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Systematic Review

Organizational Climate in Construction Companies: A Systematic Literature Review

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Abstract: The construction industry is fraught with risks due to the use of heavy machinery and work at heights, leading to increased occupational accidents. Understanding how the work environment affects personnel adaptation is crucial, as a negative environment can have detrimental consequences on the physical and mental health of workers. The aim of this study is to identify and examine the significant dimensions, factors, and models related to the organizational climate, with a particular focus on the construction sector. A systematic literature review was conducted following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, utilizing the SCOPUS database, from which 176 studies were obtained through search strings. Of this set, 142 were selected for final analysis. The results reveal that China has the highest number of studies on the organizational climate in construction. Regarding dimensions, emphasis is placed on occupational health and safety. Factors include a classification for dimensions, models, and other general factors. The model identified in studies with the most relevance is the JD-R (job demands–resources) model, which helps us to understand how job characteristics promote employee well-being. The implications of this study underscore the need for further research related to the work environment, implementing changes in occupational safety and health, and highlighting the importance of fostering a positive work environment from the early stages of organizational development. These findings provide valuable insights to refine labor practices, design more effective models, and guide future research in the realm of organizational climate in construction sector companies.

Keywords: JD-R model; occupational health and safety; organizational development; work environment

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1. Introduction

1.1. Justification

The organizational climate is composed of several dimensions that are crucial for the success, efficiency, and development of the organization. Among these, one can mention occupational health and safety, job satisfaction, safety climate, and within this framework, occupational safety and safety culture. Additionally, the dimensions include occupational risks, workplace accidents, working conditions, organizational culture, employee engagement, work environment, job performance, job stress, job burnout, occupational health culture, and occupational mental health.

Acknowledging the importance of all these dimensions for their effective implementation is fundamental, and all collaborators in this field must have adequate knowledge about them. As Davies (2022) points out, the company must communicate clearly and transparently about the organizational climate, ensuring that all collaborators fully understand these aspects and are aligned with the individual goals and development of each team member. It is essential to understand the impact of organizational climate in the construction industry, as indicated by Cruz-Zuñiga et al. (2022), since an unfavorable work

environment can result in a lack of personnel adaptation, which in turn can lead to negative consequences in terms of labor, physical, and psychological aspects for the workers. Therefore, it is imperative to dedicate active efforts to improving the organizational climate within this specific sector.

Given the current demands of the economy, it is crucial to adapt processes to improve occupational safety and health. Specifically, in the construction industry, with high accident rates, strategies are required that not only prioritize the safety of workers but also drive productivity and economic growth. It is essential to design specific measures that address the unique needs of this sector compared to others Villota Ortega et al. (2023).

According to López et al. (2019), the construction industry is known for its risky nature, involving heavy machinery, work at heights, and other hazards that can result in workplace accidents. Therefore, occupational health and safety are highly studied topics. The lack of a solid approach leads to distrust and, consequently, job abandonment by employees. It can also result in injuries, the loss of lives, disruptions in project schedules, and additional costs.

During the course of the research, previous studies related to the study topic were identified, such as the study conducted by Hayashi et al. (2023). Their research aimed to examine the conditions determining the improvement of occupational health and safety for construction workers. Their study involved a review of titles, abstracts, and full texts. The study results highlight the necessity for future research to focus on interventions that promote both occupational safety and health outcomes. This entails implementing both environmental and behavioral interventions at the individual level. Additionally, it is key to ensure the involvement of relevant stakeholders, avoid contamination in cluster randomization, optimize intervention dosing, and enhance outcome measurement.

The research conducted by Marleno et al. (2019) focuses on two key objectives: obtaining details on occupational health and safety (OHS) activities in construction projects and comparing the costs associated with the implementation of OHS in such projects. The methodology included a literature study, research, and descriptive analysis. The results detail the implementation of OHS in construction projects, covering aspects such as preparation, socialization, promotion, personal protective equipment, insurance, occupational health and safety personnel, health facilities, and overall compliance. Regarding costs, it was found that OHS compliance varies between 0.8% and 1.7% of the project value, showing significant differences between different types of projects, such as roads, bridges, drainage, and buildings.

According to Zid et al. (2022), the analysis of safety climate factors affecting safe behavior in the construction industry is significantly addressed, a topic that has been relatively unexplored until now. The extensive literature review, based on 96 scientific articles, identifies 23 factors grouped into three dimensions according to their impact. The first dimension highlights factors with a significant influence on safe behavior, such as the attitude towards safety, management commitment, safety management system, and employee involvement. The second dimension includes 7 factors with moderate influence, while the third dimension encompasses 12 factors with low evidence of impact on safe behavior. This novel approach in the article seeks to stimulate future research on human factors and specific measures related to various dimensions of safety climate in construction.

Continuing along the same line of research, Kongsvik's study (Kongsvik 2019) emphasizes the disparities in safety between local and foreign workers in multinational projects, delving into their underlying causes. The literature review reveals that migrant workers are more likely to experience accidents compared to locals due to the nature of the higher-risk jobs they occupy, less favorable working conditions, and their lesser familiarity with safety regulations. Some may also be culturally inclined to take on more risks. In multinational environments, the diversity of subcultures, often reflecting the original nationality of the workers, underscores the importance of simultaneously addressing cultural, structural, and interpersonal issues to enhance the occupational safety of migrant workers. Understand-

ing the factors influencing organizational climate is essential, and this study highlights concerns regarding occupational accidents.

In the study by Kineber et al. (2023), the prevalence of workplace accidents in the construction industry is emphasized. The study highlights the importance of understanding and implementing occupational health and safety management systems (OHSMS) to enhance sustainability in these aspects. A literature review was conducted, revealing the benefits of the OHSMS and highlighting challenges in implementation, such as a lack of communication, inappropriate equipment use, and cultural barriers. The assessment of benefits is complicated by the scarcity of comprehensive data on construction incidents and challenges in complying with effective laws.

To reduce occupational accidents and maintain workplace safety, Wahab et al.'s (2023) study underscores the importance of the relationship between construction, safety, and incidents, and the effectiveness of the Construction Industry Development Board's (CIDB) Green Card Training Program is highlighted. A literature review was conducted to gather data. The findings emphasize that construction incidents result in significant losses in human and financial resources, impacting morale and productivity. They conclude that, in Malaysia, attendance on CIDB's Green Card course is mandatory for those wishing to work in construction. This program aims to raise awareness among workers about fundamental safety knowledge, legislation, and regulations, with the goal of modifying behaviors and attitudes to reduce accident rates in the industry.

Similarly, according to the research by Supriyatna et al. (2020), the focus is on occupational safety and health risks in construction projects with the aim of reducing accidents and occupational illnesses. A literature review was conducted based on compiled journals analyzing occupational safety and health in construction projects. It is concluded that there are two significant sources of risk, both internal and external, considered from both technical and non-technical perspectives. Technical risks include the use of 4D-BIM technology, personal protective equipment, and construction tools that comply with the relevant permits. On the other hand, non-technical results encompass the awareness of work safely, knowledge, and culture in occupational safety and health, as well as incentives provided by management and government support regarding commitments and supervision in occupational safety and health in construction projects.

In the research conducted by Johansson et al. (2019), the study of safety and occupational risks in the construction industry is mentioned. Through a systematic literature review of 326 scientific articles, 11 categories were identified: accident statistics, individual factors, legislation and regulations, ethical considerations, risk management, leadership, organization, competence, safety design, cost–benefit calculations, programs, models, and technical solutions. These considerations must be taken into account to contribute to minimizing risks and increasing safety in companies in the construction industry, emphasizing that it is a complex matter in which all members of the organization are involved in achieving it.

On the other hand, a fundamental part of the work environment is examined in the study of Yuan et al. (2022) in which the relationship between safety climate, labor relations, and unsafe psychological states in construction is examined using the SEIR model. The literature review emphasizes the importance of the safety climate in preventing unsafe psychological states. The recommendation includes conducting regular training meetings to strengthen relationships, promote safety communication, and enhance awareness within the team. Additionally, the effectiveness of improving psychological states is underscored, with a key role assigned to team leaders and safety experts. Monitoring mental health and training programs, especially for post-traumatic mental health, are highlighted aspects.

In line with mental health in the workplace, the study by Golzad et al. (2023) focuses on addressing the concerning prevalence of suicides and mental health issues in the construction industry while simultaneously aiming to improve occupational safety. The research employed a systematic literature review, given the scarcity of available reviews on this specific topic. Forty-three factors contributing to mental health issues were identified,

with high job demands being the most significant, followed by interpersonal relationships, low job control, limited job support, and physical health. Additionally, deficiencies in the four dimensions of the psychological safety climate 12-item scale (PSC-12) were explored, indicating new areas of research to address these knowledge gaps. The study offers a comprehensive theoretical model of the causes of mental health issues, providing a valuable source of practical knowledge for professionals in the field.

These previously described systematic literature reviews (SLRs) suggest that in a context where a conflictive organizational environment can have detrimental consequences for the mental and physical health of workers, it is imperative to proactively address these challenges. This article aims to explore and expand the contributions of SLRs by providing a comprehensive understanding of how these practices impact the creation of a healthy work environment and contribute to the sustainable success of companies in the construction industry. Through a detailed analysis, the goal is to optimize working conditions and foster positive performance in this crucial sector.

1.2. Objectives

The objective of the present research is to identify the characteristics related to the organizational climate, specifically targeting companies in the construction sector. In this context, the aim is to examine the dimensions, factors, models, population, sample, and statistical tests used in the development of organizational climate in the construction environment. These elements provide leaders with the necessary tools to improve the work environment, promote employee well-being, and contribute to the overall success of the organization. To achieve this, the following research questions will be addressed:

RQ1: What are the prominent dimensions of organizational climate?

RQ2: What factors are considered in the realm of organizational climate in construction?

RQ3: What models are developed to enhance organizational climate?

The following questions are complementary and are part of the data collection: In which country have more studies been conducted on the topic under investigation? What is the predominant population in scientific research? What is the most significant sample among the retrieved scientific articles?

Through this systematic approach, a comprehensive understanding of the dimensions and characteristics in the construction environment will be achieved.

2. Methods

In this section, the eligibility criteria, information sources, search strategy, study selection process, data extraction process, data list, and effect measures are described. This study presents a series of investigations using the PRISMA methodology of (Page et al. 2021) which are then systematically analyzed. The studies focused on the application of dimensions, factors, and models of the organizational climate in the construction industry. They have been published as scientific articles in the English language in specialized journals over the past five years. The goal is to acquire updated knowledge about trends and the most recent research in this field of study.

2.1. Eligibility Criteria

In Table 1, the selection criteria for this SLR are outlined. These criteria are categorized into inclusion and exclusion criteria, detailing the parameters used to choose the studies.

2.2. Information Sources

SCOPUS was utilized as the search source, as this platform compiles information from various scientific databases, publishers, and highly relevant journals. The reason for choosing this database is that it provided a considerable number of scientific articles (176), considering it as a significant sample. The last search string applied is dated 13 November 2023.

Table 1. Inclusion and exclusion criteria.

Inclusion Criteria	Exclusion Criteria
• SCOPUS database. • Studies containing terms related to the topic in the title. • Inclusion of the last 5 years up to the present date: 2019, 2020, 2021, 2022, 2023. • Studies published in the English language.	• Exclusion of studies with a focus on the medical field. • Studies that have no relevance to the construction industry are excluded. • Duplicate studies.

2.3. Search Strategy

The studies in the control group were used as a starting point to establish the search string. Through an initial analysis of 30 articles relevant to the research topic according to the authors' criteria, keyword identification was performed with a frequency of two or more. The search string was constructed based on the most recurrent keywords in the control group (see Tables 2 and 3).

Table 2. Term blocks for the search strings.

Block	Initial Terms	Frequency of Terms from Studies in the Control Group	Terms Used	Description
Block 1	"Organizational Culture", "Job Satisfaction", "Employee Recognition", "Organizational Climate", "Corporate Culture", "Employee Satisfaction"	occupational health and safety: 3 occupational accident: 1 job culture: 1 job productivity: 1 job satisfaction: 14 working conditions: 6 wage determination: 1 work conflict: 3 safety climate: 2 occupational health: 6 organizational culture: 10 performance assessment: 1 work environment: 3 job burnout: 4 construction safety: 3 occupational risk: 2 organizational learning: 1 accidents occupational: 1 industrial hygiene: 1 occupational safety: 3 organizational culture: 1 occupational stress: 2 workplace: 2 job stress: 1 job performance: 3 work performance: 1 workers performance: 1 work engagement: 1 retention in organizations: 1	"occupational health", "job satisfaction", "working conditions", "work conflict", "safety climate", "organizational culture", "work environment", "job burnout", "construction safety", "occupational risk", "occupational safety", "occupational stress", "job performance"	It consists of terms related to the organizational climate.

Table 2. *Cont.*

Block	Initial Terms	Frequency of Terms from Studies in the Control Group	Terms Used	Description
Block 2	"Construction Sector", "Construction Industry", "Construction companies", "Construction Firms", "Building Companies", "Building Firms", "Civil Engineering Companies", "Construction Company", "Construction Organization", "Construction markets", "Building industry", "Building sector", "Building business"	construction worker: 12 building industry: 17 construction industry: 22 construction organizations: 2 construction projects: 3 construction firm: 3 construction work: 2 construction professionals: 2 construction companies: 1 construction sectors: 1 construction project: 1 construction equipment: 1	"construction worker", "building industry", "construction industry", "construction organization", "construction project", "construction work", "construction firm", "construction professional"	It consists of terms related to the organizational climate focused on construction companies.

Table 3. Control group studies.

Title	Abstract Extract	Keywords	
		Construction	Organizational Climate
Effect of Occupational Health and Safety Training for Chinese Construction Workers Based on the CHAID Decision Tree (Cao et al. 2021)	Background: Occupational health and safety (OHS) training is an important way to prevent construction safety risks. However, the effectiveness of OHS training in China is questionable. In this study, the CHAID (chi-squared automatic interaction detection) decision tree, chi-square analysis, and correlation analysis were used to explore the main, secondary, weak, unrelated, and expectation factors affecting the effectiveness of training. It is the first to put forward the "five-factor method" of training effectiveness...	construction worker; building industry	occupational health and safety; occupational accident
An Integrated Model to Improve Job Satisfaction: A Case for a Sustainable Construction Industry (Khahro et al. 2023)	In the last few years, the fields of management, social psychology, and business operations have all paid a large amount of attention to the academic idea of job satisfaction. This paper looks at more than a decade of research into what makes people happy at work and what happens to them as a result. Companies have started to realize that their employees are their most valuable asset in this time of rapid change. There is no specific model of the job satisfaction of construction workers in developing countries...	construction industry; building industry	job culture; job productivity; job satisfaction; working conditions; wage determination

Table 3. *Cont.*

Title	Abstract Extract	Keywords	
		Construction	**Organizational Climate**
Can Professionalization Alleviate Job Burnout in Construction Workers in China? A Multivariable Mediating Model (Ni et al. 2022b)	Burnout is at all-time highs across modern professions. As a typical labor-intensive industry, the high-pressure and task-driven nature of the construction industry makes construction workers more prone to burnout. It is still unclear whether increasing the professionalization level can lessen the many harmful consequences of job burnout on construction workers' employment. Therefore, this study examined the influencing...	construction workers; construction industry; building industry	job satisfaction; working conditions; work conflict
Relationship between Job Satisfaction and Employee Performance in the Construction Industry of Pakistan (Memon et al. 2023)	Organizations focus on human resources to improve performance as a result of high global competition and a dynamic business environment. In today's competitive environment, employee performance and job satisfaction are critical to the achievement of a company's goals. Job satisfaction is an organization's unnoticed success. Employee performance and job satisfaction are powerful tools that help in continuously developing and improving organizational performance to achieve strategic objectives...	construction industry	job satisfaction
Multiple factor comprehensive analysis (CAMF) model of occupational health and safety training effect for construction workers (Cao et al. 2023)	In view of the occupational health and safety (OHS) training on the safety of construction workers, and many complex factors. Through empirical investigation, this study proposes a set of multiple factor comprehensive analysis (CAMF) model to explore the effectiveness of OHS training and its main influencing factors. It has been found that training effectiveness is positively related to whether to receive...	construction workers	occupational health and safety
SEIR model and simulation research on unsafe psychological state propagation of construction workers considering safety climate and intimate relationships (Yuan et al. 2022)	The construction industry is a pillar industry of China and occupies an essential position in our economic development. However, in the fast-developing construction industry, the number of its safety accidents is also growing year by year. Safety accidents are often due to unsafe behaviors of construction workers, and unsafe precarious psychological states are important factors for unsafe behaviors...	construction industry; building industry	safety climate; occupational health; organizational culture

Table 3. *Cont.*

Title	Abstract Extract	Keywords	
		Construction	Organizational Climate
Organizational Factors Influencing the Sustainability Performance of Construction Organizations (Afzal and Lim 2022)	Construction projects contribute significantly to the growth of countries in terms of GDP and employment opportunities. However, construction organizations are often criticized for not adopting sustainable practices in delivering their projects. Underpinned by the resource-based theory (RBT) this research aims to investigate the organizational factors influencing the sustainability performance of construction organizations. . .	construction organizations; construction projects	performance assessment
Analysis of Factors Influencing the Job Satisfaction of New Generation of Construction Workers in China: A Study Based on DEMATEL and ISM (Ni et al. 2022a)	China's construction industry is facing serious problems of aging construction workers and labor shortages. Improving the job satisfaction of construction workers is a key point for retaining existing construction workers and for attracting younger generations into the construction field in China. At present, the new generation of construction workers (NGCW) born after 1980 has been the main force on construction sites in China. . .	construction workers	job satisfaction
Influence of Organizational Culture on Construction Firms' Performance: The Mediating Roles of Innovation and Marketing Capabilities (Osman et al. 2023)	Local Ghanaian construction firms have been accused of underperformance due to inadequate resources and capabilities, lack of market information, poor managerial skills, and other external factors. While construction firms may be unable to control external challenges, how they mobilize internal resources to confront them may be crucial for their performance and survival. An emerging consensus is that how organizations is related to their organizational culture. . .	construction firm; construction industry	organizational culture
Psychosocial Construction Work Environment and Wellbeing in the Viability of Indigenous Construction Firms (Oladimeji 2020)	The strategic role of indigenous construction firms (ICFs) in the development of the construction industry better construction output and infrastructural development in developing countries cannot be overemphasized. These goals may not be achieved if firms' psychosocial construction work environment and wellbeing (PCEW) are not appraised. To this end, this study identified and assessed factors relating to PCEW in the 37 factors influencing. . .	construction work; construction firms	work environment

Note: The remaining articles from the control group are available in the Supplementary Material, in the Excel worksheet titled Organizational Climate SLR.xlsx.

A single filter was applied, limiting the search exclusively to the title. This process led to the formation of the following search string:

Block 1: "occupational health" OR "job satisfaction" OR "working conditions" OR "work conflict" OR "safety climate" OR "organizational culture" OR "work environment" OR "job burnout" OR "construction safety" OR "occupational risk" OR "occupational safety" OR "occupational stress" OR "job performance"

AND

Block 2: "construction worker" OR "building industry" OR "construction industry" OR "construction organization" OR "construction project" OR "construction work" OR "construction firm" OR "construction professional".

2.4. Selection Process

The first phase of selection involved analyzing the title, abstract, and keywords of each article in the control group. The purpose was to merely select research studies aligned with the organizational climate in the construction context. In case any doubts arose among the researchers regarding a particular study, a thorough review of that specific article was conducted to verify its relevance to the research topic. In the second phase, after applying the final search string, candidate studies were collected. Through a meticulous review, it was determined whether these studies leaned towards the research topic or were to be discarded. All articles meeting the predetermined criteria and deemed relevant to the study were downloaded, identified as "Retrieved studies."

2.5. Data Collection Process

Out of 176 scientific articles, representing 100% and comprising the candidate studies, 142 studies, representing 81%, were successfully retrieved (see Figure 1).

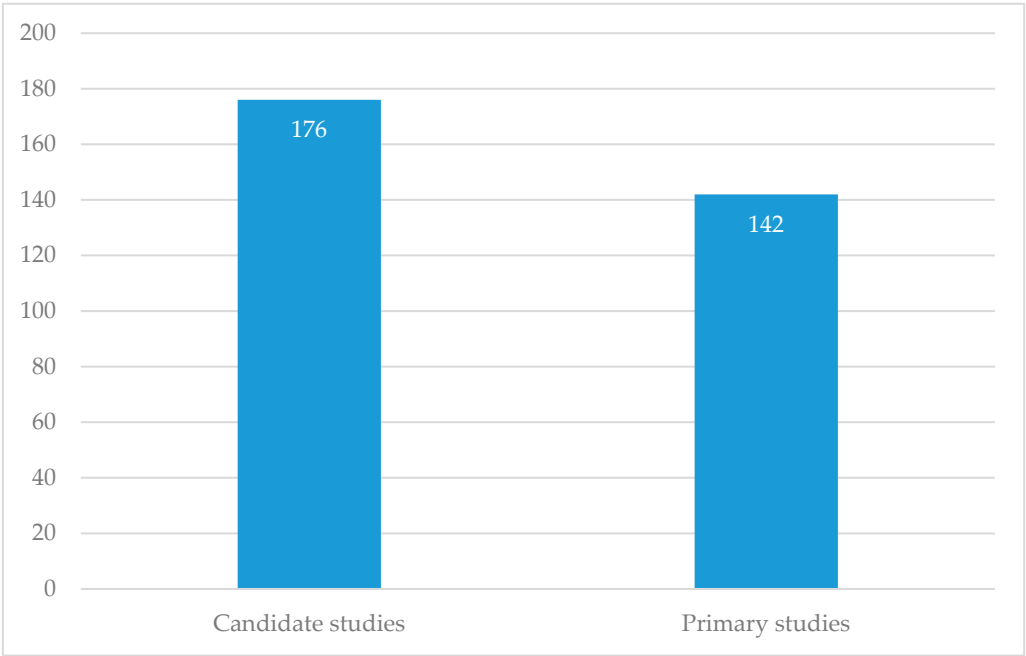

Figure 1. Study recovery.

The development, classification, and organization of the extracted data were carried out using Excel, enabling the efficient and structured management of the collected information. Collaboration among the authors, the equitable distribution of tasks, and the use of appropriate tools were crucial to ensuring precise and consistent data extraction.

2.6. Data Items

The factors considered for the formation of the matrix of candidate studies were divided into two categories. The first involved choosing the articles aligned with our research

and determining the ones that were not suitable for the research. In general, some articles were not selected due to their predominant focus on areas such as medicine, specifically in fields like psychology, neurology, physical and musculoskeletal functions, toxicology, and similar subjects, since the present research focuses on the administrative area.

The second category involved the selection of variables and verification of pertinent articles among the candidate studies that provide information regarding the variables. The variables selected were the dimensions, factors, models, and country, population, sample, and statistical tests which were added to formulate the research questions.

2.7. Study Risk of Bias Assessment

The review and evaluation for the study selection were carried out collaboratively by the four authors of this work. Each researcher analyzed 25% of the studies and also participated as an evaluator of the decisions made for at least another 25% of the studies reviewed by their colleagues. In cases of opposing decisions, a third participant from the authors' group intervened to resolve the discrepancy. This procedure was applied to both the studies selected in the first filter and the primary studies (PS) in the second filter.

2.8. Synthesis Methods

A detailed evaluation of the 143 studies was conducted, incorporating an analysis of the full text. Each element was systematically organized in a matrix using Excel, addressing important aspects such as title, year, country, dimensions, factors, models, population, sample, and statistical tests. To have better control of the data, once the articles were downloaded, a code was assigned to each study to tally the total studies for each variable. This methodology allowed the identification of the most recurring data in the analyzed studies for a clear and concise presentation of results related to the RQs. These included determining the country with the highest number of studies on the organizational climate in construction, identifying the most frequent dimension within the research topic, recognizing the factors applied most frequently, and highlighting the models most commonly used in the articles.

The data collected regarding RQ1 present a large number of dimensions for breakdown. As for RQ2, which refers to factors, it was classified into three different columns as they belong to different aspects, such as factors of dimensions, factors about models, and other factors on general topics presented in articles related to the research topic. In the case of RQ3, it was observed that the studies present various models for application or development in topics related to the organizational climate in construction.

In the context of this study, sensitivity analyses were not conducted, justified by the nature of the research questions, which were exclusively focused on obtaining qualitative answers. This categorization approach was designed to facilitate both data interpretation and analysis. By organizing the responses in this manner, the aim was to capture emerging qualitative trends and patterns, enabling a deeper understanding of the issues addressed in the research.

2.9. Certainty Assessment

The assessment of certainty was based on the careful selection of statistically representative information sets obtained during the study processing phase. In simpler terms, the parameters reflecting trends and capable of addressing the research questions are highlighted in the main section of this systematic literature review.

3. Results

3.1. Study Selection

Our candidate studies initially consisted of 176 scientific articles obtained through the application of the search string, as mentioned earlier. Two duplicate studies were identified. In addition, 11 documents were not available for download. After the selection process based on inclusion and exclusion criteria, 21 studies were excluded. The primary studies

considered for a thorough review comprise 142 articles that successfully addressed the research questions, as depicted in Figure 2.

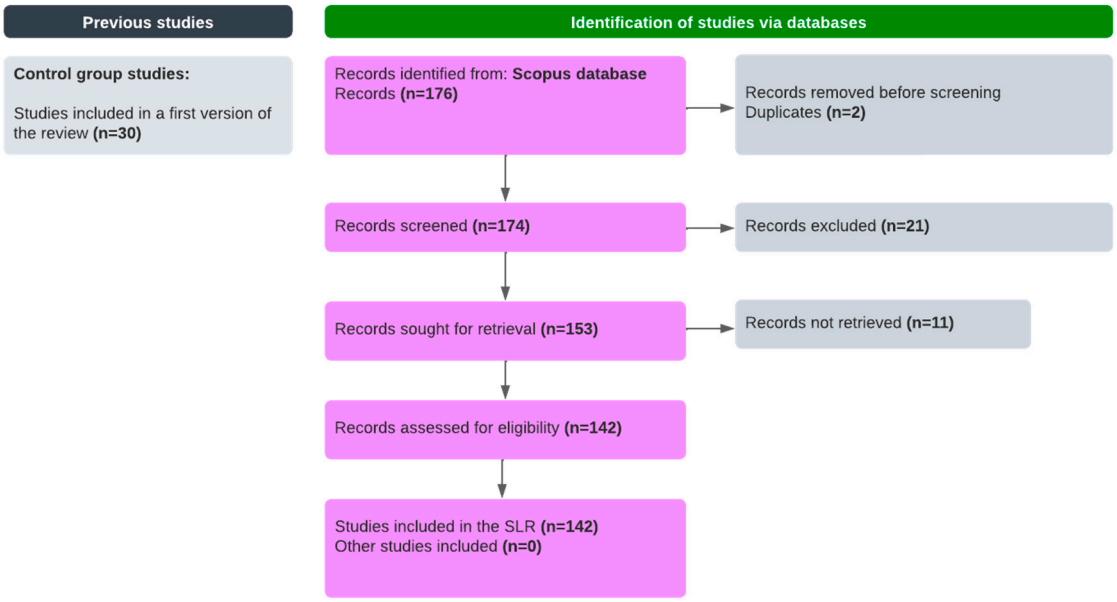

Figure 2. PRISMA flow diagram of the study selection process.

In order to comprehensively gather the distinctive characteristics of each research study and provide coherent answers to the research questions posed, the creation of a specific matrix was carried out. In this context, a detailed categorization process was implemented, where each response was meticulously assigned to the corresponding research questions. The result of this effort is presented clearly and organized in Table 4, which includes 20 primary studies out of the 142, along with their respective distinctive features. This tabular representation provides a comprehensive view of the diversity of approaches and findings present in the collected research (see Table 4).

Table 4. Studies, characteristics, and response to the RQ.

Title	Year	RQ1	RQ2	RQ3
A Mediation Analysis on the Relationship between Safety Climate and Work Abilities of Hong Kong Construction Workers (Ng 2020)	2020	Safety climate, occupational accidents, innovation, job performance	Factors to determine the adoption of new technology: convenience (would be free from additional effort) and perceived utilities (would improve job performance)	-
A safety climate framework for improving health and safety in the Indonesian construction industry (Lestari et al. 2020)	2020	Occupational health and safety, safety climate; 3 interconnected dimensions of safety culture	Factors to identify safety climate: management commitment; employee participation and/or empowerment; safety communication	-
A Scoping Review of Interventions to Improve Occupational Safety and Health of Construction Workers (Hayashi et al. 2023)	2023	Occupational health and safety, occupational risks, working conditions	Behavioral risk factors: alcohol consumption, smoking, unhealthy diet (increase occupational accidents and affect workers' health)	-

Table 4. *Cont.*

Title	Year	RQ1	RQ2	RQ3
An Institutional System Proposal for Advanced Occupational Safety and Labor Standards in the Turkish Construction Industry (Yıldırım et al. 2022)	2022	Occupational safety, job stability, occupational accidents, working conditions, job satisfaction	Factors of job instability: subcontracting with lower-level workers, incompetence in adapting to labor standards, intention to dismiss when not adequately inspected	-
An Integrated Model to Improve Job Satisfaction: A Case for a Sustainable Construction Industry (Khahro et al. 2023)	2023	Job satisfaction and performance	Factors of job satisfaction: employee turnover, salaries and benefits, job engagement, workload, control, recognition, and reward	Models to measure job satisfaction level: Wexley's model, structural model of job satisfaction through commitment and trust
An Interwoven Psychological Syndrome of Job Burnout and Work Engagement in Construction Project Management Professionals Due to Work–Family Imbalance (Li et al. 2022)	2022	Occupational mental health, job satisfaction	Factors affecting mental health within the framework of job satisfaction: stress, job burnout, unstable work environment, irregular working hours, serious conflicts in resources and benefits	Psychological dual-process model positive–negative
An investigation into improving occupational health and safety performance of construction projects through usage of BIM for lean management (Erusta and Sertyesilisik 2020)	2020	Occupational safety and health, occupational risks, work accidents	Factors involved in construction work accidents: hazardous movements, unsafe conditions, and disasters	BIM model to facilitate the decision-making process and contribute to reducing risks in construction activities, enhancing efficiency
An investigation of safety climate in Chinese major construction projects (Zhang et al. 2023)	2023	Dimensions of safety climate: leadership commitment, communication, rules and procedures, supportive environment, personal responsibility, training	Safety climate factors: informal and formal communication among construction personnel about health and safety; policies, rules, and safety procedures and actual compliance	-
Analysis of Factors Influencing the Job Satisfaction of New Generation of Construction Workers in China: A Study Based on DEMATEL and ISM (Ni et al. 2022a)	2022	Job satisfaction	Factors of job satisfaction in labor market behaviors: resignation, absenteeism, burnout, and retention; factors associated with the construction industry	-
Analysis of the influence of socio-economic factors on occupational safety in the construction industry (Hoła and Nowobilski 2019)	2019	Labor safety, work accidents	Human factors influencing job satisfaction: leadership and management skills, employees' experience and knowledge, level of training	-

Table 4. *Cont.*

Title	Year	RQ1	RQ2	RQ3
Analyzing the impact of organizational culture on social sustainability: a perspective of the construction industry (Irfan et al. 2022)	2022	Organizational culture, recognition, and rewards	Factors that assess the type of organizational culture: organizational characteristics, size, and age, founder's beliefs	-
Application of Systems Theoretic Process Analysis and Failure Modes and Effects Analysis to Process Reliability and Occupational Safety and Health in Construction Projects (Bas 2022)	2022	Occupational health and safety	Loss factors: loss of life or human injuries, property damage, environmental pollution, mission loss, reputation loss, loss or leakage of confidential information	-
¿Are the ageing workforce satisfied with the construction work environment? (Torku et al. 2021).	2019	Job satisfaction	Factors affecting the fit between the older workforce and the construction work environment (CWE)	-
Artificial Intelligence (AI) Coupled with the Internet of Things (IoT) for the Enhancement of Occupational Health and Safety in the Construction Industry (Palaniappan et al. 2021)	2021	Health and occupational safety	Main factors for fatal and serious injuries: falls from height, machinery-related injuries, and slips, trips, or falls; 3P+I factors: 3P: three factors: policy factors, personnel factors, and process factors	3P + I model: preventing future accidents
Assessment of Occupational Health and Safety Risk in the Road Construction Project in the Sigi Regency (Fahirah et al. 2022)	2022	Safety and health in work	-	-
Association of demographic characteristics of construction workers and work environments to workplace accident in high building (hotel) construction (Muhamad Ramdan et al. 2019)	2019	Work environment, workplace accidents	Causal factors of workplace accidents: demographic characteristics and the work environment; factors associated with the occurrence of workplace accidents: age, work experience, education level, length of employment	-
Barriers to the development of occupational health and safety management systems in the Nigerian construction industry (Adetunji et al. 2021)	2019	Safety and health in the construction industry	Factors contributing to the increase in OHSMS: complications in work life, the growing prevalence of multifactorial diseases such as cancer, physical fatigue, and heart diseases, increased attention to emerging issues...	-
Benefits of Implementing Occupational Health and Safety Management Systems for the Sustainable Construction Industry: A Systematic Literature Review (Kineber et al. 2023)	2023	Occupational safety and health	Factors influencing the effectiveness and improvement of the OHSAS 18001 principles: employee participation, management commitment, specification of the dissemination of occupational health and safety activities and results, specification of responsibilities, and allocation of financial resources...	-

Table 4. *Cont.*

Title	Year	RQ1	RQ2	RQ3
BIM Capabilities towards Better Safety Climate in the Malaysian Construction Industry (Adillah Ismail et al. 2022)	2022	Safety climate	Factors related to BIM in OHS: adoption of BIM technology, significance of BIM tools in safety management, efficiency of implementation...	-
BIM-based analysis of construction safety tracking using behavior-based safety in Bangladeshi construction industry (Meem et al. 2022)	2022	Occupational safety and health, security risks	BBS factors: work element, its components, and the environment	BIM model in the construction industry, GRIS clustering model

Note: The remaining scientific articles that make up the primary studies are found in the Supplementary Material, titled Organizational Climate SLR.xlsx.

3.2. Results of Individual Studies

3.2.1. Demographical Data of the Studies

The research findings, as depicted in Figure 3, identify China as the leader in the number of studies related to the organizational climate in the construction sector. This Asian nation tops the list with a notable presence in the investigation of working conditions and the professional environment in the construction industry. Following closely, there is a category labeled "Unspecified", which encompasses studies that do not specify the geographical location where the research was conducted. This group holds a considerable position in the ranking.

Additionally, it is relevant to highlight the significant presence of Indonesia in this landscape of research on the organizational climate in construction. This Asian country stands out as one of the key contributors to the generation of knowledge about labor dynamics and working conditions in the construction sector, thereby contributing to the global understanding of these crucial aspects for the performance and well-being of professionals in this field. Collectively, these research trends provide a more comprehensive view of the geographical distribution and diversity of approaches in the study of organizational climate in the construction industry at the international level.

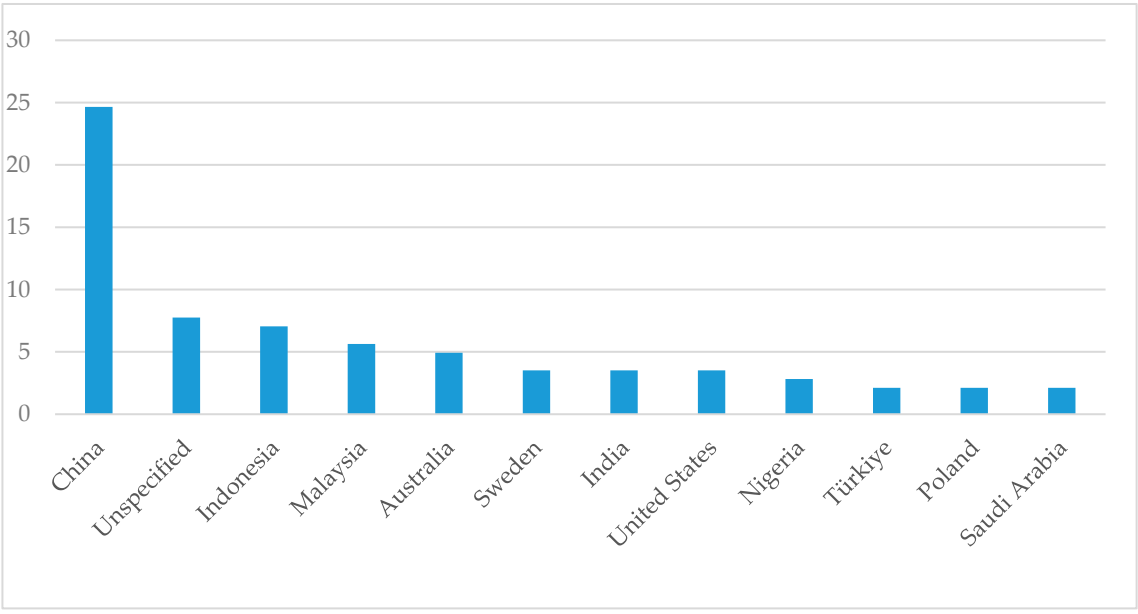

Figure 3. Countries where more studies related to the research topic have been conducted.

It is crucial to emphasize the limited representation of studies from Latin American countries in the research field of the organizational climate. Within this geographical category, the countries identified thus far are Chile and Brazil, revealing a notable lack of substantial contributions in the academic literature.

3.2.2. Predominant Population

In this specific context, various trends in the obtained results were discerned. It is essential to note that, given the variability in the study topics, the composition of the population may differ considerably. For this reason, in this analysis, the choice is made to consider the most significant population among the retrieved studies, highlighting the importance of this comprehensive approach. In the exploration of the data, elements of the qualitative population were identified, adding an additional layer of complexity and richness to the understanding of the results. The population that stands out notably in this context is construction workers, followed by construction organizations in China, significant construction projects, and civil engineering and mining professors in China (see Figure 4).

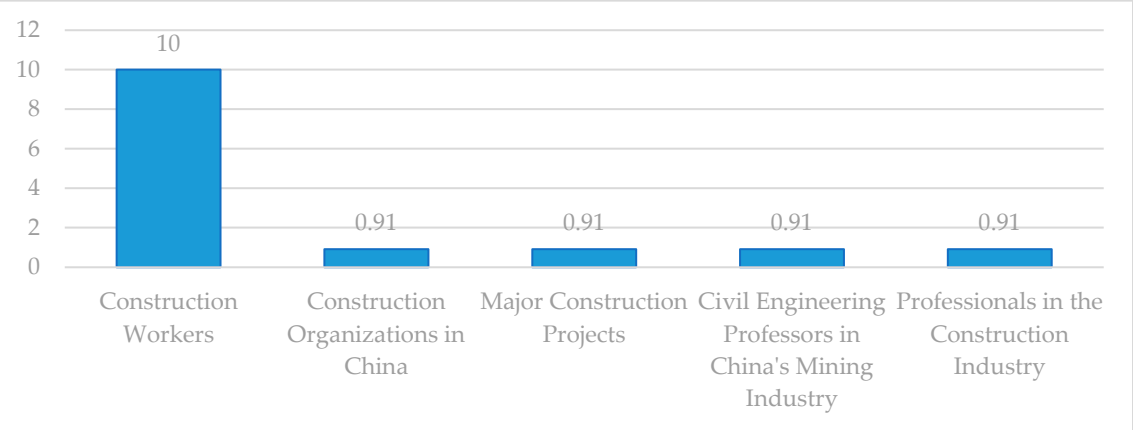

Figure 4. Percentage of population types in the research studies. **Note:** The retrieved population can be studied in the Supplementary Material, titled Organizational Climate SLR.xlsx.

3.3. Results of Synthesis

RQ1. What are the prominent dimensions of organizational climate?

Regarding the formulated research question, as observed in Table 5, it is highlighted that the dimension most frequently observed or recommended in the analyses of studies, with the purpose of promoting organizational climate, is special attention to health and occupational safety. The work environment emerges as a dimension that remains highly representative, being one of the most frequently mentioned in the research; it is a fundamental component for the success and stability of job satisfaction. The subsequent dimension is related to organizational culture, a fundamental dimension that influences how organization members interact, make decisions, and address challenges. The dimension of job performance, working conditions, and job engagement is also presented, compiled from a total of 136 unique studies.

RQ2. What factors are considered in the realm of organizational climate in construction?

Within this scope, various classifications of factors are established by the authors, such as dimension factors, model factors, and other factors related to the research topic. In the second research question, as shown in Table 6, it was emphasized that the predominant dimension factors were related to health and occupational safety. These factors influence employees' perception of workplace safety, their commitment to safe practices, and the reduction in risks and prevention of workplace accidents. Additionally, factors related to

the work environment, job performance, and organizational culture are mentioned. These are among the dimension factors compiled from 95 articles.

Table 5. Identified dimensions of organizational climate in the construction sector.

Dimensions	Indicators	Total	Unique Studies	Representativeness Regarding the Total (%)
Occupational health and safety	• Labor safety conditions. • Support in terms of occupational health and safety. • Health and safety policies. • Safety climate. • Occupational risks. • Job stress. • Job burnout. • Occupational accidents. • Occupational mental health.	123	PS-1;PS-100;PS-101;PS-102;PS-103;PS-105;PS-106;PS-107;PS-108;PS-11;PS-110;PS-112;PS-113;PS-115;PS-116;PS-117;PS-118;PS-119;PS-12;PS-120;PS-121;PS-122;PS-123;PS-124;PS-125;PS-126;PS-127;PS-128;PS-129;PS-13;PS-130;PS-131;PS-132;PS-133;PS-134;PS-135;PS-136;PS-138;PS-139;PS-14;PS-140;PS-141;PS-142;PS-143;PS-144;PS-145;PS-147;PS-148;PS-15;PS-150;PS-151;PS-152;PS-153;PS-154;PS-16;PS-17;PS-18;PS-19;PS-2;PS-20;PS-21;PS-22;PS-23;PS-24;PS-25;PS-26;PS-28;PS-29;PS-3;PS-30;PS-31;PS-32;PS-33;PS-34;PS-35;PS-36;PS-37;PS-38;PS-39;PS-40;PS-41;PS-43;PS-44;PS-45;PS-46;PS-47;PS-48;PS-49;PS-50;PS-51;PS-52;PS-53;PS-54;PS-55;PS-56;PS-57;PS-58;PS-59;PS-6;PS-60;PS-61;PS-62;PS-63;PS-64;PS-65;PS-67;PS-68;PS-69;PS-7;PS-70;PS-71;PS-72;PS-73;PS-74;PS-76;PS-77;PS-78,PS-79;PS-8;PS-80;PS-81;PS-82;PS-83;PS-84;PS-85;PS-86;PS-88;PS-89;PS-9;PS-91;PS-93;PS-94;PS-95;PS-97;PS-98	90.44
Work environment	• Job satisfaction. • Job conflicts. • Complaint communication.	36		26.47
Organizational culture.	• Safety culture. • Occupational health culture.	12		8.82
Job performance	• Job performance.	6		4.41
Working conditions.	• Workplace. • Work lighting. • Comfort and convenience.	4		2.94
Employee engagement.	• Employee initiatives. • Involvement in decision-making.	1		0.74

As evidenced in Table 7, factors characterizing organizational climate models are limited, and no prominent elements are identified within this domain; rather, all exhibit similar levels of representativeness. This lack of distinction among factors suggests homogeneity in the perception of organizational climate, where diverse elements contribute equitably to the overall configuration of such climate.

The 3P+I factors are presented in this table, and this model proves highly useful for the organizational domain in terms of people, processes, and policies. Additionally, factors that improve occupational health and safety (SST) according to 4D-BIM technology are included. This technology offers several benefits, such as identifying potential risks, minimizing conflicts, reducing risks, and communicating safety procedures, among others, all focused on the construction, which is a characteristic of this model. Factors related to BIM in occupational health and safety (SST) and factors reflecting the labor demands

of construction projects management (CPM) are also found. These are the model factors compiled from four unique studies.

Table 6. Dimension factors established for the development of the organizational climate in the construction sector.

Factors	Indicators	Total	Studies' ID	Representativeness Regarding the Total (%)
Factors of occupational health and safety.	Factors of occupational risks; factors of safety climate; factors of occupational stress; factors of occupational accidents; factors affecting the implementation of OHS norms; factors for improving OHS; factors of occupational safety; factors for measuring safety climate; factors associated with the occurrence of WA (work accidents); factors of job burnout.	70	PS-10;PS-101;PS-103;PS-105;PS-106;PS-107;PS-108;PS-11;PS-110;PS-111;PS-112;PS-113;PS-115;PS-116;PS-117;PS-118;PS-119;PS-12;PS-121;PS-122;PS-123;PS-124;PS-126;PS-127;PS-128;PS-129;PS-13;PS-131;PS-134;PS-136;PS-139;PS-140;PS-141;PS-142;PS-143;PS-144;PS-147;PS-148;PS-15;PS-150;PS-153;PS-16;PS-18;PS-19;PS-2;PS-23;PS-24;PS-25;PS-26;PS-27;PS-28;PS-29;PS-3;PS-30;PS-31;PS-32;PS-33;PS-35;PS-37;PS-38;PS-40;PS-41;PS-45;PS-46;PS-47;PS-49;PS-50;PS-51;PS-52;PS-56;PS-58;PS-59;PS-6;PS-62;PS-64;PS-65;PS-69;PS-7;PS-72;PS-73;PS-74;PS-77;PS-78;PS-79;PS-8;PS-80;PS-81;PS-83;PS-84;PS-85;PS-88;PS-89;PS-9;PS-91;PS-95	73.68
Factors of the work environment.	Factors of job satisfaction; factors affecting mental health within the framework of job satisfaction; factors of the work environment; factors of the quality of work life; factors of job insecurity; stressful factors in construction projects; factors affecting job satisfaction; factors for measuring job satisfaction; factors affecting the fit between the older workforce and the construction work environment (CWE).	21		22.11
Factors of job performance.	Factors of job performance.	6		6.32
Factors of organizational culture.	Factors that assess the type of organizational culture.	4		4.21

Within the classification of "other factors," as observed in Table 8, all factors exhibit homogeneous representativeness. This includes factors determining work capacity, job instability factors, behavior-based safety (BBS) factors, job dissatisfaction factors, factors decreasing turnover intention, factors understanding the connection between accidents and safe behavior, and factors causing work–family conflict. These factors were compiled from seven different articles.

Table 7. Organizational climate model factors.

Factors	Total	Unique Studies	Representativeness Regarding the Total (%)
3P+I factors.	1	PS-16;PS-102;PS-21;PS-125	25
Factors that enhance occupational health and safety according to 4D-BIM technology.	1		25
Factors related to BIM in occupational health and safety (SST).	1		25
Factors reflecting the work demands of construction projects management (CPM).	1		25

Table 8. Other factors of organizational climate.

Factors	Total	Studies' ID	Representativeness Regarding the Total (%)
Factors determining work capacity.	1	PS-1;PS-6;PS-22;PS-76;PS-142;PS-145;PS-154	14.29
Factors of job instability.	1		14.29
Behavior-based safety (BBS) factors.	1		14.29
Factors of job dissatisfaction.	1		14.29
Factors reducing the intention to turnover.	1		14.29
Factors to understand the connection between accidents and safe behavior.	1		14.29
Factors causing conflict between work and family.	1		14.29

Note: In total, factors from 106 studies were compiled across the three classifications proposed by the authors.

RQ3: What models are developed to enhance organizational climate?

Regarding the third research question, as revealed in the results in Table 9, the job demands–resources (JD-R) model stands out as the predominant approach in research on the organizational climate. This widely used model focuses on the interaction between job demands and resources, providing a comprehensive framework to understand how these elements influence employee well-being and organizational performance.

Immediately following this analysis, the relevance of the Wexley model, the COM-B model, and the occupational stress mediation model emerges. These models address the complexity of factors influencing job satisfaction, considering both intrinsic and extrinsic aspects. Similarly, the BIM model and the GRIS clustering model facilitate the decision-making process and contribute to reducing risks in construction activities, increasing efficiency.

The dual-process positive–negative psychological model, the CART model, neural network, and the SOR model (stimulus–organism–response), along with the PSC-12 model, are designed to provide assistance and identify potential notable characteristics regarding organizational health and the mental health of workers. Additionally, models for risk assessment in occupational health and safety (SST) are presented, such as the comprehensive hybrid fuzzy-based occupational risk assessment model (CHFORAM).

3.4. Risk of Bias in Studies

The risk of biases in the studies included in this SLR underwent a meticulous review process by the authors. The results indicating the representativeness of the studies are presented in Table 10, with the aim of enabling an assessment of the quality of the entire set of articles. According to the data presentation, only 86.93% of the total candidate studies were selected for detailed analysis, and 80.68% of the studies were chosen for the research compilation.

Table 9. Models developed to improve the organizational climate in the construction sector.

Models	Total	Studies' ID	Representativeness Regarding the Total (%)
JD-R Model (Job Demands–Resources)	3		10.71
Models to measure the level of job satisfaction: Wexley's, structural model of job satisfaction through commitment and trust	1		3.57
Psychological model of positive–negative dual process	1		3.57
BIM (Building Information Modeling): model to facilitate the decision-making process and contribute to reducing risks in construction activities and increasing efficiency	1		3.57
3P+I Model: to prevent future accidents	1		3.57
BIM Model in the construction industry; GRIS (Grouping Model)	1		3.57
Attribute-based risk analysis model along with the risk degree	1		3.57
Theoretical model based on the Conservation of Resources (COR) theory	1		3.57
COM-B Model: People need capability (C), opportunity (O), and motivation (M) to perform a behavior (B)	1	PS-125;PS-7;PS-8;PS-9;PS-16;PS-22;PS-23;PS-24;PS-26;PS-28;PS-29;PS-32;PS-36;PS-57;PS-62;PS-69;PS-74;PS-85;PS-88;PS-97;PS-124;PS-129;PS-142;PS-147;PS-148;PS-151;PS-131;PS-145	3.57
Multilevel Safety Climate Model	1		3.57
CART model, Neural Network	1		3.57
Occupational Risk Model	1		3.57
Holistic Occupational Health and Safety Risk Assessment Model (HOHSRAM)	1		3.57
Ordered Logit Model with Random Parameters	1		3.57
Hierarchical Linear Model for Construction Projects	1		3.57
Stimulus–Organism–Response (SOR) Model	1		3.57
Theoretical Model Introducing Affective Commitment as a Moderating Variable	1		3.57
Psychological Safety Climate 12-Item Shortened Version (PSC-12) Model	1		3.57
Multiple Factor Comprehensive Analysis Model (CAMF)	1		3.57
Occupational Health and Safety Risk Assessment Model	1		3.57
Conceptual Model for Measuring Construction Workers' Safety Behaviors	1		3.57
Susceptible, Exposed, Infected, Recovered (SEIR) Model	1		3.57
Mediation Model of Occupational Stress	1		3.57
Fundamental Conceptual Model of Work Behaviors	1		3.57
Hybrid Fuzzy-Based Occupational Risk Assessment Model (CHFORAM)	1		3.57
Stress, Cognition, Safety Model	1		3.57

Table 10. Overall quality assessment of articles after the peer review process.

STUDY TYPE	Number of Studies	Percentage (%)	Description
Candidate studies	176	100.00	Studies resulting from the application of the search string
Selected studies	174	98.86	Unique studies without duplicates
After depuration of studies	153	86.93	Studies after reviewing the title, abstract, and keywords
Retrieved studies	142	80.68	Studies downloaded in full text
Primary studies	142	80.68	Studies reviewed in full text

Quality assessment was also extended to the content of the primary studies based on their relevance to addressing the RQs, as specified in Table 11. In this context, RQ1 had an average representativeness of 22.47%, RQ2 of 20.42%, and RQ3 of 3.85%. Consequently, only the representative element of each category was included in the narrative of this research. Also, documents containing retractions and errata were excluded from this study.

Regarding the sample population, various values were collected from 113 studies, so it was appropriate to calculate the median of the samples. The median of the dataset is 200, which means that 50% of the population samples have a value less than or equal to 200, and the other 50% have a value greater than or equal to 200. The median is useful in this case because it is not affected by extreme values and provides a robust indicator of central tendency for the distribution of population samples.

Table 11. Content quality assessment of articles.

RQs Addressed	Rep. Average (%)	Median (%)	High Confidence (%)	Medium Confidence (%)	Low Confidence (%)
RQ1	22.47	6.67	21.09–27.94	14.23–21.08	7.35–14.22
RQ2	20.42	14.29	44.35–66.04	22.65–44.34	0.94–22.64
RQ3	3.85	3.57	8.34–10.71	5.96–8.33	3.57–5.95

3.5. Certainty of Evidence

We conducted a risk analysis for each component of each RQ, and the results were documented in Table 12, which includes the percentage of studies addressing each RQ in relation to the total number of studies (142), as well as the number of primary studies addressing each RQ.

Table 12. Summary of risk assessment of elements addressing each RQ.

RQ	Addressing	Primary Studies (PS)	Percentage Regarding the Total of PS (%)	Percentage Regarding the Number of Studies Addressing the RQ (%)
RQ1. What are the prominent dimensions of organizational climate?	Health and Safety at Work	38	26.76	27.94
	Organizational Culture	31	21.83	22.79
	Job Performance	28	19.72	20.59
	Work Environment	19	13.38	13.97
	Working Conditions	12	8.45	8.82
	Employee Engagement	10	7.04	7.35
RQ2. What factors are considered in the realm of organizational climate in construction?	Factors of Health and Safety at Work	70	49.30	66.04
	Factors of Organizational Climate	21	14.79	19.81
	Factors of Job Performance	6	4.23	5.66
	Factors of Organizational Culture	4	2.82	3.77
	Factors of 3P+I	1	0.70	0.94
	Factors Enhancing Occupational Health and Safety through 4D-BIM Technology	1	0.70	0.94
	Factors Related to BIM in Occupational Health and Safety	1	0.70	0.94
	Factors Reflecting the Work Demands of Construction Project Management (CPM)	1	0.70	0.94
	Factors Determining Work Capacity	1	0.70	0.94
	Factors of Job Insecurity	1	0.70	0.94
	Factors of Behavior-Based Safety (BBS)	1	0.70	0.94
	Factors of Job Dissatisfaction	1	0.70	0.94
	Factors Decreasing the Intention to Turnover	1	0.70	0.94
	Factors Understanding the Connection between Accidents and Safe Behavior	1	0.70	0.94
	Factors Causing Work–Family Conflict	1	0.70	0.94

Table 12. *Cont.*

RQ	Addressing	Primary Studies (PS)	Percentage Regarding the Total of PS (%)	Percentage Regarding the Number of Studies Addressing the RQ (%)
RQ3. What models are developed to enhance organizational climate?	JD-R Model	3	2.11	10.71
	Models for Measuring Job Satisfaction by Wexley, Structural Model of Job Satisfaction through Commitment and Trust	1	0.70	3.57
	Psychological Model of Positive–Negative Dual Process	1	0.70	3.57
	BIM Model for Facilitating Decision-Making and Reducing Risks in Construction Activities to Increase Efficiency	1	0.70	3.57
	3P+I Model: Preventing Future Accidents	1	0.70	3.57
	BIM Model in the Construction Industry, GRIS Clustering Model	1	0.70	3.57
	Attribute-Based Risk Analysis Model with Risk Degree	1	0.70	3.57
	Theoretical Model Based on the Conservation of Resources (COR) Theory	1	0.70	3.57
	COM-B Model: People Need Capability (C), Opportunity (O), and Motivation (M) to Perform a Behavior (B)	1	0.70	3.57
	Multilevel Safety Climate Model	1	0.70	3.57
	CART Model, Neural Network	1	0.70	3.57
	Job Risk Model	1	0.70	3.57
	Holistic Model for the Assessment of Safety and Occupational Health Risks (HOHSRAM)	1	0.70	3.57
	Ordered Logit Model of Random Parameters	1	0.70	3.57
	Hierarchical Linear Model for Construction Projects	1	0.70	3.57
	SOR Model (Stimulus–Organism–Response)	1	0.70	3.57
	Theoretical Model Introducing Affective Commitment as a Moderating Variable	1	0.70	3.57
	PSC-12 Psychological Safety Climate Model	1	0.70	3.57
	Multiple Factor Comprehensive Analysis (CAMF) Model	1	0.70	3.57
	Occupational Safety and Health Risk Assessment Model for Assessing and Classifying Occupational Risks	1	0.70	3.57
	Conceptual Model for Measuring Construction Workers' Safety Behaviors	1	0.70	3.57
	SEIR Model (Susceptible, Exposed, Infected, Recovered)	1	0.70	3.57
	Mediation Model of Occupational Stress	1	0.70	3.57
	Fundamental Conceptual Model of Work Behaviors	1	0.70	3.57
	Hybrid Fuzzy-Based Occupational Risk Assessment Model (CHFORAM)	1	0.70	3.57
	Stress, Cognition, Safety Model	1	0.70	3.57

4. Discussion

The research highlights China as a leader in studies on the organizational climate in construction, followed by the category of unspecified country. Indonesia also has a significant presence in this field, contributing to global knowledge about working conditions in construction. The limited representation of Latin American studies, identifying only Chile and Brazil, emphasizes the need for more research in the region. This finding calls for fostering knowledge generation on the organizational climate in Latin America to enrich local understanding and contribute to global knowledge in this field.

Regarding dimensions, the prioritized attention to health and occupational safety, essential for safeguarding workers, stands out as the dimension most frequently focused on in studies on the organizational climate, which aligns with the notion put forth by Kineber et al. (2023), who emphasize the importance of understanding and implementing occupational health and safety management systems (OHSMS) to enhance sustainability in these aspects. In this regard, the research by Hayashi et al. (2023) is added, aiming to examine the conditions that determine the improvement of occupational safety and health for construction workers. The organizational culture emerges as an essential element, often highlighted as a crucial factor for the success and stability of the work environment. In this context, Cao et al. (2021) point out that both the work environment and psychological health exert a significant influence on workers' perceptions and behaviors related to safety in the construction industry. Golzad et al. (2023) reference the alarming prevalence of suicides and mental health issues in the industry, and to this study, the work of Yuan et al. (2022) can be added, which underscores the importance of the safety climate in preventing unsafe psychological states in construction. Along the same lines is the dimension related to job performance, which is presented as vital in construction companies and is closely related to the organizational culture.

Regarding factors of the organizational climate, it is emphasized that they are classified into sections such as dimension factors, model factors, and other factors. Regarding dimension factors, those related to the safety climate are predominant in topics of occupational health and safety, as mentioned in the research by Supriyatna et al. (2020), which focuses on safety and health risks in construction work to reduce accidents and occupational illnesses. Additionally, factors of job satisfaction, risks, and job performance are mentioned, which are also highlighted in the analyzed dimensions. In this sense, the study by Johansson et al. (2019) presents categories of safety and occupational risks in the construction industry, which aligns with the study by Kongsvik (2019) addressing the occupational risks assumed by foreign workers compared to national workers, making it clear that there may be implications for job satisfaction and performance. To these studies, the work of Wahab et al. (2023) can be added, which focuses on the CIDB's Green Card Training Program, ideal for raising awareness among workers about safety, legislation, and regulations, with the aim of reducing the incidence of accidents and their significant impacts on human and financial resources.

The factors characterizing models of organizational climate are limited, and no prominent elements are identified within this domain, as all exhibit similar levels of representativeness. This lack of distinction among factors suggests homogeneity in the perception of organizational climate, where various elements contribute equitably to the overall configuration of this climate. Among the key factors, the importance of factors in the 3P+I model is highlighted, factors that improve occupational safety and health according to 4D-BIM technology. Other factors, such as those determining labor capacity, job instability, behavior-based safety (BBS), job dissatisfaction, among others, exhibit homogeneous representativeness in the list.

In relation to models developed to enhance organizational climate in the construction sector, the job demands–resources (JD-R) model stands out as the primary approach for studying organizational climate. This model focuses on the interaction between job demands and resources, providing a comprehensive framework for understanding organizational performance and how job characteristics promote employee well-being (Lesener

et al. 2019). Additionally, it examines job demands, job resources, and personal resources, as well as employee engagement and burnout (Ferreira and Ghedine 2023). Furthermore, the Wexley model is characterized by its robustness in measuring job satisfaction, addressing the complexity of intrinsic and extrinsic factors that influence it.

The review presents certain limitations that need to be addressed to appropriately contextualize the findings. A limitation related to the variability in data availability among included studies has been identified. Not all studies provided responses to all research questions, and studies focusing on the medical field were excluded, as well as studies with no connection to the construction industry. These exclusions affected the robustness of the collected data in certain aspects, and certain limitations highlight the importance of interpreting the results with caution.

The results of the review have significant implications for practice, policies, and future research in the development of the organizational climate in construction. It becomes necessary to continue promoting research in developed countries because new aspects emerge from there to be considered for further research. In the realm of policies, the importance of working on occupational health and safety, as well as job satisfaction, is emphasized, given that the construction industry is known for its risk nature, hazards, and worker accidents. The implementation of policies in organizations is fundamental to achieving a satisfactory organizational climate and having a significant impact on the success and sustainability of a construction company. For future research, the identification of dimensions, factors, and models serves as a valuable starting point for researchers seeking to expand existing understanding or explore new directions. Likewise, they can be utilized by professionals, decision-makers, or those in the industry to improve practices, policies, or processes.

Several challenges encountered in the research can assist those interested in the topic of the organizational climate in developing their research. Managing cultural differences between migrant and local workers to promote workplace safety is one of the challenges found, for which several steps are presented to address it. These include simultaneously addressing cultural, structural, and interactional issues to improve the occupational safety of migrant workers, utilizing the comprehensive analysis of multiple factors (CAMF) model to understand factors affecting the organizational climate between migrant and local workers, identifying areas for improvement from CAMF results, developing an action plan to address these points, implementing planned actions to improve safety and organizational climate, and finally evaluating the impact of interventions on workers to continuously adjust and improve practices.

Another challenge is the lack of attention and research into factors contributing to the safety climate and their influence on safe behavior in the construction industry. To help solve this, steps such as focusing on research to enhance occupational safety and health outcomes, incorporating environmental and behavioral interventions at the individual level, ensuring stakeholder participation, avoiding contamination in cluster randomization, optimizing intervention dosing, and improving outcome measurement should be applied. Subsequently, consulting with experts to gain additional perspectives on factors influencing safety climate and how to improve them, designing specific interventions to address identified gaps in literature and collected data, and finally conducting continuous evaluation of implemented interventions to monitor their impact over time and make adjustments as necessary.

Another identified barrier is effectively implementing the occupational health and safety management system (OHSMS), facing obstacles such as lack of communication, improper equipment use, and cultural barriers. To address this challenge, it is necessary to clearly establish crucial aspects of occupational safety and health (OSH) for managers and workers, facilitate workers' attendance on the CIDB's Green Card course, designed to raise awareness about safety, legislation, and regulations, ensure the active participation of all stakeholders in the continuous improvement of occupational safety and health, and conduct periodic evaluations of the occupational safety and health program to identify

areas of success and improvement opportunities, thus ensuring a continuous improvement approach.

The last challenge identified is implementing mental health monitoring programs, which can pose ethical challenges, especially in ensuring workers' confidentiality and privacy. The steps to follow include applying the psychological safety climate model of the PSC-12, focusing on psychological factors influencing their willingness to participate in safety initiatives, conducting periodic training meetings to strengthen relationships, encourage safety communication, and increase awareness in the team, establishing partnerships with mental health professionals to provide counseling and support to employees as needed, implementing confidentiality policies to protect employees' privacy during mental health monitoring, designating a confidential point of contact to express concerns without fear of retaliation, and finally establishing a continuous monitoring system to evaluate the effectiveness of workplace mental health programs and collect feedback from employees.

Supplementary Materials: The following supporting information can be downloaded at: https://doi.org/10.5281/zenodo.10788967, Organizational Climate SLR.xlsx.

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