What Role Perceived Justice Play between Job Boredom and Cyber-loafing? A Mediational Inquiry of Employees at Software Houses

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Abstract

Owning to the very nature of their work, employees working in the field of information technology (IT) have higher exposure to internet use and surfing. This is why, the phenomenon of cyberloafing is quite common among IT professionals. Taking this into account, our study proposed to investigate the interrelatedness among job boredom, perceived justice and cyberloafing in employees ($N = 213$) working under software developers at various software houses in Lahore. Results indicated that while job boredom increased with an increase in cyberloafing, an inverse association was observed between perceived justice and cyberloafing. Correspondingly, cyberloafing was significantly predicted by both job boredom and perceived justice. Moreover, perceived justice emerged as a partial mediator between job boredom and cyberloafing. While our findings made valuable additions to the indigenous literature, they can also facilitate counsellors and therapists working in organizational settings as well as the personnel at human resource departments to collaborate on working towards creating a conducive workplace environment that can curtail cyberloafing and boredom by increasing a sense of justice among employees.

Keywords: Cyberloafing, Employees working at Software Houses, IT Professionals, Job Boredom, Perceived Justice

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Introduction

Smart devices have become an indispensable part of modern work life as they enable individuals to complete their tasks quickly and with relative ease. However, these gadgets have also provided them with opportunities to indulge in cyberloafing (CL) which can damage their productivity. In the past two decades, CL has emerged as a topic of noteworthy attention within organizational settings (Cheng et al., 2018; She & Li, 2023; Tandon et al., 2022; Zhong et al., 2021). According to Lim (2002, p. 677), CL is "any voluntary act of employees using their employers' internet access during office hours to surf non-job-related websites for personal purposes and to check personal e-mails." For instance, 52% of employees read their e-mails during work hours (Dixon, 2022). Similarly, a 2021 survey showed that 47% of American respondents used their employer-issued devices to check and respond to personal e-mails. Likewise, 27% of respondents from France used their employer-issued device for playing games (Petrosyan, 2023). It is also believed that CL has several detrimental organizational effects (Wu et al., 2020). Estimates suggest that employees' everyday CL-related activities for about two hours can cost businesses nearly $85 billion annually (Andel et al., 2019).

Furthermore, the theory of affective events asserts that emotions tend to affect or rather change the CL intent (Hu et al., 2023). This means that emotions influence people's

behaviour and employees can use CL to overcome their loneliness at work. Sonnentag et al. (2018) also showed a link between CL and unpleasant emotions and psychological stress.

Organizations and academics are gravely concerned about the effects of employees' CL employees on organizational productivity (Alharthi et al., 2019; Askew & Buckner, 2017). The literature argues that the incidence and severity of CL at work are consistent with the emotions of employees (Khansa et al., 2018). Canova and Nicolini (2019) found that the largest volume of online activity, especially purchasing happens on Mondays, hence terming it as Monday Blues; when workers are often depressed and seek solace online. Likewise, another study highlights that Mondays and Tuesdays were the most common days for non-work-related smartphone use (Jeong et al., 2020). Results further indicate that workers seemed more inclined to cyberloaf at the beginning of the workweek. Similarly, another study considered CL unproductive as it departs from organizational norms and can cost the company money (Rana et al., 2019). However, a study showed that CL was more like a coping mechanism that employees used when experiencing job boredom (JB) (van Hooff & van Hooft, 2016).

Mael and Jex (2015) argued that though JB is an undeniably work-life experience, it failed to get much attention previously. On one hand, it is linked with increased stress and turnover intentions while on the other it is considered associated with decreased well-being and task performance (Cummings et al., 2016). While shedding light on its antecedents, Krasniqi et al. (2019, p. 129) reported an absence of stimulation at work, which can create decreased arousal and dissatisfaction, eventually leading to boredom. Moreover, workplace characteristics like monotony are also considered a correlating factor of JB (Loukidou et al., 2009). Typically, it is regarded as a form of affective strain that involves compromised subjective well-being due to constant work demands as

employees start to question the purpose of their work (van Hooff & van Hooft, 2016). Bored employees are viewed as being disadvantageous to the company (Seçkin, 2018). However, it is noteworthy to understand the effects of JB as it manifests itself either through low arousal (depicted through low mood and discontentment) or high arousal (exhibited by anger and frustration) (van Hooft & van Hooff, 2018). Research highlights that to avoid workplace monotonous activities, employees start engaging in non-work-related technology-based activities (Velasco & Jorda, 2020). Another construct associated with CL and JB is perceived justice (PJ), which is based on personal impressions of fairness that employees perceive while engaging with their employers (Hameed et al., 2019). This means that PJ includes the assessment of employees regarding how equally their employer treats them (Farndale et al., 2022; Oubrich et al., 2021; Rahman & Karim, 2022; Unterhitzenberger & Moeller, 2021). Studies also indicate that PJ in organizational settings mainly can be divided into three perspectives namely procedural justice, distributive justice, and interactional justice (Matteson et al., 2021; Shimamura et al., 2021).

Studies indicate that when the evaluations by superiors at work are considered fair, employees experience PJ (Fein et al., 2023; Le & Pan, 2021). It also involves interpersonal dynamics at work that give employees hope that they will be treated properly. According to the equity theory (Admas, 1965) and social exchange theory (Cropanzano & Mitchell, 2005), employees have an innate sense of justice that leads them to take action for the advancement of justice and/or correct injustice. Along these lines, an employee who feels being treated unjustly will try to reinstate justice by CL (Lim, 2002). However, justice often demonstrates a rather mild effect on CL just like job satisfaction despite its popularity and solid theoretical underpinnings (Raza et al., 2020).

Based on the above empirical observations, this study decided to explore the (a)

interrelatedness of JB, PJ and CL, (b) the potential mediation between JB and CL through PJ and (c) gender-based differences across the study variables.

Literature Review

Andel et al. (2019) argued that when employees feel boredom, they seek out ways to manage it by deliberately indulging in activities that provide them pleasure and excitement at work. Even if it is harmful to the company, they would still opt to engage in CL (Andel et al., 2021). Therefore, CL works more like a facilitator for antsy employees to overcome their JB, which renews their sense of purpose (Baratta, 2019; Pindek et al., 2018). This is why employees experiencing JB or having nothing to do may start browsing the internet. A study indicated an affirmative association between JB and socially negative acts intended to ruin other people's reputes or accomplishments (Bauer & Spector, 2015). Similarly, Spanouli et al. (2023) reported that JB is significantly linked with counterproductive workplace behaviour. Likewise, another study highlighted that employee CL and JB were found to be positively correlated (Ohana et al., 2023). Moreover, a recent meta-analysis demonstrated a substantial link between CL and low workload (Giordano & Mercado, 2023).

In contrast to the relational dynamics between JB and CL, Youssef (2018) observed a negative link between CL and PJ. Similarly, another study showed that organizational justice (OJ) had a negative impact on CL (Dede & Rinnanik, 2020). Likewise, OJ was found to influence CL (Rahaei & Salehzadeh, 2020). Moreover, Oosthuizen et al. (2018) reported that while OJ was positively linked with organizational trust and work engagement, however, both organizational trust and work engagement decreased CL. Studies have also indicated that an increase in OJ decreases work stress (Virtanen & Elovainio, 2018). Nugraha and WayanMujiati (2020) have also discovered similar findings as OJ was found to be affecting both job commitment and satisfaction. Similarly, chances are rife that the employees may show lesser job commitment and more turnover intentions in case they feel been treated unfairly (Sabokro et al., 2020).

Theoretical Framework

Our study was contextualized on the social exchange theory, initially proposed by Homans (1961) and further developed by Blau (1964) and Emerson (1976) who postulated that individuals purposefully behave with others in ways that will increase benefits and decrease the potential risks. In the same manner, the employees who found their work routines monotonous, perceive the situation as inherently partial and retort to it with more wary actions (Spector et al., 2006). Justice is perceived as a contribution from the supervisors and hence employees will respond keeping the exchange liaison in mind (Cohen-Charash & Spector, 2001). As established already, OJ affects CL behaviour in employees, therefore, when they perceive being treated with partiality, their social exchange relationship will become weak and the probability of lashing out online will increase (Lim, 2002; Jamaluddin et al., 2015).

Rationale

While the research scholarship suggested interrelatedness between the study variables, a research gap exists concerning the mediating role of PJ between JB and CL. This is why this research inquiry set out to test the potential dynamic within the Pakistani context and especially in a sample of employees working in software houses as internet accessibility is readily available at their disposal. Due to their nature of work, the possibility of engaging in non-work-related internet surfing seemed much higher than other professionals, Therefore, it would be interesting to explore this sample in our study.

Hypotheses

The following hypotheses were assessed in the current inquiry:

- Job boredom would be positively linked with cyberloafing while perceived justice

would be negatively associated with cyberloafing in employees.

- Perceived justice would likely mediate between job boredom and cyberloafing in employees.
- Significant gender differences would be found across study variables.

Method

Participants and Procedure

A purposive sample of 213 employees working under software developers with one year of work experience was recruited for this cross-sectional correlational study from various private software houses and organizations. Observing all institutional and APA required ethical considerations, potential participants were approached and the final pool included only those who consented to participate. Throughout the research process, their privacy was maintained through anonymous data coding. All analyses were run on SPSS version 22 and findings were interpreted in the light of available literature.

Instruments

Self-reported Demographics Sheet

All participants reported their age, gender, marital status, and the average number of hours of internet usage for work and for non-work related activities.

Dutch Boredom Scale

The Dutch boredom scale (DUBS) was used to evaluate employee boredom. It was created by Reijseger et al. (2012). The five-point rating scale for this one-dimensional scale used for assessing job behaviour

ranged from 1 (never) to 5 (always). Six items made up this scale, such as "I feel bored at work" and "I tend to do other things during work." The reported α value was .80.

Organizational Justice Scale

PL was assessed through the Organizational Justice Scale (OJS; Niehoff & Moorman, 1993), which comprised 20 items rated across a seven-point Likert format with an α value of .90. Divided into three subscales namely interactional, distributive and procedural forms of justice, the alpha indices for each subscale were .92, .74 and .85 respectively.

Cyberloafing Scale

CL was evaluated by The Cyberloafing Scale (CLS; Blau et al., 2006) that included 16 items (α = .92) rated across a four-point Likert format where 1 = hardly ever (once every few months or less), 2 = rarely (about once a month), 3 = sometimes (at least once a week) and 4 = frequently (at least once/day). It consisted of three subscales labelled as browsing-related, interactive and non-work-related email-based CL, with reported alpha indices of .78, .69 and .91 respectively.

Results

The descriptive analysis of sociodemographic information revealed that the participants had a mean age of 29.65 years (*SD* = 3.92), whereas most of them were men (85%), married (55%), and used the internet for an average of 7.63 hours daily for job-related tasks while 3.23 hours for non-work-related activitie.

Table 1

Correlations and Alpha Indices of Study Variables (N=213)

	Variables	α	1	2	3	4	5	6	7	8	9
1	JB	.86	-	-.11	.22*	-.23*	-.27**	.28**	-.05	.39**	.33**
2	DJ	.73		-	.29**	.20*	.53**	-.06	-.02	-.02	-.05
3	PJ	.75			-	.42**	.73**	-.38**	-.04	-.28**	-.33**
4	IJ	.93				-	.87**	-.12	-.04	-.10	-.12
5	PreJ	.88					-	.24*	-.05	-.17	-.21*
6	Browsing	.55						-	.11	.66**	.83**
7	NEW	.50							-	.24*	.44**
8	Interactive	.81								-	.92**
9	CL	.80									-

Note. *p=<.05; **p=<.01. DJ = Descriptive Justice; PJ = Procedural Justice; IJ = Interactional Justice; PreJ = Perceived Justice; NEW = Non-Work Emails; CL = Cyberloafing.

Table 1 highlights that all research instruments and their respective subscales had acceptable alpha reliability indices. Moreover, the correlation analysis depicted that while CL had a positive association with JB, it related negatively to PJ and its subscales.

Table 2

Perceived Justice Mediating between Job Boredom and Cyberloafing (N=213)

| Variable	B	95% CI	SE	B	R^2	ΔR^2
Step 1					.72	.72**
Constant	8.22	[1.41, 15.01]	3.44			
JB	1.53	[1.34, 1.76]	.124	.33**		
Step 2					.46	.12**
Constant	16.35	[24.82, 7.87]	4.28			
JB	.849	[.54, 1.15]	.154	.27**		
PJ	1.32	[.78, 1.21]	.152	.21**		

Note: **$p< .01$; JB = Job Boredom; PJ = Perceived Justice

For this analysis overall scores of study variables were used as partial mediation appeared only with total scores. Findings in Table 2 revealed a decrease in regression weights from Model 1 to Model 2 (.33 to .27) while remaining significant, indicating a partial mediation. This meant that PJ had both a direct and indirect effect.

Figure 1

Emerged Mediating Model
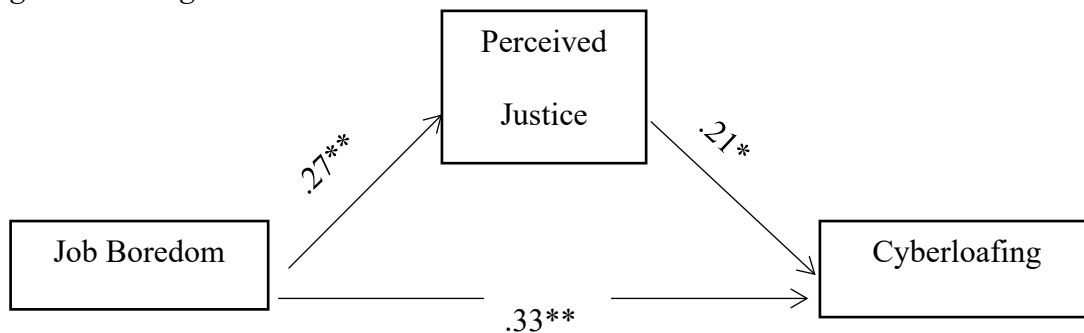
Table 3

Gender Differences Across Study Variables (N=213)

Variables	Men (*n* = 181)		Women (*n* = 32)				95% CI		
	M	*SD*	*M*	*SD*	*t* (213)	*p*	*LL*	*UL*	Cohen's d
JB	2.24	.87	2.43	.80	-1.12	.26	-.53	.14	.22
PJ	98.6	16.4	94.1	14.2	1.44	.15	-1.6	10.6	.29
CL	2.16	.59	2.04	.46	1.12	.26	-.09	.33	.02

Note: *LL* = Lower Limit; *UL* = Upper Limit; *M* = Mean; *SD* = Standard Deviation; *CI*= Confidence Interval; JB = Job Boredom; PJ = Perceived Justice; CL = Cyberloafing

The finding of Table 3 indicates that all study constructs namely JB, PJ and CL did not show any gender differences.

Discussion

Our paper proposed to explore the relational dynamics of JB, PJ and CL in employees working in software houses. First of all, our results linked JB positively with CL, which is what previous studies have also shown while arguing that employees cyberloaf when they are bored (Andel et al., 2021; Chavan et al., 2021; Husna et al., 2020; Pindek et al., 2018; Sampat & Basu, 2017). Moreover, Luqman et al. (2021) observed that employees used social media to interact with coworkers as it made them feel less bored, hence enhancing their bond with colleagues, eventually causing CL. Moreover, those who found CL relaxing and derived pleasure from it were reported to cyberloaf more than others (Simsek & Elciyar, 2021). Moreover, current results also discovered a negative association between PJ and CL. This finding can be corroborated by several other studies which observed a similar relational direction between PJ and CL (Youssef, 2018; Rahaei & Salehzadeh, 2020; Dede & Rinnanik, 2020).

Secondly, our analysis found that PJ partially mediated between JB and CL. Though the literature did not particularly suggest an exact finding, few studies have investigated mediation in a somewhat similar context. Azizah and Setyawati (2019) reported that JB mediated between job underload and CL in employees. Furthermore, another investigation found job stress to mediate between OJ and CL along with the effect of role ambiguity (Megaputri & Suharti, 2022). Therefore, the current finding was a logical culmination of the research literature. Lastly, we did not find significant gender differences across any of the study variables. A look at research scholarship on gender-based disparities also reveals mixed results. Like Hadlington and Parsons (2017) observed no gender differences in CL. Similarly, a meta-analytic study also indicated a lack of gender variances in CL (Tandon et al., 2022). Moreover, Lee and Wetzel (2023) reported zero gender-based differences in JB. In a similar vein, Jepsen

and Rodwell (2007) reported that participants' perceptions of OJ were similar for both men and women. Meanwhile, a meta-analysis discovered minor gender differences in OJ (Altinkurt et al., 2015). Similarly, a few studies also found that CL was more common in men than women students (Metin-Orta & Demirutku, 2022; Saritepeci, 2019). So, while our findings can be justified as per previous studies, it is pertinent to note that evidence also exists for contrary results.

It can be concluded from these findings that both JB and PJ play a crucial role in CL as the chances of employees cyberloaf increase when they get bored but decrease when they view their organizations or supervisors as impartial. However, JB also had a direct and indirect effect on CL as PJ plays the role of a mediator.

Limitations and Suggestions

For the current study, we restricted the sample to employees working in software houses, including those who were working under the second-line managers. It will be interesting to investigate employees from other organizational settings as well as to include a sample of supervisors or managers to further explore whether they experience JB, PJ and CL similarly or if differences do exist.

Also, future studies can engage in longitudinal and experimental methodologies to understand the causal inferences regarding current study variables and will be able to generate data in a new direction. Moreover, constructs of significant value, especially personality and leadership styles can also be involved to explore new research dimensions.

Implications

Given that employees' CL practices are a severe apprehension for businesses; our findings present several imperative implications. As our findings shed light on the significance of CL and its relatedness with JB and PJ, the human resource department (HR) and organizational counsellors can be engaged to work with employees so that these issues can be addressed timely. Also, the literature and

our research outcomes showed that CL occurs when employees are exacerbated by a company's unfair treatment. Therefore, firms need to listen to the grievances of employees and encourage impartiality at the workplace to lessen CL and increase PJ. In this regard, objective and equitable policies must be put in place that can devise a system for workload, working hours, pay scale, incentives and opportunities to reach superior ranks. Also, corporations can proactively take steps to control CL and must review and revise them after some time if needed.

Contribution of Authors
Faiz Younas: Methodology, Writing - Reviewing & Editing, Supervision
Maryam Abbas: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing – Original Draft
Shazia Qayyum: Methodology, Writing - Reviewing & Editing

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There is no conflict of interest declared by the authors.

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Data Availability Statement
The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [S.Q.] upon the reasonable request.

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