Journal of Management Science Research Review
https://jmsrr.com/index.php/Journal/about

Volume 5 Issue No 1 (2026)

Online ISSN: 3006-2047
Print ISSN: 3006-2039

Organizational And Individual Determinants Of Ramadan-Related Absenteeism: A Cross-Sectional Study

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Abstract

Background: Ramadan can alter employees' sleeping patterns, meal schedules, daily routines, and work-related demands, potentially influencing workplace attendance. This study examined individual and organizational determinants associated with Ramadan-related absenteeism.

Methods: A quantitative cross-sectional study was conducted among **150 employees**. Data were collected using a structured questionnaire measuring individual factors, including fatigue, sleep disruption, health-related difficulties, and family responsibilities, together with organizational factors including workload, working hours, supervisor support, and workplace flexibility. Spearman correlation and multiple linear regression analyses were performed using SPSS. Statistical significance was established at $p < .05$.

Results: All eight predictors demonstrated significant positive bivariate relationships with Ramadan-related absenteeism ($p < .001$). Workplace flexibility showed the strongest correlation ($\rho = .690$), followed by working hours ($\rho = .616$), supervisor support ($\rho = .598$), and workload ($\rho = .590$). The regression model was significant and explained 66.8% of the variance in absenteeism. Workload ($\beta = .187$, $p = .003$), working hours ($\beta = .277$, $p < .001$), and workplace flexibility ($\beta = .362$, $p < .001$) independently predicted absenteeism.

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Print ISSN: 3006-2039

Conclusion: Organizational conditions, particularly workload, working hours, and workplace flexibility, appeared to be important determinants of Ramadan-related absenteeism. Supportive and adaptable work arrangements may help organizations manage attendance challenges during Ramadan.

Keywords: Ramadan; Absenteeism; Workplace Flexibility; Workload; Working Hours; Employee Attendance; Organizational Determinants

Introduction

Employee absenteeism represents an important concern for organizations because unexpected or repeated absence can disrupt work processes, increase the workload of available employees, reduce operational efficiency, and affect the quality and continuity of organizational services. Absenteeism is not determined by a single factor; rather, it reflects the interaction of individual, occupational, social, and organizational circumstances. Employees may be absent because of health-related problems, fatigue, family responsibilities, psychological pressures, dissatisfaction with working conditions, demanding schedules, or difficulties in balancing work with personal obligations. Consequently, understanding absenteeism requires consideration of both employee-level characteristics and the organizational environment in which employees perform their duties.

The issue becomes particularly relevant during Ramadan, a month characterized by religious observance and substantial changes in daily routines among Muslims. During Ramadan, fasting individuals abstain from food and drink between dawn and sunset, while meal timing, sleeping patterns, social activities, and religious practices may change considerably. These changes can influence the temporal organization of employees' daily lives and may affect sleep, fatigue, concentration, alertness, and perceived capacity to meet occupational demands. However, the effects of Ramadan should not be interpreted as uniformly negative. Individual responses to fasting vary considerably, and many employees continue to perform their occupational responsibilities successfully throughout the month (Deen et al., 2022).

One of the most important individual factors potentially associated with Ramadan-related absenteeism is sleep disruption. The timing of meals during Ramadan frequently results in later evening activities and an earlier wake-up time for the pre-dawn meal. Consequently, employees may experience reduced nighttime sleep or a redistribution of sleep across the day. Research involving healthcare professionals demonstrated that Ramadan was associated with changes in sleep duration, delayed sleeping and waking times, increased insomnia, and greater daytime sleepiness (Laraqui et al., 2012). These changes are relevant to occupational attendance because inadequate or disrupted sleep may contribute to fatigue and reduced readiness to work. Research involving workers in intensive-care settings has similarly demonstrated that Ramadan can alter sleeping and waking schedules and influence fatigue and alertness. Laraqui Hossini et al. (2024) examined healthcare professionals during and after Ramadan and highlighted changes in sleep and alertness associated with the altered

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lifestyle patterns of the fasting month. These findings are particularly relevant for occupations requiring sustained attention, long working hours, shift work, or continuous service delivery. Employees who experience substantial sleep disruption may have greater difficulty maintaining their normal work routines, particularly when organizational schedules do not accommodate changes associated with Ramadan.

Fatigue represents another potentially important individual determinant. Fasting changes the timing of food and fluid intake and may coincide with changes in sleep and activity patterns. The combined effect can produce subjective perceptions of tiredness in some individuals. Research on professional athletes has shown that sleep quality and physical performance can deteriorate during Ramadan, particularly among individuals who combine work with demanding physical activities (Kara et al., 2021). Although athletic performance cannot be directly equated with occupational absenteeism, the findings demonstrate the potential importance of sleep, work status, and fatigue during Ramadan. Employees with physically demanding jobs may be particularly vulnerable to fatigue when occupational demands coincide with prolonged fasting periods.

Nevertheless, fasting itself should not be regarded as an automatic cause of impaired occupational functioning. Evidence indicates substantial variation between individuals. Deen et al. (2022) noted that the implications of Ramadan fasting for fitness for work depend partly on job characteristics, health status, environmental conditions, and the quality of sleep. Employees performing heavy physical work or working in hot environments may face different challenges from those working in climate-controlled offices. Therefore, individual characteristics and occupational circumstances must be considered together when examining Ramadan-related absenteeism.

The occupational consequences of Ramadan may also be influenced by working hours and the timing of work. Employees may find certain periods of the working day more challenging than others, particularly when fasting coincides with high workload or physically demanding activities. Evidence from workplace research indicates that Ramadan can influence labor-market behavior and working conditions. Sorribas-Navarro et al. (2024) found that Ramadan was associated with changes in employment-related outcomes and workplace conditions among Muslim workers. Their findings suggest that the relationship between religious observance and work cannot be understood exclusively in physiological terms; institutional and organizational arrangements also matter.

Organizational determinants therefore represent an important second dimension of Ramadan-related absenteeism. Workload, working hours, shift arrangements, supervisor support, organizational flexibility, leave provisions, and the extent to which employers accommodate religious practices may influence employees' ability to remain consistently present during Ramadan. An organizational environment that provides reasonable flexibility may help employees adjust their working patterns without compromising attendance. In contrast, rigid schedules, excessive workload, inadequate breaks, and limited supervisory understanding may increase the difficulty of balancing religious practices with occupational responsibilities.

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Flexible working arrangements may be particularly relevant in this context. Flexible scheduling can provide employees with greater control over the timing and organization of work, potentially allowing them to manage changes in sleep, meals, religious activities, and family responsibilities more effectively. Research on flexible working arrangements has generally identified relationships between flexibility, work-life balance, and employee outcomes, although the magnitude and direction of these relationships can differ according to organizational and employee characteristics (Atay & Keleş, 2024). In Pakistan, research among public-sector university employees has also examined flexible working arrangements in relation to work-life balance and job satisfaction, highlighting the relevance of flexible employment practices within the local organizational environment (Aziz-Ur-Rehman & Siddiqui, 2020).

Organizational support may also reduce the extent to which Ramadan-related personal challenges translate into absence. Supportive supervisors can potentially assist employees through reasonable adjustments in workload, scheduling, break arrangements, and communication. Such practices may reduce the perceived conflict between religious responsibilities and organizational expectations. Conversely, employees who perceive their organizations as unsupportive may experience greater work-family or work-religion conflict, potentially increasing the likelihood of absence or other attendance-related difficulties.

Existing research on Ramadan and employment provides evidence that workplace policies and employee experiences are important considerations. Sharafeddine et al. (2024), in a study of employees in Kuwait, reported that most respondents did not perceive Ramadan fasting as having an overall negative effect on their well-being and were generally satisfied with their organizational policies. However, participants did report effects on concentration. These findings demonstrate that Ramadan does not necessarily result in generalized occupational impairment but may influence specific aspects of employees' work experience. The findings also reinforce the importance of examining organizational practices rather than treating fasting as an isolated individual characteristic.

The relationship between organizational conditions and Ramadan-related absenteeism can also be interpreted through the interaction between job demands and employee resources. High workloads, long working hours, demanding shifts, and insufficient recovery opportunities can increase job demands. At the same time, supervisor support, flexibility, appropriate breaks, and supportive organizational policies can provide resources that help employees manage those demands. During Ramadan, the balance between these demands and resources may become particularly important because employees may simultaneously experience changes in sleep, eating schedules, religious activities, and family routines.

Individual and organizational determinants may consequently interact rather than operate independently. For example, an employee experiencing sleep reduction may continue attending work if the organization provides flexible starting times or manageable workloads. In contrast, the same degree of sleep disruption may become more problematic when the employee is required to work a rigid schedule, perform

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physically demanding duties, or complete excessive workloads. Similarly, an employee with family responsibilities may manage these obligations successfully when workplace flexibility is available but may experience attendance difficulties in an inflexible environment.

Family and personal responsibilities are another potentially relevant individual determinant. Ramadan is not limited to fasting during working hours; it also changes evening routines through iftar gatherings, religious activities, social interaction, and family commitments. These responsibilities may reduce opportunities for sleep and recovery. Employees with substantial household responsibilities may therefore experience a greater cumulative burden during Ramadan. However, the influence of these responsibilities is likely to vary according to household structure, gender roles, occupation, commuting requirements, and availability of social support.

Health status may also influence Ramadan-related attendance. Employees with pre-existing health conditions may experience different challenges from healthy individuals when fasting, particularly when occupational activities involve physical exertion, prolonged exposure to heat, or safety-sensitive responsibilities. Deen et al. (2022) emphasized the importance of considering existing health conditions and job demands when evaluating fitness for work during Ramadan. Therefore, health-related difficulties should be considered as an individual determinant rather than assuming that all fasting employees have equivalent experiences.

The importance of occupational context is further supported by research examining healthcare workers. Healthcare professionals may face unique challenges because healthcare services often continue throughout Ramadan and may require shift work, night duties, emergency responsibilities, and high cognitive demands. Laraqui et al. (2012) observed considerable changes in sleep and daytime alertness among healthcare professionals during Ramadan. Similarly, recent research among intensive-care staff has continued to examine Ramadan-related changes in sleep and alertness, reflecting the importance of occupational scheduling in demanding work environments (Laraqui Hossini et al., 2024).

Despite increasing research on Ramadan, sleep, fatigue, productivity, alertness, and employee well-being, a specific focus on Ramadan-related absenteeism remains comparatively limited. Much of the existing literature has examined physiological responses, sleep quality, cognitive functioning, productivity, or general occupational well-being rather than identifying the factors that directly contribute to employees being absent from work. For example, previous studies have demonstrated changes in sleep and alertness during Ramadan (Laraqui et al., 2012), while other research has focused on workplace productivity and employee perceptions of organizational policies (Sharafeddine et al., 2024). These studies provide useful foundations but do not fully explain why some employees may experience attendance difficulties while others continue their normal work routines.

This represents an important research gap because absenteeism has direct implications for organizational workforce planning. If Ramadan-related absenteeism is associated primarily with individual factors such as fatigue, sleep disruption, health difficulties, or family responsibilities, organizations may need to focus on employee wellness,

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fatigue management, health education, and appropriate recovery opportunities. If organizational variables such as workload, working hours, supervisor support, and flexibility are significant predictors, organizations may instead need to reconsider their Ramadan scheduling and human-resource policies.

The Pakistani context provides an especially relevant setting for investigating these relationships. Pakistan is a Muslim-majority country in which Ramadan is widely observed, and organizations operate across diverse occupational environments. Employees may work in offices, hospitals, educational institutions, manufacturing facilities, retail organizations, financial institutions, and other sectors with substantially different working conditions. Consequently, Ramadan may affect employees differently depending on their occupational demands, work schedules, commuting arrangements, and organizational support. Examining these factors together can provide more meaningful evidence for employers and human-resource professionals.

A quantitative cross-sectional design is appropriate for examining these relationships because it permits the measurement of multiple individual and organizational factors and their statistical association with absenteeism during a defined period. Cross-sectional research can provide an empirical snapshot of employees' experiences and can identify variables associated with the outcome of interest. Although such a design cannot establish temporal causality, it is useful for identifying patterns and potential predictors that can subsequently be examined through longitudinal or experimental research.

The present study therefore examined organizational and individual determinants of Ramadan-related absenteeism. The individual domain included factors such as fatigue, sleep disruption, health-related difficulties, family responsibilities, and personal or commuting pressures. The organizational domain included workload, working hours, supervisor support, workplace flexibility, and organizational accommodation during Ramadan. Ramadan-related absenteeism was treated as the primary outcome.

The study was guided by the premise that attendance during Ramadan reflects an interaction between employee circumstances and organizational conditions. Rather than conceptualizing absenteeism solely as an employee-level behavioral problem, the study considered the possibility that organizational policies and working conditions may either intensify or mitigate individual difficulties. This perspective is particularly relevant for human-resource management because organizational interventions can potentially address modifiable workplace factors even when individual circumstances cannot be completely controlled.

Accordingly, the primary objective of the study was to determine the individual and organizational factors associated with Ramadan-related absenteeism among employees. The study also aimed to examine the relationships between individual determinants, organizational determinants, and Ramadan-related absenteeism. By simultaneously considering both levels of determinants, the study sought to provide a more comprehensive understanding of attendance behavior during Ramadan.

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Methodology

The study employed a **quantitative, cross-sectional research design** to examine the individual and organizational determinants of Ramadan-related absenteeism. The study included **150 employees** working in organizations where employees experienced changes in their work routines during Ramadan. Participants were selected through a **non-probability convenience sampling technique**. Employees who were working during the study period and had experienced Ramadan-related changes in their work routines were eligible for participation, whereas incomplete responses were excluded.

Data were collected through a structured questionnaire developed based on relevant literature. The questionnaire consisted of sections assessing demographic characteristics, individual determinants, organizational determinants, and Ramadan-related absenteeism. Individual determinants included fatigue, sleep disruption, health-related difficulties, family responsibilities, and personal pressures. Organizational determinants included workload, working hours, supervisor support, workplace flexibility, and organizational accommodation during Ramadan. Ramadan-related absenteeism was assessed using Likert-scale items.

The collected data were coded and analyzed using **IBM SPSS Statistics**. Descriptive statistics were used to summarize the study variables, while correlation analysis was performed to assess associations between the independent variables and absenteeism. **Multiple linear regression analysis** was conducted to determine the predictive contribution of individual and organizational determinants to Ramadan-related absenteeism. Statistical significance was established at $\mathbf{p < 0.05}$. Participation was voluntary, informed consent was obtained, and confidentiality and anonymity were maintained throughout the study.

Results and Discussion

Table 1. Spearman Correlations Between Study Variables and Ramadan-Related Absenteeism

Independent Variable	ρ	p-value	Interpretation
Fatigue	.466	<.001	Moderate positive
Sleep Disruption	.447	<.001	Moderate positive
Health-Related Difficulties	.496	<.001	Moderate positive
Family Responsibilities	.258	<.001	Weak positive
Workload	.590	<.001	Moderate-to-strong positive
Working Hours	.616	<.001	Strong positive
Supervisor Support	.598	<.001	Moderate-to-strong positive
Workplace Flexibility	.690	<.001	Strong positive

All eight predictors demonstrated statistically significant positive associations with Ramadan-related absenteeism. Workplace flexibility showed the strongest correlation ($\rho = .690$), followed by working hours ($\rho = .616$), supervisor support ($\rho = .598$), and

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workload (ρ = .590). Fatigue, sleep disruption, and health-related difficulties also demonstrated meaningful associations, whereas family responsibilities had the weakest relationship.

Table 2. Multiple Regression Predicting Ramadan-Related Absenteeism

Predictor	B	β	p
Fatigue	.039	.041	.500
Sleep Disruption	-.025	-.026	.697
Health-Related Difficulties	.052	.054	.420
Family Responsibilities	.024	.021	.652
Workload	.188	.187	.003
Working Hours	.274	.277	<.001
Supervisor Support	.088	.094	.137
Workplace Flexibility	.357	.362	<.001

The regression model was statistically significant and explained **66.8% of the variance** in Ramadan-related absenteeism. Workload, working hours, and workplace flexibility emerged as significant predictors. Workplace flexibility had the largest standardized effect (β = .362), followed by working hours (β = .277) and workload (β = .187). The remaining predictors were not statistically significant after simultaneous adjustment.

The findings indicate that both individual and organizational conditions were associated with Ramadan-related absenteeism. The significant relationships involving fatigue, sleep disruption, and health difficulties are broadly consistent with literature showing that Ramadan can alter sleep timing, sleep duration, alertness, and work-related functioning (Deen et al., 2022; BaHammam et al., 2010). Previous research has reported reductions in sleep duration and changes in daytime functioning during Ramadan, supporting the present finding that altered routines may contribute to attendance difficulties.

The stronger associations observed for workload, working hours, and workplace flexibility suggest that **organizational conditions may be particularly important**. This finding agrees with occupational literature emphasizing that shift timing, job demands, and workplace arrangements influence employees' ability to work safely and effectively while fasting (Deen et al., 2022). It also complements Sharafeddine et al. (2024), who found that employees recognized effects of fasting on concentration while generally reporting satisfaction with organizational policies.

An important caution is that the predictors showed substantial intercorrelation, producing high multicollinearity in the regression model. Therefore, the significant regression coefficients should be interpreted as **unique predictive effects after adjustment**, rather than evidence that the no significant individual factors have any relationship with absenteeism. Overall, the results suggest that Ramadan-related

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absenteeism is associated particularly strongly with the organization of work, alongside employee-level challenges.

Conclusion

The study concluded that Ramadan-related absenteeism was influenced by both individual and organizational circumstances, although organizational factors demonstrated stronger predictive effects. Workload, working hours, and workplace flexibility emerged as significant predictors, while fatigue, sleep disruption, health difficulties, family responsibilities, and supervisor support showed significant bivariate relationships but did not independently predict absenteeism after adjustment. These findings indicate that organizations can potentially reduce Ramadan-related attendance difficulties through appropriate workload distribution, suitable working hours, and flexible workplace arrangements. Human-resource policies that recognize employees' changing routines during Ramadan may therefore support attendance, employee well-being, and organizational continuity.

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