

Job Burnout of Information Technology Workers

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Abstract

Job burnout has serious dysfunctional ramifications, meaning substantial costs for organizations and individuals. Recent research has shown that the information technology (IT) worker's is prone to creating work exhaustion, and that this work exhaustion is a trigger for depersonalization and diminishing achievement – the three conceptual components of job burnout. Prior research has found evidence of the prevalence of job burnout in information technology professionals; this study employs qualitative and quantitative strategies to identify factors that predict burnout of information technology workers.

Keywords: burnout, information technology, exhaustion, stress

1. Introduction

Burnout, the condition that arises when prolonged stress causes energy to turn to exhaustion, involvement to turn to cynicism, and efficacy to become a lack of accomplishment (Maslach & Leiter, 1997; Schaufeli, Leiter, & Maslach, 2009), is a pervasive phenomenon in organizations (Golembiewski, Boudreau, Sun, & Luo, 1998; Maslach & Leiter, 2008). Burnout has serious dysfunctional ramifications, meaning substantial costs for organizations and individuals (Cordes & Dougherty, 1993). In their review of burnout literature, Lee and Ashforth (1996) concluded that burnout is significant in explaining a wide range of behaviors and attitudes in stressful work environments. Others have gone so far as to suggest that burnout is a centroid - a dimension related to a very broad array of other variables of social and managerial relevance (Golembiewski, Boudreau, Munzenrider, & Luo, 1996). Because burnout has been studied for more than 40 years in a variety of occupations, the literature presents a well-developed conceptual framework. The most commonly accepted conceptualization of burnout presents the phenomenon as comprised of three components: emotional exhaustion, cynicism (also referred to as depersonalization), and professional inefficacy (also referred to as a lack of personal accomplishment). First, the emotional demands of an individual's work exceed the available resources to cope with the stress created by the demands, resulting in emotional exhaustion. Then, depersonalization and reduced personal accomplishment occur. Depersonalization transpires when employees attempt to create emotional distance between themselves and others, thus developing a cynical attitude. The third component, inefficacy, is an erosion of an individual's sense of effectiveness.

An increasingly complex global business environment in addition to the nature of much of information technology work could lead to emotional exhaustion and burnout (Kanwar, Singh, & Kodwani, 2009). Recent research has shown that the information technology (IT) worker's environment – knowledge oriented work, around-the-clock service, and requirements for creative solutions to business issues - is prone to creating work exhaustion, and that this work exhaustion is a trigger for depersonalization and diminishing achievement (Shih, Jiang, Klein, & Wang, 2013) – the three central conceptual components of job burnout. In this study, qualitative and quantitative techniques were used to investigate the organizational and individual factors correlated to burnout of IT workers. Phase one of the study consisted of in-depth interviews of two focus groups of IT workers. The purpose of these interviews (one interview with each group) was to determine the organizational and job characteristics that influence job satisfaction and work exhaustion. In the second phase of the study, a survey was conducted to investigate the hypotheses. From the focus groups, potential factors relating to burnout arose for investigation. In addition, the following hypotheses are proposed.

- H1: Role stressors (role ambiguity and role conflict) are positively related to emotional exhaustion, cynicism, and lack of professional efficacy in IT workers.
- H2: Organizational factors including quantitative and qualitative work overload and experience of organizational politics are positively related to emotional exhaustion, cynicism, and lack of professional efficacy in IT workers.
- H3: Autonomy and perceived fair rewards are negatively related to emotional exhaustion, cynicism, and lack of professional efficacy in IT workers.

2. Conceptual Framework

Herbert Freudenberger (1974) first defined *burnout* as the extinction of motivation or incentive, especially where one's devotion to a cause or relationship fails to produce the desired results."Since Freudenberger coined the term in the 1970s, burnout has been predominantly conceptualized as a multi-component construct. A commonly accepted model holds that the phenomenon is characterized by three interrelated components (Maslach & Jackson, 1986). The first component is emotional exhaustion, the second is depersonalization, and the third component is inefficacy, also referred to as diminished personal accomplishment. Emotional exhaustion is a state of depleted energy caused by excessive psychological and emotional demands, depersonalization refers to feelings of callousness and cynicism, and inefficacy is characterized by a tendency to evaluate oneself negatively (Jackson, Turner, & Brief, 1987). Several studies have confirmed the order of the phases of burnout (Cordes & Dougherty, 1993; Koeske & Koeske, 1989; Leiter, 1991). That is, in order to cope with emotional exhaustion, individuals withdraw and depersonalize others, causing a loss of personal commitment to their work relationships, eventually resulting in feelings of declining competence and diminished personal accomplishment (Leiter & Maslach, 1988). Other work toward the development of a phase model of burnout also supports the isolation of the emotional exhaustion component (Golembiewski & Munzenrider, 1988). If cynicism and feelings of inefficacy are not viewed as components of the burnout construct, then they are considered the first two consequences of burnout.

Factors that drive burnout may be categorized several ways – some related to job demands and others related to job resources. Although research has shown that antecedents to burnout tend to be situational factors rather than individual factors (Cherniss, 1993; Maslach & Schaufeli, 1993), individual factors presented in the literature are also explored. Perhaps the most commonly cited antecedent to burnout is work overload (also referred to as role overload). Classified as either quantitative or qualitative, work overload is the result of having too many things to do in a given time period (Bacharach, Bamberger, & Conley, 1991). Quantitative overload is the perception of too much work to complete in the given timeframe, and qualitative overload occurs when the job requirements exceed skill level (Sanders, Fulks, & Knoblett, 1995). Early on, researchers determined that excessive prolonged work demands drained emotional resources and energy and caused emotional exhaustion (Maslach, 1982a), the first of the three components of burnout. Researchers later confirmed that workload and time pressure are consistently and strongly related to job burnout (Maslach, Schaufeli, & Leiter, 2001). These findings parallel those in other empirical research that has shown an association between quantitative and qualitative work overload and a variety of physiological, psychological, and behavioral strain symptoms (Beehr & Newman, 1978; Miller & Ellis, 1990). If not managed properly, work overload may lead to stress, fatigue, accidents, exhaustion, depression, and other negative consequences (Fong & Kleiner, 2004). Maslach, Schaufeli, and Leiter described the effect of work overload on the exhaustion and cynicism components of burnout; that is, the coping strategy often used to manage exhaustion caused by work overload is to distance oneself from one's work and develop an indifferent or cynical attitude.

Role conflict and role ambiguity are two more oft-cited antecedents of burnout. As described by Rizzo, House, and Lirtzman (1970), role conflict occurs when an employee perceives a discrepancy between expectations conveyed by different sources, while role ambiguity occurs when an employee is uncertain about expectations. Early research established that role conflict and ambiguity independently have a direct causal relationship with burnout (Jackson, 1983), and subsequent research has supported this finding in a variety of populations including salespeople (Low, Cravens, Grant, & Moncrief, 2001), school counselors (Butler & Constantine, 2005), social workers (Um & Harrison, 1998), information systems employees (Sethi, Barrier, & King, 1999), and others (Bacharach et al., 1991). However, different professions appear to be impacted by these two factors to different degrees; Kirk-Brown and Wallace (2004) found in their study on workplace counselors that only role ambiguity (and not role conflict) was a significant predictor of burnout.

A lack of autonomy, also described as a lack of participation in decision-making, has been shown to cause worker exhaustion (Jackson, Schwab, & Schuler, 1986; Maslach et al., 2001). Jackson et al. (1987) link non-participatory decision making to depersonalization, the second of the three components of burnout. A lack of autonomy implies an uncontrollable environment, and when employees feel the environment is sufficiently uncontrollable, they resort to depersonalizing their relationships (Jackson et al., 1987). Cordes and Dougherty (1993) confirmed that employees who work in impersonal, bureaucratic, rigid, or controlling work environments experience a higher level of burnout. Interpersonal conflict has also been identified as a strong predictor of burnout (Gaines & Jermier, 1983). According to Leiter and Maslach (1988), interpersonal contacts are often negative because of conflicts stemming from organizational policies, conflicting personal values, or disagreements about how the job should be carried out. Other researchers have argued that poorly managed conflict can have long-term negative consequences for individual health and well being, producing feelings of burnout (De Dreu, Van Dierendonck, & Dijkstra, 2004). A specific type of interpersonal conflict within an organization is organizational politics, a term used to identify actions that are manipulative and self-serving (Ferris & Kacmar, 1992). Research has shown that if employees perceive a high level of organizational politics, the employees are more likely to distance themselves psychologically from the organization and burn out (Yashwant Advani, Jagdale, Kumar Garg, & Kumar, 2005). There is strong and consistent evidence that lack of social support is a factor contributing to burnout (Dignam & West, 1988; Maslach et al., 2001). The conservation of resources theory holds that people try to maintain their valued resources, and when resources are lost or threatened, stress may occur (Leiter, 1993). Burnout may develop from the prolonged stress created in trying to replace a lost or threatened resource like social support (Houkes et al., 2003).

Maslach et al. (2001) differentiated between the effects from a lack of social support from coworkers and a lack of support from supervisors. Specifically, they found that a lack of support from supervisors is even more strongly linked to burnout than is a lack of support from peers. The authors point out that a cyclical relationship may exist; workers who have depersonalized their work relationships may consequently receive lower performance reviews, creating an unpleasant encounter and increasing stress, increasing the likelihood of burnout and further depersonalization. Other management issues can be factors driving burnout as well. For example, a lack of feedback from supervisors is linked to all three burnout components (Maslach et al., 2001). This reflects the effort-reward balance related to burnout (Schaufeli & Enzmann, 1998). In one of the relatively few longitudinal studies of burnout, Toppinen-Tanner, Kalimo, and Mutanen (2002) found that burnout might result when a worker feels insufficiently recognized by a supervisor, especially in a blue-collar profession. It has been argued that workers meeting higher job demands is dependent upon a perception of a fair ratio between effort spent and reward received (Janssen, 2000), so stress results from perceived unfairness. Another resource that has been shown to be a factor in job burnout is organizational trust. In exchange for their commitment to the organization, employees expect to receive some assurance of security (Kulnert & Vance, 1992). If an employee does not believe that the organization will uphold its end of this implicit psychological contract, the deficiency of trust may create an environment in which burnout tendencies thrive. Kalbers and Fogerty (2005) have confirmed that the trust construct has a significant impact on two of the components of burnout - depersonalization and emotional exhaustion.

Though factors driving burnout tend to be situational rather than individual, many researchers have proposed that burnout is a product of both individual and environmental factors (Leiter & Maslach, 1988). Studies have implicated several individual demographic or personality factors as contributors to burnout as well. Kalbers and Fogerty (2005) assert that locus of control, a construct developed by Rotter (1966) to differentiate between individuals who feel they are in charge of the course of their lives (said to have an internal locus of control) and individuals who believe their destiny is controlled by conditions and events outside of their control (said to have an external locus of control), is an important antecedent of the three burnout dimensions. An individual with an external locus of control tends to feel more hopeless and unable to overcome adversity (Luzzo & Ward, 1995) and is subsequently more vulnerable to stress (Clarke, 1995). Another individual factor contributing to burnout is a discrepancy between employee skills and job expectations. Workers with skills that match the demands of their jobs may avoid burnout by working more naturally within organizationally defined expectations (Lee & Ashforth, 1996). Kalbers and Fogerty (2005) showed that accountants with higher levels of skills tend to report less of the reduced professional efficacy known to be symptomatic of burnout, but these skills do not appear to shield them from depersonalization or emotional exhaustion.

An individual resource known as coordination expertise can reduce stress in a job. Coordination expertise involves being aware of where expertise is located, recognizing where the expertise's application is necessary, and bringing the needed expertise to bear (Faraj & Sproull, 2000). Due to a lack of coordination expertise, individuals might experience stress because of an absence of understanding between team members or because of their inexperience with certain technologies, for example. A high level of coordination may not only reduce emotional exhaustion and depersonalization, but it also may impact the third component of burnout in that it may have a positive impact on the personal accomplishment of the individual (Yashwant Advani et al., 2005). Therefore, a lack of coordination expertise is counted as a contributor to all three components of burnout. The impact of a variety of demographic and personality variables has been tested as well. The findings consistently support that these relationships are not as influential as situational factors, and that burnout is more of a social experience than an individual one (Maslach et al., 2001). Age is the demographic factor that has been linked most consistently with burnout, which appears to occur more frequently earlier in one's career (Maslach et al., 2001). Research has shown that stress-prone individuals typically have poor self-esteem (Rosse, Boss, Johnson, & Crown, 1991) and low levels of hardiness (Semmer, 1996). An individual's unmet expectations of what he or she can achieve personally, or of what the organization offers, can also lead to burnout (Jackson et al., 1986). Other research indicates that new employees generally feel higher stress, as age and tenure are both negatively related to stress levels (Sethi, Barrier, & King, 2004). Over the years, researchers have found that burnout exists to a significant degree among technology professionals (Kumashiro, Kamada, & Miyake, 1989; Sethi et al., 1999; Shih et al., 2013). Shih et al. (2013) point out that that burnout of IT workers is a key factor leading to job turnover, depersonalization, and lack of personal accomplishment.

3. Methodology

Two focus groups, each consisting of a purposeful, maximum variation sample of six IT workers including a systems analyst, a network engineer, a software engineer, and a desktop support worker, were interviewed. These individuals had a range of IT experience from 1 year to 15 years. Eight organizations in Wisconsin were targeted as the sample population for this research. Because so many IT workers are employed in industries other than IT, at least two-thirds of the organizations in the sample were in industries other than IT. A list of organizations in the sample frame was collected through area chamber of commerce listings. From this list, the organizations were categorized as health care, education, and software, and other. Two organizations were randomly selected from each of the categories, thus ensuring a balance of IT-related and non-IT-related industries and making the sample more representative of the population. Health care and education were chosen as non-IT related industries because hospitals and universities are some of the largest employers of IT workers in the area and afford the opportunity to reach a higher number of IT workers in one organization than would be accessible through small organizations.

Once two organizations were randomly selected from each of the categories, the organizations were contacted to determine whether they were willing to participate. If an organization declined to participate, another organization from the same category (i.e., education, health care, software, or other) was randomly selected. An organization's refusal to participate is not likely to be indicative of greater or lesser levels of burnout of the IT workers in the organization, so randomly selecting another organization should not skew results. Surveys were distributed once at least six organizations from at least three of the industry categories agreed to participate. Random selection from the different categories in this manner should improve the diversity of the sample and increase the likelihood that the results of this study can be generalized to a broader population. All of the IT workers at each participating organization received the survey. The most commonly used instrument to assess job burnout is the Maslach Burnout Inventory (MBI), developed by Maslach and Jackson (1981). Because burnout was initially thought to exist only among those who do some type of "people work" (Maslach & Schaufeli, 1993), the MBI was developed to measure burnout in the human service professions. When it became obvious that burnout also occurs in other professions, a new version of the MBI was created. This adapted instrument, called the Maslach Burnout Inventory – General Survey (MBI-GS), contains the same three dimensions as the original survey, but the items are more generic and do not refer to the people with whom one is working (Schaufeli, Leiter, Maslach, & Jackson, 1996). High scores on exhaustion and cynicism and low scores on professional efficacy are indicative of burnout. Because the validity and reliability of the MBI-GS (Jackson et al., 1987; Sethi et al., 1999; Schutte, Toppinen, Kalimo, & Schaufeli, 2000; Yashwant Advani et al., 2005) have been clearly demonstrated, the MBI-GS is the instrument chosen to measure burnout in the present study.

The questionnaire utilized in the second phase of the study was partially comprised of 15 questions of the MBI-GS (One item, "I just want to do my job and not be bothered", was removed because it has been found to be unsound (Schaufeli & Bakker, 2004). Two focus groups, each consisting of a purposeful, maximum variation sample of 6 IT workers working in roles including systems analyst, network engineer, software engineer, and desktop support worker, were interviewed. Each of the groups contained at least one worker from each of the four specified roles. Two interviews were conducted as face-to-face meetings of the researcher and six members of the focus group. The purpose of the study was briefly described by the researcher, and then a discussion set forth to determine those factors deemed most important in avoiding exhaustion by the members of the group. The group was advised that the transcript of the interview would be analyzed to determine factors to be measured in the second phase of the study.

The second phase of the study involved the distribution of the survey to the IT workers in eight organizations in Wisconsin. First, a pilot study including distribution of the questionnaire to two IT workers in the sample was conducted. Upon completion of the questionnaire, each of the IT workers was interviewed to determine if the self-reported exhaustion, cynicism, and professional efficacy correlated to the researcher's perception of the three constructs in the worker. Upon successful completion of the pilot study, the surveys were distributed to the remainder of the sample. All IT workers of each participating organization received the questionnaire, which was distributed in hard copy and hand delivered to the organization by the researcher. With permission of each organization's IT manager, the surveys were collected by the researcher at the end of the following workday. The meetings with the focus groups were audio-recorded and transcribed. Analysis of the transcripts produced factors which were each translated into a question on the survey. Independent samples t-tests (or the nonparametric equivalent, the Mann-Whitney U tests) were conducted to determine if there is a statistically significant difference between burnout levels in workers who did not experience a particular factor and those who did. Likert scale responses were assigned values 1 ("strongly disagree") through 5 ("strongly agree") and categorized in one of two ways – either the respondent did experience that factor (ratings "1" or "2"), or the respondent did not experience that factor (ratings "4" or "5"). Independent and dependent variables of the present research are measured through a self-report methodology. To reduce the possibility of common method bias, face-to-face interviews were conducted with survey respondents during the pilot study. The purpose of these interviews was to determine if the responses on the questionnaire were in alignment with the researcher's perception of the level of exhaustion, cynicism, and professional efficacy of the respondents. This triangulation offered support for the validity of the self-reported burnout measure.

4. Results

An Ishikawa diagram was utilized during each of the meetings with the focus groups. Use of the diagrams helped to organize the brainstorming and assisted in determining the most likely correlates of the burnout syndrome among IT workers. Upon completion of the meeting with each focus group, the group had created a list of factors that they agreed had the most impact on burnout levels in their jobs. The list of factors that appeared in the lists of both focus groups is shown in Table 1. A questionnaire was developed to assess each of these factors. The three components of burnout – emotional exhaustion, cynicism, and professional inefficacy – were evaluated with the MBI-GS. The survey was first piloted with a group of 3 IT workers from the first organization contacted that agreed to participate. The survey was hand delivered to each of the workers and collected upon completion. Each of the three IT workers completed the survey in 10 minutes or less, and none had any questions while completing the survey. There were 180 respondents of the 186 surveys distributed, yielding a response rate of nearly 97%. The response rate was expected to be high because of the method of distribution; while response rates of web-based surveys or mailed surveys are typically much lower, hand delivery and collection of the surveys resulted in a higher response rate. Burnout studies may have problems with non-response bias; however, the extremely high rate of response in this study mitigates that possibility. Given the high response rate and the diversity of IT role and organization size, it is assumed that the results of the survey are representative of the population.

Several demographic variables were measured by the questionnaire. These variables included organizational tenure, tenure working in IT, education level, IT role, and age. In the sample, 65% of the respondents had worked in their respective organizations for five or more years. The majority (53.9%) of the respondents had worked in IT for ten or more years and had a bachelor's degree (51.7%). The respondents were evenly distributed between roles, with most working in software/programming roles and fewest working in help desk roles. The sample contained IT workers from eight different organizations.

Two organizations were from the software industry, two were educational institutions, two were from the manufacturing industry, and two were from the health care industry. Though the validity of the MBI-GS has been shown, the other questions on the survey were designed specifically for this study, so their validity had yet to be demonstrated. Face validity of the survey used in the present research was evaluated through interviews with several of the first respondents of the survey. The researcher privately met with each of the three respondents in the pilot group to discuss their ratings and verify that the researcher interpreted the respondents' intents correctly. According to the test group, no revisions of the survey were necessary. Reliability of each of the burnout subscales was tested; Cronbach's alpha for emotional exhaustion was .878, for cynicism was .863, and for professional efficacy was .777. As per the recommendation of Maslach et al. (1996), the scores for each burnout subscale can be classified into a burnout level of either "low", "medium", or "high". On the emotional exhaustion subscale, scores were fairly evenly distributed between the low, middle, and high ranges (see Table 2). Cynicism scores indicated that most of the IT workers were either highly cynical (43.3%) or not very cynical (30.0%), with fewer workers falling into the middle category (36.1%). Every respondent indicated high professional efficacy scores, which indicates they were not experiencing a lack of personal accomplishment. As indicated in Table 3, the first hypothesis is supported; role conflict was significantly positively related to all three dimensions of burnout, and role ambiguity was significantly positively related to two of the three dimensions. The second hypothesis was only partially supported; quantitative work overload was related to two of the dimensions of burnout, but qualitative work overload was not related to any of the three dimensions. An investigation of the third hypothesis shows that organizational politics was shown to have the strongest relationship to burnout with a significant finding in all three dimensions. A lack of feeling fairly rewarded was related to two dimensions, and a lack of autonomy was related to two dimension ($p < .10$).

4.1 Analysis of Factors by Focus Groups

Focus groups identified manager understanding, being able to focus on "real work" instead of menial tasks, feeling respected at work, being mentally stimulated at work, having reasonable promotion prospects, and receiving adequate training as variables that might mitigate burnout (see Table 4).

4.2 Analysis of Demographic Variables

Additional analyses were conducted on possible relationships between the demographic variables and scores from the three burnout subscales. Table 5 shows that IT workers in this sample who had been with their organizations less than one year reported the highest levels of emotional exhaustion, and the mean scores for emotional exhaustion drop incrementally the longer the IT workers has been with the organization. Cynicism scores are also highest in those workers who had been with their organizations less than 1 year. Professional efficacy scores were lowest in workers who had been with their organizations 10 or more years, indicating these workers experienced the greatest lack of personal accomplishment. Table 6 shows the mean scores for each of the burnout subscales, categorized by the length of time the worker had worked in IT overall. As with organizational tenure, the emotional exhaustion scores were higher for the workers in this sample who had worked in IT for a shorter time. Cynicism scores were just the opposite, with the highest cynicism scores seen in the workers who had been in IT for 10 or more years. Professional efficacy scores were relatively even, though the lowest levels of professional efficacy were seen in the IT workers who had IT tenure of 10 or more years, indicating they had a lack of personal accomplishment. Finally, age, hours worked in the office, and hours worked at home were analyzed to determine their correlations with emotional exhaustion, cynicism, and professional efficacy scores. As shown in Table 7, there is a significant positive correlation between age and cynicism. There are significant negative correlations between hours worked at home and professional efficacy and cynicism. There is also a significant negative correlation between hours worked in the office and professional efficacy.

5. Conclusion

Consistent with the literature indicating that IT workers experience job burnout at a high rate (McGee, 2003; Polok, 1990; Shih et al., 2013), the IT workers in the sample for this study had relatively high scores on two of the burnout subscales – emotional exhaustion and cynicism. Emotional exhaustion levels were fairly evenly distributed between low, middle, and high burnout levels. Cynicism levels were somewhat more skewed toward the high classification, but professional efficacy scores were all in the high category, indicating that all of the respondents felt they were able to be personally effective in their jobs.

Perhaps the IT workers that survived the turbulence in the industry have emerged with a strong sense of personal pride and accomplishment, but feel the strain in terms of exhaustion and cynicism. Of the organizational factors, feeling that organizational politics interferes with work and having menial tasks divert attention from "real" work were the only two factors that were significantly related to all three burnout dimensions. However, role ambiguity, role conflict, job security, quantitative work overload, feeling mentally stimulated, having reasonable promotion prospects, having a manager who understands the work, and feeling fairly rewarded are all significantly correlated to two of the three burnout dimensions. The four factors that are significant in predicting professional inefficacy are organizational politics, menial tasks, job security, and being on call at least once per month. It may be difficult for IT workers to feel that work is being accomplished when organizational politics and menial tasks interfere. A lack of job security could also interfere with motivation to accomplish tasks at work. Having to be on call also serves as another possible interruption; getting called to work while on call often involves unexpected troubleshooting for problems that might not be quickly resolved while other work accumulates. It might be somewhat surprising that the factor that has been most often cited in the literature as a correlate to burnout, work overload, is not shown in this study to impact all three burnout dimensions. In fact, qualitative work overload (i.e., feeling that work expectations exceed the worker's skill level) was not shown to impact any of the dimensions. This may be further evidence of the IT workers' sense of confidence and pride in their abilities although they may have too much work to do in the given timeframes. Many of the findings related to organizational factors are in agreement with findings in prior research. Sethi et al. (1999) demonstrated that role conflict and role ambiguity are positively correlated with burnout, and the present research reinforces that finding. Another parallel is seen in Sethi et al.'s finding that organizational commitment is related to burnout. Job security is related to organizational commitment and the results of this study show that job security is in fact related to professional efficacy and cynicism.

As was noted above, some of the findings were surprising in light of the findings of prior research. Qualitative work overload has been shown to be related to a variety of strain symptoms including burnout (Beehr & Newman, 1978; Maslach et al., 2001; Miller & Ellis, 1990); however, the present findings found no evidence of this relationship. This might again point to the sense of accomplishment of the workers in the sample; the item addressing qualitative work overload on the survey stated, "The requirements of my job exceed my skill level," and the IT workers sampled appear quite confident in their skill levels. The results indicate that none of the individual factors tested are significantly related to burnout. This finding is consistent with literature that has found that antecedents to burnout tend to be situational factors rather than individual factors (Cherniss, 1993; Maslach & Schaufeli, 1993). It is interesting to note that there is a correlation between hours worked and professional efficacy; the higher numbers of hours worked at home or in the office are related to lower levels of professional efficacy. In other words, the longer the IT worker works, the less they feel they have accomplished. Cross tabulations of other demographic variables with the burnout subscales also revealed some perhaps surprising results. The longer the IT worker had been with the same organization, the less likely they were to be experiencing emotional exhaustion. Perhaps the steep learning curve they can be involved when one is fairly new in an organization causes exhaustion. On the other hand, workers who had the longest careers in IT (across all organizations) were most likely to be cynical. This finding parallels the finding that age is positively correlated with cynicism; this may be an indication that workers simply become more cynical as they get older. Research does indicate that demographic factors do impact cynicism levels; however, Mirvis and Kanter (1991) found that workers age 55 and over were only slightly more likely to be cynical than workers age 18 to 25. In addition, IT workers having a highest educational level of "high school" were most likely to be experiencing emotional exhaustion, and lack of personal accomplishment. It is reasonable to assume that further education better equips a worker with the coping skills and technical skills to meet the demands of the job without becoming exhausted.

5.1 Implications

The findings of this study implicate organizational politics as a correlate of burnout. If IT managers or corporate level managers are concerned about burnout or are having problems that might be consequences of a burnout problem in their organizations, steps to mitigate interference from organizational politics should be taken. The findings of this study also strongly implicate the problem of having menial tasks divert attention from "real" work as a correlate of burnout. When considered along with other factors that were implicated such as role conflict and role ambiguity, it is not difficult to envision how this problem related to burnout evolves. Nearly three-fourths of the respondents claimed to be spending too much time on menial tasks.

Workers may be interrupted with tasks they deem menial and then receive conflicting or ambiguous messages about what work is has highest priority or how they should be spending their time at work, and this uncertainty and feelings of inefficacy could certainly lead to emotional exhaustion. To avoid burnout, practitioners must be diligent in prioritizing the projects and tasks that become responsibilities of IT workers.

5.2 Recommendations for Future Research

This research reveals opportunities for other research into burnout of IT workers. Because the literature indicates that individual factors are not strongly correlated to burnout levels, this study did not consider many individual or demographic factors. However, if a model were to be developed to predict burnout, other individual factors must be considered. For example, locus of control is indicated in the literature as a correlate of burnout (Kalbers & Fogerty, 2005), and this and other individual factors might be considered in combination with organizational factors to determine a model for predicting burnout. Further, though the organizations varied in size and industry, a commonality among all but one of the organizations was that work with offshore employees was very limited. Though the results of the present study showed no statistical relationship between working with offshore employees and any of the burnout dimensions, further research could explore this potential correlation with a different sample of IT workers.

Table 1: Focus Group Factors

Too much work under time pressure
 Lack of participation in decision-making
 Working with offshore team members
 Managers do not understand IT work
 Know someone who was laid off – job insecurity
 Have to be "on call"
 Insufficient training on new technologies
 Poor promotion prospects
 "Menial tasks" distract from "real" work
 Work must be prioritized – not everything should be an "emergency"
 Work must be challenging enough / be mentally stimulating
 Insufficient reward
 Insufficient recognition/respect
 Organizational politics
 Expected to connect and work from home on evenings and weekends

Table 2: Summary of Classifications of Burnout Levels of Survey Respondents

	LOW	MIDDLE	HIGH
Emotional Exhaustion	57 (31.7%)	65 (36.1%)	58 (32.2%)
Cynicism	54 (30.0%)	48 (26.7%)	78 (43.3%)
Professional Efficacy	0 (0.0%)	0 (0.0%)	180 (100.0%)

Table 3: Differences on Burnout Subscales

<i>Variable Name</i>	Emotional Exhaustion	Cynicism	Lack of Efficacy
role ambiguity	.000**	.004**	.129
role conflict	.000**	.010*	.081*
quant work overload	.000**	.010*	.209
qual work overload	.145	.477	.121
autonomy	.070	.330	.062
org politics	.000**	.011*	.048*
not fairly rewarded	.001**	.000**	.161

*p<0.05; **p<0.01.

Table 4: Focus Group Variables and Burnout Subscales

Variable Name	Emotional Exhaustion	Cynicism	Professional Efficacy
manager understands	.003**	.000**	.349
menial tasks	.000**	.015*	.000**
feel respected	.112	.055	.932
mentally stimulated	.693	.070	.028*
promotion prospects	.031*	.000**	.703
training	.437	.237	.172
job security	.700	.022*	.006**
on call	.883	.205	.002**
work w/ offshore	.123	.695	.694

*p<0.05; **p<0.01.

Table 5: Organizational Tenure and Burnout Subscale Averages

OrgTenure		EXMean	CYMean	PEMean
Less than 1 year	Mean	3.9333	2.6667	2.1667
	N	6	6	6
	Std. Deviation	.41312	.25820	.77460
1-4 years	Mean	3.2737	2.0439	2.2105
	N	57	57	57
	Std. Deviation	1.20394	1.11416	.80704
5-9 years	Mean	2.6047	2.1279	2.1957
	N	86	86	86
	Std. Deviation	1.23020	1.18181	.87902
10 or more years	Mean	2.4000	2.1371	1.5699
	N	31	31	31
	Std. Deviation	1.21326	1.25472	.52840

Table 6: IT Tenure and Burnout Subscale Averages Crosstabulation

ITTenure		EXMean	CYMean	PEMean
1-4 years	Mean	3.4174	1.7826	2.0797
	N	23	23	23
	Std. Deviation	1.41410	.97498	.75690
5-9 years	Mean	2.7567	2.0042	2.3000
	N	60	60	60
	Std. Deviation	1.28464	1.03077	.91637
10 or more years	Mean	2.7278	2.2732	1.9656
	N	97	97	97
	Std. Deviation	1.17622	1.24430	.77353

Table 7: Correlations of Demographics and Burnout Subscales

		Age	Hours Office	Hours Home	PEMean	CYMean	EXMean
Age	Correlation	1.000	-.219(**)	-.119	-.023	.216(**)	.065
	Coefficient						
HoursOffice	Sig. (2-tailed)	.	.003	.114	.763	.004	.390
	Correlation	-	1.000	.123	-.256(**)	-.135	.067
HoursHome	Coefficient	.219(**)					
	Sig. (2-tailed)	.003	.	.101	.001	.070	.371
PEMean	Correlation	-.119	.123	1.000	-.346(**)	-.170(*)	.055
	Coefficient						
CYMean	Sig. (2-tailed)	.114	.101	.	.000	.022	.460
	Correlation	-.023	-.256(**)	-.346(**)	1.000	.335(**)	.247(**)
EXMean	Coefficient						
	Sig. (2-tailed)	.763	.001	.000	.	.000	.001
HoursOffice	Correlation	.216(**)	-.135	-.170(*)	.335(**)	1.000	.526(**)
	Coefficient						
HoursHome	Sig. (2-tailed)	.004	.070	.022	.000	.	.000
	Correlation	.065	.067	.055	.247(**)	.526(**)	1.000
PEMean	Coefficient						
	Sig. (2-tailed)	.390	.371	.460	.001	.000	.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

6. References

- Bacharach, S. B., Bamberger, P., & Conley, S. (1991). Work-home conflict among nurses and engineers: Mediating the impact of role stress on burnout and satisfaction at work. *Journal of Organizational Behavior*, 12(1), 39-54.
- Beehr, T. A., & Newman, J. E. (1978). Job stress, employee health and organisational effectiveness: A facet analysis, model and literature review. *Personnel Psychology*, 31, 665-699.
- Butler, S. K., & Constantine, M. G. (2005). Collective self-esteem and burnout in professional school counselors. *Professional School Counseling*, 9(1), 55-62.
- Cherniss, C. (1993). Role of professional self-efficacy in the etiology and amelioration of burnout. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research*. Washington DC: Taylor and Francis.
- Clarke, D. (1995). Vulnerability to stress as a function of age, sex, locus of control, hardiness, and Type A behavior. *Social Behavior and Personality*, 23, 285-299.
- Cordes, C. L., & Dougherty, T. W. (1993). A review and an integration of research on job burnout. *Academy of Management Review*, 18, 621-656.
- De Dreu, C. K. W., Van Dierendonck, D., & Dijkstra, M. T. M. (2004). Conflict at work and individual well-being. *International Journal of Conflict Management*, 15(1), 6-28.
- Dignam, J. R., & West, S. G. (1988). Social support in the workplace: Tests of six theoretical models. *American Journal of Community Psychology*, 16, 701-224.
- Faraj, S., & Sproull, L. (2000). Coordinating expertise in software development teams. *Management Science*, 46, 1554--1568.
- Ferris, G. R., & Kacmar, K. M. (1992). Perceptions of organizational politics. *Journal of Management*, 18(1), 93-116.
- Fong, K., & Kleiner, B. H. (2004). New development concerning the effect of work overload on employees. *Management Research News*, 27(4/5), 9-17.
- Freudenberger, H. J. (1974). The staff burnout syndrome in alternative institutions. *Psychotherapy: Theory, Research, and Practice*, 12, 73-82.
- Gaines, J., & Jermier, J. M. (1983). Emotional exhaustion in a high-stress organization. *Academy of Management Journal*, 26, 567-586.

- Golembiewski, R. T., Boudreau, R. A., Munzenrider, R. F., & Luo, H. (1996). *Global burnout*. Greenwich, CT: JAI Press.
- Golembiewski, R. T., & Munzenrider, R. F. (1988). *Phases of burnout: Developments in concepts and applications*. New York: Praeger.
- Jackson, S. E. (1983). Participation in decision-making as a strategy for reducing job-related strain. *Journal of Applied Psychology*, 68(1), 3-19.
- Jackson, S. E., Schwab, R. L., & Schuler, R. S. (1986). Toward an understanding of the burnout phenomenon. *Journal of Applied Psychology*, 71, 630-640.
- Jackson, S. E., Turner, J. A., & Brief, A. P. (1987). Correlates of burnout among public service lawyers; Summary. *Journal of Occupational Behavior*, 8, 339-349.
- Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, 73, 287-303.
- Kalbers, L. P., & Fogarty, T. J. (2005). Antecedents to internal auditor burnout. *Journal of Managerial Issues*, 17(1), 101-119.
- Kanwar, Y. P. S., Singh, A. K., & Kodwani, A. D. (2009). Work-life balance and burnout as predictors of job satisfaction in the IT-ITES industry. *The Journal of Business Perspective*, 13(2).
- Kirk-Brown, A., & Wallace, D. (2004). Predicting burnout and job satisfaction in workplace counselors: The influence of role stressors, job challenge, and organizational knowledge. *Journal of Employment Counseling*, 41(1), 29-38.
- Koeske, G. F., Kirk, S. A., Koeske, R. D., & St Rauktis, M. B. (1994). Measuring the Monday blues: Validation of a job satisfaction scale for human services. *Social Work Research*, 18, 27-35.
- Kulnert, K., & Vance, R. (1992). Job insecurity and moderation of the relationship between job insecurity and employer. In J. Quick, L. Murphy, & J. Hurrell (Eds.), *Stress and well-being at work*. Washington, DC: American Psychological Association.
- Kumashiro, M., Kamada, T., & Miyake, S. (1989). Mental stress with new technology at the workplace. In J. M. Smith & G. Salvendy (Eds.), *Work with computers: Organizational, management, stress and health aspects* (pp. 270-277). Amsterdam: Elsevier Science Publishers.
- Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology*, 81(2), 123-133.
- Leiter, M. P. (1991). Coping patterns as predictors of burnout: The function of control and escapist coping patterns. *Journal of Organizational Behavior*, 12(2), 123-144.
- Leiter, M. P. (1993). Burnout as a developmental process: Consideration of models. In W. B. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 237-250). Washington, DC: Taylor & Francis.
- Leiter, M. P., & Maslach, C. (1988). The impact of interpersonal environment on burnout and organizational commitment. *Journal of Organizational Behavior*, 9, 297-309.
- Low, G. S., Cravens, D. W., Grant, K., & Moncrief, W. C. (2001). Antecedents and consequences of salesperson burnout. *European Journal of Marketing*, 35, 587-615.
- Luzzo, D., & Ward, B. (1995). The relative contributions of self-efficacy and locus of control to the production of vocational congruence. *Journal of Career Development*, 21, 307-318.
- Maslach, C. (1982a). *Burnout: The cost of caring*. Englewood Cliffs, NJ: Prentice-Hall.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2(2), 99-113.
- Maslach, C., & Jackson, S. E. (1986). *Maslach Burnout Inventory manual*. Palo Alto, California: Consulting Psychologists Press, Inc.
- Maslach, C., & Schaufeli, W. B. (1993). Historical and conceptual development of burnout. In W. Schaufeli, C. Maslach, & T. Marek (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 1-16). London: Taylor and Francis.
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422.
- Miller, K., & Ellis, B. H. (1990). An integrated model of communication, stress and burnout in the workplace. *Communication Research*, 17(3), 27-30.
- Mirvis, P. H., & Kanter, D. L. (1991). Beyond demography: A psychographic profile of the workforce. *Human Resource Management*, 30, 45-68.

- Rizzo, J. R., House, R. J., & Lirtzman, S. I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly*, 15, 150-163.
- Rosse, J. G., Boss, R. W., Johnson, A. E., & Crown, D. F. (1991). Conceptualizing the role of self-esteem in the burnout process. *Group & Organization Studies*, 16, 428-451.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 33(1), 300-303.
- Sanders, J. C., Fulks, D. L., & Knoblett, J. K. (1995). Stress and stress management in public accounting. *The CPA Journal*, 65(8), 46-49.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25(3), 293-315.
- Schaufeli, W. B., & Enzmann, D. (1998). *The burnout companion to study & practice: A critical analysis*. London: Taylor & Francis.
- Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). The MBI—General Survey. In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.), *Maslach Burnout Inventory manual* (3rd ed., pp. 19-26). Palo Alto, CA: Consulting Psychologists Press.
- Schutte, N., Toppinen, S., Kalimo, R., & Schaufeli, W. (2000). The factorial validity of the Maslach Burnout Inventory--General Survey (MBI-GS) across occupational groups and nations. *Journal of Occupational and Organizational Psychology*, 73(1), 53-66.
- Semmer, N. (1996). Individual differences, work stress and health. In M. J. Scharbracq, J. A. M. Winnubst, & C. L. Cooper (Eds.), *Handbook of work and health psychology* (pp. 52-86). Chichester, U.K.: Wiley.
- Sethi, V., Barrier, T. A., & King, R. C. (1999). An examination of the correlates of burnout in information systems professionals. *Information Resources Management Journal*, 12(3), 5-14.
- Sethi, V., Barrier, T. A., & King, R. C. (2004). What causes stress in information system professionals? *Association for Computing Machinery, Communications of the ACM*, 47(3), 99-103.
- Shih, S., Jiang, J., Klein, G., & Wang, E. (2013). Job burnout of the information technology worker: Work exhaustion, depersonalization, and personal accomplishment. *Information & Management*, 50, 582-589.
- Toppinen-Tanner, S., Kalimo, R., & Mutanen, P. (2002). The process of burnout in white-collar and blue-collar jobs: Eight-year prospective study of exhaustion. *Journal of Organizational Behavior*, 23, 555-570.
- Um, M., & Harrison, D. F. (1998). Role stressors, burnout, mediators, and job satisfaction: A stress-strain-outcome model and an empirical test. *Social Work Research*, 22(2), 100-115.
- Yashwant Advani, Y., Jagdale, S. C., Kumar Garg, A., & Kumar, R. (2005). Antecedents and consequences of "burnout" in services personnel. *South Asian Journal of Management*, 12(3), 21-35.