

# Occupational Safety Practices and Individual and Organizational Outcome: A Systematic Literature Review

*(Amalan Keselamatan Pekerja dan Individu serta Kesan Organisasi: Tinjauan Literatur Sistematis)*

Laith Ali Zgair

(Faculty of Economics and Management, Universiti Kebangsaan Malaysia)  
(Al-Mussib Technical College, Al- Furat Al-Awsat Technical University)

Zafir Khan Mohamed Makhbul

(UKM-Graduate School of Business, Universiti Kebangsaan Malaysia)

Nur Atiqah Abdullah

Ahmad Rafli Che Omar

(Faculty of Economics and Management, Universiti Kebangsaan Malaysia)

## ABSTRACT

*Occupational safety varies across countries and industries. This study therefore conducts a Systematic Literature Review to suggest the direction for future work and to identify the effect of safety on individual and organizational outcomes. Articles between 2010-2021 were extracted and screened and a total of 70 articles was reviewed. The findings indicated that safety is essential for individual and organizational outcomes. Safety practices can improve on employee performance, satisfaction, commitment and engagement. They also exert critical impact on organizational outcome such as organizational justice, HRM practice, organizational culture, and organizational identification. In the context of safety compliance and safety practice, and safety performance, the important variables are leadership style and total quality management (TQM). Together with occupational safety, these variables can predict individual and organisational outcomes. Safety at workplace should be a concern for all stakeholders, and this can be observed through implementing effective leadership and establishing safety culture.*

*Keywords: Occupational safety; individual outcome; safety; systematic literature review*

## ABSTRAK

*Keselamatan pekerjaan berbeza-beza melintasi negara dan industri. Oleh itu, kajian ini menjalankan Tinjauan Literatur Sistematis untuk mencadangkan halatuju kerja masa hadapan dan untuk mengenal pasti kesan keselamatan terhadap hasil individu dan organisasi. Artikel antara 2010-2021 telah diekstrak dan disaring dan sejumlah 70 telah disemak. Penemuan menunjukkan bahawa keselamatan adalah penting untuk hasil individu dan organisasi. Amalan keselamatan boleh meningkatkan prestasi pekerja, kepuasan, komitmen dan penglibatan mereka. Amalan sedemikian juga memberi kesan kritikal terhadap hasil organisasi seperti keadilan organisasi, amalan HRM, budaya organisasi dan pengenalan organisasi. Dalam konteks pematuhan keselamatan dan amalan keselamatan, dan prestasi keselamatan, pembolehubah penting ialah gaya kepimpinan dan pengurusan kualiti menyeluruh (TQM). Bersamaan keselamatan pekerjaan, pembolehubah ini mampu meramalkan hasil individu dan organisasi. Keselamatan ditempat kerja harus menjadi kekhawatiran semua pihak berkepentingan, dan ini boleh diperhatikan melalui pelaksanaan kepimpinan yang berkesan dan yang mewujudkan budaya keselamatan.*

*Kata Kunci: Keselamatan pekerjaan; pencapaian individu; keselamatan; tinjauan literatur sistematis*

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## INTRODUCTION

Safety is a crucial necessity for all humans (Shaffril et al. 2017) and it is linked to survivability of individuals and organizations (Lyubykh et al. 2022; Mayer et al. 2022). Maslow, in his hierarchical need placed safety among the very basic necessities that each and every one desires to evolve to a higher level of fulfilment (Nurjanah & Suherman 2022). The Maslow ladder of needs focuses on human necessities in general. When it concerns the workplace, the concept of safety is however not totally different. A safe and less hazardous environment is one

of the most sought-after goals for any employee in order to achieve higher productivity (Khdair et al. 2011; Vu et al. 2022; Vu et al. 2022). Securing a safe working environment will achieve the goals of the stakeholders since safety at the workplace generates financial benefit for both organization and employees (Dimoff et al. 2014; Lyubykh et al. 2022).

According to the International Labor Organization (ILO) annual statistics, there are 250 million workers globally who are exposed to accidents each year due to problems in securing the work environment with more than 160 million workers injured and 1.2 million

mortalities as a result of accidents or diseases in their workplaces (International Labour Organisation 2016). Accident rate in some industries, such as construction is increasing and this is negatively affecting organizational and individual productivity, including their reputations (Halabi et al. 2022; Vignoli et al. 2021; Xu & Xu 2021).

Occupational safety management practices (OSMP) have been introduced to provide guidelines to organizations and employees to reduce accident rate and create more secure and safe workplace environments. Implementing OHSP has reduced accidents by 67% (Yoon et al. 2013) and certified organizations have outperformed their non-certified counterparts. However, implementation of such safety measures may pose a challenge for the organization to comply with the requirements and associated costs (Mohammadfam et al. 2017).

For this reason, organization nowadays capitalize on safety to improve their reputation. Safety has been used as a means to promote the social responsibility of companies for their employees and the community (Granerud 2011). However, compliance to the set criteria varies between countries, organizations, and individuals (Dickson-Swift et al. 2014). Further, the outcomes of implementation of these criteria are mostly unknown to individual employees. Some past studies have examined the effect of occupational safety on its outcome while studies of its impact on individual employee outcome is rather limited (Qayoom and Hadikusumo 2019; Zhang et al. 2019). In addition, there are a few studies that have reviewed the literature to elucidate the status of occupational safety and the outcome of its implementation in the workplace (Laksana et al. 2020).

In cognizance of the above development, the main objective of this study is to review the extent literature related to occupational safety practices and their impacts on individual and organizational outcomes. The objective is centred on two research questions. Firstly, what is the state of the art in work safety and are there knowledge gaps to guide future research? Secondly, what are the important predictors of safety that can anticipate individual and organizations outcomes? The answers to these two questions should enrich the body of knowledge in the literature and provide researchers with future research directions. The study may identify factors in occupational safety important to individual and organizational outcomes that can assist in decision making.

In the next section, the methodology as well as the findings are presented followed by discussion, theoretical and practical implication, as well as the conclusion including study limitation and the direction of future research.

## METHODOLOGY

### PRISMA

In this study the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) was adopted to conduct a literature review of research articles between 2010-2021. The steps taken in past literature search were followed in this study (Ashari & Wel 2022). PRISMA provides clear steps in identification, selection, and appraisal in conducting the literature review (Shaffril et al. 2020).

### SYSTEMATIC SEARCH STRATEGIES

The systematic search strategies are based on those adopted by researchers who conduct literature review using PRISMA. These included three phases, namely identification, screening and eligibility, which will be discussed in the following sub-sections.

### IDENTIFICATION

The search for articles started with the identification of keywords. These were used in searching for articles through the query (“Safety” OR “occupational safety” OR “OSMS”) AND (“Individual outcome” OR “Employee\* outcome\*”) AND (“organizational outcome\*” OR “Organizational performance”). The three main databases searched, through using the keywords for related articles, included Scopus, Web of Science (WoS), and the Google Scholar. Scopus and WoS contained the most reliable articles on occupational safety and are known established databases for sourcing articles. The Google Scholar was included for open access articles. The search resulted in identifying 198 articles from the databases.

### SCREENING

The 198 articles were subsequently screened for duplicated articles, at the initial stage. A total of 23 articles were considered duplicated and removed thus reducing the number of articles to 175. The second screening involved the inclusion and exclusion criteria. The former included English articles between 2010-2021, sourced from reliable journals. To ensure the use of recent literature, the exclusion criteria excluded articles that are older than 2010, non-English, that focuses on technical safety issues, and are not reliable. The non-reliable articles are those published in non-indexed journals that are not peer reviewed. The screening removed 72 articles leaving 103 for further vetting.

## ELIGIBILITY

To identify eligible articles, the titles and abstracts of all remaining 103 articles were reviewed. A total of 24 articles was removed since these were technical in nature and did not fully comply with the terms of this study. The samples were thus reduced to 79 articles.

## QUALITY ASSESSMENT

The 79 articles were subsequently checked for quality (Mohamed Shaffril et al. 2020). These were assessed

using a mixed-method appraisal tool (MMAT). Articles of only high and moderate quality levels were chosen for evaluation after they had been ranked on a scale of high, moderate, and low quality. A total of 9 articles were identified as low quality and were removed from the review thus leaving 70 behind. High quality articles accounted for 49 articles while 21 articles were classified as of moderate quality. Figure 1 shows the process of selecting and refining the articles of this study.

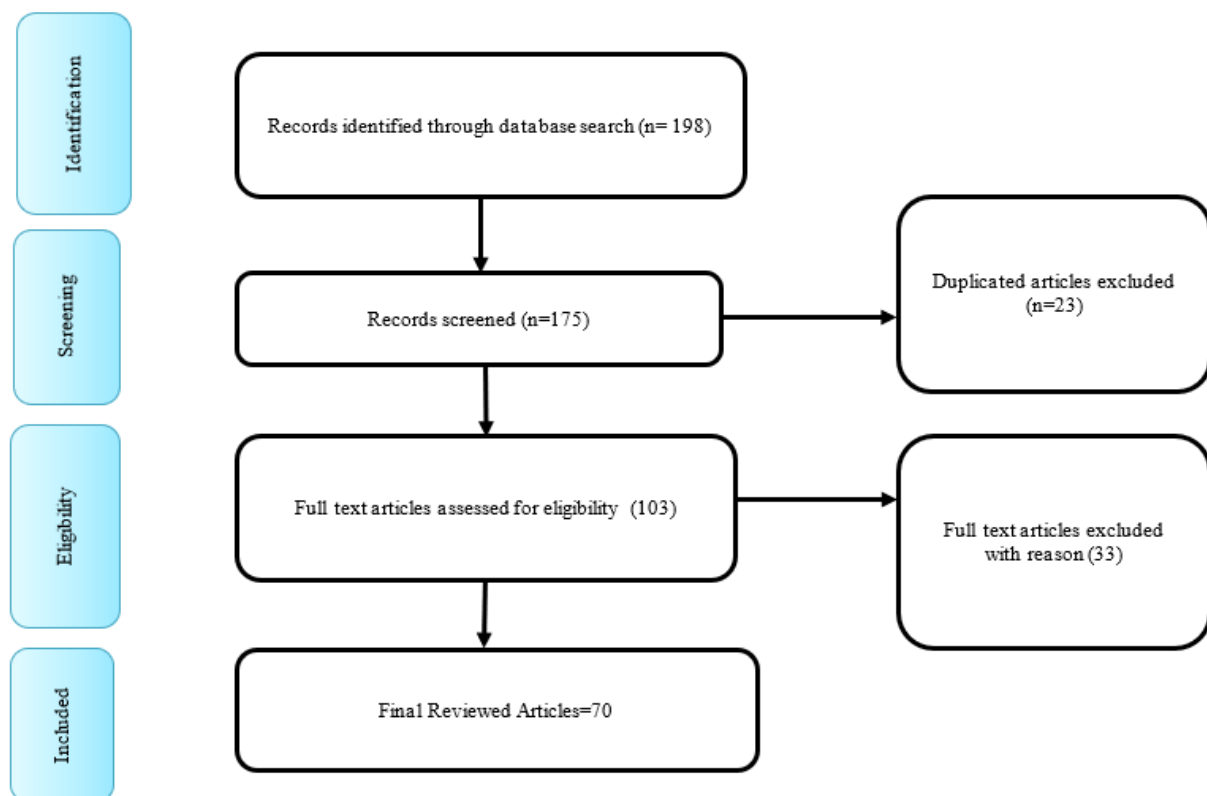


FIGURE 1. Process of selecting and filtering articles

A frequency analysis using Microsoft Office's Excel was used to analyse the data and present the diagrams and Figures. In the next section, the findings of this study are presented.

## FINDINGS

## BACKGROUND OF THE REVIEWED ARTICLES

The first research question aimed to present the status of literature on occupational safety and its outcomes and to guide researchers for future work. Following the approach of previous SLR (Shaffril et al. 2021), the

findings of this study are presented using descriptive analysis. These include background information of the reviewed articles as well as the most critical factors for related occupational safety, including individual as well as organizational outcomes.

To understand the emerging concept of safety over the years, a review of a number of articles was conducted. The articles revealed that the awareness of occupational safety has increased over time with the number increasing gradually since 2010. Figure 2 shows that the number of vetted articles increased by nine articles in 2014 with the average of 5.8 articles annually over 11 years. In 2021, only one article was reviewed up to January of that year.

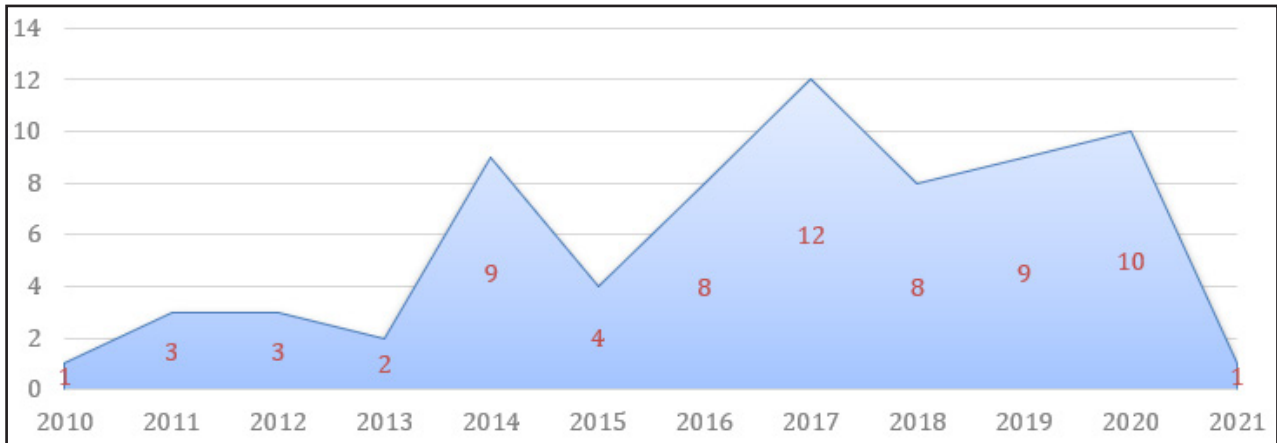


FIGURE 2. Distribution of articles based on year of publication

To understand the differences between countries and industries the review included the countries of origin and the remaining 70 articles were shown to originate from 29 countries. Countries that contributed one article each included Denmark, Portugal, Malaysia, Netherland, Nigeria, France, Sweden, Kenya, Greece, Colorado, Spain, Germany, Romania, Thailand, Sri Lanka, and Taiwan. The highest percentage of studies were conducted by the US with 22%, of followed by China (14%), Iran (10%), and Indonesia, Pakistan, and Australia (8% each). The Asian continent contributed the most articles totaling 43% of articles, Europe 27%, and North America produced 20%. Africa had the fewest reviewed papers with 3%.

Large businesses (public listed companies or data from numerous large organizations) contributed 20% of reviewed papers. This is followed by education sector (15%), manufacturing (14%), healthcare (14%), and construction (12%). Airlines as well as oil and gas sectors had the fewest studies (1%). The reviewed articles were also grouped into methods used for the study. Three methods were adopted: (1) Quantitative research (84% of the articles) which used questionnaires to obtain data. Sample sizes ranged from 19 to 8,761 respondents, with an average sample size of 592. (2) Qualitative studies (about 9%) that extracted conclusions from interviews and content analyses. (3) And review studies (7%).

Analytical tools were used in reviewing studies. These included SPSS in 59% of the studies, AMOS in 18%, content analysis in 9%, Mplus in 8%, smart partial least square (PLS) in 5% and fuzzy logic, 1%. Overall, 79% of the review papers utilized regression analysis and 5% descriptive analysis.

#### THEMATIC ANALYSIS

Thematic analysis was also conducted on the remaining 70 articles with three main themes identified, including 31 sub-themes. However, further review decreased the sub-themes to 19 due to overlapping. For example, transformational, transactional, and Laissez-faire leaderships as well as other leaderships were suitably listed under leadership style. Organizational justice usually referred to distributive justice, procedural justice, and interactional justice which commonly were listed under organizational justice. HRM practices, such as training and development, recruitment, promotion, and job appraisal were together listed under HRM. With minimised overlapping the sub-themes were thus reduced from 31 to 19. The main theme is the individual outcome that has four sub-themes, namely employee commitment (CO), employee performance (EE), job satisfaction (JS), and employee engagement (EE). The second theme is the organizational outcome with eight sub-themes, organizational justice (OJ), organizational identification (OI), human resource management (HRM), organizational culture (OC), organizational performance (OP), policy and strategy (POS), workplace health promotion (WP), organizational citizenship behaviour (OCB). Other sub-themes that do not belong to any individual or organizational outcome are listed under a new theme called "Other". This main theme is more related to the outcome of safety in the workplace and it includes the occupational safety and health (OSH), social responsibility (SR), leadership style (LS), safety risk (RS), safety performance (SP), total quality management (TQM), and mindfulness (MF). Table 1 shows the results of the thematic analysis.

TABLE 1. Thematic analysis

Author/ year	Individual outcome										Organizational outcome										Other				
	CO	EP	JS	EE	OJ	OI	HRM	OC	OP	POS	WP	OCB	OSB	OSH	SR	LS	RS	SP	TQM	MF					
(Zee & Zinkham 2010)	X				X																				
(Lingard et al. 2011)														X											
(Ford & Tetrick 2011)					X									X						X					
(Granerud 2011)															X										
(Chan & Mak 2012)							X																		
(Hsin Lin 2012)						X		X																	
(Mardiana Yusuf et al. 2012)		X												X											
(Yoon et al. 2013)			X											X											
(Loshali & Krishnan 2013)						X									X										
(Mahmoudi et al. 2014)								X							X					X					
(Omidvari & Lashgary 2014)								X		X					X					X					
(K. Dimoff et al. 2014)									X											X					
(Dickson-Swift et al. 2014)																									
(R. Kaufman and et al. 2014)										X						X				X					
(Hansen et al. 2014)									X							X									
(Moazzezi et al. 2014)		X																							
(Tse & Chiu 2014)		X													X										
(Park & Khai 2015)																									
(Ganesh & Gupta 2015)	X																								
(Wang et al. 2015)		X																							
(Shan, S., Ishaq, H. M., & Shaheen 2015)		X														X									
(Verissimo & Lacerda 2015)																									
(Subramaniam et al. 2016)	X														X	X									
(Terzioglu et al. 2016)		X																							
(Hefferman & Dundon 2016)		X	X																						
(Lyu 2016)				X																					
(Asrar-ul-Haq & Kuchinke 2016)				X																					
(Babette Bronkhorst & Vermeeren 2016)							X													X					

continue...

...cont.

Author/ year	Individual outcome											Organizational outcome										
	CO	EP	JS	EE	OJ	OI	HRM	OC	OP	POS	WP	OCB	OSH	SR	LS	RS	SP	TQM	MF			
(Kaynak et al. 2016)	X	X											X			X						
(Zahoor et al. 2016)													X				X					
(Anozie et al. 2017)									X				X									
(Mullen et al. 2017)													X		X							
(Swalhi et al. 2017)	X	X			X								X									
(Nordlöf et al. 2017)								X					X									
(Sembe & Ayuo 2017)			X				X										X					
(Mohammadfam et al. 2017)									X								X					
(Olewski & Snakard 2017)	X						X							X	X							
(Papasotiropi et al. 2017)								X														
(Loudoun & Townsend 2017)									X				X									
(Stock & McFadden 2017)		X					X											X				
(Hassan et al. 2017)															X							
(Jinnett et al. 2017)		X		X																		
(Álvarez-Santos et al. 2018)							X							X		X		X				
(Kraidi et al. 2018)																X						
(Mullen et al. 2018)															X		X					
(DeArmond et al. 2018)	X													X	X		X					
(Caffaro et al. 2018)		X															X					
(Sorensen et al. 2018)															X		X					
(Arab & Atan 2018)		X	X		X					X					X		X					
(Pinek & Sonnentag 2018)	X		X												X				X			
(Ladewski & Al-Bayati 2019)			X												X							
(Unterhitzenberger & Bryde 2019)	X				X								X		X			X				
(Khawam & Bostain 2019)		X						X											X			
(Zhang et al. 2019)																		X	X			
(Lupsa et al. 2019)				X									X					X	X			
(Qayoom & H.W. Hadikusumo 2019)								X											X			
(Bunner et al. 2019)	X	X							X													
(Haryono et al. 2019)		X	X		X	X																
(Perera 2019)		X	X																X			

continue...

...cont.

Author/ year	Individual outcome													Organizational outcome										Other				
	CO	EP	JS	EE	OJ	OI	HRM	OC	OP	POS	WP	OCB	OSH	SR	LS	RS	SP	TQM	MF									
(Guerin & Toland 2020)		X																		X								
(Clay-Williams et al. 2020)	X														X					X								
(Laksana et al. 2020)		X							X						X													
(Sahmi & Sinha 2020)		X	X			X																						
(Rahaei & Salehzadeh 2020)	X					X				X																		
(Herr et al. 2020)			X			X																						
(Lambert et al. 2020)	X		X			X																						
(Sembiring et al. 2020)	X	X	X			X																						
(Li et al. 2020)		X	X			X																						
(Lai et al. 2020)		X									X									X								
(Sora et al. 2021)		X				X						X								X								
TOTAL	14	24	13	6	20	4	10	7	5	7	1	2	18	3	19	10	14	2	2	1								

Note: CO: Commitment, OJ: Organizational justice, OSH: occupational safety health, RS: Risk, OI: organizational identification, SR: Social responsibility, HRM: human resource management, OC: organizational culture, EP: Employee performance, JS: Job satisfaction, LS: Leadership style, POS: policy and strategy, TD: Training and development, WP: Workplace health promotion, SP: safety performance, EE: Employee engagement, OCB: organizational citizenship behaviour, TQM: total quality management, MF: mindfulness



## SAFETY AND INDIVIDUAL OUTCOMES

Individual outcome refers to the outcome of employees. In this study, the individual outcome based on the analysis includes employee commitment, performance, job satisfaction and employee engagement. The reviewed studies have examined the effect of safety on employee's job attitude and outcomes. Zee and Zinkham (2010) found that safety affected positively employee commitment. Similar findings in terms of the effect of safety on employee commitment were recorded in some past literature (Ganesh & Gupta 2015; Kaynak et al. 2016; Olewski & Snakard 2017; Subramaniam et al. 2016; Swalhi et al. 2017). When organizations work to improve safety practices, employee commitment to the organization will increase (DeArmond et al. 2018; Pinck & Sonnentag 2018) since they feel cared that the firm is concerned for their well-being (Bunner et al. 2019; Clay-Williams et al. 2020; Unterhitzberger & Bryde 2019). Commitment of employees to their employers is therefore one of the outcomes of having a high standard of safety work practices (Lambert et al. 2020; Rahaei & Salehzadeh 2020; Sembiring et al. 2020).

Another individual outcome is employee performance. Studies that have been reviewed confirmed that the emphasis on safety in the workplace is a critical predictor of employee's performance (Heffernan & Dundon 2016; Mardiana Yusuf et al. 2012; Moazzezi et al. 2014; Shan, Ishaq & Shaheen 2015; Terzioglu et al. 2016; Tse & Chiu 2014; Wang et al. 2015). Both organizations and employees benefit from safety in the workplace. The employees may work more effectively when they perceive the workplace environment ensured high safety measures (Kaynak et al. 2016; Swalhi et al. 2017). Researchers thus unanimously agreed that a working environment that follow safety practices will lead to better employee performance (Li et al. 2020; Sembiring et al. 2020).

Job satisfaction was also considered as one of the individual outcomes. Employees are more satisfied and willing to work for high safety organizations (Heffernan & Dundon 2016; Mardiana Yusuf et al. 2012). A satisfied employee is more productive and less likely to leave his or her job (Ladewski & Al-Bayati 2019; Sembe & Ayuo 2017). Stock and McFadden (2017) indicated that safety culture is positively associated with safety outcome and satisfaction as well as process quality. Organizational safety climate affects positively the job satisfaction of employees (Haryono et al. 2019). Employee engagement is the fourth sub-theme but past literature has given less attention to this outcome. The employee engagement is affected by safety practices (Hansen et al. 2014) and workplaces with poor safety tend to weaken this engagement (Asrar-ul-Haq & Kuchinke 2016; Hassan et al. 2017; Lupsa et al. 2019). It can therefore be concluded that safety at the workplace is critical for the individual outcome and in particular for the employee's commitment, performance, satisfaction and engagement.

## SAFETY AND ORGANIZATIONAL OUTCOMES

Organizational outcome in this study includes several sub-themes, namely organizational justice (OJ), organizational identification (OI), HRM, culture, organizational performance (OP), policy and strategy (POS), workplace health promotion (WP), and organizational citizenship behavior (OCB). The literature examined the relationship between safety practices and organizational outcome. For instance, Chan and Mak (2012) found that safety climate is critical for the effectiveness of HRM practices. In Iran, safety practices affected organizational performance (Mahmoudi et al. 2014). Dimoff et al. (2014) found that there is financial benefit in applying health workplace programs. The findings of Veríssimo and Lacerda (2015) indicated that safety affected the public image of organizations.

Hansen et al. (2014) established that safety affected positively organizational identification. Similarly, Lupsa et al. (2019) found that organizations that consider safety as a high priority contribute to their reputation and organizational identification as an admired organization to work for. Terzioglu et al. (2016) concluded that having safety in the workplace can improve the perception of organizational justice and organizational culture. Safety also affects policy and strategy of organizations (Anozie et al. 2017) since it contributes to the success of policy implementation (Mohammadfam et al. 2017). Organizations that implement safety thus increases their employees' positive behaviour (Sora et al. 2021).

Accordingly, it can be understood that safety is critical for the organizational outcome as it has the potential to increase the effectiveness of HRM and organizational justice as well as to improve on organizational identification and public image of the organization.

## OTHERS

The theme 'others' was included to account for other variables that are important as sub-themes but not suitably listed under individual or organizational outcomes. These include occupational safety and health (OSH), social responsibility (SR), leadership style (LS), risk (RS), safety performance (SP), TQM and mindfulness. Researchers tend to establish a link between having a safe working environment and safety outcome of organizations. Kaufman and et al. (2014) in the USA found that general leader's justice has a negative non-significant effect on safety outcome while leader's support for safety and safety specific leader's justice shows a positive effect. Subramaniam et al. (2016) found that management, safety rules and procedures produce a significant effect on safety compliance. In a similar approach to the study (Subramaniam et al. 2016), DeArmond et al. (2018) found that transformational



leadership, that is safety specific, is related to safety compliance and safety participation.

In Canada, Mullen et al. (2017) found that safety obligation and safety transformational leadership of employees are positively related to their perception, participation, and attitude. There is a low level of awareness on safety management in university laboratories (Olewski & Snakard 2017). Kraidi et al. (2018) discovered that the risk faced by oil and gas pipeline is related to external factors such as terrorism, sabotage, and theft. Abusive supervision negatively affect the safety climate and psychological health of employees (Mullen et al. 2018)

Earlier studies also examined occupational safety and found that the part of securing the work environment is considered as a social responsibility of companies (Granerud 2011). Sorensen et al. (2018) showed that the component of safety practices includes leadership commitment, participation, policies, programs and practices supportive of working condition, comprehensive and collaborative strategies, adherence to regulation, and ethical norm. Company size, safety culture, and creditworthiness are associated with better OSH practices (Nordlöf et al. 2017). In China, Zhang et al. (2019) found that highly influential employee safety voice can improve the safety level. Safety culture at the middle and operational management level is more critical to safety outcome than in the strategic management level (Qayoom & Hadikusumo 2019).

Dickson-Swift et al. (2014) investigated workplace health promotion and discovered that management focused on OSH more than on the employees. According to Yoon et al. (2013) accident rate was reduced by 67% after the adoption of the OSH. Total quality management (TQM) was mainly related to safety practices and training (Álvarez-Santos et al. 2018). In a review study, Caffaro et al. (2018) investigated the link between OSH and safety outcome and individual outcome, and established that training has no effect on individual outcomes. However, training given after intervention studies proved significant in increasing the safety of employees. Laksana et al. (2020) concluded that the elements of occupational safety system include scope, leadership, policy, planning, support, operations, performance evaluation, and improvement.

## DISCUSSION

This study comprises a systematic literature review aimed at providing researchers with future direction that highlights the important role of occupational safety on individual and organizational outcomes. The study reviewed 70 articles to discern the state of the art and trend in the literature. The number of studies on safety has grown steadily after 2014 due probably to the increase in awareness and benefits of safety for organizations and employees. It may also be due to the

need for more studies on safety (Lingard et al. 2011). The greatest number of studies had been conducted in the US and China and researchers generally agreed that studies on occupational safety in developing countries have been lacking (Chen et al. 2020). The reviewed articles were mainly submitted by Asia, Europe and North America. The source countries included China, Iran, Pakistan, European countries as well as the US and Canada. Other continents, including Africa, contributed few articles. The finding in this study are in agreement with those in past literature such as Dada et al. (2022). More studies from the African countries and in the Middle East are thus needed in the future.

The findings also showed that most of the reviewed studies were conducted in large organizations, educational institutions, the manufacturing sector, hospitals, and the construction industry. Other sectors such as oil and gas, airlines, banking, and public sector received less attention. On the other hand, researchers pointed out that the oil and gas industry involves greater risk and as such safety observance in this sector is more marginal compared to that of other industries (Khdair et al. 2011). This has motivated some researchers to focus on the oil and gas industry (Guzman et al. 2022). More studies are thus necessary to elucidate the issue of safety in industries such as oil and gas, airlines, banking and the public sector.

The quantitative approach is more widely used in examining occupational safety while the qualitative approach is rather limited. The SPSS was mainly used in the quantitative approach adopted in the study. Most past studies were either descriptive or correlational (Anozie et al. 2017; Park & Khai 2015; Yoon et al. 2013). Accordingly, more studies are needed to enrich the literature on occupational safety. These studies may consider the mixed method approach or qualitative method using different analytical techniques such as structural equation model (SEM) and content analysis.

Literature gap also exists on the most commonly used variables. The findings concluded that leadership of the organization is critical in implementing safety in the workplace. This is in line with the findings of Dickson-Swift et al. (2014) and with the meta-analysis by Lyubykh et al. (2022) who examined the link between leadership and occupational safety. Other variables such as organizational justice and culture are also important in the context of implementing safety and along with safety, they also affect the individual and organizational outcomes. Organizational culture and organizational climate are critical factors for enhancing safety at the workplace and the findings are in line with those of other studies in the literature (Byrnes et al. 2022; Leduc 2022; Mutonyi et al. 2022). The literature survey also showed that TQM and empowerment were used in only a few studies. More studies that include the variables of leadership as well as TQM and empowerment can help in understanding the influence of individual and organizational outcomes.

In addressing the second research question, this study discovered that safety positively affect the individual outcome such as employee commitment, employee performance, job satisfaction, and employee engagement. The most frequently examined variable in this theme is the employee performance followed by employee commitment, job satisfaction and employee engagement. In terms of the organizational outcome, several were identified. These were based on frequency, organizational justice, HRM, organizational culture, policy and strategy, organizational performance, organizational identification, and workplace health promotion. The theme 'other' was included to account for other outcomes such as safety compliance and safety practices. The most important sub-themes in this main theme are leadership style, occupational safety and health, safety performance, risk, TQM, and mindfulness.

#### ACADEMIC IMPLICATION

This study has contributed to the extant literature through the review of 70 articles on workplace safety. This represents the largest number of articles ever reviewed to date. Past reviews were limited to 22 (Dimoff et al. 2014) or 29 papers (Caffaro et al. 2018). The study has identified locations that have received lesser attention such as developing countries and continents such as Africa. Industries that received limited attention from past literature were also identified. These industries include oil and gas, airlines, banking, and the public sector. More qualitative approach is needed in addition to the predominance of quantitative analyses. The study also contributed to the literature through understanding the effect of occupational safety on the safety outcomes as well as the individual and organizational outcomes. The direction for future research was also suggested in light of findings from the literature review. Lastly, the study identified the most frequently used theories in the reviewed articles, i.e., in the form of the leadership theory and the organizational justice theory.

#### PRACTICAL IMPLICATION

The practical implication derived from this study is the importance of safety for the individual and organizational outcome. Safety can increase the performance of employees, their satisfaction, commitment and engagement. Safety is also critical in improving the perception of justice in the organization. It also improves the effectiveness of HRM and its important impact on the public image of organizations. A highly safe organization is promoted as a socially responsible organization and as a good employer. It is therefore suggested that decision makers should enhance the implementation of safety since it has some mutual benefits for various stakeholders. The positive enforcement of safety by rewarding safety behavior should also be practiced by decision makers. Organizations that seek to enhance their reputation and

increase their attractiveness for employment, have to consider implementing workplace safety as a crucially important measure.

#### CONCLUSION

Safety is critical for all stakeholders. This study was conducted to answer two main questions related to the direction of future work and the effect of safety on individual and organizational outcomes. The findings revealed that there is an increase in the number of articles concerning safety and that safety varies over countries and industries. Most past studies were conducted in developed and emerging economies. In addition, industries such as oil and gas and airlines received meagre number of studies. Therefore, to answer the first research question, the direction of future work should focus on occupational safety. Research on safety is still in its infancy and more studies are needed in this field. A comparative study can be conducted between two different industries such as education or banking and manufacturing to understand the differences in the perception of safety based on the type of industry. The type of industry can also be used as an intervening or moderating variable. A few past studies on safety have recommended wider adoption of this variable in future research in the form of rewards, salary, top management commitment in safety and greater trust in the organization.

For the second research question, safety was proven to produce favorable impacts on employee performance and commitment, job satisfaction and employee engagement. In terms of organizational outcome, safety is critical for organizational justice, HRM, organizational culture, policy and strategy, organizational performance, and organizational identification. Additional findings showed that safety practice, compliance, and performance is greatly affected by the leadership style and TQM. Decision makers have to focus on implementing a safe working environment to enhance the outcomes of all organizational members. The study was limited to 70 articles extracted from Scopus, WoS and google scholar. Future studies are recommended to expand the research scope to examine transformational leadership and organizational justice. They should also examine the link among variables such as TQM and HRM practices along with safety and to elucidate their impact on organizational and individual outcomes.

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Laith Ali Zgair (corresponding author)  
Al-Mussib Technical College  
Al- Furat Al-Awsat Technical University  
51009 Babylon, IRAQ.  
E-Mail: laith.zgeir@atu.edu.iq

Zafir Khan Mohamed Makhbul  
UKM-Graduate School of Business  
Universiti Kebangsaan Malaysia  
43600 UKM Bangi, Selangor, MALAYSIA.  
E-Mail: zafir@ukm.edu.my

Nur Atiqah Abdullah  
Faculty of Economics and Management  
Universiti Kebangsaan Malaysia  
43600 UKM Bangi, Selangor, MALAYSIA.  
E-Mail: atiq@ukm.edu.my

Ahmad Rafli Che Omar  
Faculty of Economics and Management  
Universiti Kebangsaan Malaysia  
43600 UKM Bangi, Selangor, MALAYSIA.  
E-Mail: rafli@ukm.edu.my