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Empirical analysis of job design and social cyberloafing via moral disengagement and work boredom

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Orientation: In this article, the role of workplace boredom and moral disengagement was investigated as mediating variables between the job characteristics model and social cyberloafing.

Research purpose: Identifying the causes of social cyberloafing will help to understand this counterproductive behaviour and guide employers to develop policies which increase productivity and Internet utilisation.

Motivation for the study: Limited study exists on the role of Job Design and Social Cyberloafing particularly with the mediating role of moral disengagement and boredom. this study aims to identify how morals and feelings intervene with the way jobs are designed and their counterproductive outcomes.

Research approach/design and method: This study provides one-of-a-kind, in-depth, deconstructed approach to the job characteristics model with 368 samples taken from various industries. Overall, the results of the three-wave data provide strong evidence for the hypothesised relationships.

Main findings: This research suggests that lack of skill variety, task identity and task significance affect moral disengagement, workplace boredom and subsequently social cyberloafing.

Practical/managerial implications: Managers should pay attention to this problem and prioritise job design, particularly focusing on defining tasks and key performance indicators. Investing in job design yields substantial benefits by fostering a competitive advantage through the cultivation of a diligent, cooperative and loyal workforce. It also plays a crucial role in mitigating employee boredom and moral disengagement, which are significant drivers of social cyberloafing.

Contribution/value-add: Various research has highlighted the impact of job design on various outcomes and behaviours. However, most research has not focused on emotion regulation mechanisms incorporating feelings and their relationship between work-individual behaviours. Therefore, this study aims to achieve that in a Pakistani environment.

Keywords: job characteristics model; moral disengagement; workplace boredom; social cyberloafing.

Introduction

In 21st-century workplaces, the Internet is a core working tool for companies. The Internet facilitates information sharing, communication and enhances performance. However, this open-access resource also has its downside, where the employees may involve in behaviours which are not work-related, such as browsing websites, checking entertainment-related websites and visiting social media sites or shopping online. A more specific term where the employee visits social media sites is known as social cyberloafing. Thus, it is important to gauge the causes and underlying variables affecting social cyberloafing behaviours. It is critical to understand this problem and propose a solution to balance employee needs and performance (Aghaz & Sheikh, 2016; Mashal, 2020).

Researchers now use the term social cyberloafing when employees waste their time on smartphones using social media sites and spending work time on social media platforms (Mashal, 2020). These social media sites have penetrated the workplace through smartphones, tablets and even computers. Identifying the causes of social cyberloafing will help understand this counterproductive behaviour and guide employers to develop policies which increase productivity and Internet utilisation.

Previous researchers focused on surveillance mechanisms, such as Internet-based camera systems and clear policies in reducing cyberloafing. Nevertheless, it was identified that such formal surveillance mechanisms and punishment developed to discourage cyberloafing instead increases the same behaviour (Koay, 2018).

However, a few researchers (Oosthuizen et al., 2018; Usman et al., 2021) have focused on intrinsic motives or factors to counter social cyberloafing. In recent times, a particular type of counterproductive work behaviour known as social cyberloafing has attracted the attention of various scholars and practitioners. In view of the universality of social cyberloafing and its downside for organisational efficiency, it has become of vital importance for managers to explore its precursors. Urgent attention is required for social cyberloafing's impact on workplace dynamics because of its occurrence in technological environments. However, the existing research on this topic is limited. To date, many individual and organisational antecedents have been identified for cyberloafing, which commonly include personality traits, job characteristics, boredom, loneliness, burnout, perceived over qualification, hindrance stressors, job demands, perceived justice, coworkers' cyberloafing and role stressors (Aghaz & Sheikh, 2016; Hu et al., 2023; Lim & Teo, 2024).

However, only few studies have been conducted on social cyberloafing and its antecedents. These studies examined social cyberloafing through the lens of interpersonal relationships or focused on demographics, personality and related policies (Andreassen et al., 2014).

Drawing on the theoretical underpinnings of Hackman and Oldham (1976, 1980), this research is focused on identifying the meaningful work which comes from job design and how it influences social cyberloafing. Hackman and Oldham based their job characteristics model (JCM) on the intrinsic motivation theory of Herzberg. Job characteristics model involves five factors related to job design. According to the model, job design work refers to work which has significance, identity, variety, autonomy and feedback. The work which is important, serves greater good and also has a purpose can discourage employees' engagement in social cyberloafing (Usman et al., 2021). Furthermore, if an individual does not find meaningfulness in the job, then he or she can be morally disengaged or can be bored which may lead to his or her involvement in social cyberloafing. Perceptions of meaningful work can reduce employees involving in dysfunctional and deviant behaviours like cyberloafing (Allan et al., 2019; Usman et al., 2021). Few studies have been conducted on work demands, workplace boredom and cyberloafing (Andreassen et al., 2014; Metin et al., 2016; Pindek et al. 2018), while others have found a positive relationship between cyberloafing and emotional well-being (Lim & Chen, 2012). Other studies have also focused their attention on job involvement, intrinsic motivation and cyberloafing (Liberman et al., 2011), but rarely studies have focused on the term social cyberloafing, and therefore this research is a step towards filling that gap. Cyberloafing refers to employees' intentional use of the Internet for personal, non-work purposes during work hours, such as browsing unrelated websites, checking social media or sending personal emails, often while appearing to work (Akbulut et al., 2017; Ülbeği, n.d.), while social cyberloafing is a specific form of cyberloafing that involves engaging in online social interactions – such as using social media platforms or chatting – during work hours. While it can facilitate psychological detachment from work, it may also contribute to increased fatigue among employees (Wu et al., 2020). Cyberloafing broadly covers non-work Internet use on the job, while social cyberloafing zooms in on online social activities.

Intrinsic motives, which also include job design such as meaningful work, autonomy, commitment and feedback, can reduce social cyberloafing. The Job Characteristics Model (Hackman & Oldham, 1976, 1980) includes five factors: meaningful work (task significance, skill variety and task identity), autonomy and overall feedback. This study proposes that JCM is an important intrinsic motive which reduces social cyberloafing.

The JCM argues that low levels of autonomy, skill variety, task identity, task significance and feedback reduce the critical psychological states of meaningfulness, responsibility and knowledge of results (Hackman & Oldham, 1976). When jobs are simplified and under-stimulating on these dimensions, employees are more likely to feel underloaded and bored. Empirical work links lack of autonomy and low skill variety with higher job boredom, framing boredom as a negative, deactivating state arising from unmet needs for stimulation and agency at work (Van Hooff & Van Hooft, 2017).

Boredom motivates people to seek stimulation and relief; in modern workplaces, an easy, low-cost outlet is brief personal Internet use. Multiple studies find that boredom predicts cyberloafing and that employees often use online activity as a coping response to boredom. This literature explicitly models boredom and cyberloafing as an adaptive, quick 'micro-break' mechanism (Van Hooff & Van Hooft, 2017).

Research shows that social cyberloafing can function as a recovery experience that provides psychological detachment from work demands (a short mental break), even while it can also carry costs (e.g. fatigue). Thus, when boredom arises from impoverished job design, employees may preferentially turn to *social* online interactions because they deliver quick novelty and relatedness – two antidotes to a deactivated, understimulated state – without leaving the desk. Empirical studies document social cyberloafing's dual effects on detachment (benefit) and fatigue (cost), consistent with its use as a brief coping outlet (Wu et al., 2020).

Therefore, this study proposes workplace boredom as a mediating variable. Employees involve in cyberloafing as a coping mechanism to reduce workplace boredom. Unethical behaviour poses a serious threat to organisations, their

stakeholders and the overall society (Ashforth et al., 2008). While such behaviour may arise from malicious intent or a lack of moral integrity, recent views on unethical practices in corporate environments highlight numerous factors that prevent managers from acting ethically in their daily tasks (Bazerman & Gino, 2012). It is now understood that both individual and situational factors contribute to these behaviours (Moore & Gino, 2013). However, there is still limited knowledge and evidence about which individual differences are most significant, and how the situational and individual factors interact. Building upon Bandura's theory of social cognition (Bandura, 1999), it is proposed that unethical behaviour is more likely when employees disengage from moral behaviour. Moral disengagement involves self-regulatory mechanisms that allow individuals to commit unethical acts without experiencing guilt (Bandura, 1999). Although initially conceptualised as a state, research now indicates that individual differences in moral disengagement influence how moral intentions are translated into moral actions. Moral disengagement acts as a catalyst between authenticity and unethical employee behaviour (Jennings et al., 2015; Knoll et al., 2016; Martin et al., 2014; Moore et al., 2012). There is a call to research for identifying the gaps between job design and social cyberloafing. This research also aims to provide an insight into the mechanism between job design and social cyberloafing and identify the role of workplace boredom and moral disengagement as mediators.

Literature review

Job design, workplace boredom and social cyberloafing

This study uses the JCM (Hackman & Oldham, 1976, 1980) to explain the job design of employees. It was proposed by Hackman and Oldham (1980) to assess job design using five dimensions of a job, which include meaningful work (skill variety, task significance and task identity), autonomy and overall feedback. Job design theory influences personal and job-related outcomes (Coşkun, 2012). Skill variety, task identity and task significance give meaningfulness at work; autonomy gives responsibility and power at the job, while feedback gives knowledge to employees about their own work (Coşkun, 2012).

Researchers (Coşkun, 2012; Steger et al., 2012; Usman et al., 2021) have paid attention to monotonous work and job design related to boredom. Work demands, which include physical or mental repetition, perceptual discrimination or continuous work in a laboratory setting, have been linked to a reduction in performance. Subjective factors such as perception of monotony, skill level and challenges in tasks have led to experiencing boredom (Coşkun, 2012; Hackman & Oldham, 1980).

Literature on organisational psychology widely investigates workplace characteristics to explain employees' workplace perceptions and behaviours. Researchers have brought forward several determinants of cyberloafing (Andreassen et al., 2014; Hu et al., 2015; Kim & Jeong, 2015; Sheikh et al., 2019; Zoghbi-Manrique-de-Lara, 2012). This study uses JCM to explain the job design (Hackman & Oldham, 1980). Meaningful work along with workplace spirituality, corporate social responsibility and employee engagement were found as key determining factors for cyberloafing (Usman et al., 2021).

The JCM suggests that meaningful work reduces absenteeism and turnover. The literature also indicated that meaningful work is negatively related to employee's destructive behaviours such as cyberloafing (Hackman & Oldham, 1980; Michaelson et al., 2014; Steger et al., 2012).

Grant's (2008) relational job design framework emphasises that when employees perceive their work as meaningful and valuable, they are motivated to invest their energy and effort. The study showed that when work is perceived as valuable, it discourages negative attitudes and behaviours, thereby leading to positive outcomes. This perspective suggests that employees who are motivated by contributing to a greater good through their work are less likely to be involved in behaviours like cyberloafing (Usman et al., 2021).

Research (Steger et al., 2012; Usman et al., 2021) consistently demonstrates that meaningful work positively influences affective commitment, work motivation, job satisfaction, engagement and employee well-being, consequently reducing occurrences of social cyberloafing.

To summarise, according to the stressor–emotion model, employees who perceive their jobs unfavourably may experience negative emotions, which can lead to deviant behaviours (Eds. Fox & Spector, 2005). The stressor–emotion model is a framework from occupational stress research that explains how workplace stressors lead to counterproductive work behaviours through the emotional reactions they trigger. The model proposed by Fox & Spector (2005) suggests that when employees face stressors – such as interpersonal conflict, organisational constraints, role ambiguity or low job design (in our case) – these experiences evoke negative emotions (e.g. anger, frustration, anxiety or boredom). These emotions then motivate behavioural responses aimed at coping or retaliation, which may include counterproductive behaviours like withdrawal, aggression, reduced effort, cyberloafing or social cyberloafing.

Studies on deviant behaviours suggest that deviant behaviour is influenced by individual differences other than external situational factors (Eschleman et al., 2015). While the JCM includes an individual difference, namely growth need, research findings on the growth need have been inconclusive (Oldham & Fried, 2016) and therefore require further exploration on individual differences (Arkan & Acar, 2020).

Experiencing a sense of meaningfulness at work is linked with positive emotions such as pride, joy and excitement. Conversely, perceiving a lack of meaningfulness is linked with feelings of monotony, boredom and limited

opportunities for development, which evoke negative emotions like frustration, disappointment, distress and anger. These negative emotions trigger organisational deviance. Therefore, it is hypothesised that the negative emotions stemming from low meaningfulness (task identity, task variety and task significance) in the job will activate organisational deviance (Arkan & Acar, 2020; Eds. Fox & Spector, 2005), such as social cyberloafing. Although most researches have used the term 'cyberloafing' to explain the employee's engagement in Internet activities not related to work using office resources, this research, however, has used the term 'social cyberloafing'. In recent years, smartphones and social media platforms such as Facebook, Instagram, Twitter, Myspace, Snapchat, WhatsApp, Weibo and WeChat have penetrated the workplace, enabling employees to use them during their office hours. Therefore, this abuse of mobile resources to connect socially within their network has now gained much attention in the workplace but not by academic researchers. Social networking is everywhere now. This universality is a critical reason for studying social cyberloafing. Social cyberloafing is defined as 'employees' voluntary use of personal or organisational Internet resources at the workplace to use social media platforms unrelated to work' (Wu et al., 2020).

When employees perceive a lack of autonomy in their jobs, they may feel a loss of control over their work situation, they are dependent on others, and therefore they feel insignificant, stressed and frustrated. Existing literature (Arkan & Acar, 2020) indicates that autonomy predicts in-role performance and absenteeism. Moreover, literature on aggression suggests that the desire to regain a sense of control leads to aggression and vandalism. However, studies examining the relationship between autonomy and deviance are inconclusive, and therefore it is anticipated that the stress and frustration resulting from low job autonomy will create organisational deviant behaviours (Arkan & Acar, 2020; Eds. Fox & Spector, 2005), such as social cyberloafing.

A job design without feedback deprives employees of the necessary information to learn, improve, develop skills and establish goals. This absence of feedback is expected to generate negative feelings such as frustration, distress and anger, which can lead to organisational deviance (Arkan & Acar, 2020; Eds. Fox & Spector, 2005) such as social cyberloafing.

Boredom and social cyberloafing have become an important topic because of its counterproductive consequences such as high costs and deviation from organisational norms. Boredom among employees is detrimental, as it impacts the overall work as well as the well-being of the employee, while social cyberloafing serves as a coping mechanism for managing boredom, work underload, habit and workplace ostracism (Huma et al., 2017; Koay, 2018; Pindek et al., 2018; Usman et al., 2021).

Employees divert their attention from work to personal tasks when they are involved in social cyberloafing. Indulging in entertaining social websites acts as a coping mechanism from boredom. Game (2007) categorised such employees into two types: engagement coping and disengagement coping. Engagement coping involves trying to make work more interesting, while disengagement coping means involving in behaviours that avoid the task at hand. When employees feel bored at work, and they get involved in social cyberloafing, they are indulging in a form of disengagement coping behaviour as a form of relief strategy. This is a less harmful behaviour than other forms of counterproductive behaviours. Social cyberloafing arises from self-reactive incentive to reduce boredom while at work. At times, the use of personal communication technology can impact positive emotions among employees (Pindek et al., 2018).

When employees find certain work tasks as dull, they occasionally distance themselves from work and engage in technological activities. These arise from experiencing emotional anxiety caused by boredom and fatigue. There is a direct relationship between workplace boredom and cyberloafing, especially social cyberloafing. Boredom can result in both low and high arousal outcomes. Low arousal outcomes include depression, anxiety and dissatisfaction, while high arousal outcomes include frustration and aggression. Research has found out that boredom leads to various counterproductive organisational behaviour. Employees seek ways to cope with boredom by finding stimulation or creating interest in their work-related tasks. Few of them choose to indulge in cyberloafing even if it is detrimental to the organisation they work for (Andel et al., 2022; Van Hoof & Van Hooft, 2017). The terms cyberloafing and social cyberloafing have been used interchangeably here, as the times have changed and employees have frequent and quick access to their social media accounts through their smartphones. This accessibility has created less differentiation between cyberloafing in general and social cyberloafing in particular.

Employees try to restore their sense of meaning in work through engaging in social cyberloafing like they would browse Internet during work hours to reduce boredom. Few researches identified a direct relationship between boredom and counterproductive work behaviours. They demonstrated that cyberloafing is an effective way to deal with workplace boredom (Bauer & Spector, 2015; Ohana et al., 2024; Pindek et al., 2018; Van Tilburg & Igou, 2017).

Job design, moral disengagement and social cyberloafing

Social cognitive theory postulated that individuals typically possess an internal moral self-regulation wherein their behaviours are evaluated based on moral standards (Bandura, 1999). When this self-regulatory mechanism functions effectively, aggressive behaviours are restrained because actions contrary to moral standards will evoke guilt. Unethical behaviours arise only when the self-regulatory mechanism functions ineffectively. In other words, individuals engage in immoral behaviours when they rationalise unethical actions

through mechanisms of moral disengagement. Moral disengagement explains why individuals engage in aggressive acts, including organisational deviance, unethical decision-making, violence and corruption (Valle et al., 2019).

Studies have indicated that moral disengagement is influenced by various individual and contextual factors, such as job insecurity, organisational injustice, locus of control, abusive supervision, trait cynicism, victimisation and organisational identification (Chen et al., 2015; Huang et al., 2017; Valle et al., 2019; Zhang et al., 2020).

Employees who find their work meaningful are emotionally committed and often go beyond the expected requirements. Various individual factors, including moral values, moral identity and moral awareness, can impact the association between meaningful work and social cyberloafing (Usman et al., 2021).

Moral disengagement refers to cognitive processes that enable individuals to separate themselves from their internal moral principles, allowing them to act unethically without any guilt. This concept explains the ways individuals rationalise their actions and engage in immoral behaviour (Newman et al., 2020; Ohana et al., 2024).

Individuals do not feel remorse or guilt when they engage in deviant behaviours such as social cyberloafing because their self-regulatory moral processes are suppressed activating moral disengagement leading to unethical conduct (Zheng et al., 2019). Deviant behaviours include theft, verbal aggression, physical aggression, absenteeism, withdrawal of work, substance abuse, destroying organisational property, politicking and social cyberloafing. Before getting involved in such unethical conduct, employees disengage themselves morally and disregard the moral standards and policies created by the society or organisation. Literature has evidence that moral disengagement increases deviant workplace behaviours (Zheng et al., 2019).

Moral disengagement mediates the relationship between negative emotions (because of stressors) on workplace deviant behaviour. Therefore, moral disengagement is considered a key mechanism in understanding deviance and unethical behaviour at workplace (Zheng et al., 2019).

Moral disengagement enhances social cyberloafing by disabling individuals' moral self-regulatory functions, leading them to engage in deviant behaviours such as cyberloafing without feeling guilt or remorse. Research has shown that individuals who experience moral disengagement are more prone to deviant behaviours (Huang et al., 2017). Lee et al. (2016) reported that morally disengaged individuals engage in unethical behaviour. Also, it has been indicated that justification, a mechanism of moral disengagement, is a positive predictor of cyberloafing (Zhang et al., 2020).

Employees use justifications to engage in deviant behaviours while disengaging from morals. Employees with moral disengagement are inclined to behave in a way that contradicts moral standards. Moral disengagement leads to harmful behaviours, such as bullying, aggression, workplace deviance and unethical actions (Huang et al., 2017; Kokkinos et al., 2016; Ogunfowora et al., 2021). Also, morally disengaged employees use Internet and email for non-work–related reasons during working hours (Ohana et al., 2024) (Figure 1).

Hypotheses

The hypotheses were as follows:

H1: Job design has a significant relationship with moral disengagement.

H2: Job design has a significant relationship with social cyberloafing.

H3: Job design has a significant relationship with workplace boredom.

H4: Moral disengagement has a significant relationship with social cyberloafing.

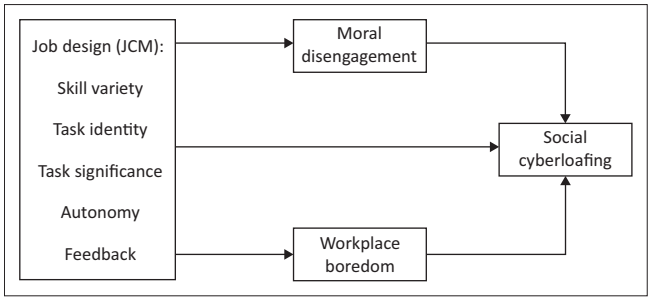
H5: Workplace boredom has a significant relationship with social cyberloafing.

H6: Moral disengagement mediates the negative relationship between job design and social cyberloafing.

H7: Workplace boredom mediates the negative relationship between job design and social cyberloafing.

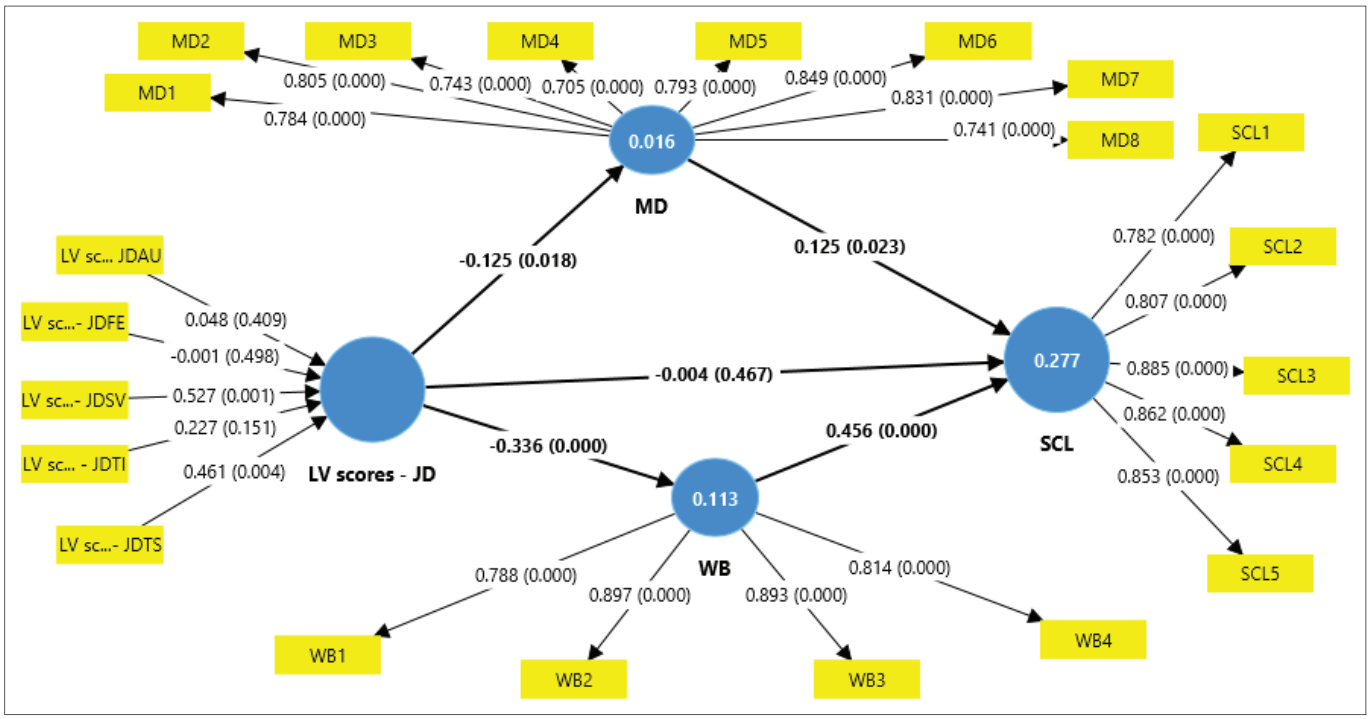
Materials and methods

This study has been based on the positivist philosophy and positivist paradigm, in which reality is objective, measurable and quantifiable, whereby hypotheses have been tested and results are extracted. The present research studied the hypotheses in different industries in Pakistan. The data from the employees of different employees in different sectors were collected through a survey questionnaire. The responses were kept anonymous, and confidentiality was maintained for their identity. A cover letter was also attached to authenticate for the same. The title and variables were also mentioned in the cover letter along with the statement for ethics and confidentiality.



JCM, job characteristics model.

FIGURE 1: Conceptual framework.



MD, moral disengagement; WB, workplace boredom; SCL, social cyberloafing; JDSV, job design skill variety; JDAU, job design autonomy; JDFE, job design feedback; JDTS, job design task significance.

FIGURE 2: Structural model graphical representation.

Sampling design and process

The sample size was determined using G*Power software. The sample size for the mediation model was followed as per Memon et al. (2021). G*Power showed that a sample size of 119 was required to run 5 predictors for direct relationships, while Cohen (2016) suggests using a sample size of 205 with 5 predictors (JCM has 5 characteristics treated separately in the analysis) and 99% confidence interval and minimum 10% R-square. Therefore, the data were collected from 400 respondents to be on the safe side. It was collected through non-probability–based sampling technique, which is convenience. The data were collected in three waves. In time1 (T1), data for independent variable, that is, JCM, were collected, while in time2 (T2), data were collected on both mediators, that is, workplace boredom (WB) and moral disengagement (MD). In time 3 (T3), the data on the dependent variable, which was social cyberloafing (SCL), were collected. This process was carried out to ensure process reliability and reduce common method biasness during the data collection. Each response was coded with their respective participant number. The data were carried out on a span of 1 month with a lag of few days in between each wave. The data were collected via hard-copy questionnaire through face-to-face interaction. The data on 368 questionnaires were collected from different industries; thus, the response rate was 92%. Structural equation modelling (SEM) was applied in Smart partial least squares (PLS) version 4 to get the results for the study.

Measures

The data were collected on standardised scales, and the measures were adapted.

Job design

The scale of JCM was used to measure job design, which was adopted from the Job Diagnostic Survey (JDS) (Arkan & Acar, 2020), with five sub-variables, namely skill variety, task identity, task significance, autonomy and feedback. Each sub-variable has 3 items, and a total of 15 items were asked. The Cronbach's alpha was 0.899. All the items were asked in English and used a seven-point agreement Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Moral disengagement

Moral disengagement was measured using eight items (Moore et al., 2012). The Cronbach's alpha was 0.899. Moral disengagement is a response towards the organisation because of anger and frustration.

Social cyberloafing

The five-item scale for social cyberloafing was adapted from Andreassen et al. (2014). The five items were 'I cannot resist using social media to follow current events during working hours'; 'I would use social media to follow the current situation and update my family members or friends during working hours'; 'I would use social media to post pictures, videos, and comments during working hours'; 'I would use social media to chat with my family members or friends during working hours' and 'I would "like" or comment on content that my family members or friends post on social media during working hours'. The Cronbach's alpha was 0.840.

Workplace boredom

Boredom was measured using 4 items adopted from Pindek et al. (2018). Sample items included 'At work, time goes by very slowly'. The Cronbach's alpha was 0.92.

Control variable

The model was controlled for gender, age, education, work experience and industry. However, the results showed that age had a significant correlation with social cyberloafing, moral disengagement, workplace boredom and skill variety; education with social cyberloafing and autonomy; work experience with workplace boredom and skill variety and social cyberloafing; and industry with all the variables except moral disengagement and workplace boredom. However, these were not part of the model, so these were not integrated in the model and were removed in the measurement model and structural model analyses in SmartPLS for reasons of parsimony.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Shaheed Zulfikar Ali Bhutto Institute of Science and Technology University Ethical Review Board (No. IERB [20]/SZABIST-KHI[MS]/250021).

Results

The results were analysed using SPSS 27 Version and SmartPLS 4 Version 4.1.0.4. The data were first entered manually, as all the questionnaires were in hard copies. Afterwards, the data were filtered and cleaned for missing values and outliers. Then, the demographics were analysed. Table 1 shows the demographics of the respondents. Data of employees from 11 different industries were collected, as shown in the table. The identity of the respondents was kept anonymous and confidential. They all agreed to participate out of their own choice and free will. Afterwards, descriptive statistics, kurtosis and skewness using Mardia's Univariate Analysis were calculated along with full collinearity diagnostics.

Table 2 shows the items used in this study, their reliability using McDonald's omega test, mean, standard deviations and correlations.

The data were collected in three waves, but still, in order to reduce the single source bias, full collinearity diagnostics were carried out (Kock & Lynn, 2012). In this technique, latent variable scores are used with random numbers in SPSS file. The regression analysis is carried out, and collinearity is tested via the regression statistics. The results revealed that there was no collinearity problem in the data, as shown in Table 3. Hence, it was taken for further analysis.

In order to check for the normality in the data, Mardia's multivariate skewness and kurtosis were calculated. The threshold is less than or equal to +3 and −3, while the threshold for Mardia's multivariate kurtosis is less than or equal to +20 and −20. The values for multivariate skewness were more than 3, and the values for multivariate kurtosis were more than 20. The percentile-corrected method is used if the kurtosis is more than 20 but less than 100; if the multivariate kurtosis is more than 100, as in this case (Table 4), then the data are not normal; hence, bias-corrected method

TABLE 1: Participant demographics (N = 368).

Variables	Categories	*n*	%
Gender	Male	281	76.4
	Female	87	23.6
Age (years)	< 21	9	2.4
	21–30	228	62.0
	31–40	104	28.3
	41–50	15	4.1
	> 50	12	3.3
Education	Matriculation or O levels	3	0.8
	Intermediate or A levels	20	5.4
	Undergraduate	107	29.1
	Graduate	222	60.3
	Doctorate	16	4.3
Work experience (years)	< 5	158	42.9
	5–10	108	29.3
	10–15	65	17.7
	15–20	14	3.8
	> 20	23	6.3
Industry	FMCG	62	16.8
	IT	34	9.2
	Oil and gas	24	6.5
	Real estate	18	4.9
	Banking and financial services	63	17.1
	Academia	25	6.8
	Pharma	25	6.8
	Textile	9	2.4
	Courier or logistics	24	6.5
	Aviation	7	1.9
	Construction	77	20.9

FMCG, Fast-moving Consumer Goods; IT, Information Technology.

TABLE 2: Descriptive analysis (N = 368).

Serial No.	Variables	Items	OMEGA	Mean	SD	1	2	3	4	5	6	7	8
1	SV	3	0.711	5.5770	1.02384	-	-	-	-	-	-	-	-
2	TI	3	0.680	5.5553	0.98826	0.530**	-	-	-	-	-	-	-
3	TS	3	0.691	5.5562	1.04451	0.393**	0.390**	-	-	-	-	-	-
4	AU	3	0.728	5.4411	1.06531	0.527**	0.615**	0.432**	-	-	-	-	-
5	FE	3	0.766	5.4266	1.13835	0.542**	0.590**	0.384**	0.557**	-	-	-	-
6	MD	8	0.907	2.9059	1.47181	-0.061	-0.140**	-0.133*	-0.053	-0.036	-	-	-
7	WB	4	0.871	3.3859	1.57062	-0.276**	-0.212**	-0.236**	-0.200**	-0.211**	0.456**	-	-
8	SCL	5	0.892	3.7103	1.64749	-0.130*	-0.105*	-0.102*	-0.111*	-0.094	0.327**	0.508**	-

SV, skill variety; TI, task identity; TS, task significance; AU, autonomy; FE, feedback; MD, moral disengagement; WB, workplace boredom; SCL, social cyberloafing; SD, standard deviation.
**, < 0.01 Significance Level; *, < 0.05 Significance Level.

was used while running structural equation modelling using bootstrapping.

This was the preliminary data analysis in SPSS27, after which the data were then carried to SmartPLS software for measurement model (convergent and discriminant validities) and structural model (hypotheses testing). Partial least squares algorithm was used in PLS-SEM first to test the measurement model. In the measurement model, convergent and discriminant validities were calculated. For testing the convergent validity, cross-loadings, composite reliability (CR)-rho_a, composite reliability (CR)-rho_c, alpha and average variance extracted (AVE) were assessed. The threshold for the cross-loadings is (≥ 0.70); construct reliability represented by Cronbach's alpha must be ≥ 0.5; AVE (≥ 0.500); CR (≥ 0.70) (Hair et al., 2020). Table 5 shows the values of validity and reliability of the variables, and they were within range.

TABLE 3: Full collinearity test.

SV	TI	TS	AU	FE	MD	WB	SCL
1.729	1.934	1.365	1.904	1.838	1.325	1.707	1.388

Note: Variance Inflation Factor < 3 is significant.

SV, skill variety; TI, task identity; TS, task significance; AU, autonomy; FE, feedback; MD, moral disengagement; WB, workplace boredom; SCL, social cyberloafing.

Next, to assess discriminant validity, heterotrait–monotrait (HTMT) ratio was used (Franke & Sarstedt, 2019). Table 6 shows all the values of HTMT criterion, which were < 0.85 (must be < 0.9; Henseler et al., 2015).

Once the items were loaded on the variables, SEM using bootstrapping technique was carried out. All the direct, indirect and total effects were calculated, which means the direct and mediated paths were tested using 10 000 samples with 90% confidence interval, at one-tailed test.

Table 7 shows *R*-square calculations in the model. Moral disengagement had an $R^2 = 0.032$; SCL had an $R^2 = 0.279$ and WB had an $R^2 = 0.114$, indicating sufficient in-sample prediction. The R^2 for moral disengagement was low probably because of the weak relationship among the variables.

The direct and indirect paths were assessed through PLS-SEM as shown in Table 8. Out of a total of 7 direct and

TABLE 4: Normality test using Mardia's multivariate test.

Tests	β	Z	*p*-value
Skewness	12.48953	766.0247	0
Kurtosis	101.54873	16.34013	0

TABLE 5: Convergent validity.

Variables	Items	Cross-loadings	VIF	Cronbach's alpha	CR (rho_a)	CR (rho_c)	AVE
SV	JDSV1	0.751	1.403	0.714	0.820	0.831	0.623
	JDSV2	0.883	1.387	-	-	-	-
	JDSV3	0.725	1.397	-	-	-	-
TS	JDTS1	0.735	1.376	0.691	0.713	0.826	0.614
	JDTS2	0.838	1.394	-	-	-	-
	JDTS3	0.775	1.284	-	-	-	-
TI	JDTI1	0.756	1.375	0.671	0.676	0.818	0.600
	JDTI2	0.785	1.242	-	-	-	-
	JDTI3	0.782	1.330	-	-	-	-
AU	JDAU1	0.722	1.356	0.721	0.928	0.834	0.629
	JDAU2	0.923	1.599	-	-	-	-
	JDAU3	0.718	1.405	-	-	-	-
FE	JDFE1	0.757	1.556	0.768	0.816	0.861	0.675
	JDFE2	0.870	1.533	-	-	-	-
	JDFE3	0.834	1.608	-	-	-	-
MD	MD1	0.784	2.448	0.909	0.916	0.927	0.613
	MD2	0.805	2.710	-	-	-	-
	MD3	0.740	1.987	-	-	-	-
	MD4	0.708	1.751	-	-	-	-
	MD5	0.795	2.239	-	-	-	-
	MD6	0.850	2.894	-	-	-	-
	MD7	0.831	2.715	-	-	-	-
	MD8	0.739	1.968	-	-	-	-
WB	WB1	0.788	1.992	0.870	0.882	0.912	0.721
	WB2	0.896	2.730	-	-	-	-
	WB3	0.893	2.647	-	-	-	-
	WB4	0.814	1.889	-	-	-	-
SCL	SCL1	0.784	2.078	0.895	0.905	0.922	0.704
	SCL2	0.807	2.299	-	-	-	-
	SCL3	0.885	2.761	-	-	-	-
	SCL4	0.862	2.859	-	-	-	-
	SCL5	0.853	2.654	-	-	-	-

JDSV, job design skill variety; JDTI, job design task identity; JDTS, job design task significance; JDAU, job design autonomy; JDFE, job design feedback; MD, moral disengagement; WB, workplace boredom; SCL, social cyberloafing; VIF, variance inflation factor; AVE, average variance extracted; CR, composite reliability.

indirect hypotheses, 6 are supported, while 1 is rejected. Out of these 6 hypotheses, 4 are direct and 2 are indirect (mediation) hypotheses. The data were saved, and a new file was created in SmartPLS software to get latent variable scores form the second-order confirmatory factor analysis (CFA). This file was then taken for calculating SEM with bootstrapping.

Hypothesis 1, 'Job design has a significant relationship with moral disengagement', was accepted, and the relationship was negative; $\beta = -0.125$. Hypothesis 2, 'Job design has a significant relationship with social cyberloafing', was rejected; $\beta = -0.004$. Hypothesis 3, 'Job design has a significant relationship with workplace boredom', was accepted, and the relationship was negative; $\beta = -0.336$. Hypothesis 4, 'Moral disengagement has a significant relationship with social cyberloafing', was accepted, and the relationship was positive; $\beta = 0.125$. Hypothesis 5, 'Workplace boredom has a significant relationship with social cyberloafing', was accepted, and the relationship was positive; $\beta = 0.456$. Hypothesis 6, 'Moral disengagement mediates the negative relationship between job design and social cyberloafing' (JD > MD > SCL), was accepted, and the relationship was negative. This relationship was accepted at 90% confidence interval; $\beta = -0.016$. Lastly, Hypothesis 7, 'Workplace boredom mediates the negative relationship between job design and social cyberloafing' (JD > WB > SCL) was accepted, and the relationship was negative; $\beta = -0.153$. Figure 2 shows the complete measurement and structural model analysed in the study.

TABLE 6: Heterotrait–monotrait ratio.

Variables	JDAU	JDFE	JDSV	JDTI	JDTS	MD	SCL	WB
JDAU	-	-	-	-	-	-	-	-
JDFE	0.752	-	-	-	-	-	-	-
JDSV	0.723	0.728	-	-	-	-	-	-
JDTI	0.884	0.820	0.758	-	-	-	-	-
JDTS	0.619	0.531	0.560	0.580	-	-	-	-
MD	0.092	0.083	0.087	0.176	0.168	-	-	-
SCL	0.139	0.122	0.167	0.140	0.141	0.363	-	-
WB	0.253	0.259	0.351	0.283	0.314	0.513	0.576	-

JDSV, job design skill variety; JDTI, job design task identity; JDTS, job design task significance; JDAU, job design autonomy; JDFE, job design feedback; MD, moral disengagement; WB, workplace boredom; SCL, social cyberloafing.

TABLE 7: R-Square.

Variables	Std. β	SD	t	p-value
MD	0.016	0.017	0.933	0.175
SCL	0.277	0.042	6.568	0.000
WB	0.113	0.031	3.598	0.000

MD, moral disengagement; WB, workplace boredom; SCL, social cyberloafing; Std., Standard; β, beta; SD, standard deviation.

Discussion

This study contributes to the literature in numerous significant ways. It reaffirms the critical role of job design in shaping employee attitudes and behaviours. The study introduces workplace boredom and moral disengagement as key factors underlying the relationship between JCM and its outcomes, offering a fresh perspective on how JCM operates. Moreover, unlike previous studies that predominantly examined how JCM affects the organisation, this research explores its impact on individual experiences within the workplace. It demonstrates that a lack of adequate job design can lead to negative emotions like boredom and moral disengagement among employees. In response to these emotional strains, employees may involve in non-work activities, such as social cyberloafing, as a means of coping. Furthermore, this study integrates emotional mechanisms into JCM-social cyberloafing research, shedding new light on how emotional processes influenced by JCM perceptions can shape attitudes and behaviours, particularly through social cyberloafing. Ohana et al. (2024) suggest that future studies should delve deeper into emotion-based mechanisms associated with negative emotions, such as guilt or moral outrage, derived from ethical frameworks. Building on this suggestion, this research focused specifically on moral disengagement as a mediating mechanism between JCM and SCL. Although direct relationships have been found in the previous literature with cyberloafing, but none of the previous studies investigated the mediating relationships with the variables used in this study. Zhang et al. (2024) found that leader's forgiveness with low empathetic concern increase cyberloafing through moral disengagement. Also, boredom was an important correlate with cyberloafing in Pindek et al. (2018) and Giordano and Mercado (2023).

Hu et al. (2023) concluded that workplace loneliness mediates the positive relationship between workplace ostracism and social cyberloafing. Furthermore, they also indicated the moderating role of conscientiousness between workplace loneliness and social cyberloafing. The relationship was weaker when conscientiousness was higher. Ma et al. (2024) found in their study that job engagement has an indirect effect on social cyberloafing, while emotional exhaustion has a direct effect on social cyberloafing, and there are differences between the female and male employees of enterprise social media on social cyberloafing. Zhou et al. (2023) found that leader bottom-line leadership has a direct impact on social cyberloafing mediated through psychological contract

TABLE 8: Hypotheses.

Hypotheses	Relationship	β	SD	t	p-value	BCI LL (5%)	BCI UL (95%)	F2	Status	Effect size
H1	LV Scores JD -> MD	-0.125	0.060	2.091	0.018	-0.204	0.001	0.016	Accepted	Small
H2	LV Scores JD -> SCL	-0.004	0.050	0.082	0.467	-0.075	0.093	0.000	Rejected	-
H3	LV Scores JD -> WB	-0.336	0.045	0.364	0.000	-0.399	-0.250	0.127	Accepted	Small
H4	MD -> SCL	0.125	0.062	2.00	0.023	0.019	0.223	0.017	Accepted	Small
H5	WB -> SCL	0.456	0.053	8.551	0.000	0.365	0.540	0.205	Accepted	Medium
H6	LV Scores JD -> MD -> SCL	-0.016	0.012	1.331	0.092	-0.037	-0.000	-	Accepted (90%) CI	-
H7	LV Scores JD -> WB -> SCL	-0.153	0.026	5.887	0.000	-0.195	-0.111	-	Accepted	-

LV Scores JD, job design; MD, moral disengagement; WB, workplace boredom; SCL, social cyberloafing; SD, standard deviation; BCI, bias corrected interval; LL, lower limit; UL, upper limit; β, beta.

breach. Also, needs for relatedness moderate this model. Bottom-line leadership is stronger when the need for relatedness is higher. Autocratic leadership moderated the relationship between social cyberloafing, job stress and job engagement (Liu et al., 2025). Malik et al. (2025) found that anger and work-related learning mediate the relationship between supervisor undermining and cyberloafing both individually and sequentially. Also, cyberloafing is used as a coping mechanism by undermined employees.

This article introduces cyberloafing as a novel type of counterproductive work behaviour, serving as a coping mechanism to deal with negative emotions arising from factors such as lack of job characteristics, moral disengagement and workplace boredom. Unlike previous studies, it extends its scope by highlighting that the absence of JCM not only prevents potential benefits for employees and the organisation but may also lead to detrimental effects. Moreover, this research takes a unique approach in using the JCM in relation to workplace boredom, moral disengagement and social cyberloafing. This approach provides a comprehensive understanding of how these factors interplay and influence employee behaviour and organisational outcomes.

Therefore, the study's findings make a significant contribution to the literature on counterproductive work behaviour by demonstrating that the absence of JCM can lead to increased boredom, subsequently fostering social cyberloafing. Additionally, it highlights that a lack of JCM can also heighten moral disengagement. Research lacks empirical evidence on moral disengagement (Newman et al., 2020; Ohana et al., 2024). Morally disengaged employees, as suggested by Newman et al. (2020), can pose a dual challenge for organisations. Their engagement in counterproductive work behaviours not only undermines their own work standards but also potentially impacts organisational productivity and morale.

Managerial and practical implications

Managers should pay attention to this problem and prioritise job design, particularly focusing on defining tasks and key performance indicators (KPIs). Investing in job design yields substantial benefits by fostering a competitive advantage through the cultivation of a diligent, cooperative and loyal workforce. It also plays a vital role in mitigating employee boredom and moral disengagement, which is a significant driver of social cyberloafing.

Research underscores that in the absence of effective job design, employees may struggle to find meaning in their jobs and may exhibit behaviours that are less productive (Van Tilburg & Igou, 2017). Therefore, companies must establish robust job designs that not only outline clear tasks and responsibilities but also promote a sense of purpose and meaningfulness in the workplace (Ohana et al., 2024). This proactive approach will not only enhance employee engagement and satisfaction but also increase organisational effectiveness and overall performance.

Limitations and directions for future research

In summary, while this study contributes valuable insights, addressing these methodological and conceptual gaps through future research endeavours will enhance our understanding of the complexities surrounding job design and its implications for employee behaviour and performance. There are few limitations in this study. The data rely on self-reported measures, which are susceptible to common method bias. Efforts to mitigate this bias were made by collecting data in three waves with a 1-week separation. Additionally, while the study employs diverse samples, it cannot establish causality or ensure generalisability across different contexts. To address these limitations, future research could adopt longitudinal designs or experimental methods to better establish causal relationships. Moreover, exploring additional theory-driven mediators, such as self-control capacity, as suggested by Ohana et al. (2024), could provide deeper insights into the mechanisms linking job design factors to outcomes like boredom and social cyberloafing. Furthermore, individual boundary conditions, such as personality traits or optimism, might offer valuable insights into how individuals cope when organisations do not support and the job design is lacking.

Recommendations

To better design jobs in organisations, it is essential to create roles that incorporate opportunities for training, professional development and career progression within job roles. Job rotation, professional growth opportunities and supportive leadership can significantly enhance motivation, engagement and performance, making jobs more fulfilling and aligned with organisational goals. By emphasising professional development and creating an environment of trust and communication, organisations can ensure that jobs are motivating, satisfying and sustainable in the long term. Also, it is critical to ensure that job descriptions are clear, realistic and aligned with organisational goals to avoid role ambiguity. Designing jobs with realistic demands and providing adequate support, tools and technology will reduce stress and burnout. Furthermore, creating opportunities for teamwork, peer support and cross-functional projects to enhance engagement will promote retention.

Conclusion

Overall, workplace boredom tends to have a more profound impact on social cyberloafing. However, it should be noted that moral disengagement is also a significant contributor to social cyberloafing at work. The primary goal of this research was to highlight how different job characteristics increase moral disengagement, workplace boredom and social cyberloafing. A theoretical model was hence developed to determine which factors of the JCM impact employee behaviours in a way that they engage in social cyberloafing. In line with the hypotheses, effects were found between skill variety, task identity,

task significance and moral disengagement, workplace boredom and social cyberloafing. Specifically, workplace boredom mediates the negative relationship between skill variety, task significance and social cyberloafing, while moral disengagement mediates the negative relationship between task significance, task identity and social cyberloafing. The results indicate that workplace boredom plays a critical role in social cyberloafing.

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CRediT authorship contribution

Sania Usmani is the sole author of this article. The author confirms that this work is entirely their own, has reviewed the article, has approved the final version for submission and publication, and takes full responsibility for the integrity of its findings.

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Data availability

The data that support the findings of this study are available from the corresponding author, Sania Usmani, upon reasonable request.

Disclaimer

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