

Delving into Workplace Interruption: Analyzing the Impact of Phone Calls and Coworker Conversations on Procrastination at Work

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Abstract

Workplace interruptions are becoming a more common serious issue in every work environment. Workplace interruptions can disrupt the attainment of goals and generate costly errors. Nevertheless, more research needs to focus on sources of workplace interruptions and their consequences. Drawing on action regulation theory, this study's main objective is to identify the sources of workplace interruptions, such as receiving calls and coworker conversations, and how these sources of workplace interruptions may cause procrastination at work by examining the mediating role of time pressure. Data were collected from the banking sector of Multan, Pakistan. After data consolidation, the final sample was 256. The findings of this study revealed that receiving calls and coworker conversations is positively related to procrastination at work, and time pressure mediates this relationship. This study addresses the gap in inquiring about innovative aspects of workplace interruption sources that interfere with workers' everyday working lives. The main strength and novelty of the current study is that it expanded the understanding and application of workplace sources of interruption while also expanding the idea of action regulation by emphasizing its interaction with time pressure as a mediator. The findings of this study are significant for legislators and management professionals, particularly those who deal with workplace interruptions.

Keywords: Receiving Calls, Coworker Conversation, Time Pressure, Procrastination.

Introduction

Workplaces are often filled with interruptions that are generally unavoidable in daily work (Stenmark et al., 2020). Workplace interruptions are occurrences or circumstances that prevent or postpone the attainment of a goal (Baethge et al., 2015). Interruptions at work can take many different sources, including receiving phone calls, coworkers seeking conversation partners, emails, or instant messages (Puranik et al., 2020; Rick et al., 2024).

Mobile devices have recently improved our communication capacity (Grandhi et al., 2009). However, with the proliferation of contemporary technology, such as smart cell phones, interruptions at work appear to have increased (Grandhi et al., 2009; Vanderzwan et al., 2023). On the other hand, certain interruptions are initiated by another person, such as a colleague or coworker conversation in which the individual interacts with others (Keller et al., 2020).

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Receiving a call or a conversation with a coworker during a workday, on the other hand, is a workplace interruption that diverts attention and pauses behavioral focus (Vanderzwan et al., 2023), which impacts performance outcomes (Puranik et al., 2020), such as procrastination at work. The act of delaying or postponing a key activity is defined as procrastination at work (Fletcher et al., 2018).

In recent studies, employees claimed that workplace interruptions are a highly prevalent stressor of work that increases time pressure (Baethge et al., 2015; Leroy et al., 2018). *Time pressure* is a common occurrence that is commonly understood to be the lack of time to complete daily tasks (Zhou et al., 2024). Time constraints in the workplace affect employees' procrastination (Prem et al., 2018). Although workplace interruptions like receiving calls, coworker conversations, and time pressure are theoretically formed, a few research has explored them practically (Leroy & Glomb, 2018; Sonnentag et al., 2018).

On the other hand, the underlying mechanisms linking receiving calls and coworker conversations as workplace interruptions and their relationship with adverse outcomes of performance (procrastination) in the actual work environment are underexplored (Baethge & Rigotti, 2013; Sonnentag et al., 2018; Keller et al., 2020). In light of the aforementioned theoretical gaps and practical issues, this study aims to apply the action regulation theory research methodology to investigate and evaluate workplace interruptions like receiving calls and coworkers' conversations and their adverse outcomes. Workplace interruptions can disrupt the sequential action regulation process, which is why the action regulation theory views them as regulatory obstacles (Hacker, 2003). Thus, more time and effort are required to complete the interrupted work (Brixey et al., 2007).

Prior studies revealed that even if a work interruption may last a few minutes or less, the consequences of more frequent and prolonged work interruptions should not be undervalued (Chen & Karahanna, 2018; Puranik et al., 2020). Consequently, this interruption shifted the attentional and behavioral focus of this person. However, these interruptions make it tough for this person to handle the demands of the job, which can cause slower work rates, including delayed reactions to important events and increased time pressure (Sharples & Megaw, 2015; Sonnentag et al., 2018). Academic interest in the significant notion of workplace interruptions (receiving phone calls and coworker conversations) and their associated impact has been expanding recently (Pan et al., 2023). This study concentrates on workplace interruptions, such as phone calls and coworkers' conversations, that create time pressure and are connected to procrastination at work (as shown in Fig 1). Therefore, this study aims to address current research demands by examining the effects of with-in-person (receiving calls) and between-person (coworker conversation) workplace interruptions on procrastination in a natural work environment. Nonetheless, this study examines the mediating impact of time pressure via the prism of action regulation theory (Hacker, 2003).

Literature Review

Theoretical Background

Action regulation theory (ART) is a self-regulated, goal-directed behavior theory commonly utilized in work psychology and workplace interruptions (Baethge & Rigotti, 2013; Russell et al., 2007). Workplace sources of disruption can cause failures in action regulation (Sonnentag et al., 2018; Hofmann & Frese, 2011). ART focuses on how individuals regulate their activities in response to external situations. The notion of action regulation involves sequential phases (defining objectives, selecting action plans, performing actions, monitoring, and getting feedback) and hierarchical levels or modes. Thus, we contend that workplace sources of interruptions are

receiving calls and coworker conversations, which slowed the rate of goal progress and were related to time pressure, resulting in decreased performance, such as procrastination at work.

Workplace Interruptions (receiving calls and coworker conversations) and Procrastination

Cell phones and other communication devices enhance our communication capacity but can also lead to unnecessary interruptions (Grandhi et al., 2009; Puranik et al., 2020). According to a national poll by Pew Research (2006), 24% of participants feel that they must answer the phone and get interrupted during meals and meetings, while 22% say they think that when others know they have a phone, they try to approach them. On the other hand, research on office and organizational work has confirmed that 90% of brief talks among coworkers are unexpected, indicating that they may be interruptive (Jett & George, 2003; Keller et al., 2020). Although, interruptions in the workplace include unscheduled meetings, casual talks among coworkers, and requests for help from one another (Luong et al., 2005; Stangl et al., 2023). An interruption diverts the attentional and behavioral focus; employees stop working on current tasks (Perlow et al., 2002; Gao et al., 2017; Keller et al., 2020). Furthermore, employees must adjust their behavior to accommodate the occurrence, requiring more effort.

However, because the initial task must be kept in working memory, more cognitive effort is required to restart it later (Baethge et al., 2015; Gao et al., 2021). As a result, employees need help concentrating on the new work tasks, affecting performance. Procrastination at work happens due to this increased effort and drains resources because the original job is still open in working memory (Metin et al., 2016; Prem et al., 2018; Yao et al., 2024). Research on workplace interruptions, such as receiving calls and coworker conversations, and their impact on performance outcomes (procrastination at work) are scarce (Fletcher et al., 2018; Puranik et al., 2020).

Understanding workplace interruptions and their connection to procrastination at work is crucial for addressing theoretical and contextual gaps in the literature. This research examines the impact of workplace interruptions, such as receiving calls and coworker conversations, on procrastination at work.

Thus, it is hypothesized that:

H1: Receiving calls has a positive effect on procrastination at work.

H2: Coworker conversation has a positive effect on procrastination at work.

The Mediating Role of Time Pressure

Time pressure is the stress people experience when managing their everyday work-related responsibilities because of time limitations, usually deadlines (Maqbool et al., 2019; Zhang et al., 2023). Time pressure is employees' most prevalent workplace stressor (Zhou et al., 2024). Thus, an organization's employees often have to complete more and more everyday tasks in a shorter amount of time, which has become a regular part of the work environment.

When an employee is interrupted by interruptions such as (receiving a call or coworker conversation) at work, they cease focusing on their primary responsibilities, which adds to the pressure to finish them on time (Leroy et al., 2018; Puranik et al., 2020). The lesser amount of time available to complete a work task is known as time pressure. Workplace sources of interruptions increase the time that is required to complete work activities (Bailey et al., 2006; Sonnentag et al., 2018). For example, when people continue interrupted tasks, they typically have less time to complete the stopped work and begin a new one (Nützi et al., 2015; Stangl & Riedl, 2023). Prior studies revealed that excessive time pressure might negatively impact performance (Durham et al., 2000; Höge, 2009).

The impact of workplace interruptions on performance is mediated by time pressure (Baethge & Rigotti, 2013; Sonnentag et al., 2018). Our study takes the initiative to explore the mediating role of time pressure. Prior research has yet to focus much on this subject (Puranik et al., 2020). This study examines the mediating function of time pressure in an attempt to close this gap. It postulates that workplace interruptions such as (receiving a call or coworker conversation) may lead to time pressure, which in turn may impact workers' procrastination at work:

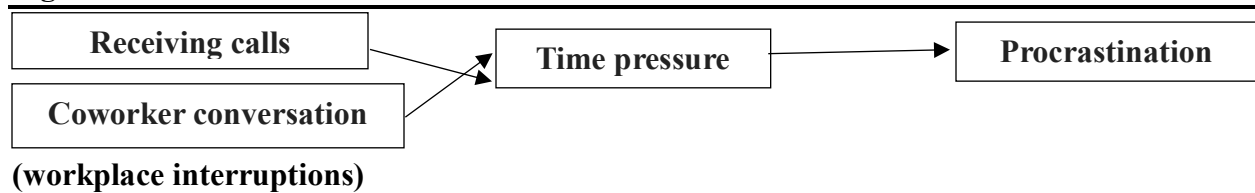
Thus, it is hypothesized that:

H3: Time pressure is the significant mediator between the association of receiving calls and procrastination.

H4: Time pressure is the significant mediator between the association of coworker conversation and procrastination.

Theoretical Framework

Figure 1: Theoretical framework



Research Methodology

This study's main aim is to know about the relationship between workplace interruptions (receiving calls and coworker conversations), time pressure, and procrastination at work. However, in this section, we discuss the sample of the data, data collecting procedure, and instruments. This study used a quantitative approach based on a cross-sectional survey. Data was collected from the banking sector because it provides low-cost access to a large number of respondents through convenience sampling. This sampling strategy is helpful because it simplifies the examination of concepts relating to the area of interest and is especially employed for this purpose (Ali et al., 2011). The survey was created in English language. Numerous studies done in Pakistan have found high levels of reliability when English was used as the survey language (Ali et al., 2011; Abbas et al., 2021).

Sample and Procedure

The total sample size was 300. Moreover, Tabachnick and Fidell (2001) proposed that 300 responders are a reasonable sample size. After removing incomplete and mismatched replies (Eissa & Lester, 2017), the final sample included 256 participants from the banking sector of Multan, Pakistan. Data was obtained using an online questionnaire, with a response rate of 85%. The sample was composed of 15.2 percent females while 84.8 percent of participants are male. The study included people aged 20-30, 31-40, 41-50, and above 50 years old. 50% have a master's degree. The software packages AMOS 24.0 and SPSS 25.0 were used for the analyses in this study.

Instruments

Workplace interruptions (Receiving calls and coworker conversations): The adapted measure of receiving calls is based on a single question from Garrett et al. (2007) plus two further items from Ou and Davison, (2010) that address work disruption and concentration inhibition (to guarantee

scale robustness). While, the coworker conversation scale was adapted to four items based on the measure developed by Lin et al. (2013).

Time pressure: The adapted measure of time pressure was evaluated using the time pressure subscale from the stress diagnostic survey by Matteson and Ivancevich, (1987).

Procrastination: The 12 items from Adams et al. (1996) procrastination scale was used to measure work-related procrastination.

Control variables: Age, gender, employees' experience, and education were used as control variables in this study.

Data Analysis

The AMOS 24 program was used for data analysis, including confirmatory factor analyses and structural equation modeling. The baseline hypothesized model was evaluated in CFA, providing both an overall fit perspective and an assessment of the model's goodness of fit (Hair, 2009). Model fit indices were examined by taking into account the values of CMIN, DF, TLI, CFI, IFI (Bollen, 2005), and RMSEA.

Table 1: Measurement Model

Model	CMIN	DF	CFI	TLI	IFI	RMSEA
Baseline Hypothesized Model	505.999	224	.978	.975	.978	.070

Findings

the model fits the data where $\chi^2/df = 2.259$; TLI= 0.975; IFI= 0.978; CFI=0.978; RMSEA= 0.070. Table 1 and figure 2 depict that all values are according to the suggested threshold values which represent excellent model fit.

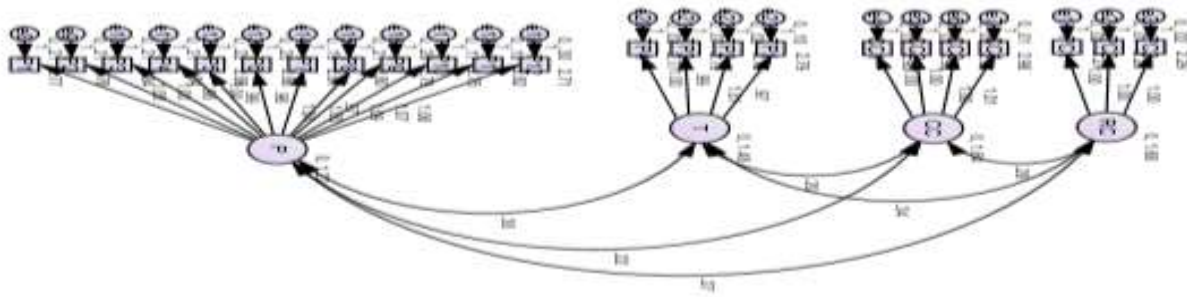
To evaluate convergent and discriminant validity, we used composite reliability (CR) and average variance extracted (AVE) (Fornell & Larcker, 1981). To show convergent validity, the CR value should be larger than 0.6 and the AVE should be greater than 0.5.

Table 2: AVE, CR and Correlation

S.No	Variables	AVE	CR	1	2	3	4
1	Receiving calls	.991	.997	(.995)			
2	Coworker conversation	.988	.997	.166**	(.994)		
3	Procrastination	.851	.986	.186**	.156*	(.923)	
4	Time pressure	.965	.991	.216	.128	.221	(.982)

Note: n = 256, AVE = Average variance extracted, CR = Composite reliability

Table 2 shows composite reliabilities for four variables (receiving calls, coworker conversation, procrastination, time pressure) ranging from .986 to .997, whereas the AVE for these constructs varied from .851 to .991, indicating good convergent validity. For discriminant validity, the square root of AVE should exceed the correlation between constructs. The root of AVE for each construct is bigger than the correlations among them, indicating discriminant validity.

Figure 2: CFA analysis

Hypothesis Testing

A SEM analysis was used to test the hypotheses in this study. The outcomes in table 3 showed that receiving calls was positively linked to procrastination at work [$\beta = -0.114, p = .033, 95\% \text{ CI } (.010, .207)$] which exhibited a significant positive relation between these two variables, and hence, hypothesis 1 was accepted. Furthermore, as proposed, coworker conversation was positively linked to procrastination at work [$\beta = -0.096, p = .069, 95\% \text{ CI } (.006, .184)$] which provided support for hypothesis 2.

Table 3: Direct and Mediation Effects

Hypothesis	B	SE	P	LLCI	ULCI
Receiving calls → procrastination	.114	.054	.033	.010	.207
Coworker conversation → procrastination	.096	.053	.069	.006	.184
Bootstrapped Indirect effect results: Mediating role of time pressure					
Receiving calls → time pressure → procrastination	.031	0.036**	.005	0.011	.066
Coworker conversation → time pressure → procrastination	.015	0.017†	.05	.002	.043

N=256, B= Beta, SE= Standard Error, P= Significance Level, ULCI= Upper-Level Confidence Interval, LLCI= Lower Level of Confidence Interval significance of Estimates: *** $p < 0.001$, ** $p < 0.010$, * $p < 0.050$, † $p < 0.100$

The indirect effects of this study, which were based on 5000 bootstrapped samples, verified the significance of the mediating role of time pressure between receiving calls and procrastination at work. Results confirming [$\beta = 0.032, p = .005, 95\% \text{ CI } (.011, .066)$] a significant effect leading to the acceptance of hypothesis 3. Therefore, the indirect effects of this study, which were based on 5000 bootstrapped samples, verified the significance of the mediating role of time pressure between coworker conversation and procrastination at work. Results confirming [$\beta = 0.15, p = .002, 95\% \text{ CI } (.002, .043)$] a significant effect leading to the acceptance of hypothesis 3.

Discussion and Implications

To better understand the complex dynamics of workplace interruptions, we extended the research methodology in this study and focused on sources of workplace interruptions, including receiving calls and coworker conversations. In particular, it looks at the causal link between receiving calls, coworker conversations, and time pressure, leading to procrastination. Our model was empirically evaluated using the theoretical foundation provided by the action regulation theory (Hacker, 2003).

The study findings support the hypothesis. We discovered evidence that external workplace sources of interruption (receiving calls and coworker conversations) can significantly interrupt the workflow, leading to dysfunctional performance consequences (procrastination). Workplace interruptions can divert an employee's focus and reduce performance volume and quality (Puranik et al., 2020). Moreover, one typical problematic outcome of interruptions at work is procrastination, which is frequently adopted as a coping strategy to manage the stress and overload these interruptions generate. Self-regulation failure is a common cause of procrastination at work and can be made worse by an unruly workplace (Prem et al., 2018; Yao et al., 2024). When workers experience frequent interruptions, they could put off beginning or finishing activities to avoid the stress of dealing with the interruptions at work.

Time pressure positively mediated the relationship between workplace interruption (receiving calls and coworker conversations) and procrastination at work. When employees encounter workplace interruption, their productivity and focus are affected. Because of these interruptions, employees are forced to move between activities all the time, which increases stress and disturbs time management. Moreover, workplace sources of interruptions increase the time needed to finish activities, which raises the pressure on time (Sonntag et al., 2018; Mark et al., 2008). In this situation, time pressure serves as a mediator between workplace sources of interruptions and procrastination. The time pressure resulting from coworker conversations or phone calls can increase tension and anxiety in an employee, making it harder for them to concentrate on the task. Employees may need more time to finish tasks to handle the increased time pressure.

Our study aligns with action regulation theory, which focuses on how employees organize, carry out, and keep track of their actions to accomplish goals. Interruptions at work cause a pause in focus and performance because they interfere with these regulatory mechanisms. Employees frequently interrupted by external sources of workplace interruption (receiving calls and coworker conversations) have to modify their action plans regularly, which adds to their cognitive load and stress. When employees believe they do not have enough time to finish their responsibilities effectively, it frequently shows itself as time pressure that leads to procrastination.

Theoretical Implications

This study adds to the existing literature on workplace sources of interruption by examining within-person (receiving calls) and between-person (coworker conversation) variability in the actual work environment. The findings of this study shed light on the dynamic sources of workplace interruption and highlight that workplace interruption occurs regularly. We broaden our study by identifying workplace causes of interruption and within-person and between-person behavioral diversity. As a result, our research adequately answers researchers' need for a process-oriented approach to understanding workplace sources of interruption and their impacts in real-world working situations.

Our study contributes to the literature on workplace external interruptions by elucidating the mediating role of time pressure in the relationship between external interruptions (receiving calls and coworker conversations) and procrastination. According to Sonntag et al. (2018), our research indicates that external workplace disruptions, including receiving phone calls, are generated in the work environment, and employees cannot overcome them, resulting in a shortage of time.

However, the advancement of mobile communication technology and the alteration of work techniques and modes has increased scholarly interest in workplace interruptions (Foroughi et al., 2014; Keller et al., 2020). However, more research has been undertaken on workplace

interruptions, particularly sources of work yet to interruptions (Qiao et al., 2021). In the context of Pakistan, this study integrates existing literature with the action regulation theory to examine workplace sources of interruptions.

This study examines the mechanism underlying workplace sources of interruptions at both the individual and organizational levels. Employees' procrastination is inextricably linked to the simultaneous impact on the individual and the organization. This study builds on past research by confirming that workplace interruptions harm work performance (Puranik et al., 2020). This study contributes to a more complete theoretical framework by investigating receiving phone calls and coworker conversations as workplace sources of interruption that influence time pressure and are further linked with performance outcomes.

Practical Implication

This study provides valuable insights for managers and policymakers, emphasizing the need to address workplace interruptions such as receiving calls and coworker conversations, which negatively influence performance (procrastination at work) (Seip, 2019). Workplace sources of interruptions are essentially a social issue; hence, organizations should address these sources of interruptions.

Workplace sources of interruptions can take numerous forms, allowing for flexible redesign alternatives. Open-space and open-plan workplaces are prone to experience frequent work interruptions. Separate rooms for meetings, phone calls, and coworker discussions may benefit employees in these settings. Regardless of the workplace, specific guidelines might limit workplace sources of interruptions. Employees can set out specific hours to focus on a job without interruptions, such as not checking email or answering phone calls (Keller et al., 2020). Furthermore, taking home office days might help employees focus on complicated projects that demand total concentration on specific days.

Employees may find workplace interruptions during some specific tasks, particularly those that have severe repercussions in the event of an error Puranik et al. (2020), particularly stressful. As a result, work design should define interruption-free zones and construct interruption-free time intervals for carrying out these duties.

Conclusion

Working without interruption is a luxury in today's dynamic workplaces. Our research has been crucial in providing new light on workplace sources of interruptions such as (1) receiving calls and (2) coworker conversations. However, this research has emphasized the importance of external workplace sources of interruptions and (3) their role in employee-employees' performance outcomes. The study's findings showed in the light of action regulation theory that (4) workplace interruptions like receiving calls and coworker conversations are considered obstacles and linked to time pressure, which explains why there is more procrastination at work. In short, a workplace interruption disrupts an employee's behavioral and attentional concentration on a specific job task. Therefore, they have a tough decision to balance the time required to complete the stopped work and begin a new task. To conclude, the results of this study offer exciting insights into recent debates in the business world about the sources of workplace interruptions and their consequences on employees' performance.

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