, Mills, & Smeaton, 2003). For instance, White et al. found that employees who had flexible hours and discretion over when and where work was done were less likely to experience negative spillover from work to home. Additionally, a study of software developers and call-center employees in Britain found that IT workers in firms with more supportive and family-friendly policies reported lower levels of work intrusion into family time (Hyman et al., 2003).

Dependent child care is one of the most common ways organizations attempt to mitigate work-life conflict. Providing on-site child care offers great convenience to employees, as they are able to simply bring their young children to work with them and pick them up at the end of the day without ever having to leave the office. Research indicates that offering on-site child care reduces the work-life conflict of working parents (Goff, Mount, & Jamison, 1990), improves the attitudes of working parents about their ability to balance work and childcare (Kossek & Nichol, 1992), and improves perceptions regarding the organization’s ability to recruit and retain working parents (Rothausen, Gonzalez, Clarke, & O’Dell, 1998).

Offering dependent child care to IT employees may be a particularly useful mitigation strategy for reducing work-life conflict. As discussed above, IT workers frequently have changing schedules that require them to work shifts late into the evening. By offering on-site child care, the employer can dictate the hours of operation for the day-care facility and may be able to provide care during hours that off-site providers are unwilling or unable to staff. For instance, toward the end of major upgrades or releases that may need to be staffed 24/7, the organization may be able to make arrangements with their day-care facilities to provide staff during the evening or nighttime hours to watch children while IT workers push to complete the project.

Another common way in which firms adopt family-friendly policies is by allowing...
<table>
<thead>
<tr>
<th>Mitigation Strategy</th>
<th>Targeted Work-Domain Factor(s)</th>
<th>Practical Implementation Guidelines</th>
<th>Expected Outcomes</th>
<th>Contingency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Family-Friendly Policies</strong></td>
<td>Extended Work Schedules Pressure and Stress at Work</td>
<td>• Allow employees to set their own work schedule.</td>
<td>Reduced time-based conflict with</td>
<td>Job suitability and employee preferences for segmentation versus integration of work and nonwork life.</td>
</tr>
<tr>
<td>• Flex-time</td>
<td>Work Overload</td>
<td>• Allow employees to work from home regularly or sporadically.</td>
<td>potential for increased strain-based conflict.</td>
<td>Allow employees a selection of mentors to ensure fit between mentor and mentee.</td>
</tr>
<tr>
<td>• Virtual work</td>
<td></td>
<td>• Focus on the strengths of new hires and provide them with realistic information about the demands of the job.</td>
<td>Improved coping abilities, which will</td>
<td></td>
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<tr>
<td><strong>Socialization Tactics</strong></td>
<td></td>
<td>• Provide training on the effects and signs of burnout to both managers and employees; warn about the consequences of work overload.</td>
<td>indirectly decrease strain-based conflict.</td>
<td></td>
</tr>
<tr>
<td>• Investiture</td>
<td>Role Ambiguity</td>
<td>• Signal the salience of work-life balance by publicly celebrating the personal successes of employees.</td>
<td>Improved job satisfaction and increased commitment to the organization with an indirect influence on work-life conflict.</td>
<td></td>
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<tr>
<td>• Employee and manager education on burnout</td>
<td></td>
<td>• Pair new hires with experienced IT workers who can teach them the formal and informal practices of the organization.</td>
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<tr>
<td>• Celebrate personal successes</td>
<td></td>
<td>• Signal the salience of work-life balance by publicly celebrating the personal successes of employees.</td>
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<tr>
<td>• Mentoring programs</td>
<td></td>
<td>• Provide training on the effects and signs of burnout to both managers and employees; warn about the consequences of work overload.</td>
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</tr>
<tr>
<td><strong>Merge Nonwork and Work Time</strong></td>
<td>Bringing Work Home</td>
<td>• Promote a family-friendly culture.</td>
<td>Reduced time- and strain-based conflict.</td>
<td>Provide a work-life balance budget that allows employees to choose which balance programs fit their needs.</td>
</tr>
<tr>
<td>• Extended Work Schedules</td>
<td>Extended Work Schedules Work Overload</td>
<td>• Provide on-site day care.</td>
<td></td>
<td>Ensure that HIWP are congruent with one another.</td>
</tr>
<tr>
<td><strong>High-Involvement Work Practices</strong></td>
<td>Pressure and Stress at Work</td>
<td>• Bring services to the office (i.e., dry cleaning, car washing, haircuts, etc.).</td>
<td></td>
<td>Ensure that HIWP are congruent with one another.</td>
</tr>
<tr>
<td>• Pay for performance</td>
<td></td>
<td>• Provide recreational services on company grounds.</td>
<td></td>
<td>Ensure that HIWP are congruent with one another.</td>
</tr>
<tr>
<td>• Career advancement</td>
<td></td>
<td>• Ensure that IT employees are recognized and rewarded for their efforts through competitive pay, increased autonomy, and opportunities to develop skill sets that directly link to career advancement.</td>
<td></td>
<td>Ensure that HIWP are congruent with one another.</td>
</tr>
<tr>
<td>• Tailored training and development</td>
<td></td>
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<td></td>
<td>Ensure that HIWP are congruent with one another.</td>
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<tr>
<td>• Job autonomy</td>
<td></td>
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<td>Ensure that HIWP are congruent with one another.</td>
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<td>• Participative decision making</td>
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<td>Ensure that HIWP are congruent with one another.</td>
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<tr>
<td>• Employment security</td>
<td></td>
<td></td>
<td></td>
<td>Ensure that HIWP are congruent with one another.</td>
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employees to engage in virtual work, meaning that employees are electronically linked to the organization, yet physically located in the home. The argument in favor of virtual work suggests that employees will feel less conflict and stress because technology allows for more flexibility and autonomy in deciding how and when work will be completed (Greenhaus, Parasuraman, Granrose, Rabinowitz, & Beutell, 1989). Working “virtually” allows employees with young children to tend to their needs while still working full- or part-time. In addition, virtual work reduces time-based conflict by reducing the number of hours an employee is asked to commute each week. Employees may enjoy significant time savings in major metropolitan areas, allowing them to engage in more nonwork-related activities.

The success of virtual work has been a source of debate in the academic literature. Numerous studies have indicated that work-life balance is improved with the addition of virtual work (Cascio, 2000; Igbaria & Guimaraes, 1999). Other studies, however, have found that virtual work is actually associated with increased levels of work-life conflict because the once-present boundary between work and personal life has been removed (Duxbury, Higgins, & Thomas, 1996; Hill, Miller, Weiner, & Colihan, 1998; Shamir & Solomon, 1985). For instance, Raghuram and Wiesenfeld (2004) found that while virtual work was associated with decreased feelings of conflict and job stress, employees who worked more extensively in a virtual environment experienced more intrusions of nonwork into the work domain. Additionally, research demonstrates that virtual work is not successful at reducing work-life conflict when the proper technical infrastructure is not established at both the organization and the employee’s home (Nord, Fox, Phoenix, & Viano, 2002). Another issue plaguing telework is the professional isolation that frequently occurs as individuals physically are separated from their colleagues and the organization as a whole. This isolation causes virtual workers to lose touch with the informal network within the organization and may ultimately lead to a loss of promotion and advancement opportunities (Pinsonneault & Boisvert, 2001).

Others, however, praise the effectiveness of integrated virtual work, believing that it enhances productivity and improves employee morale (McGee & Khirallah, 2000; Nord et al., 2002). For instance, in a qualitative and quantitative study, Hill et al. (1998) found virtual work to be positively related to perceptions of higher morale, productivity, and flexibility. Sullivan and Lewis (2001) also found that women who engaged in virtual work felt that their lives were easier because of the flexibility associated with working from home. In addition, a study of the virtual work program at IBM found that 87% of the employees in the program self-reported an increase in productivity (Apgar, 1998).

These somewhat mixed results may be caused by variation in individual preferences regarding the structure of their work. Integration strategies such as virtual work are those that attempt to integrate work and nonwork life (Edwards & Rothbard, 2000), while segmentation strategies involve drawing clear boundary lines between work life and personal life (Ashforth, Kreiner, & Fugate, 2000; Hall & Richter, 1988). Research has been mixed in terms of recommendations for pursuing integration versus segmentation strategies. For example, Stokes (1996) suggests that IT professionals should draw clear lines between their work lives and their personal lives, and that they should take whatever steps necessary to maintain those boundaries. Hall and Richter (1988) also firmly recommend maintaining strict boundaries between the work domain and personal life in order to provide clear separation and avoid strain-based conflict. Additionally, a study by Rau and Hyland (2002) reveals that employees with high levels of role conflict may not see virtual work as advantageous as it clouds the bound-
ary lines between work and home, thereby impeding the ability to maintain balance.

These results suggest a contingency approach to implementing virtual work, as it may have both positive and negative consequences. For instance, certain job characteristics are important to consider before firms implement virtual work programs. Research indicates that more autonomous jobs requiring little face-to-face interaction are more appropriate for virtual work (Bailey & Kurland, 2002). Therefore, IT professionals who work in systems analysis and design or product testing may be less well suited for telework, while programmers or unit testers may have positions more conducive to virtual work.

HR managers also should look carefully at the way in which virtual work is structured. As Bailey and Kurland (2002) stress, it is false to believe that virtual workers will be away from the office 100% of the time. Instead, workers may choose to work away from the office only periodically or two to three days a week, depending upon their individual needs. By working virtually only part of the time, individuals remain in contact with supervisors, coworkers, mentors, and subordinates, and therefore are less likely to suffer from the professional isolation described by Pinsonneault and Boisvert (2001).

One practical avenue for utilizing virtual work in a more limited role within the IT context is to allow employees who are on call to work virtually during their on-call rotation. Many IT departments provide testing, development, and end-user support 24 hours a day, which means that staff need to be present to answer questions and provide real-time solutions. To solve this problem, employers often place IT employees on call and expect them to rotate the on-call responsibilities throughout various subteams. This requirement can be quite demanding, as employees frequently are asked to work throughout their normal workday and then provide extra support through the evening for a week to two weeks at a time. Virtual work offers a way of reducing these demands by allowing on-call IT workers to perform a majority of their work from home. Thus, despite the fact that they may be expected to answer pages or phone calls at all hours of the day, they are not required to come into the office and can feasibly take mental and physical breaks during downtimes.

In addition to job-based factors, organizations should consider individual factors before implementing virtual work. For instance, research by Pinsonneault and Boisvert (2001) indicates that individuals who are self-motivated and organized perform more effectively in virtual roles. Also, HR managers should consider the fact that different employees have different feelings about how permeable the boundary should be between work life and personal life. In their review of the telework literature, Bailey and Kurland (2002) note that idiosyncratic details of an individual’s job, rather than broad classifications, are more likely to determine success with virtual work. Thus, HR managers should take care to survey their IT workers before implementing virtual work programs to understand which employees prefer segmentation versus integration strategies and whether employees feel that their current jobs are suitable for virtual work.

These results also indicate that family-friendly policies such as flexible scheduling, on-site child care, and virtual work appear to be most effective when employees are allowed the freedom to decide when and how to adapt these practices. The practices themselves are useful, but they will be less effective if employees believe these practices do not fit their given situations or that the use of such policies is closely regulated by managers and supervisors. In fact, in a study on family-friendly policies, Tausig and Fenwick (2001) note that it is not the flexible schedule itself that helps employees to unbind their time, but rather it is the perceived control over their own work schedule that enhances a sense of balance. This assertion is supported by research indicating that indi-
Individuals with higher job autonomy are less likely to feel fatigued than individuals with low job autonomy (Van Yperen & Hagedoorn, 2003). Thus, employee control over their scheduling and opportunities to engage in virtual work should be leveraged as much as possible in order to ensure more positive perceptions of work-life balance.

Employee control also may be enhanced by providing flexible spending accounts on work-life balance initiatives, thereby maximizing the personal utility of IT workers. These accounts are implemented by setting a specific budgetary amount for employees to allot to the benefits they deem important, while allowing them to opt out of unnecessary benefits. Some employees may choose to allot their budget to child care, while others may devote the additional funds to supplemental health care, and still others may prefer to use their work-life balance resources to join a local gym or golf club. By providing employees with a voice in how their shares of the work-life balance budget are spent, organizations ensure that employees are provided with work-life balance benefits that fit their personal needs and fulfill their expectations. In addition, these policies allow organizations to reinforce their commitment to work-life balance, while avoiding the negative equity perceptions that may arise from only providing benefits that will meet the needs of a certain group of employees.

Socialization Tactics

Another avenue that organizations may explore is the proper socialization of IT employees. A recent study by King et al. (2005) examined the nature of IT worker socialization and how various investiture socialization tactics help to reduce feelings of role ambiguity and role conflict. Investiture tactics are those that tend to build up newcomers and affirm confidence in their own skills and abilities. This approach contrasts sharply with those designed to “tear down” new hires in order to rid them of their previous behaviors and attitudes (King et al., 2005). Thus, investiture tactics are actualized when managers and current employees provide supportive comments and feedback to new IT professionals about the skills they already possess and how well those skills will transfer to the new setting.

Investiture socialization tactics help to reduce work-life conflict in two important ways. First, by properly introducing individuals to the organization, new members gain a clear sense of the expectations of the firm and their particular jobs. Specifically, employees better understand the amount of overtime that is necessary, the way work is structured in the firm, and how the workload relates to their existing experiences. By doing so, firms successfully reduce ambiguity and help employees to have realistic expectations, allowing them to make alternate arrangements in their personal lives during busy work periods or upon the deadlines of important deliverables. Second, investiture tactics help employees to understand the way that their knowledge and skills fit into the existing work system, thus clarifying role expectations. Having a clear understanding of one’s role eliminates wasted time and energy spent trying to figure out the tasks that need to be completed and the internal and external customers with whom the new employee is expected to communicate. In doing so, IT workers feel less role conflict and therefore are more likely to be committed to the organization and have higher levels of job satisfaction (King et al., 2005).

One tangible way for organizations to implement an investiture-based socialization system is to create a mentoring program in which new IT professionals are paired with more experienced IT workers. This relatively low-cost solution may be achieved by allowing mentors to give new workers advice about the specific strategies they have used to balance their own lives. This information is likely to be valuable to the new entrant, as he or she can gain tangible advice from experienced employees who have successfully
navigated the same path. In addition, mentors serve as advocates for the new employee and provide a safe outlet to express discontent about hours worked, shift work, or on-call expectations.

Empirical work in this area demonstrates that individuals in mentoring relationships experience less work-family conflict (Nelson, Carlson, & Lankau, 2001), adapt to new roles more effectively, and feel more attached to the organization (Heimann & Pittenger, 1996; King et al., 2005; Nelson & Quick, 1991; Ostroff & Kozlowski, 1992). Thus, by connecting new entrants to more experienced IT personnel, organizations are able to communicate to newcomers valuable information about the expectations of the job and how these expectations can best be met, thereby providing them with specific strategies for achieving work-life balance.

As mentioned previously, characteristics such as organizational commitment and job identity are important factors in an employee’s success; however, these features also may lead to work-life conflict. As a result, HR managers may elect to use socialization and training programs as methods to deal with this tension. One specific way to address this issue is simply to educate both managers and employees about job burnout, training them to notice signs of burnout and job withdrawal. In doing so, managers will be able to recognize when highly committed individuals are beginning to show signs of fatigue and will be able to step in, discuss the issues with employees, and possibly provide an avenue to reduce the conflict.

An additional solution to managing this tension is to emphasize the importance of work-life balance and to explicitly state that balanced employees tend to be better and more effective organizational members. This approach is used by the SAS Institute, a global supplier of statistical software and other business technology solutions, as CEO Jim Goodnight stresses the importance of having fresh employees each morning. To that end, he has implemented a 35-hour workweek and works diligently to ensure that employees keep to the schedule (O’Reilly & Pfeffer, 2000). While most HR managers will be unable to make changes to the number of hours that employees work unilaterally, they are able to set policies that emphasize work-life balance and show the employer’s commitment to balance. For instance, including employees’ stories of non-work-related accomplishments in company newsletters or spotlight e-mails can signal the salience of balance in the eyes of the organization. Celebrating events such as the birth of children, major anniversaries, or the accomplishment of lifelong goals such as running a marathon or publishing a short story all provide employees with a sense that the organization sincerely cares about work-life balance. Thus, employees high in organizational commitment will recognize the importance of work-life balance both to them personally and to the organization as a whole, making them more likely to actively balance their own lives.

**Merge Family, Leisure, and Work Time**

In a study of network marketing organizations, Pratt and Rosa (2003) uncover a number of useful strategies for building commitment to the organization despite the presence of work-life conflict. The authors summarize their two main findings, indicating that these particular organizations manage work-life conflict by both promoting a family-like environment in the workplace and also by attempting to merge family life and work life. With regard to the first strategy, the authors show that network marketing organizations attempt to build a sense of family in the workplace by referring to supervisors, directors, and coworkers using familial language and promoting strong systems of social support. These organizations also encourage frequent gatherings of em-
ployees who are “related to” one another in the organizational structure. Pratt and Rosa argue that the language used, the frequent meetings, and the overall family-like culture of these organizations serves to increase relationship-based commitment. The family atmosphere then facilitates a strong feeling of community in which members seek the best for themselves as well as for their coworkers and the organization as a whole.

While not directly analogous to network marketing organizations, firms that rely heavily on IT workers may use these lessons to foster greater commitment and to lessen the negative effects of work-life conflict. For instance, research suggests that workers who perceive that their organization is supportive of their concerns are likely to experience less work-life conflict and lower turnover intentions (Allen, 2001). One practical way for firms to implement this type of atmosphere is by organizing employees into semistable workgroups where members work together on a variety of projects over a period of time. In doing so, the organization fosters a sense of community among the workgroups and deepens relationships between group members. Stronger relationships may induce greater levels of commitment to one’s job and one’s coworkers. These stronger relationships provide important social and tangible support, such as relieving certain members of tasks when important personal life matters arise. For instance, if one team member is battling an illness or recently has had a child, other team members can temporarily take on some of the worker’s normal responsibilities in order to free him or her to tend to personal matters. As long as these organizational citizenship behaviors are reciprocated and not abused by group members, the stronger sense of community can bolster commitment and reduce time-based conflict for employees.

Pratt and Rosa’s (2003) study also reveals that network marketing organizations alleviate the burden of work-family conflict by attempting to merge family with work. The authors discuss specific strategies used by these organizations, which include a socialization process that explicitly encourages employees to spend time with their families and to prioritize their family lives over their career success. These organizations also frequently recognize and discuss the ambivalence caused by work-family conflict and attempt to bring this issue to the forefront of employees’ minds.

Pratt and Rosa note that by explicitly recognizing and discussing the work-family conflict experienced by distributors, these organizations are able to transform work ambivalence into positive and proactive strategies that merge work with family. Specifically, these organizations encourage employees to align personal goals with career-related goals and to include family members in career-related goal striving. For instance, Pratt and Rosa pass on stories of career goals being posted in the homes of distributors, children encouraging their parents to reach these goals, and families tying personal rewards, such as trips or new toys for children, to the accomplishment of career-related goals. Through this process, relationship-based commitment is enhanced as individuals appreciate the level of understanding demonstrated by the organization and also begin to understand that career and family goals do not have to be mutually exclusive.

A lesson learned from these results, applicable to IT workers, is the need to explicitly recognize and discuss the ambivalence felt by IT professionals struggling to balance their work and personal lives. By simply recognizing the conflict felt by employees, HR managers can reduce anxiety levels and provide IT workers with an outlet to discuss these issues. This open dialogue serves as both a means of catharsis for the employee as well as an important information-gathering tool for HR managers, who can use these discussions as opportunities to glean information about current employee challenges. HR managers may then use this information to more aptly develop programs...
and policies that will directly serve the needs of organizational members.

In addition to emphasizing the salience of family and nonwork life, another tangible solution that organizations can implement is to merge work life and nonwork life by bringing services into the workplace. For example, a Wall Street Journal article recently highlighted a number of high-tech firms that are bringing in service providers for employees. Such services include everything from car washes to massages (Tam & Mangalindan, 2005). Though these perks were common recruitment tools in high-tech organizations during the technology boom of the late 1990s, their use has dwindled with the recent downturn in the IT sector. However, Tam and Mangalindan demonstrate that a number of organizations are bringing back such perks, not simply as recruitment tools, but as a means to improve productivity and reduce the work-life conflict experienced by their high-tech workers. In fact, many organizations implementing these strategies are actually requiring employees to pay for the service; yet, by bringing these services to the office, organizations improve productivity and provide employees with a powerful way to reduce time-based conflict.

The SAS Institute provides a poignant example of the success that can be derived from bringing benefits to employees. The SAS campus offers a multitude of recreational options, day care, medical facilities, a golf course, and other amenities that allow employees to better merge their work and nonwork lives (O’Reilly & Pfeffer, 2000). SAS executives are quick to point out that their employee-friendly practices are not simply altruistic; they also make strong business sense. In particular, SAS has been able to reduce the significant costs associated with employee turnover (Shaw, Duffy, Johnson, & Lockhart, 2005) and increase productivity by returning employees from trips to the doctor or the day-care facility more quickly (O’Reilly & Pfeffer, 2000). While other organizations may not be able to commit the resources to creating SAS-like campuses, they can learn valuable lessons about the business sense of bringing services and activities to employees. The saved time helps employees to finish their work during standard business hours. In addition, these offered benefits and activities help to reduce work-related stress levels of employees, which means less spillover and strain-based conflict.

High-Involvement Work Practices

High-involvement work practices (HIWPs) are those that emphasize employee commitment and are focused on increasing the level of skill and motivation of organizational members (Guthrie, 2001). The strategic human resource management (SHRM) literature has identified numerous high-involvement work practices, such as reward and incentive plans, employment security, sophisticated training plans, information sharing, formal performance appraisals, and merit-based promotion (Huselid, 1995).
Many of these activities are associated with improving the work-life balance of employees. For instance, in a sample of manufacturing workers, Berg, Kallenberg, and Appelbaum (2003) found that high-performance work practices were associated with employees’ abilities to balance work and family life. More specifically, the authors found that providing employees with opportunities to participate in decision-making, informal training, pay-for-performance, and promotion opportunities all were positively associated with work-life balance. An additional study by Batt and Valcour (2003) showed that a group of high-involvement work practices, including employment security and career development benefits, was associated with perceived work-life balance.

Unlike family-friendly policies, which are aimed directly at increasing work-life balance, these high-involvement work practices affect the relationship between work-life conflict and its deleterious consequences. Specifically, high-involvement work practices alleviate concerns associated with work-life conflict by establishing a commitment-based culture that helps to reduce the negative consequences of time- and strain-based conflict. Instead of directly reducing work-life conflict, high-involvement work practices serve as buffering mechanisms that increase feelings of organizational commitment and job satisfaction. For example, a study by Jiang and Klein (1999) revealed that opportunities for career development and enhancement resulted in greater career satisfaction in a group of information systems professionals. Another survey of IT professionals (Cougar, 1988) found that the second and third greatest motivators for IT personnel (behind the work itself) were opportunities for achievement and advancement, respectively. Therefore, if organizations are able to offer employees development and advancement opportunities, they may reduce the likelihood that work-life conflict will lead to negative organizational outcomes.

In addition to development opportunities, research also indicates that equitable rewards are associated with stronger levels of satisfaction among IT professionals. For example, in a survey of IT personnel, Moore (2000) found that the fairness of an organization’s reward structure was negatively associated with turnover intentions indicating that the perceived equity of the reward system can dampen the effects of work overload and other antecedents to work-life conflict. Additionally, Bartol (1983) found a negative relationship between organizational rewards and turnover among data processing professionals, further supporting the intuition that higher levels of compensation and other rewards may reduce turnover intentions. Thus, if organizations compensate IT workers for the additional hours they are asked to work, or provide additional benefits, they may be able to offset the negative consequences associated with work-life conflict.

As mentioned previously, it is important for organizations to recognize that high-involvement work practices (with the exception of the family-friendly policies discussed above) are not aimed at directly reducing work-life conflict. In fact, one study by White et al. (2003) found that group-based work programs, incentive pay, and performance appraisal systems were associated with higher levels of work-life conflict in a sample of British workers. These results are not surprising, as research indicates that practices such as those investigated by White et al. (2003) are aimed at inducing higher levels of organizational commitment (Arthur, 1994). In turn, organizational commitment may actually lead to more time spent on work-related tasks and eventually to work-life conflict. As these results indicate, the important point for organizations to keep in mind is that work-life conflict does not always lead to harmful consequences such as turnover or psychological withdrawal. In fact, empirical research has consistently found an inverse relationship between measures of high-involvement work practices and turnover (Arthur, 1994; Guthrie, 2001; Huselid, 1995).
Therefore, these results suggest that high-involvement work practices may serve as important buffering mechanisms that reduce the negative consequences of work-life conflict.

A necessary condition for organizations to reap the benefits of this buffering mechanism is to ensure that the implemented HR practices are internally consistent. The strategic human resource management literature has discussed the need for HR practices to be congruent with one another in order to create a commitment-based system (Delery, 1998; Wright & Snell, 1998). Consistency is particularly significant in regard to rewards and incentives in the IT context, where task interdependence across system analysts, developers, testers, and administrators tends to be quite high. This work structure has the potential of placing two high-involvement work practices (teamwork and incentive-based pay) directly at odds with one another, unless organizations are careful to recognize the need for both group-level and individual incentives. By rewarding group-level performance upon the completion of major projects or milestones along with individual merit-based rewards, organizations can combine teamwork with individual incentives in a complementary fashion. Failure to implement complementary HR practices may lead to situations where two (or more) practices actually cancel one another out or work together multiplicatively in a deleterious manner (Delery, 1998). If this situation increases workplace stress, it may actually increase strain-based conflict instead of helping to alleviate its effects. Thus, a consistent focus on using supportive, complementary HR practices is most appropriate.

In sum, organizations able to implement high-involvement work practices may find their employees willing to cope with a degree of work-life conflict because the other practices and activities of the firm provide an atmosphere that employees are reluctant to leave (i.e., they help differentiate the firm as an "employer of choice"). These practices affect work-life conflict by reducing the probability that time- and strain-based conflict will lead to harmful personal and organizational consequences.

Managerial Considerations

The strategies discussed in this article are meant to guide organizations as they attempt to provide members of their IT workforce with more balance between their professional and personal lives. It is important to note, however, that these suggestions may not fit every organization, and each HR manager should ensure that these policies mesh with his or her particular setting. Organizations will vary in terms of their available capabilities and resources for implementing these solutions. Additionally, firms that rely on IT as a core organizational function may require more policies to reduce work-life conflict relative to firms with smaller numbers of IT support personnel. In contrast, firms that outsource IT services or that use contingent workers may find these solutions less than optimal. Finally, given that preferences vary as a function of individual differences, it is important that managers consider the characteristics and preferences of their IT personnel when implementing policies and programs aimed at reducing work-life conflict.

In summary, the above analysis reveals four key messages for practitioners managing IT personnel. First, work-life conflict matters. The research has consistently demonstrated that work-life conflict is a real phenomenon that has serious consequences for both individuals and organizations. Second, work-life conflict among IT workers matters. The statistics on burnout, turnover, and the qualitative statements cited here clearly show that IT workers experience both time- and strain-based conflict, and that this conflict has implications for the satisfaction and commitment of IT workers.

The statistics on burnout, turnover, and the qualitative statements cited here clearly show that IT workers experience both time- and strain-based conflict, and that this conflict has implications for the satisfaction and commitment of IT workers. Given the numerous
opportunities available to IT professionals and the importance of retaining valuable IT talent, organizations should attempt to mitigate the conflict experienced by this key group of employees.

Third, organizational responses matter. Work-life conflict is an issue that practitioners can help to manage, and organizations have a wide variety of options at their disposal to increase the work-life balance of their IT workers. As mentioned previously, organizational support is a key variable in determining the level of work-life conflict experienced and also the likely consequences of time- and strain-based conflict. By demonstrating, through both formal and informal policies and practices, that organizations care about the balanced lives of their employees, managers may be able to curb work-life conflict and its negative consequences.

Finally, research indicates that employee control matters. By allowing employees greater control of their schedules, their work environments, the amount of virtual work in which they engage, and the types of work-life balance initiatives in which they are involved, managers can provide IT workers with greater control of the interface between their work and nonwork lives. As discussed in the work by Tausig and Fenwick (2001), providing employees with control over their own schedules is often more important in improving perceptions of balance than the implementation of specific family- and life-friendly policies. Thus, managers should carefully consider the level of control and ownership they can provide their IT workers in an effort to curtail the effects of work-life conflict.

In conclusion, work-life conflict is an important issue in the IT profession. Given the project-based nature of the work, the frequent use of extended schedules, the heavy reliance upon technology, and the accelerated timelines of IT implementations, IT workers in particular are subject to both time- and strain-based conflict. To combat dissatisfaction and turnover among IT professionals, organizations must understand how work-life conflict can feed into these undesirable consequences. Beyond understanding, however, they must take positive, practical steps to confront the issue of work-life conflict. Hopefully, the discussion and solutions offered in this article will assist HR managers in building tangible and effective strategies for managing work-life conflict among IT professionals.

NOTE

1. Additional references linking pressure and stress at work to work-life conflict are available in Table I.

REFERENCES


Jiang, J., & Klein, G. (1999). Supervisor support and career anchor impact on the career satisfaction of the entry-level information systems professional.


