Brady HD, McGrath D, Dunne CP. Sick Leave Determinants in the Healthcare Sector (Part III): A Review of Individual-Level Factors. *Brown Hospital Medicine*. 2023;2(3). doi:10.56305/001c.77844

Brief Reviews

Sick Leave Determinants in the Healthcare Sector (Part III): A Review of Individual-Level Factors

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Keywords: absenteeism, sick leave, burnout, mental health, nursing, hospital, absence rates, workload, health status, job satisfaction

https://doi.org/10.56305/001c.77844

Journal of Brown Hospital Medicine

Vol. 2, Issue 3, 2023

Background: The objective of this review is to describe individual-level factors that influence and contribute to sick leave in healthcare, and especially hospital, settings. In doing so, to utilize relevant publications from the period 2004 – 2022 in order to provide a comprehensive and evidence-based resource for readers interested in effective human resource management and healthcare or hospital workforce planning. The review referred to studies on the determinants of absenteeism in the healthcare setting. **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. All abstracts were screened to identify papers that empirically investigated factors at individual level that are relevant to sickness absence in a healthcare population. A total of 494 papers were initially identified. These were reduced to 123 papers using pre-determined inclusion and exclusion criteria. **Results:** Individual-level factors such as age, gender, health, marital status, personality, tenure and job satisfaction have moderately strong associations with absence. There is a negative relationship between ageing, health status and absenteeism. **Conclusions:** The review concludes that consideration by administrators of the impact of ageing and life phases will assist greatly in strategic workforce planning in the healthcare sector. There are marked differences in rates of absenteeism by gender, specifically by life phase that should be considered in staffing decisions.

This is Part III of a series describing sick leave determinants in the healthcare sector.

INDIVIDUAL LEVEL FACTORS

One of the most important issues that human resource managers are dealing with is managing their staff's absence behavior. Absenteeism is a temporary absence from work for reasons such as illness, bereavement or other personal issues.[1] Absenteeism is relatively easy to measure. There are two common types of absence metrics: time lost and absence frequency. Time-lost measures a sum of units of time away from work, while absence frequency is the number of absences in a specific period of time regardless of duration.[2] Absenteeism can have a serious impact on the performance of organizations. The level of impact has been the subject of extensive debate. Some of the negative consequences of absenteeism are loss of productivity, as well as high costs such as replacement and compensation costs. Absenteeism has also been interpreted as an employee's intentional or habitual absence from work.[3] Studies reviewed indicate the importance of personal factors. Industrial psychologists engaged in studies of absenteeism due to sickness have found that personal and psychological factors of personality, individual maladjustment, job satisfaction, etc. are of importance. The levels of fluctuations in absenteeism may be seen as the sum of choices made by individual workers and managers. For the individual, the choice of showing up at work is dependent on the costs and benefits of absence, which in turn are related to personal characteristics, such as health, gender, age and marital status, the institutional setting and labor market conditions.[4] The context of this review considers Russel Fraser's (1947) famous study of over 8,000 male and female workers indicating that 10% (9.1% of the men and 13% of the women) had suffered from definite and disabling neurotic illness, and a further 20% (19.2% of the men and 23% of the women) from minor forms of neurosis during the course of six months.[5] Some of the important findings were that absence from work was more frequent than average among the married women with full or partial home duties, those with considerable abnormal responsibilities, those working over 75 hours per week, those usually receiving low wages, and those on very light or sedentary work. Absence from work was less frequent than average among those with job satisfaction. Other early work on individual-level factors impacting absenteeism reported that the rates of absenteeism differed across countries, and that the rate was different

across regions in the same country.[6] Murthy (1953) analyzed absence records for three years finding that the age group 18-34 years had the highest record of absence.[7] Workers longer on the job tended to be more regular as they became more adjusted to the job environment and identified themselves with the job, which was lacking in people with short service tenure. While widows showed greater absence, there was no marked difference due to marriage. Workers from other states had more absence than those belonging to the province in which the factory was located. Persons staying further from their place of work had more absences than those living near it. Workers whose family was more susceptible to illness were more absent than other workers. Lastly, those who were more religious had a higher rate of absence! Rao (1954), studying absenteeism, reported an inverse relation between age and absenteeism.[8] Absenteeism also rose with pay grade. Married workers were significantly more absent than those unmarried. Job satisfaction influenced absenteeism considerably.

From these early works, there is not a general consensus on the impact of individual-level factors and absenteeism. This review aimed to look at more contemporary studies to understand and determine personal factors such as age, tenure, pay, gender and impact on absenteeism.

AGE

Age is often described as a primary predictor of absenteeism. Eurofound stated that age is amongst other factors that increase absence levels.[9] Age and its direct link to *individual health status* is clear, however, there is a subset of other causes such as *gender, marital status, personality* etc. that will be discussed latterly. Many managers believe that older workers are likely to be absent more often that their younger counterparts because of age-related infirmities. However, other age-related factors associated with ability to attend include illness, accidents and family responsibilities.[10] Eurofound reported that highest rates of absenteeism were observed among women aged between 28 and 37 years, which is consistent with pressures from childcare responsibilities.[9] Others have found that older age increases the risk of increased overall sickness absences, but decreases the frequency of one-day absences.[11] The dominant model of employee absenteeism is that of Steers and Rhodes, where age is identified as one of several personal characteristics that influence employee values, expectations and ability to attend.[12,13] The model identifies the relationship between age and voluntary absenteeism as indirect, with several intermediate steps such as job satisfaction, values and attendance motivation. The literature suggests that while number of days of sick leave are positively associated with ageing, younger workers' absences are generally more frequent in nature and of shorter duration. The suggestion postulated is that younger workers' sick leave may be a form of escape from work, while older workers sick leave may be more genuine.

In the healthcare setting, Burmeister *et al.,* performed a large international study (across seven countries) of nursing absenteeism and found that older nurses were less likely to be absent from work (>55 years compared to <25 years).[14] The study does not differentiate between duration and frequency of absences but rather number of days absent. The finding does reflect that younger nurses record more voluntary absenteeism than the involuntary absence recorded by older nurses. Similarly, Tripathi *et al.* found that unplanned sickness rates were highest among older ward nurses, while the highest planned sickness leave rates were among young operating theatre nurses, with absence mainly attributable to childbirth.[15] This supports previous findings in that involuntary absences are a characteristic of the older cohorts. In Sweden, nurses older than fifty years had a higher rate of long-term sickness with similar findings reported in Nigeria, Canada and Finland.[16–19] These international studies support the prevalence of involuntary absences experienced by older workers. However, increase in absenteeism with age is not always found, albeit that such studies do not always report absenteeism by frequency or duration.[20,21] Trinkoff *et al.,* while studying the effects of physical demands among registered nurses in the USA, established that younger nurses took more sick days.[22] Mollazadeh *et al.,* in their study of 690 hospital personnel in Tehran, calculated the mean age of the 180 absentees as 35.49 +/- 7.53 years.[23] Gellatly's study of 166 nursing and food services employees (135 nurses) in a mid-sized chronic care hospital using 12-month absence data, reported that as age increased, absenteeism decreased.[24]

From these international studies, it could be concluded that long-term sickness is more prevalent in older cohorts and short-term, frequent absenteeism is a characteristic of younger age groups. Another implication of these findings is that while there are absenteeism traits associated with each age group, the causes may not be age-related but rather related to work or family characteristics. The influence of personal circumstances could be more pertinent than health characteristics.

CHARACTERISTICS OF ABSENCE - FREQUENCY AND DURATION

Absenteeism can be categorized using two characteristics: frequency and duration of absence. Absence frequency determines the absence pattern. It measures the number of absences over a specified period. Duration of absence measures the number of days' absence per absence spell.[25] As outlined previously, absence by age category has identified that several differences between age groups exist.[26] Short-term absences are usually frequent and are reported as a characteristic of voluntary absenteeism. Voluntary absenteeism has been reported as more prevalent among younger age cohorts. Duration, or length of absence, is reported as a characteristic of older cohorts and has been identified as involuntary absenteeism.

In healthcare, Tripathi *et al.,* in their study of 385 nurses during one calendar year in an Indian tertiary care hospital, reported the average annual duration of absenteeism per nurse was 27.7 days/person.[15] The average sickness leave was 8.82 days/person. Kristensen *et al.* stated that medical professionals reported the lowest absenteeism, though nurses were the youngest occupational group.[27] Similarly, Kivimäki *et al.* reported that male and female doctors took

one third to a half of the sick leave of nursing management.[18] This may reflect unionization amongst this group, while continuity of care is a priority among the medical cohort. Absenteeism among health workers was the highest in India according to World Bank's Global Monitoring Report 2008, reporting that the rate of absenteeism among primary healthcare workers in India was 40%.[28] This was confirmed in 2011 by a Harvard University study finding that 40% of hospital staff in India are absent on a typical day.[29] Lamont *et al.,* determined that 54% of n=5041 nurse and midwife respondents took "mental health days".[30] Those affected were significantly more likely to be of younger age, working shifts with less time sitting at work, and to report workplace abuse or plans to leave. Ticharwa *et al.* also reported that mature nurses (>30 years) were viewed to have a high commitment to duty, hence presenting more consistently at work and that older nurses had increased absenteeism due to chronic conditions that characterize increasing age.[31] In contrast, young nurses (<30 years) were deemed to lack commitment to work, which contributed to higher absenteeism rates for this group. These studies are not explicit as to whether job commitment or routine influence older nurses presenting more consistently to work.

MARITAL STATUS

Marital status has been reported to influence absence from work in different ways in different settings.[32] Marital status can provide a useful lens through which to observe the dynamics that impact workplace behaviors.[33] Dionne and Dostie found that being married reduced absenteeism.[34] Married people typically lead more settled lives, potentially increasing their tenure on the job.[35,36] In their roles as providers, married employees are more likely than unmarried employees to encounter and internalize norms such as hard work, obedience to superiors and achievement that make them better workers.[37,38] In Finland, Kivimäki *et al.* found that male physicians, head nurses and ward sisters who were married were absent less.[18] Shan *et al.,* in their study of five hospitals in China, reported that marital status was a demographic factor closely related to presenteeism.[39] The authors explained that married nurses are likely to consider not only themselves but also their family, spouse, and children. For fear of affecting family income, parenting ability, and quality of life by their absence behavior, they may be more likely to work while in poor health. Absence of female physicians was, however, not influenced by their marital status. In contrast, married Nigerian health workers were reported to be more absent and, of the reasons given, dealing with family problems was common.[16] Borda and Norman noted that family responsibilities increased the probability of female nurses being absent, while work-family conflict among Swedish nurses increased the odds of one resigning or being on long-term sickness absence.[40,41]

Mollazadeh *et al.* reported that a greater number of sick leave days (67.2%) occurred amongst married absentees.[23] In their study of healthcare workers in one of the university hospitals of Tehran University of Medical Sciences in 2014-2015, higher rates of sick leave occurred among married employees and half of them had one or more children. The Economist reported that Iran had one of the higher marriage rates per 1,000 population at 7.5 compared to countries such as the US (6.9), Sweden (5.0), Switzerland (4.8), UK (4.4) and Ireland 4.4.[42] Further, the median age of the first marriage in Iran is significantly lower than other countries used in this analysis at 25.6 years compared to Ireland (35.8 years); Sweden (35.1 years); UK (32.7 years); Switzerland (31.2 years); US (29.6 years).[43] Saravi *et al.,* following their study of 957 staff in the Mazandaran University of Medical Sciences, reported that 81.7% of sick leave days were related to married employees.[44] Similarly, married women had more sickness absence in three public hospitals in Brazil.[45] Plant & Coombes, in their small sample study of nurses in a primary care center, reported the influence of family commitments to be an important factor in sick-leave taking.[46] One respondent in their study "[Nurses] 'all have their own lives to lead, families, elderly-carers, young children, this could be an add-on which they bring to work, but if they have stress at work as well, it can be horrendous'.

Most of the research findings have been consistent, in that marital status reduced absenteeism.[47] Yet the evidence from some studies on the importance of marital status and dependency burden is equivocal, and it seems the cultural aspect of attendance has primacy in terms of attendance.[48]

GENDER

The disparity between men and women in sickness absence has been studied extensively.[49] In most countries, women are absent from work more frequently than men.[48,50] Beyond biological sex-related health problems, a number of explanatory factors have been identified that differentiate between the life experiences of men and women.[51] Data show that females tend to have higher absence rates than males, due to the roles females play in the wider society as care providers.[19,40,52] Presence of children in the household is a primary reason for absence, especially for women.[53] For example, in Sweden, the number of children is negatively related to short-term absences.[54] The common finding of differences in sickness absence is highly interrelated with custody of small children, while there is evidence of biological differences between men and women that contribute to them having different occupational health experiences.[55,56]

In the healthcare setting, the nursing profession is dominated by women.[15] As reported, heavy and painful periods, hot flushes, mood disturbance, fatigue, and poor concentration posed significant and embarrassing problems for some women. Women are not comfortable disclosing their difficulties to their managers, particularly if those managers are younger than them or are male. Where women had taken time off work to deal with their symptoms, only half of them disclosed the real reason for absence to their line managers.[57] Accordingly, a Norwegian study indicated that the risk of long-term sickness absence was higher among women employed in health and social occupations than among the general female-employed population.[58] Evans *et al.* cite research indicating that female absence patterns vary with length of service and occupational structure.[59]

The more senior in the organizational structure, the lower the level of absence. This may be due to the woman's ability to afford domestic support because of a higher salary.

Sterud's study of 3,688 men and 3,070 women sampled randomly from the Norway population found that women reported a significantly higher level of exposure to psychosocial factors.[60] After controlling for age, educational level, sick leave, housework, working hours and family status, women were 1.7 times more likely to have certified sick leave and long-term sick leave. The highest rates are observed among women aged between 28 and 37 years, which is consistent with pressures of childcare responsibilities in this group.[9] Ritchie *et al.* found that among all employees of four National Health Service trusts in Scotland, women were more likely to be absent and had higher absenteeism rates across all professions.[61] Similarly, Isah *et al.* reported that in Nigeria, a study using self-reported absence and incorporating all hospital staff established that women are more absent than men.[16] Gorman *et al.* reported the same findings in Canada, Kivimäki *et al.* in Finland and Josephson *et al.* in Sweden.[17,18,40] In contrast, in their study in Bangladesh of health workers, Chaudhury and Hammer did not find any significant difference between absence rates in men and women.[62] Mollazadeh *et al.* determined no significant relationship between gender and sickness absence of 180 absentees in their study in a University Hospital in Iran.[23] Similarly, Khawaja's study in King Khalid University Hospital in Riyadh concluded that there was no association between sickness absence and gender or nationality.[63]

Women have an outsized role in caring for health internationally. In the US, women hold 76% of all healthcare jobs, and 87% of nurses are women.[64] A good exemplar of this disparity is Ireland, where there is a higher proportion of females to males in the health service. As of June 2021, the country's Health Service Executive census reported 148,901 employees; the proportions of females and males were 78.6% and 21.4%, respectively.[65] Women accounted for 91.8% of nurses.[66]

INDIVIDUAL HEALTH STATUS

It is no surprise that the health of an individual is one of the most significant factors to affect how often and how long employees are away from their place of work.[17,46,67] There is a direct relationship between an individual's health and absenteeism.[68,69] Indeed, prior sick leave is a predictor of future sick leave, unemployment and disability pension.[70] Studies in Sweden and Norway confirmed that healthcare employees with self-reported health complaints had increased risk of sickness absence.[71,72] The implication for managers is that health screening is a key recruitment tool when hiring new employees.

JOB SATISFACTION

Job satisfaction is defined as a measure of workers' contentedness with their job, whether they like their job or individual facets of jobs, such as nature of work or supervision.[73] The definition of job satisfaction has been broadened and now can be measured as cognitive, or emotional and behavioral components.[74] The working environment, appreciation, remuneration, promotional opportunities, organizational culture and company policies and practices are all factors that impact job satisfaction.

In the hospital setting, distinguishing between voluntary and involuntary absences can be difficult as hospital-based staff with formal sick-leave programs typically only receive benefits when they "call in sick".[28,75–77] Thus, virtually all absences are classified as sick days (i.e., non-culpable; involuntary), whether the absence is for personal illness or not.[78] A practical way to distinguish non-culpable from culpable absence is to assess the frequency and duration of absences/sick days.[23,72] Research has shown consistently that frequency measures provide a reasonable index of culpable or voluntary absenteeism.[69,72,73]

In the healthcare context, Griffiths *et al.* found that nurses who work overtime report lower quality of care, more care activities left incomplete, poorer patient safety, and lower job satisfaction.[79] Pineau Stam *et al.* observed that perceived staffing adequacy has been associated with nurse satisfaction in general.[80] Sagherian *et al.* suggest that staffing should be kept at a level that matches patient turnover to avoid negative patient and nurse outcomes.[81] Each additional 25% higher rating of perceived staff was associated with lower odds of absenteeism and intention to leave. Zareen *et al.* stated in their study that well-designed jobs lead to high motivation, high quality work performance, high satisfaction and low absenteeism and turnover.[82] The impact of poor job satisfaction is reflected by Roelen *et al.* who reported a negative association between satisfaction and absenteeism, with less satisfied nurses being more likely to report having been absent from work.[83] In their study, 82% of their sample described having been absent in the previous year with a strong association to job dissatisfaction. Baydoun *et al.* suggest a myriad of reasons causing absenteeism such as work-related, individual, and organizational factors and reported that job satisfaction has an inverse relationship to absenteeism.[84] Sabanciogullari and Dogan identified professional identity is a factor affecting job satisfaction.[85]

Both professional identity and job satisfaction are important factors affecting nurses' intentions to leave the profession, citing 15.5% of nurses intending to resign or retire. Intention to leave the profession was greater among nurses with inadequate professional identity development and low job satisfaction. Sheward *et al.* stated that 60% of nurses in the UK were satisfied with their work, and a relationship was found between satisfaction and nurse-patient ratios, indicating that a higher workload was associated with less satisfaction with work.[86] This is a key finding in relation to national retention policies as there seems to be a direct link between job satisfaction and absenteeism. This finding was supported by Burmeister *et al.,* who observed that regardless of country and staff characteristics, staffing was identified as a significant predictor of absenteeism.[14] These findings point to staffing adequacy as a pivotal variable in nurse retention. Yuremezoglu and Kocaman's study based on a sample of 799 nurses across 16 hospitals found differences between the patterns of nurses' intentions to

leave the organization and intention to leave the profession; dissatisfaction and emotional exhaustion were common across both groups and were the most important predictors of intention to leave.[87] Similarly, a study of 15,900 Registered Nurses (RNs) in Norway, Sweden and Finland by Lindqvist *et al.* suggests that more attention paid to patient mix, workload and role of Registered Nurses in patient care might potentially diminish intention to leave and increase job satisfaction in these Nordic countries.[88] Kalisch *et al.,* with a sample of 3,675 nursing staff from five hospitals and 80 patient care units, demonstrated that within nursing teams on acute care patient units, a higher level of teamwork and perceptions of adequate staffing leads to greater job satisfaction with current position and occupation.[89] Participants' levels of job satisfaction with current position and satisfaction with occupation were both higher when they rated their teamwork higher and perceived their staffing as adequate. Type of unit and its acuity also influenced both satisfaction variables. Additional findings suggest that education, gender and job title influenced satisfaction with occupation but not with current position. It seems plausible that an individual's state of motivation for their work changes according to workers' life stages.[90]

PERSONALITY TRAITS

Much research has focused on a variety of demographic, attitudinal, and organizational variables in predicting and explaining absenteeism.[91] Judge *et al.,* building on the early work of Costa and McCrae, investigated the degree to which the Five-Factor Model of personality (openness, agreeableness, neuroticism, extraversion, conscientiousness) are related to absenteeism.[91–95] They hypothesized that neuroticism and extraversion would positively predict absence and conscientiousness would negatively predict absence. They hypothesized that absence history (absence proneness) would partly mediate the relationship between the personality characteristics and subsequent absenteeism. Employees identified as having a predisposition for high psychosocial stress reported significantly elevated risks for long-term absences.[96] Results suggested that extraversion and conscientiousness predicted absenteeism, and that part of the relationship between these traits and absence was mediated through absence history. Evans *et al.* also found that workers who demonstrate personality characteristics of anxiety and emotional instability are more likely to be absent than more introverted and emotionally stable employees.[97]

'Nurse characteristics' were found to be significantly related to nurse absenteeism: age, tenure, marital status, education, position level, health, disrupted sleep, doldrums (low spirits, emotional and physical fatigue and feeling down-trodden), home responsibilities, compassionate leave and unit separation.[75–77] It has been reported that being single or divorced negatively and significantly predicted nurse absenteeism in one out of four hospitals.[98,99] Notenbomer *et al.* found educational level, job autonomy, and physical demands, but not global satisfaction, to be related to the duration of short-term sickness absence.[100] Evidence supporting these theories lend credence to practices that manage employees according to their particular life stage and circumstances rather than as a uniform group.

TENURE

Job tenure is typically measured by the length of time workers have been in their current job or with their current employer, and so refers to continuing spells of employment.[101,102] Robbins *et al.* demonstrated that studies consistently show an inverse relationship between tenure and absenteeism, which means that employees with higher work experience will be less absent than those with lower work experience or length of employment.[103] Employees who have been in employment for long periods tend to express higher levels of job satisfaction and organizational commitment, resulting in lower rates of absenteeism.[104] Bamgboye and Adeleye reported from Nigeria, in their retrospective analysis of sickness absence records of all hospital employees, that younger employees and those employed for shorter periods of time had a higher rate and duration of absence.[105] Contrary to previous studies, Mollazadeh *et al.* found a considerable variation between duration of employment and sickness absence spells, while Hoque and Islam found that workers with higher work experience report higher levels of absenteeism than workers with lower work experience.[23,103] The authors attributed this to the fact that the employees with higher work experiences or duration believe they have been loyal to their organization and are entitled to a few days of sickness absence. Older age and more senior tenure are factors that represent significantly higher rates of presenteeism, which was consistent with the results of Bierla *et al.* on age, and that of Martinez and Ferreira on tenure.[106,107] However, Lau *et al.* found no association between tenure and absenteeism.[108] In summary, while much of the research indicates that tenure is negatively associated with absenteeism, perhaps due to increased job and organizational commitment, there is no consensus on this relationship and some of the literature suggests that employees with long tenure feel entitled to a few days of sickness absence.

OTHER RELEVANT TOPICS

PRESENTEEISM

Presenteeism has emerged as a distinct concept in the last twenty years. It is a contemporary concept that characterizes the behavior of employees being physically present at work, but with reduced performance.[109] This describes the practice of an employee attending work even when they feel too ill to be able to work effectively. It may be driven by a sense of loyalty to an employer or fellow workers, by compulsion, or both.[10] Although, presenteeism seems to be more common among healthcare workers and has a significant economic value, a recent study on Finnish healthcare workers calculated hours of sickness absence to even exceed this monetary value.[110] Kivimäki *et al.* identified a group of male "sick presentees": people who self-reported as unhealthy but had no work absences.[111] This group had twice as many cases of coronary disease as peo-

ple with similar health conditions who had been absent. Doctors and nurses described different pressures contributing to presenteeism, such as difficulties finding a substitute due to manpower shortage and strong organizational culture barriers and professional norms against taking sick leave.[112,113] Shan *et al.* observed a group of nurses experiencing presenteeism and reported lower levels of professionalism and productivity.[114] Plant's & Coombes' study of nurses in a primary care center identified 'guilt' as a very important factor in decision-making; it seemed to deter staff from taking sick leave.[46] The study found strong associations between chronic illness and presenteeism in clinical nurses. For most occupations, censure pressure (fearing negative reactions from colleagues and management) might force presenteeism and hinder absenteeism.[110] In healthcare workers, the threshold for staying at home when one feels sick might be lower and more accepted.[115] In their systematic review of 275 unique English publications from 1998 to 2017, Lui *et al.* found no conclusive evidence that could be drawn on to support the association between presenteeism and its exposures amongst hospital healthcare workers.[116] The review concludes that more study is needed to confirm the relationship between presenteeism positive exposures and outcomes such as job satisfaction amongst healthcare employees. In a study of 267 nurses in a general hospital, Kim *et al.* reported that in dealing with nurses' presenteeism, not only managing nurses' job stress and job satisfaction but providing flexible work schedules and increased staffing levels were required at an organizational level.[117]

MANAGING ABSENCE

Sickness absence cannot be eradicated but it can be reduced by a selection of measures.[118] Most managers neither understand nor have investigated the causes of their absence problem. Personal hunches, prejudices and rules of thumb represent the basis on which corrective action is decided.[119] Van Wyk & Pillay-Van Wyk produced a Cochrane review on effects of preventative staff support and identified only a single study aimed at reducing absenteeism.[120] Their study found no significant effect of the intervention.[121] Due to the complexity of health worker absenteeism, studies on certain interventions to reduce it are few.[32]

Appolinário reported that two important elements contribute to better personal and professional relationships; communication between managers and employees and informal conversations to clarify reasons for absences.[122] Other such positive actions used by nursing management involved: meetings focusing on professional appreciation; listening and helping to solve personal problems; and open channels of communication.[123] Hall reported that nurses with greater levels of perceived supervisor support experienced more positive job outcomes including less occupational stress.[124]

Ticharwa *et al.* observed that respondents in their study acknowledged that keeping morale high and avoiding movement of staff to other departments led to lower absenteeism.[31] One of the managers acknowledged that *"a movement of a staff member can be upsetting to some staff members especially when there is already a lot going on and can contribute to absenteeism".* These departments showed the lowest absenteeism across nursing. The absence of training, or limited training, for absenteeism management seems to affect their ability to deal with absenteeism and this is compounded by lack of on-site HR personnel at hospital level.[64,125] The literature is adamant that active management is the primary factor in reducing absenteeism.

DISCUSSION AND CONCLUSION

Gender and age have both long been recognized as primary predictors of absenteeism and this was borne out in the literature; female healthcare workers are absent more than male healthcare workers; as healthcare staff age, absenteeism increases. Surprisingly, however, the highest rates of absenteeism were observed among women aged between 28 and 37. In agreement with studies reporting gender differences in sickness absence across a wide variety of occupations, lower rates were found for male than for female physicians.[18,126,127] In an industry dominated by women (over three-quarters of US and, for example, Irish healthcare workers are women) the consequences of this association are profound.[64,65] Clearly, neither of these factors are modifiable in that staff hiring in healthcare cannot be based on gender or age. However, all healthcare institutions need to be aware of this association and plan for it accordingly. The higher absence rates for women in their 20s and 30s is attributed in the literature to the role females play in society as care givers, in particular those with custody of children.[53] It is reasonable to suggest that ensuring the provision of child-friendly leave policies could minimize involuntary absences taken to care for children.

Stress is a significant factor in absenteeism. Studies show that older workers are less resilient and, therefore, stress causes absence for this cohort. From the literature reviewed, further studies should focus specifically on older workers. This concerns the general question of sickness levels by age, but also the association between stressful roles and absenteeism and how they vary by age. Indeed, arguably employers and occupational physicians ought to acknowledge that each phase in life has specific difficulties that can lead to frequent or prolonged sick leave.[128]

There is consensus in the literature that staffing adequacy has a positive impact on lower absenteeism rates. Shan *et al.* reported that the shortages within the nursing workforce may be the primary cause of the high workload and strict leave system in the nursing professions.[63] The literature shows that overstaffing is significantly and positively related to lower absenteeism.[75,129] As overstaffing increased, the desire to be absent significantly decreased for eight out of ten nurses. Both the part-time staffing ratio and recruiting sources significantly and negatively predicted absenteeism. Regardless of country and hospital differences, staff characteristics or job satisfaction, staffing level was identified as a significant predictor of absenteeism and intention to leave.[81]

The literature supports the distinction in sickness absence amongst men and women, or at least different response styles. Women are more likely absent than men, with available research highlighting the different intensities of their external roles, particularly as principal care giver. Interestingly, the rate of absence decreases as women climb the organizational structure, presumably having the financial resources to pay for family supports. Some of the studies outline that job commitment is less prioritized in women than in men, perhaps reflecting traditional gender roles that mean women have higher responsibilities beyond work.[130] The research implies that there are other pathways that may underlay the observed associations between stress and absenteeism. A stressful workplace may lead to low motivation among employees, who in turn decide to avoid the stressful working environment, regardless of their health status.

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 individual-level factors such as individual health, age, gender, marital status and position 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.

FUNDING STATEMENT

No funding was obtained for this manuscript.

AUTHOR CONTRIBUTIONS

All authors have reviewed the final manuscript prior to submission. All the authors have contributed significantly to the manuscript, per the International Committee of Medical Journal Editors criteria of authorship.

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

ACKNOWLEDGMENTS

None.

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Submitted: May 16, 2023 EDT, Accepted: June 07, 2023 EDT

Table 1. Included Articles Individual-level Factors

Authors	Year	Title	Country	Factor
Ehlert *et al.*[53]	2022	Workers' self-selection into public sector employment: A tale of absenteeism.	Germany	Gender
Shan *et al.*[39]	2021	Presenteeism in Nurses: Prevalence, Consequences, and Causes from the Perspectives of Nurses and Chief Nurses	China	Presenteeism
Shan *et al.*[39]	2021	Presenteeism in Nurses: Prevalence, Consequences, and Causes from the Perspectives of Nurses and Chief Nurses	China	Marital Status
Health Service Executive[65]	2021	Workforce Reporting	Ireland	Gender
Sickness absence recording tool (SART)[25]	2021	Measuring levels of sickness absence, The Bradford Score, and Using Trigger Points	United Kingdom	Frequency & Duration
Allison *et al.*[69]	2019	The link between school attendance and good health.	US	Individual Health Status
Irish Nurses & Midwifery Organization[57]	2019	Menopause at Work	Ireland	Gender
US Census Bureau[64]	2019	Your Healthcare in in Women's Hands.	US	Gender
Burmeister *et al.*[14]	2019	Determinants of nurse absenteeism and intent to leave: An international study	International	Age
Burmeister *et al.*[14]	2019	Determinants of nurse absenteeism and intent to leave: An international study,	International	Job Satisfaction
Allison *et al.*[64]	2019	The link between school attendance and good health.	US	Individual Health Status
Mollazadeh *et al.*[23]	2018	Sickness absenteeism of Healthcare Workers in a Teaching Hospital	Iran	Age
Kottwitz *et al.*[131]	2018	Time Pressure, Time Autonomy, and Sickness Absenteeism in Hospital Employees	Switzerland	Autonomy
Lui *et al.*[116]	2018	Presenteeism exposures and outcomes amongst hospital doctors and nurses: a systematic review	UK	Presenteeism
Ticharwa *et al.*[31]	2018	Nurse absenteeism: An analysis of trends and perceptions of nurse unit managers	W. Australia	Frequency & Duration
Mollazadeh *et al.*[23]	2018	Sickness absenteeism of Healthcare Workers in a Teaching Hospital	Iran	Gender
Sagherian *et al.*[81]	2018	Bio-mathematical fatigue models predict sickness absence in hospital nurses: An 18 months' retrospective cohort study,	US	Job Satisfaction
Tsutsumi *et al.*[96]	2018	A Japanese Stress Check Program screening tool predicts employee long-term sickness absence: a prospective study	Japan	Personality Traits
Vahtera *et al.*[11]	2018	Sickness absence as a predictor of mortality among male and female employees	Finland	Age
Srour *et al.*[129]	2017	A survey of absenteeism on construction sites,	Lebanon	Physical work
Rainbow *et al.*[109]	2017	Presenteeism in nursing: an evolutionary concept analysis	US	Presenteeism
Trahan[33]	2017	An examination of various factors (age, gender, family status, marital status, and work engagement) and their relationship to longevity, attendance, and job performance of custodial staff at a large public university	US	Marital Status
Trahan[47]	2017	An examination of various factors (age, gender, family status, marital status, and work engagement) and their relationship to longevity, attendance, and job performance of custodial staff at a large public	US	Marital Status

Authors	Year	Title	Country	Factor
		university.		
Lamont *et al.*[30]	2016	Mental health day, sickness absence amongst nurses and midwives: workplace, workforce, psychosocial and health characteristics	Australia	Frequency & Duration
The Economist[42]	2016	Marriage and Divorce Rates	World	Marital Status
Aagestad *et al.*[58]	2016	Do work-related factors contribute to differences in doctor-certified sick leave? A prospective study comparing women in health and social occupations with women in the general working population	Norway	Gender
Central Statistics Office[66]	2016	Women and Men in Ireland	Ireland	Gender
Damart *et al.*[132]	2016	When the management of nurse absenteeism becomes a cause of absenteeism: A study based in a comparison of two health care facilities	France	Management
European Foundation for the Improvement of Living and Working Conditions[101]	2015	Job tenure in turbulent times	EU	Tenure
Rostad *et al.*[110]	2015	Psychosocial workplace factors associated with sickness presenteeism, sickness absenteeism, and long-term health in a Norwegian industrial company	Norway	Presenteeism
Yurumezoglu *et al.*[87]	2015	Predictors of nurses' intentions to leave the organization and the profession in Turkey	Turkey	Job Satisfaction
Organization for Economic Co-Operation and Development[102]	2015	Health at a Glance 2015: OECD Indicators	World	Tenure
Rostad *et al.*[115]	2015	Psychosocial workplace factors associated with sickness presenteeism, sickness absenteeism, and long-term health in a Norwegian industrial company	Norway	Presenteeism
Baydoun *et al.*[84]	2015	What do nurse managers say about nurses' sickness absenteeism? A new perspective.	Lebanon	Job Satisfaction
Sabanciogullari *et al.*[85]	2015	Relationship between job satisfaction, professional identity and intention to leave the profession among nurses in Turkey	Turkey	Job Satisfaction
Boamah *et al.*[68]	2015	The influence of areas of work life fit and work-life interference on burnout and turnover intentions among new graduate nurses	Canada	Individual Health Status
Enns *et al.*[99]	2015	Professional autonomy and work setting as contributing factors to depression and absenteeism in Canadian nurses	Canada	Personality Traits
Pineau Stam *et al.*[80]	2015	The influence of personal and workplace resources on new graduate nurses' job satisfaction	US	Job Satisfaction
Løkke *et al.*[70]	2014	Past absence as a predictor of present absence: the case of a large Danish municipality,	Denmark	Individual Health Status
Cucchiella *et al.*[3]	2014	Managing absenteeism in the workplace: the case of an Italian multi-utility company	Italy	Personal Factors
Kim *et al.*[117]	2014	Predictors of Clinical Nurses' Presenteeism	Korea	Presenteeism
Rao *et al.*[29]	2014	Missing Medics test patience in rural India	India	Occupational Group
Sterud[60]	2014	Work-related gender differences in physician-certified sick leave: a prospective study of the general working population in Norway	Norway	Gender
Griffiths *et al.*[79]	2014	Nurses' shift length and overtime working in 12 European countries: The association with perceived quality of care and patient safety.	EU	Job Satisfaction

Authors	Year	Title	Country	Factor
Lindqvist *et al.*[88]	2014	Organization of nursing care in three Nordic countries: relationships between nurses' workload, level of involvement in direct patient care, job satisfaction, and intention to leave	Scandinavia	Job Satisfaction
Judge *et al.*[92]	2014	The person-situation debate revisited: Effect of situation strength and trait activation on the validity of the Big Five personality traits in predicting job performance	US	Personality Traits
Bierla *et al.*[106]	2013	New evidence on absenteeism and presenteeism	France	Tenure
Zareen *et al.*[82]	2013	Job design and employee performance: the moderating role of employee psychological perception	US	Job Satisfaction
Roelen *et al.*[83]	2013	Low job satisfaction does not identify nurses at risk of future sickness absence: Results from a Norwegian cohort study.	Norway	Job Satisfaction
Belita *et al.*[32]	2013	Absenteeism amongst health workers- developing a typology to support empiric work in low-income countries and characterizing reported associations.	Lit. Review	Job Satisfaction
United Nations[43]	2013	World Marriage Patterns Median age of first marriage	Global	Marital Status
Casini *et al.*[49]	2013	Gender difference in sickness absence from work: a multiple mediation analysis of psychosocial factors	Belgium	Gender
Belita *et al.*[32]	2013	Absenteeism amongst health workers- developing a typology to support empiric work in low-income countries and characterizing reported associations	Lit. Review	Marital Status
Karlsson[4]	2013	Work attendance, gender and marital status: Absenteeism among Swedish tobacco workers, 1919-1950.	Sweden	Personal Characteristics
Merrill *et al.*[38]	2013	Self-Rated Job Performance and Absenteeism According to Employee Engagement, Health Behaviors, and Physical Health	US	Marital Status
Saravi *et al.*[44]	2013	Prevalence and causes of medical absenteeism among staff (case study at mazandaran university of medical sciences: 2009-2010	Iran	Marital Status
Martinez *et al.*[107]	2012	Sick at work: presenteeism among nurses in a Portuguese Public Hospital	Portugal	Tenure
Khawaja *et al.*[63]	2012	Medically certified sickness absence among health care workers	Saudi Arabia	Gender
Donders *et al.*[128]	2012	Age differences in the association between sick leave and aspects of health, psychosocial workload and family life: a cross-sectional study	Netherlands	Age
Black[125]	2012	Why healthcare organizations must look after their staff	UK	Management
Ferreira *et al.*[45]	2012	A multifactorial approach to sickness absenteeism among nursing staff	Brazil	Marital Status
Peterson *et al.*[72]	2011	Burnout levels and self-rated health prospectively predict future long-term sickness absence: a study among female health professionals	Sweden	Individual Health Status
Rantanen *et al.*[110]	2011	Relative magnitude of presenteeism and absenteeism and work-related factors affecting them among health care professionals	Finland	Presenteeism
Ahituv *et al.*[36]	2011	Job turnover, wage rates, and marital stability: How are they related?	Israel	Marital Status
Dew[113]	2011	Pressure to Work through Periods of Short Term Sickness	New Zealand	Presenteeism
Alexopoulas *et al.*[67]	2011	Knee and low back complaints in professional hospital nurses: occurrence, chronicity, care seeking and absenteeism	Greece	Individual Health Status
Rajbhandary *et al.*[19]	2010	Working conditions of nurses and absenteeism: is there a relationship? An empirical analysis using	Canada	Gender

Authors	Year	Title	Country	Factor
		national survey of the work and health of nurses		
Tripathi *et al.*[15]	2010	Absenteeism among nurses in a tertiary care hospital in India	India	Gender
Tripathi *et al.*[15]	2010	Absenteeism among nurses in a tertiary care hospital in India	India	Age
European Foundation for the Improvement of Living and Working Conditions[8]	2010	Absence from work	EU	Age
Gorman *et al.*[17]	2010	When healthcare workers get sick: exploring sickness absenteeism in British Columbia, Canada	Canada	Age
Van Wyk *et al.*[120]	2010	Preventative staff-support interventions for health workers.	South Africa	Management
Tripathi *et al.*[14]	2010	Absenteeism among nurses in a tertiary care hospital in India	India	Frequency & Duration
Kristensen *et al.*[27]	2010	Socioeconomic status and duration and pattern of sickness absence. A 1 –year follow-up study of 2331 hospital employees	Denmark	Gender
Gorman *et al.*[16]	2010	When healthcare workers get sick: exploring sickness absenteeism in British Columbia, Canada	Canada	Gender
Kalisch *et al.*[89]	2010	Nursing staff teamwork and job satisfaction.	US	Job Satisfaction
European Foundation for the Improvement of Living and Working Conditions[9]	2010	Absence from work	EU	Gender
Gorman *et al.*[17]	2010	When healthcare workers get sick: exploring sickness absenteeism in British Columbia, Canada	Canada	Individual Health Status
Ichino *et al.*[50]	2009	Biological Gender Differences, Absenteeism, and the Earnings Gap	US	Gender
Bekker *et al.*[51]	2009	Sickness absence: a gender-focused review	Netherlands	Gender
Davey *et al.*[78]	2009	Predictors of nurse absenteeism in hospitals: a systematic review	Lit. Review	Personality Traits
Beemsterboer *et al.*.[26]	2009	A literature review on sick leave determinants (1984 – 2004)	Lit. Review	Frequency & Duration
Davey *et al.*[78]	2009	Predictors of nurse absenteeism in hospitals: a systematic review	Lit. Review	Job Satisfaction
Costa *et al.*[123]	2009	Absenteísmo relacionado à doenças entre membros da equipe de enfermagem de um hospital escola	Brazil	Management
Carosi *et al.*[21]	2009	Predictors of workplace absenteeism in cancer care workers	Canada	Age
Josephson *et al.*[40]	2008	The same factors influence job turnover and long spells of sick leave – a 3-year follow up of Swedish nurses	Sweden	Marital Status
Josephson *et al.*[40]	2008	The same factors influence job turnover and long spells of sick leave – a 3-year follow up of Swedish nurses	Sweden	Age
World Bank's Global Monitoring Report[28]	2008	Absenteeism among health workers highest in India: Report	India	Geographical
Isah *et al.*[16]	2008	Self-reported absenteeism among hospital workers in Benin city, Nigeria	Nigeria	Age
Laaksonen *et al.*[130]	2008	Explanations for gender differences in sickness absence: evidence form middle-aged municipal	Finland	Gender

Authors	Year	Title	Country	Factor
		employees from Finland.		
Appolinário[122]	2008	Absenteísmo na equipe de enfermagem: análise da produção científica	Latin America	Management
Isah *et al.*[15]	2008	Self-reported absenteeism among hospital workers in Benin city, Nigeria	Nigeria	Gender
Josephson *et al.*[40]	2008	The same factors influence job turnover and long spells of sick leave – a 3-year follow up of Swedish nurses	Sweden	Gender
Hall[124]	2007	The relationship between supervisor support and registered nurse outcomes in nursing care units	US	Management
Dionne *et al.*[34]	2007	New evidence on the determinants of absenteeism using linked employer-employee data	Canada	Marital Status
Notenbomer *et al.*[100]	2006	Job satisfaction and short-term sickness absence among Dutch workers,	Netherlands	Personality Traits
Gorman[37]	2005	Gender Stereotypes, Same-Gender Preferences, and Organizational Variation in the Hiring of Women: Evidence from Law Firms	US	Marital Status
McCrae *et al.*[91]	2005	The NEO–PI–3: A more readable revised NEO personality inventory.	US	Personality Traits
Kivimäki *et al.*[111]	2005	Working while ill as a risk factor for serious coronary events: the Whitehall II Study'	UK	Presenteeism
Sheward *et al.*[86]	2005	The relationship between UK hospital nurse staffing and emotional exhaustion and job dissatisfaction	United Kingdom	Job Satisfaction
Chaudhury *et al.*[62]	2004	Ghost doctors: absenteeism in rural Bangladeshi health facilities.	Bangladesh	Gender
Mathis *et al.*[1]	2004	Human Resource Management	US	Personal Factors
Johnson *et al.*[118]	2003	The problem and management of sickness absence in the NHS: consideration for nurse managers	UK	Management
Plant *et al.*[46]	2003	Primary care nurses' attitude to sickness absence: a study	United Kingdom	Individual Health Status
Eriksen *et al.*[71]	2003	Work factors as predictors of sickness absence: a three-month prospective study of nurses' aides	Norway	Individual Health Status
Hulin *et al.* [674]	2003	Job attitudes	US	Job Satisfaction
Ones *et al.*[133]	2003	Personality and absenteeism: a meta-analysis of integrity tests.	US	Personality Traits
Lau *et al.*[108]	2003	A qualitative and quantitative review of antecedents of counterproductive behavior in organizations	China	Tenure
Robbins *et al.*[134]	2003	Organizational behavior- Global and Southern African perspectives.	South Africa	Tenure
Hoque *et al.*[103]	2003	Contribution of Some Behavioral Factors to Absenteeism In Bangladesh	Bangladesh	Tenure
Kivimäki *et al.*[18]	2001	Sickness absence in hospital physicians: 2 year follow up study of determinants.	Finland	Marital Status
Trinkoff *et al.*[22]	2001	Physically demanding work and inadequate sleep, pain medication use, and absenteeism in registered nurses	US	Age
Kivimäki *et al.*[18]	2001	Sickness absence in hospital physicians: 2 year follow up study of determinants.	Finland	Age
Waite *et al.*[35]	2000	The case for Marriage	US	Marital Status
Quinn *et al.*[56]	2000	Implications of different fiber measures for epidemiologic studies of man-made vitreous fibers.	US	Gender
Evans *et al.*[97]	1999	From absence to attendance	US	Personality Traits
Evans *et al.*[59]	1999	From absence to attendance	US	Gender
Vahtera *et al.*[127]	1999	Workplace as an origin of health inequalities	Finland	Gender

Authors	Year	Title	Country	Factor
Ritchie *et al.*[61]	1999	Analysis of sickness absence among employees of four NHS trusts	United Kingdom	Gender
Evans *et al.*[93]	1999	From absence to attendance	US	Personality Traits
Hemmingway *et al.*[77]	1999	Organizational climate and occupational stressors as predictors of withdrawal behaviors and injuries in nurses.	US	Job Satisfaction
Gellatly *et al.*[76]	1998	Personal and organizational determinants of absence norms	US	Job Satisfaction
McCrae *et al.*[95]	1998	Cross-cultural assessment of the five-factor model: The Revised NEO Personality Inventory	US	Personality Traits
Mastekaasa *et al.*[48]	1998	Gender, Absenteeism, and Job Characteristics: A Fixed Effects Approach.	Norway	Marital Status
Kivimäki *et al.*[126]	1997	Psychosocial factors predicting employee sickness absence during economic decline	Finland	Gender
Spector[73]	1997	Job satisfaction: Application, assessment, causes and consequences	US	Job Satisfaction
McKevitt *et al.*[112]	1997	Sickness Absence and 'Working Through' Illness: A Comparison of Two Professional Groups	UK	Presenteeism
Weir *et al.*[121]	1997	The efficacy and effectiveness of process consultation in improving staff morale and absenteeism.	US	Management
Borda *et al.*[41]	1997	Testing a model of absence and intent to stay in employment: a study of registered nurses in Malta	Malta	Marital Status
Åkerlind *et al.*[55]	1996	Sex differences in sickness absence in relation to parental status	Sweden	Gender
Costa Jr *et al.*[94]	1995	Domains and facets: Hierarchical personality assessment using the Revised NEO Personality Inventory	US	Personality Traits
Gellatly[24]	1995	Individual and group determinants of employee absenteeism: test of a causal model	Canada	Age
Taunton *et al.*[98]	1995	Predictors of absenteeism among hospital staff nurses	US	Personality Traits
Al-Shammari *et al.*[52]	1994	Sickness absenteeism among employees of a teaching hospital in Saudi Arabia	Saudi Arabia	Gender
Costa Jr *et al.*[93]	1994	Set like plaster? Evidence for the stability of adult personality	US	Personality Traits
Bamgboye *et al.*[105]	1993	The rate of sickness absenteeism among employees at King Khalid University Hospital, Riyadh, Saudi Arabia	Saudi Arabia	Tenure
Westwood[90]	1992	Organizational Behavior	UK	Job Satisfaction
Björklund[54]	1991	Who receives sickness benefits? An empirical analysis of the determinants of sickness absence	Sweden	Gender
Hackett[10]	1990	Age, Tenure, and Employee Absenteeism	Canada	Age
Martocchio[104]	1989	Age-Related Differences in Employee Absenteeism: A meta-analytic review.	US	Tenure
Hackett *et al.*[75]	1989	Absenteeism among hospital nurses: an idiographic-longitudinal analysis	Canada	Job Satisfaction
Huczynski *et al.*[119]	1989	Managing Employee Absence for a Competitive Edge	UK	Management
Hackett *et al.*[135]	1989	Absenteeism among hospital nurses: an idiographic-longitudinal analysis	Canada	Personality Traits
Pines *et al.*[20]	1985	Rates of sickness absenteeism among employees of a modern hospital: the role of demographic and occupational factors	Israel	Age
Steers *et al.*[13]	1984	Knowledge and speculation about absenteeism	US	Age

Authors	Year	Title	Country	Factor
Steers *et al.*[12]	1978	Major influences on employee attendance: a process model	US	Age
Chadwick-Jones *et al.*[2]	1971	Absence measures: Their reliability and stability in an industrial setting.	US	Job Satisfaction
Rao[8]	1954	A Study of Absenteeism in a Modern Printing Press	India	Age
Murthy[7]	1953	Absenteeism in Factory Workers	UK	Regional Differences
Rao[6]	1950	Absenteeism in industry	India	Regional Differences
Fraser[5]	1947	The incidence of neurosis among factory workers.	UK	Individual Health Status

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