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Cyberloafing and job burnout: An investigation in the knowledge-intensive sector

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ABSTRACT

Cyberloafing in the knowledge-intensive settings has hitherto remained an underexplored research terrain. This is despite that, among others, the implications of cyberloafing in the knowledge-intensive context are more costly to the employers as compared to other less-knowledge-intensive settings. The motivations, moderators and consequences of cyberloafing among knowledge workers appear to have multifarious differences and contextual nuances. One of the significant determinants and increasing vulnerabilities of the knowledge-intensive setting is job burnout. This paper particularly focuses on and studies the inter-relationship of job burnout and cyberloafing. The viewpoints of knowledge-workers at a cross-section of organizational levels have been studied through quantitative surveys. The findings show that both facets of cyberloafing (activities and behaviors) have significant impact on job burnout among knowledge workers. It is also proved that cyberloafing 'behaviors' is a stronger predictor of job burnout than cyberloafing 'activities'.

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1. Introduction

The ever-expanding embodiment of internet connectivity and use in everyday organizational lives has had multifarious implications. The use of internet for non-work purposes is theorized as a form of organizational misbehavior and referred to as cyberloafing (Lim, 2002). The concept of cyberloafing and the network of antecedents to cyberloaf have received increasing research interest from a diversity of perspectives particularly in recent years (Glassman, Prosch, & Shao, 2015).

The antecedents, implications and moderators of cyberloafing have been studied in various contexts. The students (Chen & Tang, 2006) and teenagers (Lim & Teo, 2005), engineers (Henle & Blanchard, 2008), lawyers (Hartijasti & Fathonah, 2014), white-collars of the mining industry (Sheikh, Atashgah, & Adibzadegan, 2015), post-graduate business students (Blanchard & Henle, 2008), higher education non-teaching staff (Zoghbi Manrique de Lara, Verano Tacoronte, & Ting Ding, 2006), and etc have all received cyberloafing research attention over the past years.

The knowledge-intensive setting is among the nascent research

terrains with respect to cyberloafing, however. Despite the significance and complexity of the Knowledge-Intensive Firms (KIFs), very little is known about cyberloafing and its antecedents and implications in this area. Many factors have been reported to have moderating effects on cyberloafing. Recent works of Askew et al. (2014) show that, among others, the ability to hide cyberloafing, behavioral attitudes upon cyberloafing and subjective norms are among the main factors leading to and providing the (encouraging) environment for cyberloafing. Further research is proposed to study, in further details, as to how other more specific factors and antecedents are positively (or otherwise negatively) related to cyberloafing.

Job burnout is another important organizational phenomenon as well as an empirical issue in everyday business practice, particularly in the world of knowledge-intensive firms. Given the escalated complexities involved both at the agent and organizational levels of knowledge-intensive firms, the study of cyberloafing and job burnout calls for a 'fresh' look into the relationship of the two elements in the Professional Services Firms (PSFs).

Research in the knowledge-intensive settings report that job-burnout among professionals has increased steadily over the past decade (Crowley, 2012; Lucas, 2015). It is also reported that various manifestations of job burnout has become a significant management dilemma (Cole, Walter, Bedeian, & O'Boyle, 2012; Deery,

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Walsh, & Guest, 2011). On the other hand, professionals are ever-more overwhelmed with stress and anxiety which, all in all, unfold in different types of burnout (Lu & Gursoy, 2016).

A number of characteristics make the knowledge-intensive context a particularly relevant, important and intriguing terrain for cyberloafing and job burnout research. Thorough research is called for to enlighten and add further empirical insight on the mutual implications of cyberloafing and job burnout. The specificities, distinctions and complexities of the knowledge-intensive setting make it difficult to replicate the findings of other less-knowledge-based contexts and call for a focused cyberloafing study in this terrain (Ditillo, 2004, 2012).

For instance, in view of increased wages – of up to five times higher (on average) as compared to typical work settings – the knowledge-intensive terrain is more vulnerable to cyberloafing with respect to waste of human resources while, at the same time, increases employees stress and anxiety (Lim & Chen, 2012). Better said, cyberloafing and job burnout cost considerably more to PSFs as compared to other – less knowledge-based – settings.

Earlier research in the Knowledge-Intensive Firms (KIFs) report different types of complexities involved particularly in the identity works of knowledge workers (Alvesson, 2001). Knowledge-workers form and engage in various and complex forms of identity associations (Alvesson & Willmott, 2002). In the same way, their deviant behaviors in the form of cyberloafing appear to be more complicated (Lamond, Nair, & Vohra, 2010).

Typically, it is highly unacceptable that professional workers engage with and waste (highly priced) work hours on cyberloafing at least from the point of view of top managers and the general public. This general presumption makes cyberloafing even more challenging and complicated in the ‘world’ of the knowledge-worker; where the knowledge-intensive employee seeks more advanced and complex means and modes to conceal cyberloafing. The knowledge worker also engages in heavier and more complex self-conceptions and reactions upon organizational anxiety and job burnout (Deetz, 1994). One of the implications of increased identity works is increased stress and forms of burnout among employees (Schaufeli & Peeters, 2000).

Cyberloafing has also been defined as an act of distraction (Lim & Chen, 2012). The knowledge work, however, calls for increased focus and attention to the job at hand. This characteristic makes the impacts and implications of cyberloafing even more dramatic. Furthermore, several studies have reported increasing rates of job burnout among professionals and knowledge-intensive workers which is, in part, influenced and exacerbated by increasing levels of expected qualification, efficiency and ‘professionalism’ (Hetland, Sandal, & Johnsen, 2007; Tymon & Stumpf, 2003).

In the world of short-term employability (Robertson & Swan, 2003) and diluted organizational loyalty (Alvesson, 2000), job burnout proves to be an inseparable phenomenon to knowledge-intensive workers. Cyberloafing research, as well, reports increased loafing activities among professional workers (Chiaburu, Diaz, & Vos, 2013; Lamond et al., 2010). Cyberloafing, as well, can serve as a signifier as to how knowledge-workers loaf during work, demonstrate reactions, alleviate organizational pressures and display deviant organizational behavior. The relationship between the two will be scrutinized in this study.

2. Literature review

2.1. Cyberloafing definitions

Cyberloafing has been defined as “the voluntary act of employees using their companies’ internet access during office hours to surf non-job-related web sites for personal purposes” (Lim,

2002). It is also referred to as the state of concealed idleness while at work where the employee ‘enjoys the best of both worlds’ – charging the employer on work hours and indulging in the cyberspace for personal and non-work intentions (Lim, Teo, & Loo, 2002). Lim and Chen (2012) define cyberloafing as an ‘opaque’ deviant work behavior through cyber-engagement.

2.2. Cyberloafing dimensions

Several dimensions, forms and categorizations of cyberloafing are made in the literature (Mahatanankoon, Anandarajan, & Igbaria, 2004; Ramayah, 2010; van Doorn, 2011). Blanchard and Henle (2008) categorize cyberloafing attitudes under the umbrella term of ‘activities’ into two main types of minor – emailing and reading news – and major – gambling, visiting adult websites, downloading music, updating one’s own webpage and engaging in social media chatrooms – cyberloafing; while the former is influenced and moderated by perceived cyberloafing norms in the workplace, the latter is independent from co-workers’ cyberloafing attitudes given that the person is consciously engaging in and conceals severe forms of cyberloafing activities.

Li and Chung (2006), on the other hand, categorize cyberloafing activities based on the purpose into four types of social (to communicate with people), informational (to retrieve information), leisure (to indulge) and virtual (to pursue and satisfy the wants of the virtual-self) cyberloafing activities. The categorization offered by (Li & Chung, 2006) is inclusive of the one proposed by Henle and Blanchard (2008) in that cyberloafing activities are minor on social and informational forms – even deployable for work purposes – and become more major and serious in leisure and virtual types. Therefore, the measure of ‘cyberloafing activities’ (Li & Chung, 2006) is deployed in this research.

Another stream of terminologies in the cyberloafing literature have categorized ‘cyberloafing behaviors’ based on the attainment of the person who engages in different forms of cyberloafing (van Doorn, 2011). Belanger and Van Slyke (2002) point to the learning and development mode in cyberloafing behaviors whereby increased information, knowledge and skills are attained as a result of cyberloafing. Lim and Chen (2012) highlight the ‘recovery’ impact of cyberloafing behaviors where employees find and deploy cyberloafing behavior as a mode and medium of recovery and relief from work stress. Cyberloafing as a form of ‘deviant behavior’ have also been a colorful theme in the category of cyberloafing behaviors (Henle & Blanchard, 2008; Lim et al., 2002; Zoghbi Manrique de Lara et al., 2006). And last, but not least, more severe forms of cyberloafing behaviors are observed in addictive and impulsive manners in the workplace where organizational control is least effective (Zoghbi Manrique de Lara et al., 2006). Addictive cyberloafing behaviors are proved to be positively related and exacerbated by organizational stress (Henle & Blanchard, 2008) and psychological disorders (Caplan, 2002; Yellowlees & Marks, 2007).

2.3. Professional services firms and knowledge-workers

Knowledge-intensive setting has comprised the context of management studies over the past two decades and has increasingly been theorized from a diversity of perspectives. This has, in part, been due to the increasing significance of the knowledge-intensive industries and that of professional services firms (PSFs) to the economy of developed countries in particular. The knowledge-intensive sectors provide increasing employment opportunities for today’s ever increasing knowledge-worker base. The knowledge-intensive sectors have contributed more than 20 trillion dollars to the world economy comprising more than 30% of overall GDP (Science and Engineering Indicators, 2012). The United

States hosts the leading players of knowledge-intensive businesses followed by the European zone wherein the UK, Germany, France, Netherland, Spain, Sweden, and Denmark are the leading countries in knowledge-intensive industries (Schricke, Zenker, & Stahlecker, 2012).

There has been a consensus among scholars in that the PSFs 'category' is inclusive of medical professionals, lawyers, engineering consultants, marketing and branding experts, artists, management consultants, designers, architects, scientists and academics (Løwendahl, 2005; Maister, 2007). Based on the knowledge-power dyad and dynamism that drive organizational norms and behavior, the professional settings and knowledge-workers are enmeshed with complexities and specificities that call for a particular look into and understanding of the context, its agents and the concepts (Empson, 2001; Sharma, 1997).

The knowledge-intensive setting has been characterized and distinguished in a number of ways; it is widely discussed that today's economy has created an environment for knowledge-workers whereby organizational loyalty has been diluted and replaced by various forms of identification, such as loyalty to the client base and/or towards the profession (Kinnie & Swart, 2012; Swart & Kinnie, 2013). It is interesting as a research topic as well as a critical management concern to see how the cyberloafing activities – as a moderating factor – changes in light of general decreased organizational loyalty.

Ambiguity and complexity is another significant characteristic of the knowledge setting (Alvesson, 2001, 2004). Knowledge workers are engaged in a network of complex identity associations and self-concepts. In light of increased autonomy, more relaxed organizational liabilities and self-centered management and control (Deetz, 1998; Robertson & O'Malley Hammersley, 2000), professionals typically experience increased ambiguities in various areas; these are inclusive of daily tasks and objectives, promotions and reward mechanisms, commitments and loyalties, 'professionalism' and ethics, self-reports and pay-per-hour analytics, and last but not least, their associations with co-workers (Suddaby, Cooper, & Greenwood, 2007).

The demand for tailoring innovation and 'creative' works is another significant aspect of knowledge-setting with significant implications for the knowledge worker. Professionals experience heavier loads of emotional and mental stress and are asked to 'generate' innovative solutions on a continuous basis (Alvesson, 2004). Much less has been discussed in academic debates on the ways in which this level of stress can be lessened. It is widely discussed in other realms of research – such as human misbehavior – that employees often engage in non-work activities as a mode and medium of 'discharge' and 'de-charge' (Dewe & Guest, 1990). Cyberloafing activities need to be scrutinized in this regard as well in order to demonstrate whether and how knowledge workers deploy cyberloafing as a way of emotional and mental relief and recovery during work.

Knowledge-intensive firms are by far service-based. This means closer ties with the client basis and interaction with the client teams on a daily basis. Solutions are crafted out of mutual contributions among the supply side and the customer(s). This is while a lot of modern networks and 'relationships' are formed through social media platforms. Less is known about the implications of this drastic shift in the medium of communication on the relationship aspects of knowledge works.

2.4. Job burnout

Burnout was initially theorized by Freudenberger (1974) as a type of work stress particularly among human services employees. The construct explains a physical and emotional 'reaction' to

occupational stress (Kitaoka-Higashiguchi et al., 2004; Wheeler, Vassar, Worley, & Barnes, 2011). Maslach (1982: 3) defines burnout as "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do 'people work' of some kind".

Maslach and Jackson (1985) conceptualized burnout as a complicated process which may affect worker's physical, intellectual, emotional, social, and spiritual performance. Similarly, burnout has been theorized as a subjective experience of physical, emotional, and mental exhaustion due to continuous involvement in emotionally exhausting conditions (Koeske & Koeske, 1989). In the same vein, burnout is said to be "the disease of over commitment or the super-achiever sickness" (Schaufeli & Enzmann, 1998: 102). When a set of unsatisfied expectations accrue and while constant situational demands increase, the possibility of emotional drains rises as well (McLaurine, 2008).

Burnout has been discussed, by and large, in three main dimensions: 1) Emotional Exhaustion (EE), 2) Depersonalization (D) and 3) Low Personal Accomplishment (PA). The initial assumption was that burnout is mostly observed among employees whose profession is related, in some ways, to helping and caring functions and professions – such as nurses and physicians (Maslach & Jackson, 1981). This viewpoint was later modified when it was observed that other white-collar and blue-collar employees are equally susceptible to burnout regardless of their inherent job characteristics (Kitaoka-Higashiguchi et al., 2004; Maslach, 2003a).

Job burnout is often referred to as a case of mental and physical exhaustion. According to Maslach and Jackson (1981), it is an everlasting stress response of an employee to continuous experience of emotional and interpersonal stressors at the workplace (Peng et al., 2016). In particular, burnout is accrued as the continuing strain that may arise from lack of alignment between the worker and the job specifications (Maslach, 2003b). The burnout 'process' is accelerated when employees deal with the job in a defensive and proactive manners – with minimal autonomy, authority and control – while mentally detach themselves from the job and filled emotionally with senses of indifference, pessimism, and rigidity (Wright, 1993). The concept of burnout refers also to both angry and antagonistic people who express negative emotions at their job, towards peers and/or clients and refers to those individuals who feel depressed and isolated (Burke, 1992). Depression and burnout are often used interchangeably as well (Bianchi, Schonfeld, & Laurent, 2015); In spite of some similarities between the two terms, the differences should be considered as well (Juster et al., 2011).

Maslach (1976) points to physical exhaustion, fatigue, and psychological drainage as the most common symptoms of job burnout. In the same way, some researchers found that tedium, detachment, anxiety, irritation (Farmer, 1977) as well as lessened innovation, sharpness and confidence are other frequent symptoms of job burnout (Euwema, Van de Vliert, & Bakker, 2003).

The process of burnout has also been explicated in the literature (Ashill & Rod, 2011; Bentzen, Lemyre, & Kenttä, 2014; Noh, Shin, & Lee, 2013; van Dierendonck, Schaufeli, & Buunk, 2001). Although some scholars contend that burnout is occurred suddenly and inevitably, others demonstrated the gradual process of job burnout (Bakker, Demerouti, & Schaufeli, 2002). Hence, it can not be definitely declared as to when burnout will arise for any given employee (Kirschenbaum & Weisberg, 1990). In this regard, a distinction between *acute* and *chronic* burnout is made in the literature. Accordingly, acute burnout is formed unexpectedly whereas chronic burnout develops gradually and is caused by constant environmental stressors (McLaurine, 2008).

Some authors considered burnout as the most common job stress (Spectors, 1985). Lambert (2004) noted that burnout is

generally constituted of three elements including stress, coping and distress. Therefore, stress can be considered as a major element of burnout (McLaurine, 2008) and the two terms should not be used interchangeably (Bianchi et al., 2015; Schaufeli & Buunk, 2003).

Stress, in conjunction with some other variables, can result in burnout (Savicki, Cooley, & Gjesvold, 2003). Several authors pointed out that burnout is caused by extended work stress at work or lack of consistency between the job demands and the resources at hand (Hobfoll & Shirom, 2001; Maslach, Schaufeli, & Leiter, 2001).

Furthermore, burnout is more probable when an employee has not adequate power or resources for creating the favorable conditions and results (Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). Fatigue and exhaustion are other concepts used instead of burnout. However, the two constructs are embedded in the concept of burnout and should not be used as a synonym (Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013; Bianchi et al., 2015).

2.5. Burnout models

Reviewing burnout literature indicates some theoretical models including: The four-stage model of progressive disillusionment (Maslach, 1993); Zischka and Fox (1983) four-stage model; and Cherniss and Dantzig (1986) three-stage model. However, among these models, the three stage model proposed by Maslach (1993) is the most commonly cited. According to Maslach's model, burnout can be defined by three components: (a) feelings of emotional exhaustion, (b) development of depersonalization, and (c) reduced sense of personal accomplishment.

Emotional exhaustion refers to draining emotionally and a feeling of reduced physical strength. In this case, employees may feel that they can not achieve personal accomplishments because of depletion of their emotional and physical energy (Schaufeli, Bakker, Hoogduin, Schaap, & Kladler, 2001). The possibility of occurring such a feeling would increase when employees' expectations are not met (Dollard & Winefield, 1998). This component is the most primary and critical aspect of burnout which has been studied by several researchers (Halbesleben & Demerouti, 2005; Maslach et al., 2001; Wheeler et al., 2011).

Depersonalization or dehumanization is another component of burnout which refers to the employee's negative feeling toward the clients or the job itself (Hurrell, Nelson, & Simmons, 1998). In the case of depersonalization, an employee may treat clients as objects (Maslach et al., 2001). Some authors pointed out the relationship between this component and the feeling of emotional exhaustion (Maslach & Jackson, 1981). This item has also been referred to as cynicism because of the cynical feeling that one person may express toward peers, clients and/or the job (Maslach, 2003a).

Reduced personal accomplishment, the third component of burnout, refers to employees who do not think of themselves positively. Similarly, they may experience a feeling of incompetence, unsuccessfulness and dissatisfaction on their job or communication with clients (Maslach, 2003a) and frequently criticize themselves about the work they do (Deelstra et al., 2003). When people evaluate themselves in a negative manner, they feel despondent and dissatisfied with their self and their job (Maslach & Jackson, 1981).

2.6. Burnout: antecedents and consequences

Reviewing the literature indicates that the antecedents of burnout can be categorized into three groups including: 1) job and role characteristics as the most important antecedents which contains role over-load, ambiguity, and conflict (Angerer, 2003; Maslach et al., 2001); 2) organizational or situational

characteristics, consisting of work context and occupational characteristics; and 3) personal characteristics including demographic characteristics and personality traits (Cordes & Dougherty, 1993; Maslach et al., 2001).

Several efforts have been made to categorize burnout's dysfunctional consequences as well (Cordes & Dougherty, 1993). For example, Kahill (1988) classified burnout consequences into five categories: physical, emotional, inter-personal, attitudinal, and behavioral. Generally, the consequences of burnout can be categorized as individual and organizational. The individual consequences refer to harmful behaviors such as personal conflicts and cognitive disorder; and organizational consequences indicates turnover, absence from work, and poor work performance (Maslach et al., 2001; Shih, Jiang, Klein, & Wang, 2013). Hence, burnout can lead to lower job satisfaction, lower commitment, and increased turnover (Moore, 2000).

This study aims to scrutinize the relationship between cyberloafing and job burnout by hypothesizing cyberloafing as one of the probable consequences of job burnout among knowledge workers. Regarding the two facets of cyberloafing (*activities* and *behaviors*), the hypotheses of this study can be conceptualized as follows:

- H1.** Job burnout has a significant impact on cyberloafing activities among knowledge workers.
- H2.** Job burnout has a significant impact on cyberloafing behaviors among knowledge workers.

The conceptual framework of this study (including the main variables as well as the proposed hypotheses) is depicted in Fig. 1.

3. Methodology

3.1. Participants

Survey and questionnaires were used for gathering quantitative data. As discussed before, the population of this study is Iranian knowledge intensive firms. Regarding the impossibility of gathering data from all of the firms, this study was carried out among top-five Iranian knowledge intensive firms in the private sector. The sample of current research was selected applying purposive sampling. Owing to the sensitivity of the subject of cyberloafing and in order to increase the rate of response, the authors distributed the questionnaires by themselves to explain the main purpose of the study for knowledge workers, explicate the motives of research and emphasize the confidentiality of the responses. In spite of that, some of the studied samples resisted to cooperate with researchers because of the fear from exposure of responses. In total, 350 questionnaires were distributed via random sampling method, among which 298 questionnaires were returned. Table 1 indicates the demographic characteristics of the participants.

3.2. Measures

3.2.1. Cyberloafing scale

Several studies have been conducted to measure cyberloafing (Belanger & Van Slyke, 2002; Blanchard & Henle, 2008; Caplan, 2002; van Doorn, 2011; Li & Chung, 2006; Mahatanankoon et al., 2004; McLean, Tingley, Scott, & Rickards, 2001; Ramayah, 2010; Stanton, 2002; Weatherbee, 2010; Yellowlees & Marks, 2007; Young, 2010). According to the purpose of this study which focuses on the impact of job burnout on cyberloafing, the conceptualization proposed by Li and Chung (2006) was by and large considered for this study. The cyberloafing scale was designed based on the two main dimensions of *cyberloafing activities* (social,

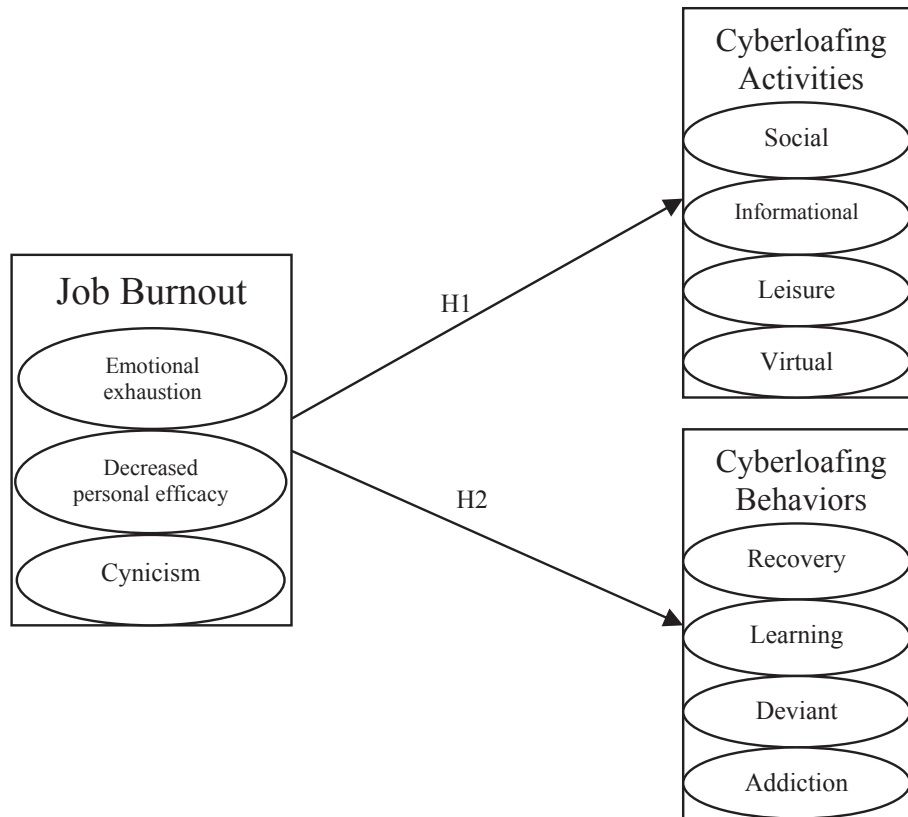


Fig. 1. The conceptual framework and hypotheses.

Table 1
Characteristic of participants.

	Percent
Age	
Under 30	54.3
30–39	35.7
40–49	9.9
Gender	
Male	55
Female	45
Managerial experience (Years)	
Without managerial experience	49.7
1–5	36.3
6–10	6.7
10 and above	3.3
Level of education	
Bachelor's degree	43.7
Master's degree or PhD	55.7

informational, leisure and virtual) and *cyberloafing behaviors* (learning, recovery, deviant and addiction). Accordingly, 20 items were considered for measuring cyberloafing among which 10 items were related to cyberloafing activities (social, informational, leisure and virtual) and the other 10 items were designed to measure cyberloafing behaviors (deviant, learning, addiction and recovery).

3.2.2. Job burnout scale

Among the numerous measures for assessing and measuring burnout, the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981) has been adopted by many researchers (Kitaoka-Higashiguchi et al., 2004) in different cultural settings and professions (Aguayo et al., 2011) and also deployed as the theoretical foundation of this research.

The first version of the MBI, namely MBI Human Services Survey (MBI-HSS), which was devised in view of healthcare professionals, is constituted of three main components (i.e. emotional exhaustion, depersonalization and personal accomplishment) and is detailed with 22 items. The second version, i.e. MBI-Educators' Survey (MBI-ES), were modified in view of education professionals. Since burnout was originally regarded as a concept that is frequently seen among people who interact with people (Kitaoka-Higashiguchi et al., 2004), both of these two versions assess burnout regarding the direct interaction of employees/teachers with clients/students (Wheeler et al., 2011). They both have 22 items in three components as mentioned.

Although the generalizability of MBI to different occupations has been reported (Bakker et al., 2002), Schaufeli, Leiter, Maslach, and Jackson (1996) developed a 16 items version of MBI to assess burnout in any profession (MBI-GS). While the MBI-HSS and MBI-ES measures are to assess burnout with regard to the interaction between employee and recipients, the emphasis of MBI-GS is on the relationship between employees and their work. In the MBI-GS framework, the three typical concepts of Emotional Exhaustion, Depersonalization, and Personal Accomplishment, were modified and changed to *Exhaustion*, *Cynicism*, and *Decreased Professional Efficacy* (Kitaoka-Higashiguchi et al., 2004).

The exhaustion scale is similar to the emotional exhaustion measure as proposed in the first version of MBI. The cynicism scale was developed to address a broader range of professions than those considered in the depersonalization scale; therefore, it refers to the feeling of detachment from one's job rather than from clients only. The professional efficacy replaces personal accomplishment in MBI-HSS to explain feelings of 'successfulness' in one's work. Burnout is indicated by high scores on the exhaustion and cynicism and low scores on the professional efficacy (Bria et al., 2014;

Maslach & Leiter, 2008).

The purpose of this research is to measure burnout based on the job itself rather than in relation to customers. Hence, the 16 items MBI-GS scale as developed by Schaufeli et al. (1996), which regards the relationship between an individual and his/her job, was deployed on a five point Likert scale. Overall, job burnout was assessed considering the three dimensions of: exhaustion, cynicism, and decreased professional efficacy.

The variables and their related scale items are presented in Table 2.

4. Findings

Analysis of data shows that Cronbach's alphas for the questions of job burnout, cyberloafing activities and cyberloafing behaviors were 0.89, 0.80 and 0.85 respectively. While content validity of the questionnaire was evaluated by experts, its construct validity was assessed by confirmatory factor analysis (CFA). Using LISREL (Jöreskog & Sörbom, 1996), the confirmatory testing of the fit of a theoretical model has been conducted. Table 3 indicates the CFA results of the hypothesized model. Fit indices including goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), incremental fit index (IFI), competitive fit index (CFI), root-mean-square-error of approximation (RMSEA) and χ^2/df , have all been considered to assess the fit of the data. As presented in Table 3, the results of the standardized loadings and *t*-values, as well as the results of the proposed three-factor structure (job burnout, cyberloafing activities and cyberloafing behaviors) indicated good fit with the data (RMSEA: 0.04; CFI: 0.91; χ^2/df ratio: 2.73 and NNFI: 0.92).

After conducting confirmatory factor analysis, structural equation modeling was applied to test the proposed hypotheses. For so doing, LISREL 8.52 was deployed to facilitate data analyses. Fig. 2 indicates 0.02 for RMSEA (below 0.05, as recommended by Hu and Bentler (1998), 0.98, 0.94 and 0.96 for GFI, AGFI, CFI respectively (above 0.9, as proved by Bollen (1989)); and 2.62 for chi-square/df ratio (less than 3, as recommended by Byrne, Shavelson, and Muthén (1989)) which all show the good fit of the model. The findings of LISREL indices indicated a good fit for the proposed model as well and exceeded the mentioned authors' suggestions. With regard to the LISREL analysis shown in Fig. 2, this research concludes that both cyberloafing activities and cyberloafing behaviors have positive impact on job burnout (H1 and H2 are supported). As observed in Fig. 2, the two types of cyberloafing were positively related and significantly predict job burnout. The strongest impact is the one cyberloafing behaviors impose on job burnout.

Table 4 indicates the means and standard deviations for job burnout and its dimensions (emotional exhaustion, decreased personal efficacy and cynicism) as well as cyberloafing activities

Table 3

The results of the confirmatory factor analysis (CFA).

Construct indicators	Standardized loadings	<i>t</i> -Value
Job burnout		
Emotional exhaustion	0.65	14.56*
Decreased personal efficacy	0.51	8.92*
Cynicism	0.82	12.53*
Cyberloafing activities		
Social	0.64	13.53*
Informational	0.66	15.968*
Leisure	0.52	8.97*
Virtual	0.50	8.21*
Cyberloafing behaviors		
Recovery	0.72	15.57*
Learning	0.50	8.43*
Deviant	0.85	16.10*
Addiction	0.58	11.75*

RMSEA: 0.04 (≤ 0.10 recommended); CFI: 0.91 (≥ 0.90 recommended); χ^2/df ratio: 2.73 (< 3 recommended); NNFI: 0.92 (≥ 0.90 recommended).

*Significant at *p*-value < 0.05 level.

and behaviors. As shown in Table 4, mean score (calculated using the averages of the total related indicators as well as the univariate analysis) for job burnout was at lower-than-average level (2.36). In the same way, for both cyberloafing activities and behaviors, the mean score was lower than average (2.27 and 2.98 respectively). However, the mean score for cyberloafing activities was near to the average score which indicated the higher level of the cyberloafing behaviors in comparison with cyberloafing activities among the studied population of knowledge workers.

In this sense, as indicated in Table 4, among the dimensions of cyberloafing activities, the mean score for informational cyberloafing is relatively higher than the other dimensions. The results of Table 3 also show that for cyberloafing behaviors, the mean score of development (3.42) is higher than the mean score of other dimensions. In this regard, the mean scores for recovery and addiction were at nearly average (3.01 and 2.98 respectively).

Using Pearson correlation coefficients, the relationship between job burnout, cyberloafing activities and cyberloafing behaviors were examined. Table 5 indicates the significant correlation between job burnout and both types of cyberloafing, i.e. activities and behaviors, with stronger correlation between job burnout and cyberloafing activities. Results also showed a significant relationship between cyberloafing activities and cyberloafing behaviors. Regarding the dimensions of cyberloafing activities, results showed a strong correlation between social and also informational dimensions with job burnout, meaning that people with higher job burnout are more likely to engage in cyberloafing activities. Motives for such behaviors include, but are not limited to, looking for information, finding friends and expanding social networks. In the case of cyberloafing behaviors, results indicated that two dimensions of development and deviant have strong correlation with the job burnout. However, the correlation with the former is negative while the correlation with the latter is positive. This means that higher job burnout is accompanied with more deviant behaviors and less cyberloafing behaviors with the purpose of development.

Moreover, we compared the output of CFA model (covariance matrix) with the results of the Pearson correlation coefficients and made the conclusion that the extent of the difference between these two results are not as considerable as to be presented as a table.

Mean difference test was used to compare employees with different gender, age, level of education and level of managerial experience. Based on the analysis, gender does not impose a remarkable difference regarding respondents' opinions.

Table 2
Variable and scale items.

Variable	Scale items
Job burnout	Emotional exhaustion Decreased personal efficacy Cynicism
Cyberloafing activities	Social Informational Leisure Virtual
Cyberloafing behaviors	Recovery Learning Deviant Addiction

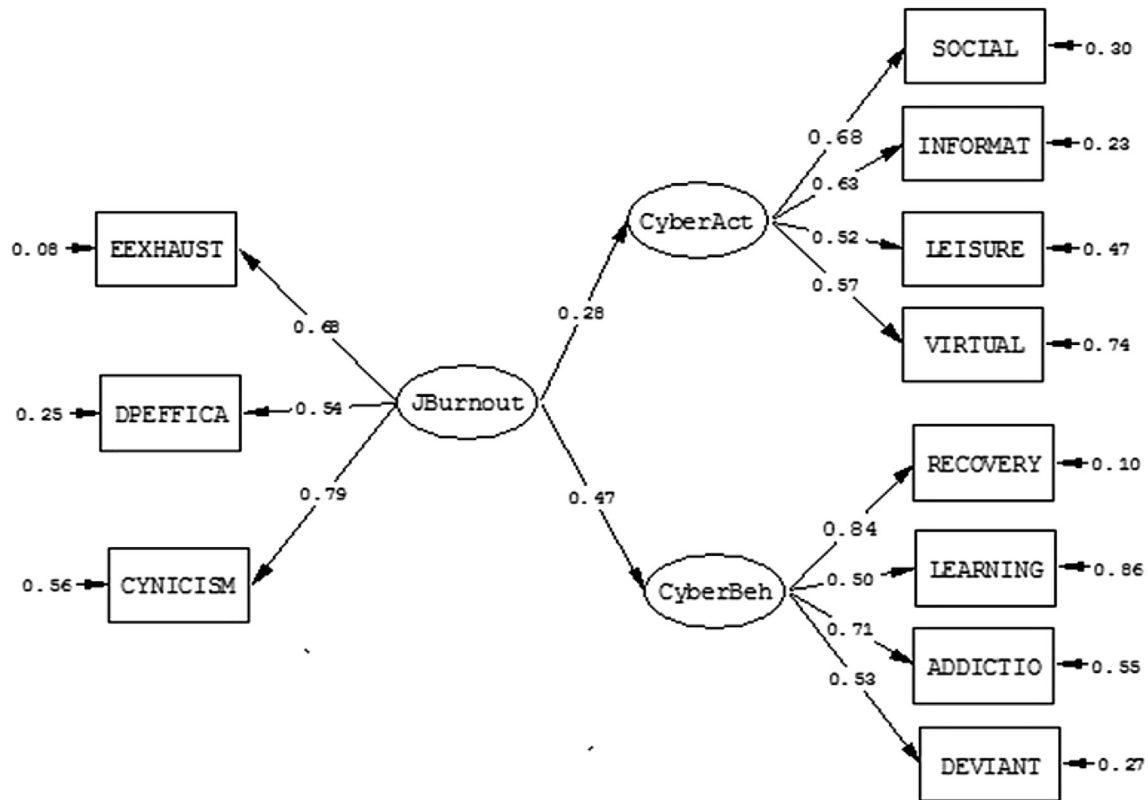


Fig. 2. Parameter estimates of the tested model.

Table 4
Means and standard deviations of variables.

Variable	Mean	SD
1 – Job burnout	2.36	0.61
2 – Emotional exhaustion	2.49	0.73
3 – Decreased personal efficacy	2.19	0.60
4 – Cynicism	2.41	1.09
5 – Cyberloafing activities	2.27	0.66
6 – Social	1.92	0.87
7 – Informational	2.78	0.80
8 – Leisure	1.79	0.81
9 – Virtual	2.26	0.98
10 – Cyberloafing behaviors	2.98	0.71
11 – Recovery	3.01	0.89
12 – Learning	3.42	1.01
13 – Deviant	2.26	0.74
14 – Addiction	2.98	1.03

Table 5
Correlations of variables.

	1	2	3	4	5
1 – Job burnout					
2 – Emotional exhaustion	0.920**				
3 – Decreased personal efficacy	0.730**	0.449**			
4 – Cynicism	0.782**	0.666**	0.429**		
5 – Cyberloafing activities	0.110*	0.168**	0.022*	0.077	
6 – Cyberloafing behaviors	0.198**	0.166**	0.033*	0.048*	0.641**

Additionally, our results indicated no significant difference among respondents' opinions with regard to the level of education and age. However, this research shows that by increasing job experience, job burnout will decrease. Similarly and with regards to cyberloafing, results indicated a negative significant relationship

between managerial experience and cyberloafing activities but a positive significant correlation with cyberloafing behaviors.

5. Discussion

Given the high costs and significant destructive implications of cyberloafing in the knowledge-intensive firms and regarding the inadequate studies in the field of job burnout among knowledge workers, as explained earlier in this paper, this study aimed to investigate the impact of job burnout on cyberloafing (activities and behaviors) in the Iranian knowledge-intensive context. Data were gathered using questionnaire survey and analyzed by the use of LISREL. Job burnout was measured regarding three components (of emotional exhaustion, cynicism, and decreased professional efficacy) and cyberloafing was assessed by two facets (of activities and behaviors). Results indicate that job burnout predicts cyberloafing activities and behaviors among knowledge workers. However, the extent of such an impact is stronger in the case of cyberloafing behaviors. Our results also show relatively higher level of cyberloafing behaviors (i.e. learning, recovery, deviant and addiction) than cyberloafing activities (i.e. social, informational, leisure and virtual) among knowledge workers which can be explained as more conscious and informed mode of cyberloafing which is also less moderated by social and organizational norms (which tend to limit cyberloafing) among knowledge workers (Lim, 2002).

Knowledge workers are privileged with increased levels of authority and autonomy (Alvesson, 2004; Davenport, 2013) which creates a more relaxed space for cyberloafing behaviors. Constant need for information acquisition and sharing make knowledge workers allocate considerable amount of office time searching, sharing and networking on the web updating their expertise and/or

co-working on projects. In this sense, increased engagement and tendency to cyberloafing is perceivable.

We found a strong positive correlation between social and informational dimensions of cyberloafing activities with job burnout which can be argued as increased social networking activities when job burnout accrues. A strong relationship between development and deviant dimensions of cyberloafing behaviors with job burnout can also be related with employees' tendency for more personal development and commitment to self (as opposed to commitment to the organization) with increased levels of job burnout (Bakker et al., 2002).

As mentioned before, the correlation of job burnout with the development dimension of cyberloafing was negative while the correlation with the deviant behavior was positive. This shows, once again, that knowledge workers with higher job burnout are more likely to engage in more deviant behaviors (Foscht, Iii, Swoboda, Morschett, & Sinha, 2008; Mulki, Jaramillo, & Locander, 2006) and engage less in cyberloafing behaviors with the purpose of personal and, hence, organizational development.

While this study indicates that in the course of time and by increased job experience the possibility of job burnout and cyberloafing activities/behaviors will decrease, organizations should develop and think through adequate plans, frameworks and incentive systems to prevent job burnout. Some scholars suggest that by reducing job stressors such as job overload or 'telling' leadership style, senior management can help employees manage their stress; employees can apply for some preplanned programs particularly tailored to stress management and fatigue reduction (Cooper & Cartwright, 1997). For instance, organizations have managed to decrease job burnout by providing gym facilities during work hours (Toker & Biron, 2012).

It is also worth noting the new streamline of conceptualization for burnout with a focus on its positive end and implication — i.e. job engagement. Some scholars have suggested further studies with a focus on the ways to increase employee engagement as a remedy to reduce burnout (Maslach, 2003b). This study highlights and demonstrates, once again, the opportunity to divert cyberloafing towards personal and organizational development where, for instance, online social networks are deployed for enhancing organizational culture, employees' personal enhancement and forming the infrastructural basis for knowledge sharing and teamwork.

5.1. Conclusions

This paper is among a few to focus on the association between job burnout and cyberloafing. It has been a step forward to bridge the gap between the two, thus far, separate terrains of cyberloafing and burnout. The two aforementioned concepts have been increasingly become at the locus of management concern in recent years particularly in the context of knowledge-intensive firms. This study proved a strong and meaningful correlation between the two. In contrast to other, less-knowledge-based, settings cyberloafing in knowledge-intensive firms tends to lean towards stronger loafing behaviors when burnout accrues. This demonstrates deviant loafing behavior on the part of knowledge-workers in a more conscious, self-regulated and autonomous manners (Lamond et al., 2010).

Advanced levels of burnout also correlated positively with increasingly muddled cyber behavior which is an indicator that knowledge-workers tend to lose integrity, restraint and focus, not only in their nominal work tasks, but also in their deviant cyber behaviors. Cyberspace also appears to be among the first terrains wherein deviant behaviors ensued as burnout manifests, particularly in the case of professional workers. Classic modes of control

and remedy, respectively, need to be revisited and modified to meet the specificities of cyberspace. Employers are to be actively involved in educating employees, deploying professional consulting and engaging with the employee base to treat strong modes of cyberloafing behaviors.

Developmental mode of cyberloafing — i.e. constructive use of internet and social media for self-enhancement — is proved to be an antidote to burnout. This is an interesting finding in that employers can deploy social networking and other web-based platforms — such as marketing intelligence and knowledge management — to not only improve organizational performance, but also remedy burnout by enhancing interpersonal and inter-organizational communication.

Increased commitment to self — the personal brand of knowledge workers — at the expense of diluted corporate brand loyalty (Bakker et al., 2002; Suddaby et al., 2007) manifested again in the findings of this paper in stronger modes of cyberloafing whereby employees engage in promoting their own (personal and professional) brands in social networks. With burnout decreases the level of professional workers' dependence, integrity and commitment towards the company which manifests, among others, in heavy cyber-social activity.

5.2. Limitations and directions for future research

This study has a number of key limitations. First, several conditions and factors contribute to engaging employees in cyberloafing (i.e. activities or behaviors); however, the focus of this study was on job burnout, one of the less-studied factors in the knowledge-intensive context. So, this study suggests investigating the other antecedents of cyberloafing in knowledge-intensive contexts in future research.

In the same way, job burnout among knowledge workers has not been studied sufficiently to date, particularly, by organizational behavior researchers. Hence, exploring the ways to decrease job burnout and, at the same time, increase job engagement among knowledge workers is hard to ignore and demand further research. Some authors note that the practical ways to deal with job burnout falls mostly on the responsibility of managers who should understand the construct clearly (Cordes & Dougherty, 1993). It is recommended, based on the findings of this paper that support employees and knowledge workers, too, need to be familiarized and informed with the implications and mutual impacts of job burnout and cyberloafing in a more straightforward and conscious manners.

According to Maslach (2003a, 2003b), while situational and organizational factors have significant roles in causing and dealing with job burnout, the focus of most studies have hitherto remained on individual-centered factors — i.e. studying the factors associated with the employee as a standalone construct and neglecting the multiplicity of external (organizational) factors that lead to employee job burnout such as leadership style, rules, procedures, organizational culture and/or structure, to name a few. While individualistic approaches may help lessen emotional exhaustion, they may not have significant impact on the other dimensions of burnout and may fail to portray a holistic (and thus realistic) view of the circumstance where burnout and its implications (such as cyberloafing) accrue. Therefore, both approaches, whether individual or organizational, should be regarded in providing practices to handle job burnout and cyberloafing. In other words, investigation of the construct at multiple levels of analysis would yield more valid findings and practical implications (Maslach, Leiter, & Jackson, 2012) and could also be regarded as the subjects of research for future areas for research.

Last limitation (but of course not least) is that this study was

defined and carried out regionally and was conducted in only one context (yet in a diversity of industries) accompanied with specific cultural values. More interesting results would be found if it was carried out cross-functionally and in different settings.

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