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Sickness absence culture: A Scoping Review

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PREFACE

This article is written as a master's thesis of clinical psychology at the University of Tromsø - The Arctic University of Norway. Our interest in sickness absence was sparked at a lecture by Arnstein Mykletun. In the lecture, Arnstein talked about differences in sickness absence rates in the OECD-countries, and differences in sickness absence rates between sectors within the same countries. We contacted Arnstein with the hope of him being our supervisor. We were interested in these observed differences in sickness absence rates, and after a few meetings we landed on sickness absence culture as the theme of our thesis.

We would like to express gratitude to our supervisors Arnstein Mykletun and Torstein Låg for their invaluable guidance and support. Both supervisors have shown great enthusiasm in our work, which has been uplifting in times of frustration. Arnstein has been the main supervisor and has guided us on the field. Torstein has been the co-supervisor advising us on the methodological aspects of this review. Finally, both authors have contributed equally throughout all steps of the process, and we are thankful for each other's support.

The thesis follows the author guidelines of BMC Public Health (https://bmcpublichealth.biomedcentral.com/submission-guidelines/preparing-your-manuscript). The thesis does however deviate somewhat from the author guidelines when it comes to figures and tables. Table 1. and Figure 1. are included in the main text for readability (the guidelines for BMC require separate submission of figures and larger tables).

ABSTRACT

Background: Several studies have reported significant variations in sickness absence rates between comparable cohorts of employees, which by some authors have been attributed to sickness absence cultures. A sickness absence culture represents the shared absence-related norms and behaviors within a workgroup. Even when controlling for factors associated with sickness absence, there are still unexplained variations. To our knowledge, there are no systematic reviews on the concept of sickness absence culture. We conducted a scoping review to identify and map existing knowledge on sickness absence culture. We also investigated what methods and designs were used.

Methods: We searched the following electronic databases for studies on sickness absence culture and related phenomena: MEDLINE, EMBASE, PsycINFO, Cumulative Index to Nursing and Allied Health Literature, Clarivate Web of Science, and Bielefeld Academic Search Engine. Both abstract and full-text screening was conducted by two independent reviewers. Data extraction was conducted jointly by the two reviewers. The final stage of the review included a narrative synthesis. The review was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews.

Results: The final review consisted of 29 studies. In terms of design, the majority of included studies were categorized as observational quantitative. Ten of the included studies attempted to measure sickness absence culture directly with survey questions. None of these studies utilized the same scales for assessing sickness absence culture, which indicates a lack of standardized measurement for sickness absence culture. Eight of the included studies suggested sickness absence culture as an explanation for observed variations in sickness absence rates, without having measured sickness absence culture directly.

Conclusions: The concept of sickness absence culture could be a useful explanation for the observed unexplained variations in sickness absence rates. However, further research is

warranted to determine the effect of sickness absence culture on sickness absence rates, and to develop standardized measures of sickness absence and sickness absence culture.

Keywords: Sickness absence culture: Absenteeism: Sickness absence: Sick leave: Organizational culture: Scoping review

INTRODUCTION

Several researchers report significant variations in sickness absence rates between comparable cohorts (of varying sizes, from small work groups to large corporations or even countries) of employees (1-3). Multiple risk factors for sickness absence have been investigated. These include (but are not limited to) factors like work environment and work conditions, health behaviors, and a number of demographic factors. These factors vary between companies and occupational sectors. Some differences in sickness absence rates are therefore to be expected (4-8). However, these factors only seem to explain some of the observed variations in sickness absence rates, implying that there might be other factors yet to be discovered. A plausible candidate is the concept of sickness absence culture.

There are reported variations in sickness absence rates between genders (5, 9-13), local regions within the same field of work (2), and between academic departments within the same region (1). In general, the literature reports women having a significantly higher rate of sickness absence than men in many western countries (5, 9-13). A recent study sought to explain the gender gap in sickness absence rates (3). The authors of this study adjusted both for highly studied factors known to be related to sickness absence (i.e., somatic/mental health problems and job demands), in addition to other less studied factors thought to contribute to the gender differences in sickness absence rates (i.e., family conflicts and sexual assault). In accordance with other studies on the gender differences in sickness absence rates (14, 15),

these authors concluded that: "...the majority of the gender difference in sickness absence remains unexplained" (3). Seeing as factors in the domains of health, work and family stressors only accounted for parts of the observed variance in sickness absence, the authors further hypothesized that there must exist factors outside these domains (3).

Another study reported significant variations in sickness absence rates between high-school teachers in the U.S. within the same district, depending on the teachers core content area (Maths/English/Science/Social studies) (1). The authors of this study suggested an explanation that could account for some of the variation seen in certain months, but on a yearly basis there still was a significant portion of variance left unexplained. Furthermore, a study on Norwegian health care workers reported regional differences in sickness absence rates which have persisted over several years (2). Even when controlling for factors known to be associated with variations in sickness absence rates (i.e., age, education, work tasks, and amount of shift work), the authors concluded that there still was a significant amount of unexplained variation in sickness absence rates between regions (2). These findings indicate that variations in sickness absence rates are not fully understood.

Sickness absence refers to: "...absence from work that is attributed to sickness by the employee and accepted as such by the employer…" (16). Drawing on this definition, sickness absence is not just medically certified absence due to sickness, but all absence reported as sickness by the employee.

Differences in sickness absence rates are often mentioned in relation to culture, both in everyday language and the media. In general, people seem to suggest different cultures of sickness absence as an explanation for variations in sickness absence rates. Gender differences in sickness absence rates have been of particular interest for the media for several

decades. A content analysis of women's absenteeism in the popular press over the last 100 years suggested the existence of a distinct absence culture for women (17).

In this review, sickness absence culture is seen as a phenomenon within the broader concept of organizational culture. Organizational culture is defined by Andrew Brown as: "…the pattern of beliefs, values and learned ways of coping with experience that have developed during the course of an organization's history, and which tend to be manifested in its material arrangements and in the behaviours of its members" (18). Gellatly and Luchak (1998) defined absence culture as: "…the set of absence-related beliefs, values, and behavioral patterns that are shared among the members of a workgroup or organizational unit...shown to account for the different pattern of absences within and between organizational settings…" (19).

To the best of our knowledge, the concept of sickness absence culture has not been systematically reviewed. Therefore, the purpose of this scoping review is to identify and map the existing literature on sickness absence culture, and to investigate what methods and designs are used in studies of sickness absence culture.

METHODS

Protocol: A protocol with the objective, inclusion criteria and methods for this scoping review was developed following the Joanna Briggs Institute (JBI) Protocol Template for Scoping Reviews (20). The protocol was submitted to BMC Systematic Reviews on the 5th of November 2021. The protocol is available upon request from the corresponding author.

Eligibility criteria: Due to the broad aim of this scoping review the eligibility criteria were liberal. Any publication on sickness absence culture in the human sciences was considered. Publications were not limited to any specific design. In line with the objective, any literature

concerning sickness absence culture was included at the abstract/title-level. Studies written in English or any Scandinavian language were included. All search terms were in English.

Search strategy: We conducted a preliminary search in Clarivate Web of Science and MEDLINE to identify appropriate search terms. A research librarian at the University Library at UiT - The Arctic University of Norway advised on the development of the search strategy. The main search was conducted on the 28th of September 2021. We searched the following electronic databases: MEDLINE, EMBASE, and PsycINFO (all on Ovid), Cumulative Index to Nursing and Allied Health Literature (CINAHL, on EBSCO Host), Clarivate Web of Science, and Bielefeld Academic Search Engine (BASE). We also searched the reference lists of the included studies and searched for studies that had cited our included studies. The search was not limited to study design or year of publication. The final search strategy for MEDLINE is presented in Appendix A. The search strategy was adapted to the other databases according to their vocabulary, syntax, and searchable fields. We also conducted full-text searches in specific journals to investigate if there were studies on sickness absence culture not covered by our search strategy. The journals were identified by investigating the work of the authors we had identified in our main search. These journals were Journal of Economic Behavior & Organization, Social Sciences & Medicine, and Scandinavian Journal of Work, Environment & Health. All of the studies identified in the full-text search were either covered by our main search, discovered through snowballing, or excluded.

Study selection: The search results were imported into the Covidence software for systematic review management. Two independent reviewers screened titles and abstracts against inclusion criteria. Following the initial screening, two independent reviewers screened the remaining studies in full text. Any disagreement between the two reviewers was resolved

through discussion. A third person was also available for consultation if consensus was not reached.

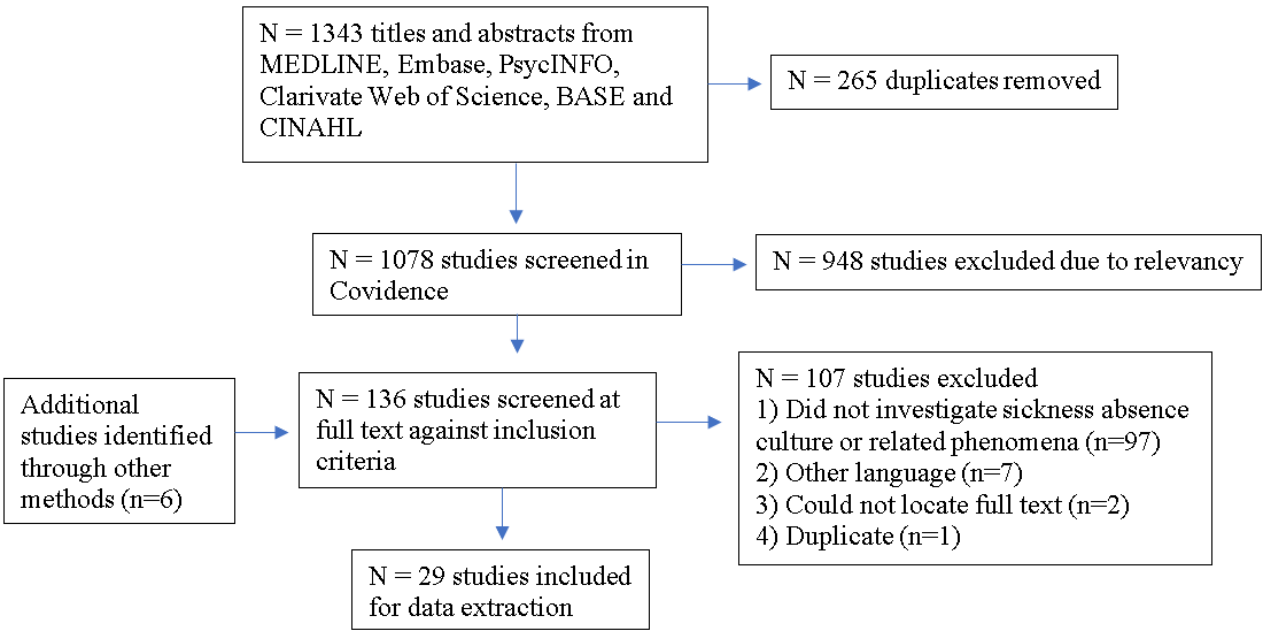
Data extraction process: A generic data extraction tool was developed in advance by the reviewers (See Appendix B). The studies were initially categorized based on sample, design (in the words of the authors), aims of the study, and key findings. The included studies were also categorized in pre-defined study design categories: observational qualitative, observational quantitative, experimental, mixed-methods and narrative review/non-empirical. Data from a sample of 10 studies were extracted by two independent reviewers in order to calibrate. When sufficient consensus had been obtained (>90 % consensus), full data extraction began. Then, each study was categorized jointly by the two reviewers based on results and relevancy (See Table 1). In accordance with the JBI methodology guidance for scoping reviews, we did not assess methodological quality or risk of bias of the included studies (20). Due to the broad aim of this review, a narrative synthesis of the data was chosen.

RESULTS

Literature search: The search resulted in 1343 papers (Fig. 1). After duplicates were removed, the remaining 1078 titles and abstracts were screened in Covidence by two independent reviewers. For full-text reviewing, 130 studies were directly included. Six studies were identified through other methods. In total there were 90 conflicts between the two reviewers. Inter-rater reliability was high ($\kappa = 0.92$). After full-text screening, 107 studies were excluded. Of these, 97 studies were excluded for not investigating sickness absence culture or related phenomena, seven studies for being in another language than English or any Scandinavian language, two studies because the reviewers could not locate full text

(corresponding authors were contacted), and one study due to it being a duplicate. Finally, 29 studies remained for data extraction and synthesis.

Fig. 1 Flow of information through the different stages of the scoping review



Characteristics of the included literature: The majority of the publications were empirical (n = 27), of which 21 were quantitative, three were qualitative, two were experimental and one was mixed methods. Two publications were not empirical, and these were categorized as narrative reviews. For data collection, several of the included studies used surveys in combination with obtained sickness absence records for the preceding 3-12 months before survey administration (21-26), the following 3-12 months after completed survey (19, 27-32), or 6-12 months both before and after (33-35). A large portion of the quantitative studies controlled for gender and age (1, 19, 22, 24-28, 34-38) since both of these variables are known correlates of sickness absence (e.g., 5, 39).

Ten of the included studies attempted to measure sickness absence culture directly with survey questions (21, 24-27, 31-33, 35, 40). None of the included studies utilized the same

exact scales for assessing sickness absence culture, which indicates a lack of standardized measurement for sickness absence culture. One of the studies (31) utilized a scale developed by the authors of another included study (35), however the scale was modified (31). Eight of the included studies suggested sickness absence culture as an explanation for observed variations in sickness absence rates, without measuring sickness absence culture directly (1, 19, 22, 30, 34, 36-38). The authors of one of the included studies suggested that differing social norms could account for some of the unexplained variance in sickness absence rates between companies, and that sickness absence is socially contagious (41). The results are summarized in Table 1.

Table 1

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Dale-Olsen, 2011 (41)	Norwegian men, employed in workplaces with more than five employees (N = 443052)	Register-based data analysis	Observational quantitative	To investigate if, and to what degree, social norms impacted individual sickness absence behavior	Employee's sickness absence rates were strongly associated with changes in their co-worker's sickness absence rates. According to their estimations, a one day increase in colleagues' sickness absence rates (per year) would result in a 0.3 day increase in individual sickness absence rates. Did not measure social norms directly
Mathieu, 1990 (34)	Transit operators from a midwestern metropolitan area in the USA (N = 180)	Cross-level design	Observational quantitative	To examine the impact of group-level absence on individual absence	When looking at total time lost due to absence, the results showed that group-level absence rates were associated with individual absence rates, even when controlling for individual demographics (i.e., gender, age, and seniority) and affective reactions (i.e., job involvement and job satisfaction). This association was not significant for absence frequency. Absence was not recorded for the following situations: military leave, holiday/vacation, injuries, or jury duty. Absence norms were not assessed directly
Hope, 1995 (22)	Hospital staff from two midwestern medical centers in the USA (N = 422)	Multistage path analysis model design	Observational quantitative	To empirically test a proposed model of absenteeism, and to determine which factors correlated with absence levels	Absence culture (here operationalized as group absence rate and work group size) was significantly associated with single-day absences in both hospitals investigated

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Russo, 2013 (38)	White collar office employees in a private company in Italy (N = 744)	Longitudinal study with individual-level analysis	Observational quantitative	To investigate absence variations over a four year period and to explore the role social context had in determining these variations	Employees with low organizational tenure (worked less than three years) showed a steadily increasing absence rate, as they started with lower levels of absence, but gradually increased absence rates to match the rate of medium-tenured colleagues. This increase was observed regardless of the individuals' initial absence rate. Those who had worked over three years in the company had reached a stable absence rate that reflected the norms and culture of the organization. Absence norms were not assessed directly
Gellatly, 1995 (29)	Nursing and food service employees of a Canadian hospital (N = 166)	Not specified in the paper	Observational quantitative	To examine whether employees' absence rates were affected by perceptions of interactional justice, affective and continuance commitment, and the perceived absence norm in the employees' work unit or department	Employees' beliefs about their co-workers' absence rates were related to individual sickness absence rates one year later. Perceived absence norms and affective commitment mediated the effects of group sickness absence rates and interactional justice on individual absence rates. Absence norms were measured by asking employees to estimate the mean absence rate of co-workers during the last 12 months

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Gellatly, 1998 (19)	Phase 1: Department heads, nurse managers, union representatives and employees from a Canadian hospital being interviewed for 1-2 hours each (n = 30) and participating in focus groups discussing absence culture (n = N/A). Phase 2: Employees from the same Canadian hospital answering a questionnaire (n = 305) (N = 305-335)	Combination of qualitative and quantitative methodology	Mixed methods	To investigate the determinants of employees' perceived absence norms, and if perceived absence norms predicted future individual absence	Employees' absence history, the mean absence rate in their closest workgroup, and the larger absence culture of the departments were all associated with employees' normative perceptions of absence tolerance, which in turn was related to variations in their absence behavior. Perceived absence tolerance was also shown to predict future individual absence rates one year later. Employees with high absence rates affected co-workers estimates of mean absence rates within the workgroup more than employees with low absence rates did. Absence norms were measured by asking employees to estimate the mean absence rates of co-workers during the last 12 months
Ahn, 2013 (42)	Computer-simulated workers divided in 10 teams, working in a simulated organization (N = 100) for 300 days	Experimental analysis with simulations	Experimental	To investigate the mechanism and impact of social learning on absence behavior, in addition to exploring how information of employees' social learning can be used to reduce absence rates	High social adaptation (the degree of the worker's tendency to learn others absence behaviors and follow them) can work as a moderator that either increases or decreases workers' absence rates. When strict self-regulation is prevalent among employees, high social adaptation can lead to the development of a positive social norm and lower absence rates at the workplace

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Carlsen, 2012 (43)	Teachers (n = 25) and head teachers/department heads (n = 12) from three Norwegian upper secondary schools with different sickness absence histories (N = 37)	Qualitative cross case study	Observational qualitative	To investigate if the increasing or decreasing sickness absence rates in different schools may be caused by self-enforcing processes of social interaction between teachers and school management	Increasing sickness absence rates did not result in reduced stigma related to sickness absence. Increasing sickness absence rates led to social sanctions that worked against the increasing sickness absence. However, when sickness absence rates increased, it was hypothesized that it could lead to more liberal sickness absence norms for some teachers due to a belief that matching one's absence behavior to the other more absent teachers was fair
Zoghbi-Manrique-de-Lara, 2015 (40)	Employees in a Spanish social security system (N = 84)	Not specified in the paper	Observational quantitative	To investigate the association between anomia and absence	Anomic feelings (e.g., feelings of valuelessness and being disconnected from society) were related to increased absence rates. Organizational climate (here referring to shared values and beliefs within an organization) did not shape the absence culture and so did not show a significant correlation with absence rates. According to this study, the organization plays a minor role in impacting the perceived legitimacy of absence
Martocchio, 1994 (32)	Clerical employees from five units of a Fortune 500 corporation (N= 264)	Cross-level field study	Observational quantitative	To investigate if absence culture could be assessed through aggregating individual beliefs to a group-level on perceived costs/benefits of being absent. Also, to examine if absence culture could predict future individual-level absence	The author found empirical evidence for the effects of absence culture on individual absence rates. When controlling for other factors found to be associated with absence rate variations (i.e., general work attitude and individual perceptions about possible consequences of absence), the absence culture factors explained 4% of the variance observed in paid absence the following three months. Absence was not recorded for holidays, vacation days, and scheduled days off. Assessed absence norms directly through employees' beliefs about the possible costs and benefits of being absent from work, and the likelihood of these costs/benefits occurring in their organization

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Duff, 2015 (36)	White-collar employees in a Canadian professional services firm (n = 955) working in 79 different teams, with all teams having one manager (N = 1034)	Multilevel field study	Observational quantitative	To investigate the impact manager- and team absence rates had on individual absence rates, and if the impact of team absence norms on individual absence rates was moderated by the manager absence rates	Team absence variations influenced individual absence rates, so that individuals over time adapted to the absence rate of the group. Team absence variations showed a larger impact on employee absence rates than manager absence rates did, but manager absence rates moderated this association when the manager had strict absence norms and showed low absence rates (in that case individual absence rates was not associated with team absence rates anymore). Controlled for gender and age. Absence norms were assessed indirectly by calculating the average employee absence rate in different workgroups
Markham, 1995 (33)	Employees at garment factories in the USA (N = 800)	Multilevel analysis	Observational quantitative	To investigate the impact of an organization's social context on employees' perceptions of absence standards and how this relates to the employees' absence behaviors	Management standards and personal standards were associated with individual absence rates. Supervisory groups with perceptions of both high external management standards and high internal personal standards had low rates of absence. In contrast, groups with a shared perception of both low external and internal standards had higher absence rates than other groups. Supervisor's internal personal standards significantly predicted absence rates for the entire group. Their external standards did not. Absence norms were assessed directly by asking about perceptions of acceptable absence rates
Ruhle, 2020 (44)	German employees from a wide range of organizations (N = 28)	Qualitative approach	Observational qualitative	To explore how the interaction between individual perceptions of absence norms, values, behaviors, and the work context shapes the perception of an absence culture	An individual's perception of absence culture was closely related to their following behavior. Attendance behavior of supervisors and peers was hypothesized to influence individual behavior since supervisors and peers are role models of the organization's absence culture. They did not find an association between absence culture and the organizations official attendance rules

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Gale, 1993 (21)	Clerks working in the Human Resources department of a gas utility in the USA (N = 43)	Survey study	Observational quantitative	To investigate the impact of social influences on absence behavior	High group cohesiveness and task interdependence was associated with higher absence norm saliency. Absence duration, but not frequency, was significantly lower for groups reporting high cohesiveness and task interdependency. Absence norms were assessed directly through a questionnaire aimed at finding the range of tolerable absence rate within workgroups and the mean intensity of their feelings towards absence behavior
Vaananen, 2008 (35)	Finnish municipal workers (N = 4855)	Part of an ongoing longitudinal study	Observational quantitative	To investigate the impact social components within the workgroup had on sickness absence rates among individuals with varying absence tolerance	On average, employees who reported working in groups with low cohesion showed 15% higher absence rates than those in groups with high cohesion. Group absence norms and cohesion moderated the association between absence tolerance and sickness absence behavior. The more tolerant the group sickness absence norms (at both individual- and cross-level) and the lower the group cohesion (at the individual level), the more the sickness absence behavior of an individual was influenced by his/her sickness absence tolerance. Absence behavior was measured as the number of medically certified sickness absence episodes. Absence norms (of non-medical absence) were measured directly through questionnaires
Xie, 2000 (26)	Employees in a state-owned manufacturing company in the People's Republic of China (N = 800)	Multi-level and cross-level analysis	Observational quantitative	To investigate the interactive effects of group cohesiveness and absence culture salience on individual absence rates	The negative association between salience and absence was strongest in groups with low cohesion. In groups with high cohesion, they found (in contrast to their hypothesis) a positive association between salience and absence. Absence norms mediated the association between cohesiveness, cultural salience, and their interaction on self-reported sickness absence rates. Group norms were a result of cohesiveness and salience, and norms were found to have the strongest association with self-reported sickness absence rates. Controlled for gender, age, tenure, occupation, job satisfaction and self-efficacy for attending work. Absence culture salience was assessed directly through a questionnaire survey

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Miles, 2011 (24)	Employees in a Dutch commercial production organization (n = 377) and a Dutch non-profit social welfare organization (n = 582) (N = 959)	Not specified in the paper	Observational quantitative	To investigate how group cohesiveness and absence tolerance was related to individual absence rates	Absence tolerance was positively related to absence rates. In groups with low cohesion, high absence tolerance was associated with the highest absence rates, and low absence tolerance was associated with the lowest absence rates. Controlled for gender and age. Absence tolerance was measured directly by making respondents rate the legitimacy of different reasons for being absent
ten Brummelhuis, 2016 (25)	Study 1: Employees from a wide variety of industries (e.g., education, production, healthcare, finance, transport, agriculture) in the USA (N = 299) Study 2: Employees from 24 Dutch organizations working in one of three sectors (health care, facilities and support, or commercial services) (N = 79)	Experimental (study 1), field study (study 2)	Experimental (study 1), observational quantitative (study 2)	To investigate why individuals adjust their absence rates to their colleagues' absence rates, and under what conditions this is most likely to happen	Study 1: Higher co-worker absence rates increased the likelihood of individuals to call in sick due to more tolerant absence norms and more economic exchange norms (i.e., increasing one's absence to make sure she/he does not work more than co-workers). Those who worked in highly task interdependent and cohesive groups showed stronger cooperative exchange norms (i.e., not increasing one's absence rates even though co-workers had higher absence rates) and lower absence tolerance. Controlled for individual factors (i.e., age, gender, job motivation and emotional exhaustion). Study 2: The impact co-worker absence rates had on individual absence rates was weaker in groups with high cohesiveness and task interdependency. Absence norms were measured directly through a questionnaire

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Kristiansen, 2017 (45)	Employees in four residential homes in Oslo, Norway with five employees in each home (N = 20)	Case study with comparative design	Observational qualitative	To investigate the importance of organizational culture for presence at work	Low social support and group cohesion was reported to contribute to a more liberal absence culture. All employees in the two workplaces with a liberal absence culture reported a shared dissatisfaction with the management. The employees in the two other workplaces with a more conservative absence culture reported high group cohesion and did not report any dissatisfaction with their management. Absence culture was assessed directly by presenting explicit questions and hypothetical situations related to absence legitimacy from the perspective of the individuals and their co-workers
David, 2015 (28)	Employees in a call center of a private sector organization in the USA (N = 470)	Not specified in the paper	Observational quantitative	To investigate if dissimilarity to the majority of one's colleagues was related to a higher motivation to show withdrawal behaviors (sickness absence, tardiness, and turnover). Also, to examine if colleagues' level of withdrawal behaviors moderated if the dissimilar employees were to act on these motivations or not	There was a positive association between employees who were racioethnically dissimilar to the majority of their colleagues and their increases in absence rates, but only when co-workers showed more liberal absence norms by having more frequent withdrawal behaviors. Racioethnically dissimilar employees working in groups with the highest absence tolerance exhibited the greatest increases in sickness absence rates over three months. Controlled for age, tenure, sex and racioethnicity. Absence norms were assessed indirectly through absence-data collection
Gellatly, 2012 (30)	Employees from 181 workgroups in a healthcare organization in Canada (N = 1382)	Not specified in the paper	Observational quantitative	To investigate how individuals' similarity to their co-workers impact the association between individual absence rates and group absence rates	Dissimilarity in terms of union affiliation moderated the association between co-worker absence rates and individual absence rates. Individuals who were more similar to their co-workers, in terms of union affiliation, tended to adjust their absence rate to the group absence rate. Less similar individuals did not adjust to the group absence rate. Absences due to vacations, work-related injuries, or permitted leave were not recorded as absence. Absence frequency was observed over a 12-month period

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Bamberger, 2007 (27)	Production workers in a food manufacturing company in Israel (N = 141)	Not specified in the paper	Observational quantitative	To investigate how the absence norms of work-based referent others impact individuals' excessive absence behavior	Referent group norms significantly explained the variations in excessive absence behavior. The impact permissive group norms had on individual excessive absence behavior was moderated by how negative the individual's perception of the consequences of absence taking was, so that more negative perceptions resulted in a weakened impact of permissive group norms on excessive absence. Controlled for age, gender, tenure, number of dependent children and mean monthly income. Absence norms were assessed directly by having the sample indicate how "justifiable" 20 different reasons for work-absence were
Johns, 1994 (23)	Employees (n = 419) and managers/supervisors (n = 74) working in a utility company in Canada (N = 493)	Not specified in the paper	Observational quantitative	To investigate and compare the estimated absence rates of employees and managers with the objective absence rates	Employees underestimated their own yearly absence rates. The employees revealed a self-serving bias when comparing their absence rates to the workgroup and the occupational norm. Occupational norms were assessed directly by asking employees to estimate typical absence rates in their type of work over a year
Geurts, 1994 (31)	Dutch blue-collar workers (N = 453)	Prospective design	Observational quantitative	To predict absence rates over a period of one year using a social comparison model	The perception of being more disadvantaged* than one's co-workers was positively associated with more tolerant personal absence norms, and higher absence rates in the 12 months after survey administration. Absence frequency (not medically certified) was collected the following 12 months after survey administration. Absence norms were assessed directly by making employees state the likelihood of them taking absence from work in different hypothetical situations. *In terms of working environment, physical safety, autonomy, variation in the job, participation in decision-making, rewards, promotion prospects, social conditions, social atmosphere, supervision, and the work situation in general

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Rosenblatt, 2010 (37)	Study 1: Public-school teachers in Israel (N = 52 056). Study 2: Teachers from 35 high-schools in Israel (N = 1016)	Not specified in the paper	Observational quantitative	To investigate teacher absence from the perspectives of organizational normative behavior (study 1) and organizational ethical climate (study 2)	Study 1: Results showed an absence pattern where teachers tended to extend their absence around weekends and holidays. Study 2: A caring school ethical climate was associated with lower absence rates. This association was stronger for teachers with lower tenure. Caring ethical climates were suggested to be characterized by high cohesiveness among the employees in the organization. Controlled for age, gender, tenure, and school size
Holloway, 2012 (1)	High-school teachers in the USA (N = 705)	Not specified in the paper	Observational quantitative	To analyze selected factors (demographic factors, job satisfaction, and organizational climate) that could impact teachers' absence rates in secondary public schools, and to examine differences in teacher absence rates by content areas taught at the high school grade level (9-12)	An absence culture was suggested among the English and Social studies department in the district since their sickness absence rates were significantly higher than the other departments in the district. The authors suggested that some of the excessive absence for these departments in April and May could be linked to the increased number of tests and exams. The authors suggested that the teachers had developed a mutual understanding of "deserving" more time off during this period. This would have created a higher absence tolerance, resulting in increased absence-behavior
Duncombe, 2019 (46)	Healthcare workers in the Bahamas (N = 150)	Descriptive-cross sectional study	Observational quantitative	To investigate the organizational factors contributing to voluntary absence	61% of the employees stated that organizational culture contributed to workplace absence, and 60,7% stated that they had been absent from work even though they were not genuinely sick. 66.7% of the employees reported that voluntary absence was not strongly discouraged by the institution, making it easier to be absent from work despite not being sick. 47% of employees also indicated that sick leave benefits contributed to increased voluntary absence

First author, (year)	Sample	Design (in the words of the authors)	Design (our categorization)	Aims of the study	Key findings
Nicholson, 1985 (47)	No sample	Not specified in the paper	Narrative review	To explain variations in absence behavior within and between organizations and their subunits through the concepts of absence culture and psychological contract	The authors suggested four typologies of absence culture: Type 1: High trust, low salience, resulting in a dependent culture and deviant absence. Type 2: High salience, high trust, resulting in a moral culture and constructive absence. Type 3: Low trust, low salience, resulting in a fragmented culture and calculative absence. Type 4: Low trust, high salience, resulting in a conflictual culture and defiant absence
Rentsch, 2003 (48)	No sample	Summary of relevant literature in an integrative conceptual framework	Narrative review	To explore unit-level absence by focusing on absence culture research	The authors propose that unit-level absence could be understood as a feedback-loop system, where absence behavior is seen as a significant interpretable event that will affect the antecedents of an absence culture. A reaction to absence behavior (for instance that the absent individual gets replaced), may change the meaning of absence in the unit, and this will in turn impact the future absence behavior of others in the unit, altering the absence culture

Presentation of findings: Eight of the included studies reported on how individual-level sickness absence was affected by group-level sickness absence (19, 22, 29, 34, 38, 41-43). Two studies reported that co-workers' recorded sickness absence rates were positively associated with individual sickness absence rates in terms of duration, but not frequency (34, 41). Another study did however find a significant association between co-worker sickness absence rates and absence frequency (22). One of the mentioned studies analyzed to what degree variations in co-worker absence rates were associated with individual absence rates, while controlling for factors including (but not exclusively) age, education, tenure, type of work, and workplace district (41). The study reported that co-worker sickness absence rates significantly impacted individual sickness absence rates when these factors were controlled for, and further estimated that a one-day increase in co-worker sickness absence rates would result in a 0.3 day increase in individual sickness absence rates (41).

Beliefs about one's co-workers' sickness absence rates have also been reported by two studies to correlate with individual sickness absence rates, so that higher estimates of co-worker sickness absence rates were associated with higher individual sickness absence rates (19, 29). Furthermore, these beliefs were reported to predict individual sickness absence rates one year later (19). One study also included organizational tenure as a factor when longitudinally investigating the association between co-workers sickness absence patterns and individual sickness absence patterns, while controlling for age and gender (38). The authors reported that organizational tenure moderated the strength of this association, so that employees with lower tenure were to a larger degree affected by the absence patterns of their co-workers. The same study found that employees' perception of top management and co-workers also moderated the association between individual sickness absence rates and co-worker sickness absence rates over time. On the other hand, individuals' perception of their supervisors did not impact the association between individual sickness absence rates and co-worker sickness

absence rates (38). According to another study, personal characteristics, especially degree of social adaptation and self-regulation, moderated the association between the sickness absence rates of co-workers and individuals (42). A qualitative study on teachers indicated that two counteracting processes set in when general sickness absence rates become high (43). In line with previously mentioned findings (19, 29, 34, 41), the author of this study suggested that some teachers might increase their sickness absence to match the increasing absence rates (43). It was suggested that teachers also could be influenced by social sanctions from colleagues, which could work against the increasing sickness absence rates. It was further proposed by the author that these opposing processes are active until a sufficient number of employees adopt more liberal absence norms due to increasing sickness absence rates (43). When this point is reached, the author assumed that the absence culture was changed so that there would be fewer social sanctions in response to increasing absence rates due to the development of more liberal absence norms (43). However, the authors of one of the included studies suggested that shared beliefs and values within an organization does not affect sickness absence behavior (40). This study did however not measure sickness absence rates, but instead used a self-developed scale to measure behavioural intentions of abusive absence due to sickness. To exemplify, one of the items were: “I try everything possible to lengthen my sick leave time due to illness” (40). The authors further argued that absence culture mainly originates from individual thoughts about the general society and to a lesser degree from the organizational culture.

One study reported on the amount of variance in individual-level sickness absence rates that could be explained by absence culture factors, and concluded that absence culture factors explained 4% of the variance observed in paid absence among employees working in different clerical units (32). In this study, demographic variables, general work attitudes, unit size, and individuals perceived absence norms were controlled for (32).

Three studies reported on manager/supervisor effects on employee sickness absence rates (33, 36, 44). The first study investigated the effect of manager and team sickness absence on individual sickness absence, with gender and age controlled for (36). The authors reported, in accordance with previously mentioned studies (19, 22, 29, 34, 41) that team sickness absence correlated with individual sickness absence (36). Furthermore, this correlation was stronger than that of manager sickness absence and individual sickness absence. The authors of the same study also reported that the impact of team sickness absence on individual sickness absence was moderated by managers' sickness absence rates when managers had strict absence norms and low sickness absence rates. In this latter case, individual sickness absence was no longer associated with team sickness absence. Manager sickness absence rates by itself did not predict variations in individual sickness absence rates (36). The second study on this topic did however find that the amount of sickness absence viewed as acceptable by the supervisor of each workgroup predicted sickness absence rates for the entire group, but the explicitly stated absence goals from the management did not (33). Lastly, the authors of an observational qualitative study suggested that supervisors and peers often act as role models for the organization’s attendance culture (44). The respondents in this study reported that their supervisors often behaved in accordance with the reported type of attendance culture. The authors further suggested that the attendance behavior of supervisors and peers might have influenced the attendance behavior of individuals in the organization (44), even though an earlier mentioned study did not find much support for supervisor-effects on individual sickness absence rates (38).

Five studies investigated if interpersonal factors could moderate the association between co-worker sickness absence rates and individual sickness absence rates (21, 24-26, 35). One study reported that highly cohesive and task-interdependent workgroups showed stronger absence norms, implying a lower absence tolerance. The sickness absence duration of these

groups was significantly lower than in groups not reporting high cohesiveness and task interdependency, but the sickness absence frequency was not (21). Similar results were found in a study of Dutch employees working in three different sectors (health care, facilities and support, and commercial services) (25). In this experimental study, the authors reported that group cohesiveness and task-interdependency moderated the association between co-worker sickness absence rates and individual sickness absence rates, so that the sickness absence rates of employees in highly cohesive and task interdependent groups were less affected if their co-worker's sickness absence rates increased (25). A study on Finnish municipal workers reported that employees working in groups with low cohesion on average had 15% higher sickness absence rates than employees in highly cohesive groups (35). The authors of another qualitative study reported that lack of social support and low group cohesion contributed to a sickness absence culture with more tolerant sickness absence norms, and therefore higher sickness absence rates (45).

Under certain conditions, however, less cohesive groups could have lower sickness absence rates than highly cohesive groups. Two studies reported that in groups with low absence tolerance, less cohesive groups had lower sickness absence rates than highly cohesive groups (24, 26). On the other hand, if the absence tolerance was high, those reporting low group cohesion had higher sickness absence rates than highly cohesive groups (24, 26). One of these studies also investigated the effect of group cohesiveness and absence culture saliency on individual sickness absence rates (26). The authors of this study reported that absence norms mediated the effect of group cohesiveness and cultural saliency on self-reported sickness absence rates (26). According to the authors of a formerly mentioned study (35), it was suggested that individuals to a larger degree act according to their own absence standards if they perceived low group cohesion and there was a more tolerant group absence norm. Employees with low internal absence standards working in a less cohesive group with high

absence tolerance had higher sickness absence rates than other groups. If the reported group cohesion was high, or if the group had low absence tolerance, the association between personal absence standards and personal sickness absence rates was not significant (35).

Three studies reported on how co-worker similarity or co-worker closeness could moderate the association between co-worker sickness absence rates and individual sickness absence rates (27, 28, 30). One of these studies investigated the effect of referent others' absence norms on individual sickness absence rates, while controlling for personal characteristics like age, gender, tenure, number of dependent children and mean monthly income (27). In this study, referent others referred to colleagues that employees reported having a close relationship to. The authors reported that the group norms of referent others significantly explained variations in individual excessive absence behavior (27). The authors of another study reported that similarity in terms of union affiliation moderated the association between group sickness absence rates and individual sickness absence rates (30). Individuals with similar union affiliations adjusted their sickness absence rates to that of the group over the 12-month observation period. However, dissimilar individuals (in terms of union affiliation) did not (30). The third study on this sub-topic investigated the association between dissimilarity to colleagues and withdrawal behaviors (sickness absence, tardiness, and turnover) over a three-month period (28). The authors of this study found a positive correlation between racioethnically dissimilar employees and increases in sickness absence rates between the two time periods, but only in groups where co-workers showed liberal absence norms by having more frequent withdrawal behaviors. Racioethnically dissimilar employees working in groups with the highest absence tolerance showed the highest increases in sickness absence rates of the employees (28). The authors hypothesized that racioethnically dissimilar individuals were motivated to be absent in response to stigmatization, but that they only engaged in sickness absence behavior when it was

perceived as socially acceptable (i.e., other colleagues showed high sickness absence rates) (28).

Two of the included studies reported on social comparison in relation to sickness absence variations (23, 31). One of the studies reported that when individuals compared their own sickness absence to that of their co-workers and the workgroup mean sickness absence rates, individuals tended to underestimate their own sickness absence rates and overestimate their co-workers' sickness absence rates (23). The subjects in this study were absent more than twice as often as they had reported. According to the author, this reflects a self-serving bias in employees' perception of their own sickness absence rates (23). The reported inaccurate perception of co-workers' sickness absence rates is consistent with the findings of a formerly mentioned mixed methods study (19). The authors of this study reported that the employees with high sickness absence rates affected co-workers estimates of mean sickness absence rates to a larger degree than employees with low sickness absence rates did (19). Another study investigated the association between social comparison of job-outcomes and individual sickness absence rates (31). The authors reported that the perception of being more disadvantaged (relative to co-workers) in terms of job outcomes was positively associated with more tolerant absence norms, in addition to higher sickness absence rates in the following year (31).

Two of the included studies did not measure variables related to sickness absence culture (i.e., social norms and beliefs regarding sickness absence legitimacy) directly or indirectly, but still suggested the presence of a sickness absence culture as a possible explanation for unexplained variance in sickness absence rates (1, 37). A register-based study investigated temporal sickness absence patterns among Israeli teachers and reported that the teachers were significantly more absent around holidays and weekends (37). The authors stated that their

findings could be supported by literature on sickness absence culture, and suggested that workgroup norms might legitimize the increasing sickness absence rates around holidays and weekends (37). The second study analyzed local sickness absence variations among teachers from 11 high-schools in the USA (1). The authors of this study suggested the presence of a sickness absence culture as an explanation to why the English and Social studies departments in the district consistently had higher sickness absence rates than other departments in the district (1).

One survey-based study investigated which factors were related to voluntary sickness absence among healthcare workers in the Bahamas (46). In this study, 61% of the sample reported organizational culture as a contributing factor to workplace sickness absence, and 60,7% stated that they had been absent from work even though they were not genuinely sick. The authors suggested the existence of a sickness absence culture with liberal absence norms as a plausible explanation for these results (46).

Two of the included studies proposed theoretical frameworks for understanding sickness absence behavior based on existing literature on the topic (47, 48). We categorized both of these studies as narrative reviews. One of the studies proposed a feedback-loop system for understanding group-level sickness absence (48). Based on the reviewed literature, the authors concluded that there was evidence for absence culture as a predictor of absence behavior. Therefore, the main predictor of absence behavior in their model was absence culture. The authors also concluded that there was indirect evidence for antecedents of an absence culture. In their model, the authors proposed individual characteristics, job-related characteristics, and contextual characteristics at the group-level as antecedents of absence culture. Absence behavior was perceived as an interpretable event that would affect the antecedents of sickness absence culture. The absence culture would in turn affect the absence

behavior of the group, thus creating a feedback-loop. The other study developed a framework attempting to predict how organizations (and parts of organizations) differed in terms of absence culture (47). The authors suggested four types of absence cultures, based on high/low trust in the psychological contract, and high/low saliency of absence norms. The authors used the term psychological contract to describe the reciprocal expectations between the individual and the organization. Based on their typology, they hypothesized that cultures with more salient absence norms would show more extreme absence rates in either direction. In addition they hypothesized that workers in these cultures would monitor both their own and co-workers' absence rates to a larger degree than workers in cultures with less salient norms.

DISCUSSION

Summary of findings: The results from this scoping review indicate that group sickness absence rates and perceptions of group sickness absence rates impacts (or is significantly associated with) individual-level sickness absence (19, 22, 29, 32, 34, 36, 38, 41, 44). Studies reported that the association between individual sickness absence and co-worker sickness absence are moderated by factors such as organizational tenure (38), managers absence behavior (33, 36), group cohesion and/or task interdependency (21, 24-26, 35), and personal characteristics (42). Similarity or closeness to co-workers was also reported to impact the association between group sickness absence rates and individual sickness absence rates (27, 28, 30).

There appeared to be no standardized way of measuring sickness absence culture. Some of the studies included in this review assessed sickness absence culture (or related concepts) directly with questionnaires (e.g., 32), others assessed them indirectly by collecting objective or self-reported sickness absence rates (e.g., 19, 41), while a few studies did not assess

sickness absence culture in any form (but still suggested the presence of a sickness absence culture) (e.g., 1).

General discussion: A potential weakness with this review is the possibility of overestimating the effect of sickness absence culture, and subsequently underestimating the potential impact of other variables on sickness absence. A possible reason that the effect of sickness absence culture might be overestimated is that several of the included studies suggested sickness absence culture as a residual explanation for observed variance in sickness absence rates. Residual explanations are based on normative views, which is problematic because they assume the existence of a concept without having investigated it directly. Even when known confounders are controlled for, there is still a possibility of bias due to unknown confounders (49). It is therefore conceivable that these studies overestimate the effect of sickness absence culture on sickness absence. Publication bias in favour of significant findings, known as the file drawer problem, could further contribute to this overestimation (50). All of the (quantitative/experimental) studies included in this review reported at least some significant results. It is plausible that studies on the concept of sickness absence culture have not been published due to non-significant findings, and that we as a consequence of this overestimate the effect of sickness absence culture on sickness absence rates.

In addition, there are no established terms in the controlled search vocabularies of databases matching the concept of sickness absence culture. If the concept of sickness absence culture is described in other terms than those included in our search strategy, it might have resulted in relevant studies not being included. Furthermore, there seemed to be no standardized way of measuring sickness absence. In this review most of the studies used employee records or self-reported estimates of days absent (including both medically certified sickness absence and self-reported sickness absence) for the period of interest, while one study only included

medically certified sickness absence (35) and another study only included sickness absence episodes that were not medically certified (31). Objectively obtained sickness absence records are comprehensive, but might not always separate sickness-related absence from absence due to other reasons. Self-reported estimates of absence might differentiate reasons for each absence episode, but in general tends to be less reliable than collected absence records (51). In addition, when assessing total absence rates some studies excluded days employees were absent due to situations like holidays, jury duty, military leave, or injuries (e.g., 30, 32, 34), while others did not control for different reasons for absence (e.g., 28, 37). This also complicates the process of comparing some of these studies.

Furthermore, as summarized by Whitaker (16), there are other obstacles that may arise when trying to compare sickness absence rates both between countries and between organizations within the same country. For instance, some organizations perceive a month of sickness absence as four calendar weeks (28 days), while others only record the lost days at the workplace during these four weeks (20 days) (16). Comparing studies with different measures or understandings of sickness absence is therefore somewhat problematic. Another challenge to measuring both sickness absence rates and sickness absence culture is that respondents are prone to social-desirability bias. Social-desirability bias is a tendency to overreport what is generally perceived as "good" behavior, and underreport what is perceived as "bad" behavior (52). We assume that low sickness absence rates represent "good" behavior, and that it would be more socially desirable to report low sickness absence rates. In line with this assumption, a previously mentioned study reported that employees in general underestimated their own sickness absence rates, and showed a self-serving bias when comparing their own sickness absence rate to that of their co-workers and the occupational norm (23). A more recent meta-analysis on the validity, reliability and accuracy of self-reported absence also reported that employees tended to underreport absence rates as

compared to their objective absence rates (53). The authors did however report that this tendency was somewhat reduced when employees estimated sickness-related absence rates specifically, but it was still significantly underreported compared to obtained sickness absence records (53). If sickness absence rates obtained by self-report are generally underreported in the literature, it could be that the effect of sickness absence culture on sickness absence rates is underestimated. Therefore (in contrast to the discussion on residual explanations and "the file drawer problem"), the concept of sickness absence culture could also be larger than what appears in the investigated literature.

Sickness absence can also be discussed in relation to what could be considered its counterpart, namely sickness presence, also called presenteeism. Presenteeism is referred to as attending work while not being fit for work (54). Absenteeism is on the other hand often referred to as not showing up for work as scheduled (55). Compared to sickness absence, absenteeism entails all absence, including absence attributed to sickness. Presenteeism has been given more attention in research lately, which could be due to the productivity lost resulting from employees working whilst not being fit for work (56). There are studies reporting that presenteeism is a significant risk factor for increased future sickness absence (57, 58). Furthermore, several factors known to be associated with variations in sickness absence rates are reported to also impact the risk of presenteeism. Some of these factors include health status (59, 60), task interdependence (61), job stress (62), and absence norms (61, 63). In his narrative review on presenteeism, Johns addresses the potential existence of different presenteeism cultures (54). One author mentioned in this narrative review suggested the existence of a competitive presenteeism culture emerging in organizations facing downsizing (64). The presenteeism culture in this study was characterized by longer working hours and a higher degree of attendance whilst not being fit for work. The same author reported that younger men complied to the demands of the competitive presenteeism culture

to a larger degree than women did (64). These reported gender difference in presenteeism is consistent with the formerly mentioned literature on gender differences in sickness absence rates, where women in general have higher sickness absence rates than men (3, 5, 9-13). Furthermore, one author has suggested that sickness absence and sickness presence might be understood as two different results of the same decision-making process (11). In accordance with this statement, some authors have reported that interventions aimed at reducing sickness absence also might impact sickness presence (65, 66). It is plausible that including studies on sickness presence culture in this review would have contributed to a broader understanding of sickness absence culture. Future research should therefore consider further investigating these two concepts together.

Implications: Several OECD countries are generally interested in reducing sickness absence rates due to its economic and social consequences, both for the affected individuals and society at large (67). If sickness absence culture has a significant effect on sickness absence rates, it would be of great interest to develop interventions aimed specifically at the sickness absence culture. More research is needed to improve our understanding of sickness absence culture as a possible factor affecting sickness absence rates. Psychometric studies on the measurement of both sickness absence and sickness absence culture are in that case needed. Standardized measures of these phenomena could make comparison between studies more feasible. However, sickness absence is a complex phenomenon which is thought to be affected by several factors. As previously mentioned, even if studies control for different factors thought to affect sickness absence rates, the results might still be biased due to unknown confounders (49). Taken together, future research should further examine sickness absence, how sickness absence rates are affected by sickness absence culture, and how to measure both sickness absence and sickness absence culture.

Conclusions: This scoping review has summarized the relevant literature on sickness absence culture. There is surprisingly scarce literature on the concept of sickness absence culture considering the literature on sickness absence in general, and one should be careful when drawing conclusions at this point. In this review we mapped literature on sickness absence culture, and investigated what methods and designs were used in studies of sickness absence culture. Sickness absence culture appears as a potentially promising concept which could be useful in explaining variations in sickness absence rates that we otherwise would not be able to explain. We suggest the need for future research to determine the effect of sickness absence culture on sickness absence rates, to investigate the relationship between sickness absence cultures and sickness presence cultures, and to develop standardized measures of sickness absence and sickness absence culture.

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APPENDICES

Appendix A: Search strategy for MEDLINE

Search	Query	Studies retrieved
#1	Absenteeism/	9441
#2	Sick leave/	6281
#3	((sick* or illness) adj (day* or leave or absence*)).ti,ab,kw.	8387
#4	or/1-3	18452
#5	organizational culture/	18315
#6	(organi?ational adj (culture or climate)).ti,ab,kw.	3042
#7	or/5-6	19935
#8	4 and 7	155

All studies up to present date.

Appendix B: Generic data extraction tool

First author, year of publication	**Sample**	**Design (in the words of the authors)**	**Design (our categorization)**	**Aims of the study**	**Key findings**
Author 1, YEAR	Sample (N = 1)	Design 1	Design 1	Aim 1	Finding 1
Author 2, YEAR	Sample (N = 2)	Design 2	Design 2	Aim 2	Finding 2
Author 3, YEAR	Sample (N = 3)	Design 3	Design 3	Aim 3	Finding 3
Author 4, YEAR	Sample (N = 4)	Design 4	Design 4	Aim 4	Finding 4
Author 5, YEAR	Sample (N = 5)	Design 5	Design 5	Aim 5	Finding 5