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Brief Reviews

Sick Leave Determinants in the Healthcare Sector (Part II): A Review of Organizational-Level Factors.

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Background: Organizational level factors may influence and contribute to sick leave in healthcare, and particularly hospital, settings. We utilize relevant publications from recent literature to provide a useful, comprehensive and evidence-based resource for readers interested in effective human resource management and healthcare or hospital workforce planning. **Methods:** To ensure that pertinent papers (2004 – 2022) were identified, a systematic literature review was performed searching Google Scholar, Econ Lit, PubMed, ResearchGate, ScienceDirect, Emerald Insight, Scopus, Medline, PsychInfo, and Web of Science databases. All abstracts were screened to identify papers that empirically investigated organizational level factors relevant to sickness absence in a healthcare population. A total of 452 papers were initially identified. These were reduced to 133 papers using pre-determined inclusion and exclusion criteria. **Results:** Key factors associated with sickness absence in healthcare staff were long hours worked, work overload, working conditions and stress, and the effects of these on personal lives; job control including lack of participation in decision making; poor social support. Other organizational-level factors such as size and type of organization reflected strong association with absence levels. Shorter distance from work and seniority of position are reported to have a strong negative association with absenteeism. Management leadership style and workload were not found to be determinants. **Conclusions:** Interventions that improved psychological health and levels of sickness absence used training and organizational approaches to increase participation in decision making and problem solving, increase support and feedback, and improve communication. Many of the work-related variables associated with high levels of psychosocial factors are potentially amenable to change.

This is Part II of a series describing factors influencing absenteeism in the healthcare sector.

BACKGROUND

Absenteeism refers to temporary absences from work and this phenomenon is one of the key factors of labor productivity and generates a significant part of "hidden" labor costs. A report by the Society for Human Resource Management & Kronos Workforce Institute (2014) estimated that 38.3% of gross salary is paid for work that is never done. In addition to direct and indirect costs, absenteeism in the organization results in a range of negative phenomena such as management frustration, employee overload, conflict, ultimately to the detriment of organizational culture. Much of the research into absenteeism defines observed phenomena through individual-level concepts such as job satisfaction or organizational commitment and job involvement.[1,2] These individual models often ignore the role of work organization and working conditions in explaining absenteeism.[3] Researchers tend to explain non-attendance by concepts such as absence culture, job satisfaction or organizational commitment and job involvement.[1,2,4] They build individual models where sickness absence is viewed as a voluntary behavior influenced by attitudes such as shared attitudes to work (absence culture) or the employees' satisfaction with their jobs. Therefore, it is viewed as a social problem rather than a health problem. Few studies in management have studied the link between organizational factors and absenteeism. Such organizational factors encompass physical and psychosocial working environments as well as organization and social relations at work.[4] Organizational level factors include for example: organizational culture, leadership, workload, size and type of organization, profession, and position in hierarchy. When organizational changes occur, many workers can become disillusioned, insecure and "take" sick leave. Other implications of organizational changes are that workers may be present but de-motivated and are not productive.

Changing macro factors such as the implementing health reform, legislation and socio-economic framework would take years. Similarly, changes at the individual level of workers would require a change in the model of behavior or the development of awareness of the working population, a more pragmatic approach to initially try to understand and then eliminate the organizational causes of absenteeism.

In our review, by organizational factors we mean physical and psychosocial work environment as well as work organization and social relations at work. The aim of this review was to give a multifactorial background of absenteeism and to highlight significant associations that have an impact on the occurrence of sick leave events.

SIZE AND TYPE OF ORGANIZATION

Size of an organization has been said to influence absenteeism, with absence rates higher in large firms.[5,6] Size and type of organization have implications across organizational factors such as hierarchical control and support from colleagues. Garcia-Prado and Chawla research found that big organizations have less group cohesiveness, greater bureaucracy and that individual efforts can go unnoticed.[7] Similarly, Torrington remarked that patterns of higher absences in most surveys are in larger organizations.[8] Eurofound highlighted that lower absence rates were recorded in small organizations.[9] Notably, Edwards and Ram explained this finding by suggesting that workers in smaller organizations report a relatively high quality of work and less generous sick pay provisions than in larger organizations.[10] Similarly, absence may be more disruptive and noticeable in smaller organizations, while sick pay schemes tend to be less generous or even non-existent.[11] The sector with the highest average days lost was public services, in contrast to manufacturing and production with the lowest average days lost. In the healthcare setting, Garcia-Prado and Chawla's work in Costa Rica evaluated the impact of changes in reimbursement methods and organizational reforms on absenteeism.[7] They concluded that absenteeism generally increased more so in large hospitals than smaller ones.

GEOGRAPHICAL LOCATION

When addressing absenteeism in healthcare organizations, the location of specific facilities, (i.e., whether rural or urban) and distance from workplace to where the health workers live have been reported to influence the absence rate of the health workers. Muthama *et al.,* hypothesized that absenteeism would be greater in rural areas caused by irregular transport and health workers needing to travel long distances in Nigeria.[12,13] In Bangladesh and Kenya, health workers that lived in the same town or village as the health center they worked in were less absent compared to those that lived a distance away from their place of work.[12,14] Goerke and Lorenz reported in Germany that employees who commute long distances are absent about 20% more than employees with no commutes.[15] The authors explored various explanations for the effect of long-distance commutes to work and could not find evidence that it is due to working hours' mismatch, lower work effort, reduced leisure time or differences in health status.

DEPARTMENT & PROFESSION

The impact of departmental and professional norms has received attention. While research findings have been inconsistent, possibly due to the difficulty in isolating these factors, there is evidence of association of such factors with absenteeism. In the hospital setting, Sancinetti *et al.,* observed that surgical ward units registered the highest rates of absenteeism, followed by internal medicine units.[16] The study also showed that the highest absenteeism rates occurred among nursing technicians/aides in internal medicine units. In their study of 690 hospital personnel in Tehran of which 180 had sick leave, Mollazadeh *et al.,* reported that more than two-thirds (114/180) of sick leave was taken by the nursing group. One-third (71/180) of this sick leave occurred in the intensive care unit (ICU), cardiac care unit (CCU), and emergency room.[17] The implication of these findings is that high acuity settings with increased workload had negative associations with absenteeism. Analyzing the impact of varying professions on absenteeism, Gianino *et al.,* found that medical doctors, technical (sic. health and social care professionals) and management had lower absenteeism (on average less than 1 day/person) than workers in non-medical support staff, administrative and nursing who had on average more than 2 days absence per person.[18] The authors comment that medical and management personnel (approximately 17% of personnel) may recognize that the hospital cannot obtain coverage for their positions when they take sick leave and, therefore, feel obligated to return to work as early as possible. Jiang *et al.*, in findings similar to Mossad *et al.,* reported that physicians were significantly more likely to work while ill than nurses and most other categories of healthcare workers.[19,20] Rates of absenteeism were slightly higher among workers in direct contact with patients possibly due to healthcare acquired infections.[18] On reviewing the literature, it is difficult to generalize whether there is an association between individual professions or department and absenteeism. There are confounding variables that are difficult to correct for in this context, such as individual health status, position and tenure that may impact findings.

WORKLOAD

Workload is a factor that encompasses variables such as time pressure, shift work, long working hours and monotony of work.[3] The relationship between the number of hours spent working in a week (work hours) and overall health has been the focus of numerous studies in recent years. There is no general consensus on the relationship between work hours and sickness absence and its potential underlying mechanisms.[21] Several studies have found that longer working hours are associated with a wide range of adverse health outcomes, such as diabetes, depression and anxiety, mortality risk, and coronary heart disease.[22–24] In Canada, a study among physicians regarding the impact

of heavy workload on their attitudes and outcomes found that absenteeism increased with an increase in workload.[25] Similar trends were observed in other international studies among nurses and healthcare workers.[26–28] Rauhala and colleagues found that individuals who exceeded the optimum workload by 15% or more had increased risks of sickness absence.[28] The association was the same for both short-term (self-certified) and long-term (physician-certified) sickness absence. Kriegsman *et al.* study results suggest that patients' self-reports on selected chronic diseases are fairly accurate.[29] Böckerman and Laukkanen reported that work hours and sickness absence are not causally related but rather a spurious relationship influenced by a third variable (i.e., motivation).[30] This assertion is supported by evidence that longer working hours can also correlate with a higher degree of presenteeism. Rosenström and colleagues reported the strongest risk of sickness absence was associated with highly irregular working hours, with night and weekend shifts, and interrupted job contracts.[31] Ala-Mursula *et al.* reported that longer working hours correlated counter-intuitively with shorter (< 4 days) rather than longer periods of sickness absence.[32] A clear association exists between stress and absenteeism, however, there are conflicting findings between increased workload and its causation on stress. It seems reasonable to suggest that most absences were recorded after a stretch of consecutive working days due to accumulated stressors. The general consensus from the literature is that increased workload is negatively associated with absenteeism.

WORKING CONDITIONS

Working conditions have been identified as a primary factor in organizational causations of absenteeism. Working conditions include autonomy or role, workload, facilities, compensation etc. Stressful working conditions are another factor related to sickness absence, mainly because of their ill health-related consequences.[33] Unfavorable working conditions are also related to higher sickness absenteeism.[34,35] Studies have shown that heavy physical work is associated with increased risk of disability, while such factors as prolonged standing, body vibration and working in uncomfortable positions all showed associations with sickness absence.[36–41] Literature in the healthcare context found consistent evidence amongst nurses linking work stress to sickness absence.[42] Time pressure and autonomy are known to be related to health and sickness absence.[43–45] Schreuder *et al.,* found that more stressful roles in nursing generally led to higher absences.[46] Rajbhandary and Basu reported that licensed practice nurses (LPNs) reported an increase in absenteeism with an increase in role overload.[47] LPNs working in long-term care facilities reported less absenteeism than LPNs working in hospitals. Summarizing these findings, improving working conditions reduce absenteeism with a consequent improvement in labor supply.[47]

BULLYING

Bullying in the workplace has been labelled as a severe stressor.[48] As an example, in Ireland, there is currently no dedicated legislation addressing the issue of workplace bullying and as a result, reliance is generally placed on companies' 'Codes of Practice'.[49] These have been described as legally ineffective in protecting people from bullying at work.[50] It is estimated that almost one-in-ten employees have recent experience of being bullied.[51] The victims of bullying recorded 1.5 times higher self-certified absence than the rest of staff. The ratios of absence remained significant after adjustment for demographic area, occupational background, baseline health status and sickness absence. Campanini *et al.,* also confirmed that workers exposed to workplace bullying reported higher sickness absenteeism compared to non-exposed subjects, also when a potentially highly stressful work environment is considered.[52] The literature confirms that bullying in the workplace has a strong negative association with absenteeism.

PSYCHOSOCIAL FACTORS

Psychosocial factors such as psychological job demands and job control as measures of psychosocial work environment have been acknowledged in the literature as potential factors in absenteeism.[53] An adverse psychosocial work environment has received growing attention as a potential antecedent of sickness absence.[54] Low job controls at work (little influence on the work situation and decision authority) appears to be the most consistent work-related psychosocial factor.[55–59] In line with previous studies, Kottwitz *et al.,* reported that low autonomy, specifically with respect to decision authority, leads to increased absenteeism.[60–64] Some studies have indicated that job strain, lack of social support and job demands may also be important.[65–67] Plant & Coombes considered socio-demographics an important factor in causing particular psychosocial sickness absence due to stress and burnout.[68] Indeed, aging is a particularly highly individualized process that incorporates changes of the physiological system and of socioemotional motivations.[69] Older people may be more vulnerable to rigors of work, because the aging process is accompanied by changing coping capabilities and resources as well as changes in the physiological system.[70,71] In that case, the association between psychosocial factors such as stress would be more pronounced for older workers.[72]

Workload, non-work factors and management style are reported as the top three causes of stress at work. Vahtera evaluated job control among municipal personnel and showed that high job control combined with good work demands led to commitment to work and fewer sickness absences.[73] Götz *et al.* found, in their study based on employed men and women in Germany, clear evidence that stressful work is linked to a higher number of sickness days.[33] The study also reported that associations between stressful roles and absence were stronger amongst older workers, both for men and women. Sterud's research on work-related psychosocial factors found significantly higher certified general sick leave and long-term sick leave

among women.[74] It is proposed that women as primary homemakers have additional stresses and pressures outside of work. Roskes *et al.,* and Clays *et al.,* found that having difficulties with combining the demands at work and in family life, possibly resulting in work-family conflict, is strongly related to ill health and sick leave.[75,76]

Studies of the impact of psychosocial factors in the healthcare area are limited. In 2021, the Irish Health Service launched the program "Work Positive", which is a confidential psychosocial risk management process that assists managers to identify ways to improve employee health, safety and wellbeing.[77] Its outcomes are not yet known.

The consensus is that psychosocial factors such as autonomy, job strain and support networks impact positively on job satisfaction. Adversely, the impact of low job controls and lack of support from colleagues is negatively related to job satisfaction and positively related to stress. Stress has a strong negative association with absenteeism.

JOB CONTROL

Job control improves one's capacity to make a decision, to exert professional autonomy, and to gain other resources at work.[78] A sense of control is a resource that enhances working conditions.[79] Nachreiner *et al.* posited that job demands should primarily predict exhaustion, whereas job resources (e.g., job control) should primarily predict disengagement.[80] Aronsson *et al.,* utilized a large body of cross-sectional questionnaire data (n = 130,161) gathered in Sweden from 2002 to 2007 in connection with a comprehensive health promotion initiative.[81] The study found that high job control emerged as the most pronounced health-promoting factor, reducing sickness presenteeism as well as absenteeism. More role conflicts and work-to-family conflicts were directly and indirectly associated, respectively, with decreased health and increased absenteeism as well as presenteeism.

JOB INVOLVEMENT

Job involvement is different to work involvement and describes a general attitude towards the organization.[82] Mase and Aondoave stated job involvement as the key to unlocking employee motivation and increasing productivity from an organizational perspective.[83] The direct relationship between job involvement and absenteeism was not significant in two studies.[84,85] However, Taunton *et al.* showed a significant negative relationship of job involvement and absenteeism if job involvement and organizational commitment were both high.[85] Further work from Cohen reported that, as job involvement increased, absenteeism significantly decreased.[86] In that study, Cohen described a significant positive relationship between work involvement and absenteeism.[86] More studies are needed to establish whether links exist between job involvement and sickness absence across the wide spectrum of health service staff in a range of occupations with varying income levels and educational standards. This would rule out associations between job involvement and sickness absence due to cohort specific characteristics.

INJUSTICE

Injustice has been identified as a factor leading to weak job commitment, lower team dynamics and stress.[87] Research on absenteeism has identified several contributing factors including professional burnout, nature and requirements of the job, weak commitment to work, unionization rate and the feeling of inequity or injustice.[88,89]

Burnout has been defined as a syndrome of emotional exhaustion that has not been managed leading to feelings of energy depletion causing cynicism that is more prevalent among individuals who do 'people work' reducing professional efficacy.[90,91] Professional burnout has been acknowledged publicly as the main contributory factor for nurses leaving the profession. In Ireland, a survey highlighted worrying levels of burnout among nurses and midwives whereby two-thirds of nurses and midwives have considered leaving the profession.[92] One dimension of burnout (personal accomplishment) was related significantly and negatively to absenteeism (as personal accomplishment increased, absenteeism decreased). Taunton *et al.* reported that as the inequities perceived in implementation of distributive justice caused feelings of injustice they lead to increased job stress and increases in absenteeism.[85] These connect the effects between justice and stress on absenteeism and highlight the determinants that result in or influence short-term and long-term absences. This framework proposes that distributive injustice acts as an event to trigger a cognitive appraisal process through which people mentally assess the impact on them. If it is believed that the event is because of unfair procedures, then perceived distributive injustice is heightened and elicits stronger stress reactions that lead to absenteeism. Zatzick *et al.* found that employee involvement and high involvement work systems positively related to employee job satisfaction.[93] Increased levels of employee involvement are negatively associated with absenteeism.

Organizational commitment has been shown to be influenced by work environment factors, such as leadership style and organizational culture.[94,95] Bennett found that the nature of management hierarchy, low levels of responsibility and organizational commitment are factors leading to employee absenteeism.[96]

Injustice is a complex, confounding factor that directly impacts on absenteeism depending on personality traits of the individual and their perception of fairness. Injustice and its link to absenteeism can be understood in terms of a stressor that causes illness to the individual or absence used as a mechanism to rebalance perceived wrongs. In that context, procedural justice is a preconception of unfair procedures, which illicit a cognitive appraisal that may lead to absenteeism. Notably, the literature does not appear to include research regarding the role of injustice in the healthcare sector.

LEADERSHIP STYLES

Numerous explanations, classifications, theories and definitions about leadership exist in the contemporary literature.[97] Leadership can influence factors such as job control,

job satisfaction, culture and support that have associations with absenteeism. Much of the literature focuses on the attitude of managers and its impact on job satisfaction. Appreciative leadership, or lack thereof, can make or break an organization's morale.[98] Mullins stressed the importance of people-centric strategies which enhance the work environment and enhance job satisfaction.[99] Davey *et al.* found that relational leadership practices of managers may reduce absenteeism.[100] Kuoppala *et al.* confirmed the positive impact of supportive leadership through a systematic literature review, concluding that supportive leadership was associated with lower sickness absence levels.[101] Munir *et al.* reported that sickness absence length was shorter if the manager gave lighter duties and incorporated phased return to work.[102] Madlock cited that when leaders communicate effectively, their followers experience greater levels of satisfaction.[103] The role of managers is critical as, if they can show employees consideration and communicate as to why they took a given decision, they will reduce the perceived distributive injustice. Thus, policies need to be consistent to encourage employee acceptance and line manager support.[8]

Research in the health care sector has focused typically on management style; particularly in the nursing cohort. Belita *et al.* reported that the leadership style used in health facilities can influence the absence trends of health workers.[104] Rouse identified that nursing management most typically focused on best practices, while leadership failures rarely receive the same level of scrutiny.[105] Poor management was seen as contributing to both the causes and consequences of sick leave.[68] Kerfoot suggested leader engagement, as well as disengagement, can be contagious in a nursing environment and may impact on morale.[106] Kimura, a director of compliance and risk management in the United States, noted that ineffective ICU nursing management contributed to a variety of organizational problems, including low productivity well as high absenteeism and turnover.[107] Rosengren *et al.* in a phenomenological study of nurses in Sweden found ICU staff strongly preferred leaders who were present and available.[108] The findings suggest that nurse managers who adopt more flexible working policies encourage retention and reduce absenteeism. The implication is that distant leadership leads to worker disengagement and severs the psychological contract. A significant negative relationship was reported when leaders showed consideration to employees; employee absenteeism decreased. One manager characteristic (influence in personnel resources) was significantly and negatively related to staff nurse absenteeism.

The majority of studies exploring the link between management style and absenteeism, conclude that situational leadership and relationship-oriented managers are preferable to workers, directly impacting on job satisfaction. Managers who showed an interest in employees were best equipped to provide support, which in turn leads to lower absenteeism rates, through earlier return to work. Other studies suggested that relationship leadership had only a distal effect on absenteeism and that individual-level factors such as personality traits had the greatest impact on absence rates.

POSITION IN THE HIERARCHY

Seniority of position has been associated with low absenteeism.[3] Cadres that are higher up in the organization, for example doctors, are said to be less absent compared to other staff categories. On this finding, Kivimäki *et al.* observed that physicians had lower rates of short-term and long-term sickness absence compared to their nursing colleagues in Finland.[25] Ritchie *et al.* confirmed this finding, reporting in the UK that auxiliary staff had the highest rates and duration of absence, while medical and dental staff had the lowest.[109] Such findings are consistent with findings from other countries such as Nigeria, Denmark, Thailand, Switzerland and Saudi Arabia.[13,110–113] Staff who are more senior in the organizational structure also reported higher presenteeism than other cadres.[25] It is understandable that professional values require senior staff to be physically present, while lack of suitably qualified replacements to cover for them when they are away may also reduce absenteeism. However, it is equally plausible that there is poorer collection of information on absenteeism among such workers.[13,113] It has been reported in developing countries that medical staff may be absent from the public sector, while providing services in the private sector, and especially where policies are relatively permissive.[114] Eisler's and Potter's research recognized that the Nordic countries have less hierarchical hospital structures, where nurses have greater autonomy and influence in workplace decision-making.[115] They concluded that this contributes to higher satisfaction and lower absenteeism in these countries. At all levels of the hierarchy, absence may be driven by physical job strain and lack of autonomy and satisfaction.[116] Issues of control and status in the profession of nursing were identified as important. Factors such as control of demand, control of workload and expectation of support from management and colleagues in the team are important in enabling the decision to "go off sick".[168]

Limitations While many factors predicted to be associated with absenteeism such as nightshift working, stress or physically demanding roles correlated clearly with increased absenteeism, the literature failed to show a consistent association with other factors. For example, while increased workload was generally found to be associated with absenteeism, Ala-Musula reported that longer working hours counter-intuitively correlated with shorter rather than longer periods of absenteeism and so workload was not a reliable determinant of absenteeism.[32] Such inconsistencies may be explained by international variability with findings from countries at different stages of development and support the need for country-specific data. Another limitation is that findings were often based on causation, meaning that an exposure of a factor led to absenteeism rather than by association. The variability of definitions of absenteeism also proved challenging when comparing research findings.

DISCUSSION AND CONCLUSION

Managers have an important role in maintaining the psychological contract: the perception of equity and dealings with employees has a strong association with job satisfaction and lower absence levels. Job involvement increases motivation to attend, and recruitment policies can select personalities likely to be committed to the role. There are differing options and regulations for absence across different occupations and industries, therefore links between absence and work stress may vary as well. For example, hospice nurses exposed to chronic stressors are at an elevated risk for depressive symptoms, affecting their overall well-being.[117]

The literature supports the development of leadership styles and behaviors that can positively influence employee health outcomes. Many healthcare managers learn on the job without formal leadership education.[118–120] Effective supervisors might also be more successful in creating a healthy working environment by changing psychosocial work conditions in a way that is beneficial for the employee's health and well-being.[121,122] Supportive leadership coupled with good teamwork, is perhaps one of the most important recommendations evidenced in studies.[46,123] The literature also notes that flexibility and fairness should also be guiding principles in workload allocation to nurses.[124,125] Garcia-Prado & Chawla found in Costa Rica that policies aimed at controlling absence actually resulted in higher absence rates by undermining employee commitment or producing other unintended effects on employee behavior so there is a fine balance to be struck by managers.[7]

The literature confirms the value of differentiating types of absence on the basis of their routes through wellbeing and trust perceptions. Findings support the conjectures about the role of the psychological contract breach in explaining the effects of employees' attitudes and behaviors. Shamian and El-Jardali discussed the importance of creating healthy workplaces to reduce organizational outcomes such as absenteeism and turnover.[126]

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Such inconsistencies may be explained by international variability with findings from countries at different stages of development and support the need for country-specific data. Another limitation is that findings were often based on causation, meaning that an exposure of a factor led to absenteeism rather than by association. In addition, the variability of definitions of absenteeism also proved challenging when comparing research findings.

The impact of teamwork has a positive association with lower absence rates.[127] Plant & Coombes reported the team may operate as either an enabling factor or barrier to taking sick leave.[68] Job satisfaction is known to be affected by an increase in job pressure especially when this is not accompanied by increased work autonomy.[128] Variables such as increased responsibility led to a greater feeling of achievement leading to less absence.[129] In studies by the Queens School of Business and by the Gallup Organization, disengaged workers had 37% higher absenteeism, 49% more accidents, and 60% more errors and defects.[130] Sledge *et al.* showed that satisfied employees had lower levels of absence.[131] The psychological contract with the employer influences motivation to attend work and how this relationship manifests can determine absence rates.

Smaller organizations have lower absence rates than larger organizations. Absence rates increase as organizations increase in size. This may be an implication of more generous sick pay schemes in larger organizations. In smaller organizations there may be job control and commitment, therefore motivating the workers to attend work. Job control is perceived as higher across health service staff. While there is routine in roles, there is autonomy in the majority of roles. There may be repetitive tasks in areas such as some administrative duties and within the general support areas, which could manifest in higher absence rates for these staff categories. Allebeck & Mastekaasa and Joensuu *et al.,* reported that while autonomy consistently was found to predict absenteeism rates, the associations with demands are rather weak and inconsistent.[132,133] This may be due to the wide variety of conceptualizations of job demands.[134]

High levels of autonomy may help prevent employees from sickness absenteeism. Absenteeism was predicted by time pressure and time autonomy, showing that stress is involved in sickness absenteeism behavior. Previous research on sickness

absence indicating low autonomy to increase absenteeism, specifically with respect to decision authority.[60–63] Work redesign with increase of time autonomy and reduction of time pressure should reduce absenteeism in hospital employees.[64]

In terms of the management of attendance, there are two general trends. The first is the issue of control, reflected with the costs of absence, together with policies for controlling these costs, notably the health insurance systems. This issue of control may also be connected to presenteeism, where management are too controlling forcing workers to attend work though they are ill. The second trend is the development towards health and well-being.[135] Several countries have made systematic efforts, at national and company levels to improve employee health.[9] Sickness absence may in some cases be the only avenue to take time off work to attend other personal matters.[136] Tripathi *et al.,* found that non-sickness leaves constituted more than half the leaves of absence.[116] Organizations that have policies in relation to sickness absence (e.g., compulsory vaccination) have reported impacts on absence rates. Gianino *et al.* stated that unvaccinated employees used approxi-

mately 3.2 days of additional sick leave per person during the influenza season compared with vaccinated employees.[18] Interestingly, the difference in absenteeism between vaccinated and unvaccinated healthcare workers was also evident during non-epidemic periods, with unvaccinated healthcare workers losing, on average, 2.5 additional days/person to sick leave.[18] In a related observation, Jiang *et al.* found healthcare workers reported working for a mean of 1.9 days with acute respiratory infection symptoms.[19] There are several implications of these findings for hospital management policies such as infection control and occupational health and safety. There is an evident need to inform healthcare workers of risks associated with transmission of viruses causing acute respiratory infections, and to improve self-awareness of when the healthcare workers themselves are at higher risk of transmitting to their vulnerable patients.[137] In that context, it is obvious that hospital management should develop and implement policies to mitigate risk of working while symptomatic. Merkin *et al.* studied reduction of medical staff absenteeism during the COVID-19 pandemic finding that implementation of a robust sick resident coverage system was successful for maintaining resident and patient safety.[138] Management actions (such as removing all medical residents from electives, subspecialty rotations, and outpatient clinics, which were closed for in-person visits early in the pandemic) created a pool of internal medicine residents available for surge staffing and an expanded sick resident coverage system. With the large influx of COVID-19 patients and related sickness absence of medical staff, medical management created a new call schedule, converting from 6 days on with 1 day off to 7 days on with 7 days of combined off time and sick resident coverage time. These scheduling changes facilitated the creation of new teams that were needed during the COVID-19 surge, increasing the total inpatient team count from 20 to 44 teams.[138] The surge staffing structure was altered to also increase the ratio of patients to medical staff. The staffing of the new ward teams included the recruitment of non-internal medicine residents to join ward teams and function as internal medicine interns.[138] These residents came from a wide range of training programs, including radiology, physiatry, psychiatry, podiatry, orthopedic surgery, dermatology, radiation oncology, and urology. Fourth-year medical students who graduated early also joined this surge staffing system.[138] This was a novel solution that would have been considered unacceptable prior to the pandemic.

Most of the literature on absenteeism in the healthcare setting focuses on nursing. Nurses are typically the largest single health staff category and records on absence may be better kept or investigators feel less comfortable investigating the historically more powerful group of physicians.[104]

Further work in the area of absenteeism might produce more generalizable learnings if a structured typology of the forms of absenteeism is used. This may help to understand contextual factors such as management styles, job control and cultural expectations and their influence on different forms of absenteeism, thereby providing a basis for interventions to address it.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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Table 2. Included Articles Organizational-Level Factors

Authors	Year	Title	Country	Factor
Health Service Executive[77]	2021	Work Well. Work Well- Supporting our most important asset.	Ireland	Psychosocial
Rosenström et al.[31]	2021	Patterns of working hour characteristics and risk of sickness absence among shift-working hospital employees: a data-mining cohort study	Finland	Shift Working
Irish Nurses & Midwifery Organization[92]	2021	INMO survey highlights worrying levels of burnout among nurses and midwives	Ireland	Injustice
Ruhle *et al.*[135]	2020	To work, or not to work, that is the question–Recent trends and avenues for research on presenteeism	Germany	Presenteeism
Hodgins *et al.*[51]	2020	Power and Inaction: Why organizations' fail to address workplace bullying.	Lit. Review	Bullying
Merkin *et al.*[138]	2020	Internal Medicine Resident Work Absence During the COVID-19 Pandemic at a Large Academic Medical Center in New York City	USA	COVID-19 absence
World Health Organisation[81]	2019	Burn-out an "occupational phenomenon": International Classification of Diseases	World	Injustice
Jiang *et al.*[19]	2019	Canadian Healthcare Worker Study Group. Which healthcare workers work with acute respiratory illness? Evidence from Canadian acute-care hospitals during 4 influenza seasons: 2010-2011 to 2013-2014.	Canada	Presenteeism
Cullinan *et al.*[49]	2019	Bullying and work-related stress in the Irish workplace.	Ireland	Bullying
Burmeister *et al.*[127]	2019	Determinants of nurse absenteeism and intent to leave: An international study	International	Teamwork
Garcia-Prado *et al.*[7]	2019	The impact of hospital management reforms on absenteeism in Costa Rica.	Costa Rica	Size and type of organization
Mollazadeh[17]	2018	Sickness absenteeism of Healthcare Workers in a Teaching Hospital	Iran	Dept and Profession
Götz *et al.*[33]	2018	Age differences in the association between stressful work and sickness among full-time employed workers: evidence from the German socio-economic panel	German	Working Conditions
Kottwitz *et al.*[64]	2018	Time Pressure, Time Autonomy, and Sickness Absenteeism in Hospital Employees	Switzerland	Psychosocial
Götz *et al.*[33]	2018	Age differences in the association between stressful work and sickness among full-time employed workers: evidence from the German socio-economic panel	Germany	Psychosocial
Gianino *et al.*[18]	2017	Estimation of sickness absenteeism among Italian healthcare workers during seasonal influenza epidemics.	Italy	Dept and Profession
Mossad et al.[20]	2017	Working despite having influenza-like illness: results of an anonymous survey of healthcare providers who care for transplant recipients.	USA	Presenteeism
Goerke *et al.*[12]	2017	Commuting and Sickness Absence.	Germany	Geographical
Bernstrøm *et al.*[21]	2017	A systematic literature review of the relationship between work hours and sickness absence.	Lit Review	Workload
Seppälä *et al.*[130]	2017	Proof that Positive Work Cultures are more Productive	USA	Work Culture
Choonara *et al.*[120]	2017	Significance of informal (on-the-job) learning and leadership development in health systems: lessons from a district finance team in South Africa.	South Africa	Leadership
Connolly *et al.*[50]	2016	Accessing Justice in Cases of Occupational Bullying in Ireland.	Ireland	Bullying
Khan[97]	2016	Leadership Theories and Styles: A Literature Review	Lit. Review	Leadership

Authors	Year	Title	Country	Factor
Chartered Institute of Personnel Development[11]	2016	*Annual Survey Report*, Absence Management	UK	
Nätti *et al.*[45]	2015	Time pressure, working time control and long-term sickness absence	Finland	Working Conditions
Enns *et al.*[123]	2015	Professional autonomy and work setting as contributing factors to depression and absenteeism in Canadian nurses	Canada	Leadership
Kivimäki *et al.*[24]	2015	Long working hours, socioeconomic status, and the risk of incident type 2 diabetes: A meta-analysis of published and unpublished data from 222 120 individuals	Lit Search	Workload
Mase *et al.*[83]	2014	Job Related Tension, Interactional Justice and Job Involvement among Workers of Dangote Cement Company Gboko.	Nigeria	Job Control
Torrington *et al.*[8]	2014	Human Resource Management	US	Leadership
Lopes *et al.*[128]	2014	Work autonomy, work pressure, and job satisfaction: An analysis of European countries	European	Job Satisfaction
Eisler *et al.*[115]	2014	Transforming Inter-Professional Partnerships: A New Framework for Nursing and Partnership-Based Healthcare.	US	Psychosocial
Stocker[98]	2014	Appreciative leadership and employee well-being in everyday working life	Germany	Leadership
Sterud[74]	2014	Work-related gender differences in physician-certified sick leave: a prospective study of the general working population in Norway	Norway	Psychosocial
Presseau *et al.*[44]	2014	Environmental and individual correlates of distress: Testing Karasek's Demand-Control model in 99 primary care clinical environments.	United Kingdom	Working Conditions
Batak *et al.*[124]	2013	The impact of nurses' shift work on the fatigue level	Serbia	Leadership
Howard *et al.*[125]	2013	Investigating flexible work arrangements for nurses and midwives in the acute hospital sector	Australia	Flexible Working
O'Reilly *et al.*[23]	2013	Worked to death? A census-based longitudinal study of the relationship between the number of hours spent working and mortality risk.	Ireland	Workload
Chênevert *et al.*[89]	2013	The role of organizational justice, burnout and commitment in the understanding of absenteeism in the Canadian healthcare sector	Canada	Injustice
Belita[104]	2013	Absenteeism amongst health workers- developing a typology to support empiric work in low-income countries and characterizing reported associations	Lit. Review	Leadership
Robroek *et al.*[59]	2013	Poor health, unhealthy behaviors, and unfavorable work characteristics influence pathways of exit from paid employment among older workers in Europe: a four-year follow-up study.	EU	Psychosocial
Carter *et al.*[117]	2013	Sleep disturbance, chronic stress, and depression in hospice nurses: Testing the feasibility of an intervention	USA	Stressors
Campanini *et al.*[52]	2013	Workplace bullying and sickness absenteeism	Italy	Bullying
Public Health Agency of Canada[137]	2013	Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings	Canada	Presenteeism
Lahelma *et al.*[37]	2012	Working conditions as risk factors for disability retirement: a longitudinal register linkage study.	Finland	Working Conditions
Farquharson *et al.*[42]	2012	Stress amongst nurses working in a healthcare telephone-advice service: relationship with job satisfaction, intention to leave, sickness absence, and performance.	United Kingdom	Working Conditions

Authors	Year	Title	Country	Factor
Mantyniemi *et al.*[66]	2012	Job strain and the risk of disability pension due to musculoskeletal disorders, depression or coronary heart disease: a prospective cohort study of 69,842 employees	Finland	Psychosocial
Clausen *et al.*[63]	2012	Job demands, job resources and long-term sickness absence in the Danish eldercare services; a prospective analysis of register-based outcomes.	Denmark	Psychosocial
Munir *et al.*[102]	2012	Returning employees back to work: developing a measure for supervisors to support return to work (SSRW)	United Kingdom	Leadership
Samuelsson et al.[58]	2012	Psychosocial working conditions, occupational groups, and risk of disability pension due to mental diagnoses: a cohort study of 43,000 Swedish twins.	Sweden	Psychosocial
Schreuder *et al.*[46]	2011	Leadership styles of nurse managers and registered sickness absence among their nursing staff.	Netherlands	Working Conditions
Genevay *et al.*[112]	2011	Work-related characteristics of back and neck pain among employees of a Swiss University Hospital	Switzerland	Position in Hierarchy
Sancinetti *et al.*[16]	2011	Nursing staff absenteeism rates as a personnel management indicator.	Brazil	Dept and Profession
Zatzick *et al.*[93]	2011	Putting employee involvement in context: a cross-level model examining job satisfaction and absenteeism in high-involvement work systems	Canada	Injustice
Bouville[3]	2010	Organizational factors and Absenteeism: A comparison between four occupational grades;	France	Size and type of organization
Eurofound[9]	2010	Absence from work	EU	Size and type of organization
Rugulies *et al.*[134]	2010	Do psychosocial work environment factors measured with scales from the Copenhagen Psychosocial Questionnaire predict register-based sickness absence of 3 weeks or more in Denmark?	Denmark	Job Demands
Holterman *et al.*[22]	2010	Long work hours and physical fitness: 30-year risk of ischemic heart disease and all-cause mortality among middle-aged Caucasian men	Denmark	Workload
Aragonés[62]	2010	Meta-analysis: Relation between psychosocial factors in the work and labor absenteeism.	Lit. Review	Psychosocial
Sinokki *et al.*[67]	2010	Social support as a predictor of disability pension: the Finnish Health 2000 Study	Finland	Psychosocial
Böckerman *et al.*[30]	2010	What makes you work while you are sick? Evidence from a survey of workers.	Finland	Workload
Kristensen *et al.*[110]	2010	Socioeconomic status and duration and pattern of sickness absence. A 1 –year follow-up study of 2331 hospital employees	Denmark	Position in Hierarchy
Rajbhandary et al.[47]	2010	Working conditions of nurses and absenteeism: is there a relationship? An empirical analysis using national survey of the work and health of nurses.	Canada	Working Conditions
Hauge *et al.*[48]	2010	The relative impact of workplace bullying as a social stressor at work	Norway	Bullying
Tuchsen *et al.*[40]	2010	The impact of self-reported exposure to whole-body-vibrations on the risk of disability pension among men: a 15-year prospective study.	Denmark	Working Conditions
Tripathi *et al.*[116]	2010	Absenteeism among nurses in a tertiary care hospital in India	India	Position in Hierarchy
Davey *et al.*[100]	2009	Predictors of nurse absenteeism in hospitals: a systematic review	Lit. Review	Leadership
Edwards[10]	2009	HRM in small firms	United Kingdom	Size and type of organization

Authors	Year	Title	Country	Factor
Bambra *et al.*[122]	2009	Working for health? Evidence from systematic reviews on the effects on health and health inequalities of organizational changes to the psychosocial work environment.	UK	Psychosocial
Rouse[105]	2009	Ineffective participation: reactions to absentee and incompetent nurse leadership in an intensive care unit	US	Leadership
Clays *et al.*[76]	2009	Measures of work-family conflict as a risk factor for sickness absence from work	Belgium	Psychosocial
Laine *et al.*[65]	2009	Job strain and the risk of disability pension: The Finnish Public Sector Study	Finland	Psychosocial
Isah *et al.*[13]	2008	Self-reported absenteeism among hospital workers in Benin city, Nigeria	Nigeria	Position in Hierarchy
Muthama *et al.*[12]	2008	Absenteeism of health care providers in Machakos district, Nairobi: Kenya.	Kenya	Geographical
Kuoppala *et al.*[101]	2008	Leadership, job well-being, and health effects: a systematic review and meta-analysis	Finland	Leadership
Darr *et al.*[35]	2008	Work strain, health, and absenteeism: A meta-analysis.	Lit Review	Working Conditions
Labriola *et al.*[36]	2008	The impact of ergonomic work environment exposures on the risk of disability pension: Prospective results from DWECS/DREAM.	Denmark	Working Conditions
Christensen et al.[55]	2008	The impact of psychosocial work environment factors on the risk of disability pension in Denmark	Denmark	Psychosocial
Kuoppala *et al.*[121]	2008	Work health promotion, job well-being, and sickness absences: a systematic review and meta-analysis	Finland	Leadership
Hansen *et al.*[61]	2008	Going ill to work- What personal circumstances, attitudes and work-related factors are associated with sickness presenteeism.	Denmark	Psychosocial
Sledge *et al.*[131]	2008	What role does culture play? A look at motivation and job satisfaction among hotel workers in Brazil	Brazil	Work Culture
Madlock[103]	2008	The link between Leadership style, communicator competence and employee satisfaction	US	Leadership
Albertsen *et al.*[39]	2007	Predictors of disability pension over a 10-year period for men and women	Denmark	Working Conditions
Rauhala *et al.*[28]	2007	What degree of work overload is likely to cause increased sickness absenteeism among nurses? Evidence from the RAFAELA patient classification system.	Finland	Workload
Shamian *et al.*[126]	2007	Healthy workplaces for health workers in Canada: knowledge transfer and uptake in policy and practice	Canada	Healthy Workplaces
Kerfoot[106]	2007	Staff engagement: it starts with the leader	US	Leadership
Wegge *et al.*[136]	2007	"Taking a sickie": Job satisfaction and job involvement as interactive predictors of absenteeism in a public organization	Germany	Job Satisfaction
Duijts *et al.*[60]	2007	A meta-analysis of observational studies identifies predictors of sickness absence.	Lit. Review	Psychosocial
Rosengren *et al.*[108]	2007	Presence and availability: staff conceptions of nursing leadership on an intensive care unit	Sweden	Leadership
Ala-Mursula *et al.*[32]	2006	Long hours in paid and domestic work and subsequent sickness absence.: Does control over daily working hours' matter?	Finland	Workload
Joensuu *et al.*[133]	2006	Sickness absence and stress factors at work. In Stress impact report	Finland	Work Autonomy
Head *et al.*[54]	2006	Influence of change in psychosocial work characteristics on sickness absence: The Whitehall II study	United Kingdom	Psychosocial
Lindelow *et al.*[114]	2006	The performance of health workers in Ethiopia: results from qualitative research	Ethiopia	Position in Hierarchy

Authors	Year	Title	Country	Factor
Blekesaune *et al.*[57]	2005	Working conditions and early retirement: A prospective study of retirement behavior	Norway	Psychosocial
Roskes *et al.*[75]	2005	Health-related and work-related aspects associated with sick leave: a comparison of chronically ill and non-chronically ill workers	Netherlands	Psychosocial
Greenberg[87]	2004	Managing workplace stress by promoting organizational justice	US	Injustice
Allebeck *et al.*[132]	2004	Risk factors for sick leave – general studies	Scandinavia	Work Autonomy
Chaudhury *et al.*[14]	2004	Ghost doctors: absenteeism in rural Bangladeshi health facilities.	Bangladesh	Geographical
Gimeno *et al.*[53]	2004	Psychosocial factors and work related sickness absence among permanent and non-permanent employees.	EU	Psychosocial
Verhaeghe *et al.*[27]	2003	Job stress among middle-aged health care workers and its relation to sickness absence	Belgium	Workload
Cohen[86]	2003	Multiple Commitments in the Workplace: An Integrative Approach	US	Job Control
Plant *et al.*[68]	2003	Primary care nurses' attitude to sickness absence: a study	United Kingdom	Leadership
Kimura[107]	2003	Overcome toxic management	US	Leadership
Plant *et al.*[68]	2003	Primary care nurses' attitude to sickness absence: a study	United Kingdom	Psychosocial
Michie *et al.*[34]	2003	Reducing work-related psychological ill health and sickness absence: A systematic literature review.	Lit Review	Working Conditions
Tourangeau[119]	2003	Building nurse leader capacity	Canada	Leadership
Hagen *et al.*[38]	2002	A Prospective Cohort Study of Risk Factors for Disability Retirement Because of Back Pain in the General Working Population	Norway	Working Conditions
Barmby[6]	2002	Worker absenteeism: Why firm size may matter.	United Kingdom	Size and type of organization
Lim *et al.*[111]	2002	Influence of work type on sickness absence among personnel in a teaching hospital	Thailand	Position in Hierarchy
Noyes[118]	2002	Midlevel management education	USA	Leadership
Mullins[99]	2002	Management & Organizational Behavior	Great Britain	Leadership
Zboril-Benson[95]	2002	Why nurses are calling in sick: the impact of health-care restructuring.	Canada	Injustice
Bennett[96]	2002	Employee commitment: the key to absence management in local government?	United Kingdom	Injustice
de Boer *et al.*[88]	2002	Unfairness at work as a predictor of absenteeism; Journal of Organizational behavior	Netherlands	Injustice
Krokstad *et al.*[56]	2002	Social determinants of disability pension: a 10-year follow up of 62,000 people in a Norwegian county population.	Norway	Psychosocial
Kivimäki *et al.*[25]	2001	Sickness absence in hospital physicians: 2 year follow up study of determinants.	Finland	Workload
Kivimäki *et al.*[25]	2001	Sickness absence in hospital physicians: 2 year follow up study of determinants	Finland	Position in Hierarchy
Bourbonnais *et al.*[26]	2001	Job strain and sickness absence among nurses in the province of Québec.	Canada	Workload
Carstensen *et al.*[69]	1999	Taking time seriously: a theory of socioemotional selectivity	US	Psychosocial
Ritchie *et al.*[109]	1999	Analysis of sickness absence among employees of four NHS trusts	United Kingdom	Position in Hierarchy

Authors	Year	Title	Country	Factor
Van Der Doef *et al.*[43]	1999	The job demand-control (-support) model and psychological well-being: A review of twenty years of empirical research.	Narrative Review	Working Conditions
Hobfoll *et al.*[71]	1998	Conservation of Resources, Stress, and Aging	US	Psychosocial
Krause *et al.*[41]	1997	Predictors of disability retirement	Finland	Working Conditions
Kriegsman *et al.*[29]	1996	Self-reports and general practitioner information on the presence of chronic diseases in community dwelling elderly: A study on the accuracy of patients' self-reports and on determinants of inaccuracy	The Netherlands	Self-reported absenteeism
McNeese-Smith *et al.*[94]	1996	Increasing Employee Productivity, Job Satisfaction, and Organizational Commitment	US	Injustice
Taunton *et al.*[85]	1995	Predictors of absenteeism among hospital staff nurses	US	Job Control
Vahtera[73]	1993	Job control, social support and health	Finland	Psychosocial
Bamgboye *et al.*[113]	1993	The rate of sickness absenteeism among employees at King Khalid University Hospital, Riyadh, Saudi Arabia	Saudi Arabia	Position in Hierarchy
Huczynski *et al.*[129]	1989	Managing Employee Absence for a Competitive Edge	UK	Autonomy
Brooke[2]	1986	Beyond the Steers and Rhodes model of employee attendance	US	Size and type of organization
Blau *et al.*[84]	1986	Job Involvement and Organizational Commitment as Interactive Predictors of tardiness and absenteeism	US	Job Control
Nicholson *et al.*[4]	1985	The absence culture and psychological contract: Who's in control of absence?	UK	Work Culture
Lazarus *et al.*[70]	1983	Psychological stress and coping in aging	US	Psychosocial
Allen[5]	1982	Size of workforce, morale and absenteeism: a re-examination.	United Kingdom	Size and type of organization
Kanungo[82]	1982	Work Alienation: An Integrative Approach	Canada	Job Control
Maslach[90]	1981	The Measurement of experienced burnout	US	Injustice
Steers and Rhodes[1]	1978	Major influences on employee attendance: a process model	US	Job Satisfaction

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