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THE RELATIONSHIP OF OCCUPATIONAL SAFETY MANAGEMENT PRACTICES WITH EMPLOYEE PERFORMANCE: THE MEDIATING ROLE OF ORGANISATIONAL JUSTICE

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ABSTRACT

Purpose: The high accident rate in the oil and gas business makes it risky. Workplace safety practices reduce accidents and boost employee performance (EP). Previous studies examined workplaces in developed countries' industrial, educational, and small and medium enterprises. Organizational justice (OJ) should also have been addressed in identifying its direct and mediating role in workplace safety management practices and EP. This study examines how OJ and occupational safety management practices (OSMP) related EP.

Theoretical framework: The theoretical framework is based on social exchange theory and OJ theory, this study proposes that OJ (OJ) mediates the relationship between OSMP and EP in the Iraqi oil and gas sector.

Design/Methodology/Approach: The methodology of this study is quantitative. A purposive sampling was deployed to collect 409 responses from employees working in Oil and Gas industry in Iraq. Smart Partial Least Square (Smart PLS) version 4 was used for data analysis.

Findings: The findings showed that OSMP and OJ positively related EP. Safety investment, management commitment, and safety rewards positively related EP. OJ partially mediated the relationship between OSMP and EP.

Research, practical and social Implication: The practical implications for Iraqi oil and gas companies, findings of this study can improve EP by increasing OSMP. Management should encourage and reward safety behavior and increase the level of OJ.

Originality/Value: This study is original because it address the issue of occupational safety in a highly risk industry such as oil and gas in developing countries.

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A RELAÇÃO DAS PRÁTICAS DE GESTÃO DA SEGURANÇA OCUPACIONAL COM O DESEMPENHO DOS FUNCIONÁRIOS: O PAPEL MEDIADOR DA JUSTIÇA ORGANIZACIONAL

RESUMO

Propósito: A alta taxa de acidentes no setor de petróleo e gás o torna arriscado. As práticas de segurança no local de trabalho reduzem acidentes e aumentam o desempenho dos funcionários (EP). Estudos anteriores examinaram locais de trabalho nas empresas industriais, educacionais e de pequeno e médio porte dos países desenvolvidos. A

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justiça organizacional (JO) também deveria ter sido abordada na identificação do seu papel direto e mediador nas práticas de gestão da segurança no local de trabalho e no PE. Este estudo analisa a forma como as práticas de gestão da segurança no trabalho (OSMP) e no JO se relacionam com o PE.
Enquadramento teórico: O enquadramento teórico baseia-se na teoria do intercâmbio social e na teoria do JO, este estudo propõe que o JO (JO) medie a relação entre OSMP e EP no setor iraquiano do petróleo e gás.
Projeto/metodologia/abordagem: A metodologia deste estudo é quantitativa. Uma amostragem proposital foi implantada para coletar 409 respostas de funcionários que trabalham na indústria de petróleo e gás no Iraque. Smart Partial Least Square (Smart PLS) versão 4 foi usada para análise de dados.
Constatações: As constatações mostraram que o OSMP e o JO relacionaram positivamente o EP. Investimento em segurança, compromisso de gestão e prêmios de segurança positivamente relacionados com o PE. O JO mediou parcialmente a relação entre o OSMP e o EP.
Investigação, implicações práticas e sociais: As implicações práticas para as empresas iraquianas de petróleo e gás, os resultados deste estudo podem melhorar o PE através do aumento do OSMP. A gestão deve incentivar e recompensar os comportamentos de segurança e aumentar o nível de proteção dos consumidores.
Originalidade/valor: Este estudo é original porque aborda a questão da segurança ocupacional em uma indústria de alto risco, como petróleo e gás em países em desenvolvimento.

Palavras-chave: Desempenho do Funcionário, Justiça Organizacional, Segurança Ocupacional e Práticas de Gestão, Petróleo e Gás, Compromisso de Gestão.

LA RELACIÓN DE LAS PRÁCTICAS DE GESTIÓN DE LA SEGURIDAD LABORAL CON EL DESEMPEÑO DE LOS EMPLEADOS: EL PAPEL MEDIADOR DE LA JUSTICIA ORGANIZACIONAL

RESUMEN
Finalidad: La alta tasa de accidentes en el negocio del petróleo y el gas lo hace riesgoso. Las prácticas de seguridad en el lugar de trabajo reducen los accidentes y aumentan el rendimiento de los empleados (EP). Estudios anteriores examinaron los lugares de trabajo en las empresas industriales, educativas y pequeñas y medianas de los países desarrollados. La justicia organizacional (OJ) también debería haber sido abordada en la identificación de su papel directo y mediador en las prácticas de gestión de la seguridad en el lugar de trabajo y en el PE. Este estudio examina cómo el OJ y las prácticas de gestión de la seguridad ocupacional (OSMP) relacionan EP.
Marco teórico: El marco teórico se basa en la teoría del intercambio social y la teoría del OJ, este estudio propone que el OJ (OJ) media la relación entre OSMP y EP en el sector petrolero y gasífero iraquí.
Diseño/metodología/enfoque: La metodología de este estudio es cuantitativa. Se desplegó un muestreo intencional para recoger 409 respuestas de empleados que trabajaban en la industria del petróleo y el gas en el Iraq. Para el análisis de datos se utilizó la versión 4 de Smart Partial de mínimos cuadrados (Smart PLS).
Hallazgos: Los hallazgos mostraron que la OSMP y el OJ tenían una relación positiva con el EP. Inversión en seguridad, compromiso de gestión y recompensas de seguridad relacionadas positivamente con el PE. El OJ medió parcialmente la relación entre OSMP y EP.
Investigación, implicaciones prácticas y sociales: Las implicaciones prácticas para las empresas de petróleo y gas iraquíes, los hallazgos de este estudio pueden mejorar el PE mediante el aumento de la OSMP. La dirección debe fomentar y recompensar el comportamiento de seguridad y aumentar el nivel de DO.
Originalidad/Valor: Este estudio es original porque aborda el tema de la seguridad ocupacional en una industria de alto riesgo como el petróleo y el gas en los países en desarrollo.

Palabras clave: Desempeño de los Empleados, Justicia Organizacional, Seguridad en el Trabajo y Prácticas de Gestión, Petróleo y Gas, Compromiso de Gestión.

INTRODUCTION

Employee safety affects organizations and individuals. Safe workplaces boost efficiency, satisfaction with work, and loyalty (Cowan et al., 2021). When employees feel the company cares about their safety, employees will have higher job satisfaction, a stronger sense of belonging, more enthusiasm for work, and higher economic benefits, creating a virtuous

circle that boosts their performance (Prieto & Talukder, 2023). Employees and organizations benefit by providing a safe working place (Sears et al., 2020). Safety-focused organizations have higher reputations and are regarded as top employers. A general framework for developing safety at the workplace is the occupational health and safety management system (OHSMS), which outlines employers' role in ensuring employees' safety at the workplace. International Labour Organization (ILO) defines OHSMS as a network of linked aspects that includes duties, powers, partnerships, jobs, actions, processes, practices, procedures, and resources. The management system uses these aspects to set policies, plans, programs, and aims and create ways to execute and attain these aims (ILO, 2016). International and local organizations monitor employee and job safety and award accreditation to compliant organizations. Occupational and safety management practices (OSMP)-certified organizations have better output and organizational dedication (Mohammadfam et al., 2017).

Due to image, cost, and work safety regulations, companies are giving more attention to employee safety (McGuire et al., 2021). According to ILO statistics, 250 million workers worldwide are exposed to accidents due to workplace safety issues, 160 million are injured, and 1.2 million die annually from workplace accidents or diseases (ILO, 2016). OHSMS encourages organizations and employees to reduce workplace risks, lowering employee churn and improving EP (Iheanacho & Ebitu, 2016). Industry safety varies. Due to the nature of white-collar jobs and the need to perform dangerous tasks, employee safety is less concern than in blue-collar jobs (Herr et al., 2020). Oil and gas are blue-collar businesses. Oil and gas safety policies and EP have gotten less focus than other sectors. For instance, several studies examine OSMP in construction (Sharar et al., 2022), educational institutions (Gajek et al., 2022), healthcare (Clay-Williams et al., 2020), and manufacturing SMEs (Perera, 2019). Few studies examined oil and gas (Kraidi et al., 2018).

Providing high safety measures to employees improve their sense of justice. OJ can boost job satisfaction, performance, and employee loyalty (Hidayat et al., 2023). OJ predicts work engagement (Venkataramanan, 2023), job performance (Arab & Atan, 2018), participative safety, and team dedication (Ganesh & Gupta, 2015). OJ mediated the relationship between high-performance working systems, job satisfaction, emotional dedication, and work stress (Heffernan & Dundon, 2016). Fewer studies investigated OJ's indirect impact (Zee & Zinkham, 2010). A few studies have examined OJ as a variable in the context of developing countries (Arab & Atan, 2018). In Iraq, organizational and political ties heavily influence

employment, selection, and performance review (Alaraqi, 2017). Thus, OJ can be a mediating variable in the relationship between OSMP and EP in the oil and gas sector in Iraq.

Oil and gas fuel Iraq's economy. This sector contributed 65% to GDP and 88.8% to government revenue in 2019 (Fakhir & Farhan, 2020). The oil and gas sector and its related companies also hire many Iraqis. For example, the oil and gas sector is less safe than the manufacturing sector (Abed et al., 2020). Over 70% of Iraq's oil extraction areas are unsafe (Abdulridha & Supeni, 2019). Industry accidents are common. Iraqi oil and gas had 703 safety accidents in 2017 (Ibrahim et al., 2019). Occupational safety and its effects on job outcomes are understudied in emerging nations (Chen et al., 2020), so more research is needed. Thus, this study examines relationship between OSMP and OJ affect the EP of Iraq's oil and gas industry. In addition, the study examines the mediating role of OJ between OSMP and EP. The following sections elaborate on the literature review, methodology, findings, discussion, and conclusion.

LITERATURE REVIEW

This section discusses the literature on the theoretical framework, including the theories of social exchange and OJ. The section also reviews the concept of EP along with OJ.

Theoretical framework

This study deploys social exchange theory (SET) to explain the interlink between the variables of this study. According to SET, people act to optimize profit and reduce costs because they care about their interests. Thus, in social ties, people optimize returns to costs (Soares & Mosquera, 2019). If the cost-benefit analysis shows that social trade is helpful, the person is apt to engage in it (Pan, 2018). SET has been used to explain how workplace safety affects safety performance (Ford & Tetrick, 2011). This study uses the SET to clarify the relationship between OSMP and its components with EP.

This study uses OJ theory to explain the direct and mediating the relationship between OSMP and EP. Along with SET, the study deploys the OJ theory, developed based on the equity theory (Adeel et al., 2018). OJ covers all facets of work, including employee-supervisor relations, pay, tasks, training, gender equity, and performance review (Maiyaki & Yaro, 2020). OJ is expected to mediate the relationship between OSMP and EP. In line with this prediction, Heffernan and Dundon (2016) found that OJ mediated the impact of high-performance working systems on job satisfaction, emotional dedication, and work stress.

Employee Performance

Employee performance (EP) is critical for all organizations and can constitute their overall performance. EP is usually referring to output over time. Mathis and Jackson (2010) defined EP as quantity, quality, speed, compliance, feasibility, and usefulness of work. This study uses Mathis and Jackson's (2010)'s definition because Iraqi oil and gas EP is measured by quality, quantity, and efficiency. Multidimensional and unidimensional measurements were used to assess the performance of employees. Several studies assess EP multi-dimensionally. Thus, employee success can be measured unidimensional or multi-dimensionally. The role-based performance gauge is best for self-reporting EP. This work uses Pahos and Galanaki's (2018) measurement method. This unidimensional assessment assesses EP by self-rating their work output, job goals, new ideas, teamwork, and workplace participation. This study examines EP in the Iraqi oil and gas industry and provides the employees with a self-rating instrument to measure this performance.

Occupational Safety Management Practices

OSMP is a critical factor for the overall performance of organizations and individuals. The variable is a multidimensional construct. The majority of prior literature view OSMP as unidimensional. Only some previous studies operationalized OSMP as a multivariate measure. In Malaysia, Subramaniam et al. (2016) operationalized OSMP to include management commitment, safety training, worker engagement, safety communication and feedback, safety rules and protocols, and safety promotion policy. Mahmoudi et al. (2014) view OSMP as leadership and commitment, assessment, risk management, and organizational resource. Zahoor et al. (2016) operationalized OSMP in Pakistan to include management commitment, worker involvement, safety in the contract document, training, safety meetings, incentives, use of personal protective equipment, scaffolding quality, evacuation and shoring precautions, housekeeping, hoists, and crane operation. OSMP methods, notably training, are ignored. Zee and Zinkham (2010) found that managerial safety leadership, co-worker safety care, safety dialogue, and safety as management concerns are the essential OSMP aspects in the UK.

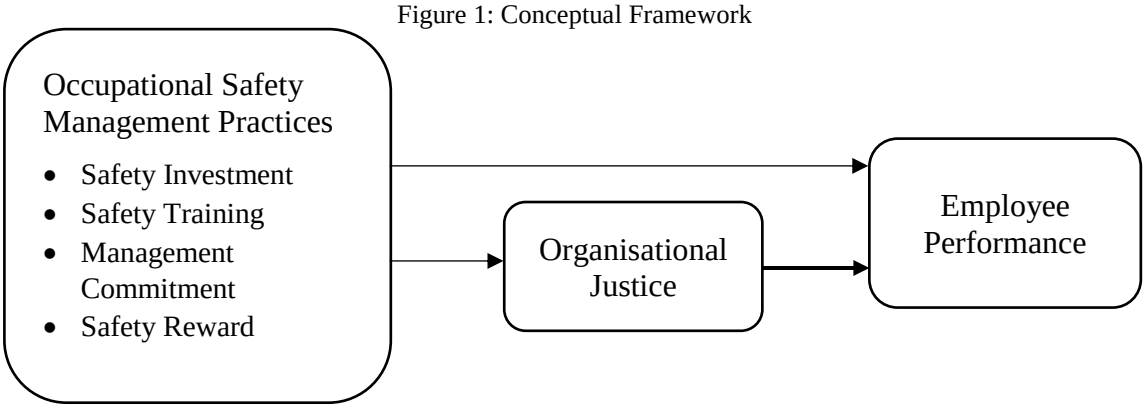
Sorensen et al. (2018) operationalized OSMP as leadership commitment, involvement, policies, programs, and practices, helpful working conditions, complete and joint strategies, obedience to regulation, and ethical norm. Laksana et al. (2020) examined workplace safety literature and found that leadership, policy, planning, support, operations, performance assessment, and development are its components. Caffaro et al. (2018) examined OSMP and

safety and staff success. Training did not affect staff outcomes in the OSMP. This study uses the OSMP as a multifaceted concept because it has several aspects, and each element should boost EP and safety in Iraqi oil and gas firms. OSMP is measured by safety investment, safety training, management commitment, and safety reward.

Conceptual Framework

Based on the review of the literature, it is found that most studies focused on the organizational level (Caffaro et al., 2018; Khawam & Bostain, 2019) in the US and western countries (Mullen et al., 2018; Olewski & Snakard, 2017). Therefore, researchers suggested more studies in other contexts (Chen et al., 2020) or populations because the prior literature focused on listed companies or the educational and manufacturing sectors, while oil and gas received less attention (Kraidi et al., 2018). Thus, based on SET and OJ theory, this study proposes that OSMP and OJ will significantly relate the EP of oil and gas companies in Iraq. The study also suggests that OJ will mediate the relationship between OSMP and transformational leadership with EP. Figure 1 presents the conceptual framework of this study.

Figure 1: Conceptual Framework



Source: Prepared by the authors (2023)

OSMP and employee performance

Government, organizations, and foreign labour organizations prioritize job safety. Studies examined how safety affects organizational and individual performance. Few studies explored how OSMP affects EP. Yusuf et al. (2012) found that OSMP improved staff efficiency and satisfaction with work. Wang et al. (2019) examined workplace safety issues like job insecurity and found that it adversely impacted EP. Mullen et al. (2017) found that employee safety obligations affect employee attitudes. Stock and McFadden (2017) found that an employee safety mindset improves efficiency, satisfaction, and process quality. Khawam and

Bostain (2019) found that safety culture enhanced EP. Few Iraqi oil and gas studies assessed safety and EP. This study suggests that Iraqi oil and gas workers who feel safe and secure while working will perform better. The study suggests OSMP improves Iraqi oil and gas sector EP. Thus, it is hypothesized:

H1: OSMP has a positive relationship with EP of oil and gas companies.

Safety investment and employee performance

Safety investment usually involves new technology, safety measures, and peer safety responsibility (Lu et al., 2016). Safety investment is funds spent on staff health and safety (Teo & Yingbin, 2010). Safety managers are hired or outsourced to administer safety. Peer help improves safety because they work together and face the same risks (Alsmairat et al., 2023). Safety responsibility reduces harm (Syed 2018). Safety investments enhance workplace safety (Zhang et al., 2019). Safety investment impacts EP (Lu et al., 2016). Safety investment improves employee safety and performance (Mearns et al., 2010). This study expects safety investments to strengthen the EP of Iraqi oil and gas companies. Thus:

H1a: Safety investment has a positive relationship with EP of oil and gas companies.

Safety training and employee performance

Safety training improves staff retention and safety compliance (Bowen et al., 2011). Safety training is an educational and training program that improves employees' knowledge, skills, and abilities in the safety aspect of their job (Nainggolan et al., 2023; Pandy & Rogerson, 2023). An organization would succeed if all employees received safety training (Kaynak et al., 2016). Liu et al. (2020) found that safety training positively affected the employees' knowledge and performance. High performance depends on safety training (Khdair et al., 2011). Safety training was linked to lower mishap rates, safety issues, and EP (Vinodkumar & Bhasi, 2010). Safety training improves the efficiency of employees. Caffaro et al. (2018) found no effect of training on EP. However, Lambert et al. (2020) found that training boosts job satisfaction and performance. This study suggests safety training improves the EP of Iraqi oil and gas companies. Thus, it is proposed:

H1b: Safety training has a positive relationship with EP of oil and gas companies.

Management commitment and employee safety

Organizational safety programs require management support (Kath et al., 2010). Vinodkumar and Bhasi (2010) found a good correlation between managerial commitment and safety performance. Management commitment toward safety improves EP (Khdair et al., 2011). Management commitment to employee safety has improved organizational performance (Jitwasinkul et al., 2016). Management commitment improved safety compliance significantly, improving EP (Subramaniam et al., 2016). Safety programs will only work with managerial support (Abou-Shouk et al., 2023). Thus, management safety commitment is crucial to EP (Jaafar et al., 2017). Management commitment (Subramaniam et al., 2016) is proposed to relate EP positively. Therefore, it is hypothesized:

H1c: Management safety commitment has positive relationship with EP of oil and gas company.

Reward and employee performance

Encouragement and rewards directly affect safety behaviour. Management recognizes good job behaviour through a reward scheme (Vinodkumar & Bhasi, 2010). Employees will follow safety rules if rewarded with financial and non-financial rewards (Simpson & Sam, 2019). Compensation improves job satisfaction (Sembe & Ayuo, 2017). According to the social exchange theory, the employee will behave as required if rewarded (Van Wijk et al., 2014). This study expects rewards to improve the EP of Iraqi oil and gas companies. Thus, it is hypothesized:

H1d: Reward has a positive relationship with EP of oil and gas companies.

Organisational justice and employee performance

OJ affects employees and businesses. OJ improves job and safety performance (R. Kaufman et al., 2014). OJ improves EP (Moazzezi et al., 2014). Several studies found that OJ improves EP (Ganesh & Gupta, 2015; Heffernan & Dundon, 2016). This study hypothesizes that OJ will improve EP. Thus, the study anticipated an excellent and substantial impact of OJ on the Iraqi oil and gas company EP. Therefore, it is hypothesized:

H2: OJ has a positive relationship with EP of oil and gas companies.

Mediating role of organisational justice

This study suggests that OSMP affects EP through OJ as a mediator. Few studies examined OJ as a mediator. Zee and Zinkham (2010) found that OJ mediated the link between high-commitment performance management methods and employee commitment. OJ mediated the effect of the performance working system effects on job satisfaction and the effect of emotional dedication on work stress (Heffernan & Dundon, 2016). In addition, organisational justice mediated the impact of HRM practices on job satisfaction and stress (Sahni & Sinha, 2020). Sora et al. (2021) found that OJ reduced the effect of job stress on civic behaviour and EP. In this study, OJ is expected to mediate the relationship between OSMP and EP of Iraqi oil and gas companies. Thus, it is hypothesized:

H3: OJs mediates the relationship between OSMP on oil and gas company EP.

MATERIAL AND METHODOLOGY

This study is built based on hypotheses testing to confirm the proposed hypotheses. Accordingly, the study adopts a survey design using a structured questionnaire survey, which is the best data collection strategy (Sekaran & Bougie 2016; Zikmund et al. 2013). The population of this study is the field employees in the Iraqi oil and gas companies. Several national companies operate under the Iraq Ministry of Oil in Iraq. However, the Basra oil company is one of the major companies in Iraq, and it employs the most significant percentage of employees distributed in 13 oil fields production and drilling (Basra Oil Company, 2021). A total of 53,595 are Iraqi nationals. Out of them, 43,990 are working in Basra Oil Company, making them 82% of the workers in Iraq. This study uses the purposive sampling technique. For this study, the sample size is calculated based on the formula given by Krejcie and Morgan (1970), which showed that the exact sample size of the population of 43,990 is 381 at an Alpha or margin error of 0.05 and a confidence level of 0.95. Hassan and Ghazali (2012) suggested doubling the sample to avoid a low response rate and remove the missing value and outliers. In this study, the sample was increased to 762.

This study uses a questionnaire to collect data from the respondents. OSMP was measured using 24 items adopted from (Sammy 2020; Alaraqi 2017; Teo & Yingbin 2010). The OJ consists of 20 items adopted from (Shan, Ishaq & Shaheen 2015). Lastly, EP was measured using 20 items adopted from (Pahos & Galanaki, 2018). A questionnaire was validated, and a pilot study was conducted to ensure validity and reliability. The questionnaire was distributed to the 13 oil fields. The questionnaire was distributed in English and Arabic

Language. The use of Arabic is due to the notion that it is the official language of Iraq, and all people understand it. To meet the assumption of purposive sampling, the study was determined to select only those aware of the OSMP, organisational justice, and EP. If the respondents answered that they were aware, they were asked to continue. Otherwise, the respondents are asked to refrain from answering the questionnaires. Online and paper-based questionnaires were distributed. This has resulted in 51 online questionnaires and 402 paper-based questionnaires. Overall, the number of respondents accounted for 453.

FINDINGS

This section discusses the data examination, descriptive statistics, and hypotheses testing using Smart PLS 4.

Data Examination

The total number of respondents invited to participate in this study is 762. A total of 453 answered the questionnaire, while eight of the responses were empty, and 301 did not return the questionnaire. Thus, the response rate of this study is 59.4%, and the analyses of the data of this study are conducted on the 453 responses. The findings indicated that 16 responses missed more than 15% of the answers. These 16 responses were removed. In addition, seven responses needed to include less than 5% of the answers, and they were replaced with the mean score value. This makes the complete responses account for 437 (453-16). A total of 28 responses were removed from the dataset due to outliers making the complete and usable responses 409. The results of the normality analysis in Table 1 show that the highest Skewness is for EP with the value of -.978 while the highest Kurtosis value is -.440 for safety training. Thus, these values are less than absolute 2, indicating that the data are normally distributed. The VIF for all the variables is less than 10. In addition, the tolerance is greater than 0.10 supporting the notion that the data are free from multicollinearity issues. The lowest tolerance is 0.277 for safety rewards greater than 0.10, while the highest VIF is 3.607 for safety rewards, as shown in Table 1.

Table 1: Normality Analysis

Variable	N	Normality Analysis				Collinearity Statistics	
		Skewness		Kurtosis			
	Statistic	Statistic	Std. Error	Statistic	Std. Error	Tolerance	VIF
Safety Investment	409	-.669	.121	-.124	.241	.397	2.521
Safety Training	409	-.690	.121	-.440	.241	.457	2.188

Management Commitment	409	-.871	.121	.031	.241	.343	3.115
Safety Reward	409	-.748	.121	-.303	.241	.277	3.607
Organisational Justice	409	-.828	.121	-.220	.241	.526	1.901
Occupational safety management practices	409	-.471	.121	-.227	.241	.429	2.329
EP	409	-.978	.121	-.179	.241	-	-

Dependent Variable: EP
Source: Prepared by the authors (2023)

Profile of the Respondents

A total of 409 respondents participated in this study. Overall, 66.8% of this study's sample are between 20 to 40 years and considered working age. The highest percentage of 45.5% or 186 of the respondents are in the age group between 31 and 40 years. The majority of 63.3% or 259 respondents are males, while 36.7% or 150 are females. The highest percentage of 34.2% of the respondents are holders of bachelor's degrees. 65.5%, or 268 of the respondents, are subordinates. Regarding profession, engineers account for 76 of the respondents or 18.6%, followed by technicians with 72 in the count and 17.6% of the respondents. This is followed by department manager (52 or 12.7%), driver (49, 12.0%), mechanics (48 or 11.7%), electrician (38 or 9.3%), driller (30 or 7.3%), welder (23 or 5.6%), other (21 or 5.1%). Those with experience between 6 to 10 years accounted for 102 or 24.9% of the respondents, followed by those with less than five years' experience, with 91 or 22.2% of the respondents. A total of 256, or 62.6% of the respondents, indicated that they had been injured while working. A total of 37.4%, or 153 of the respondents, stated that there was no injury. Among the 62.6% injured, 40.6% or 166 of the respondents had minor injuries, while 22.0% or 90 had critical injuries.

Table 2: Profile of the Respondents

Variable	Label	Frequency	Percent
Age	Less than 20 years	20	4.9
	21-30 years	87	21.3
	31-40 years	186	45.5
	41-50 years	94	23.0
	More than 50 years	22	5.4
Gender	Male	259	63.3
	Female	150	36.7
Education	High school or less	61	14.9
	Diploma	106	25.9
	Bachelor	140	34.2
	Master	77	18.8
	PhD	25	6.1
Position	Managerial	75	18.3
	Subordinate	268	65.5
	Others	66	16.1

Profession	Technician	72	17.6
	Electrician	38	9.3
	Mechanics	48	11.7
	Welder	23	5.6
	Driller	30	7.3
	Engineer	76	18.6
	Department manager	52	12.7
	Driver	49	12.0
	Other	21	5.1
Experience	Less than 5 years	91	22.2
	6-10 years	102	24.9
	11-15 years	76	18.6
	16-20 years	71	17.4
	21-25 years	44	10.8
	More than 26 years	25	6.1
Injury	Yes	256	62.6
	No	153	37.4
Injury level	No injury	153	37.4
	Minor	166	40.6
	Critical	90	22.0

N=409.
Source: Prepared by the authors (2023)

Assessment of Measurement Model

The measurement model is evaluated based on five criteria. First, the factor loading has to be larger than 0.70 as well as the Cronbach's Alpha (CA) and Composite Reliability (CR). The acceptable values of CA and CR are 0.70. In addition, the validity of the measurement is assessed using convergent and discriminant validity. The convergent validity is assessed using the Average Variance Extracted (AVE). The acceptable value of AVE is 0.50. For the discriminant validity, the measurement is considered to have a discriminant validity when the indicator loading is larger than all the cross-loading. This study removed the factor loadings of items less than 0.70. Item numbers 1, 5, and 6 from organisational justice (OJ) were removed due to low factor loading. Factor loading of all the items is given in Table 3. The reliability of the measurements was assessed using the CA and the CR. The findings in Table 3 indicate that all the variables have CA and CR greater than 0.70 meaning that the measurements are reliable and can measure the variables of this study. The convergent validity is achieved because the AVE is greater than 0.50.

Table 3: Factor Loading, CA, CR, and AVE

Variable	Items	Loading	CA	CR	AVE
Employee Performance	EP1	0.743			
	EP10	0.753			
	EP11	0.771			
	EP12	0.805			
	EP13	0.785			
	EP14	0.773	0.964	0.964	0.594

		EP15	0.761			
		EP16	0.791			
		EP17	0.797			
		EP18	0.791			
		EP19	0.74			
		EP2	0.762			
		EP20	0.806			
		EP3	0.759			
		EP4	0.716			
		EP5	0.762			
		EP6	0.707			
		EP7	0.771			
		EP8	0.802			
		EP9	0.806			
Organizational Justice		OJ10	0.759			
		OJ11	0.748			
		OJ12	0.759			
		OJ13	0.768			
		OJ14	0.761			
		OJ15	0.748			
		OJ16	0.782			
		OJ17	0.772			
		OJ18	0.81			
		OJ19	0.802			
		OJ2	0.76			
		OJ20	0.822			
		OJ3	0.735			
		OJ4	0.76			
		OJ7	0.765			
		OJ8	0.794			
		OJ9	0.774	0.958	0.958	0.596
OSMP	Reward	RE1	0.801			
		RE2	0.836			
		RE3	0.847			
		RE4	0.842			
		RE5	0.844	0.89	0.891	0.695
	Safety investment	SI1	0.755			
		SI2	0.778			
		SI3	0.772			
		SI4	0.784			
		SI5	0.791			
		SI6	0.77	0.867	0.868	0.6
	Safety training	ST1	0.736			
		ST2	0.814			
		ST3	0.839			
		ST4	0.793			
		ST5	0.761			
		ST6	0.772	0.876	0.877	0.618
	Management commitment	MC1	0.767			
		MC2	0.82			
		MC3	0.779			
		MC4	0.776			
		MC5	0.817			
		MC6	0.778			
		MC7	0.79	0.899	0.9	0.624

Source: Prepared by the authors (2023)

Discriminant Validity

The discriminant validity is deemed to be achieved when the indicator loading of the variables has values larger than the cross-loading. In Table 4, all the bold numbers are larger than their rows and columns, supporting the notion that the measurement has a discriminant validity.

Table 4: Discriminant Validity

	Employee Performance	Management Commitment	Organizational Justice	Safety Investment	Safety Reward	Safety Training
Employee Performance	**0.771**					
Management Commitment	0.59	**0.79**				
Organizational Justice	0.485	0.507	**0.772**			
Safety Investment	0.692	0.535	0.575	**0.775**		
Safety Reward	0.48	0.675	0.643	0.643	**0.834**	
Safety Training	0.509	0.519	0.642	0.547	0.681	**0.786**

Source: Prepared by the authors (2023)

This study deploys OSMP as a second-order variable. All the procedures applied on the first order are applied on the second order, noting that the first order is treated as items for the second order. For example, the items of OSMP are SI, ST, MC, and RE and must have loading greater than 0.70 on OSMP. Table 5 shows the results of evaluating the second-order model of this study. It shows that the factor loading is greater than 0.70. In addition, CA and CR are greater than 0.70, and the AVE is greater than 0.50. The number in bold is greater than the cross-loading, indicating that the discriminant validity is achieved.

Table 5: Assessment of Second Order Model

	Dimension	FL	CA	CR	AVE			
Employee Performance	-	-	0.964	0.964	0.594	**0.771**		
Occupational Safety Management Practices	SI	0.865	0.958	0.958	0.508	0.331	**0.713**	
	ST	0.908						
	MC	0.941						
	RE	0.862						
Organisational Justice	-	-	0.958	0.958	0.596	0.485	0.546	**0.772**

Source: Prepared by the authors (2023)

Structural Model

For evaluating the structural model, researchers agreed that four main criteria include the R-square (R^2), the predictive relevance (Q^2), path coefficient (β), and effect size (F^2) (Hair

et al., 2014; Hair et al., 2017; Hair et al., 2011; Lowry & Gaskin, 2014). However, a recent update in Smart PLS 4 removed the predictive relevance. According to Table 6 shows the R^2 of the model is 0.752 (R^2 = 0.752) for EP and 0.557 for OJ, as shown in Figure 2. This indicates that OSMP and OJ can explain 75.2% of EP, while OSMP can explain 55.7% of OJ. To examine the effect size, Hair et al. (2014) recommended the method of Cohen's f^2. As described previously, this method becomes outdated with the Smart PLS's advancement. Nevertheless, it is worthwhile to mention that the accepted value of f^2 ranged between 0.02 (small), 0.15 (medium), and 0.35 (large), as suggested by Cohen (1988) and Hair et al. (2014). In this study, the f^2 for the direct effect model and mediation model is given. Table 6 shows the effect size of the direct effect model.

Table 6: Effect Size f^2 and R-square

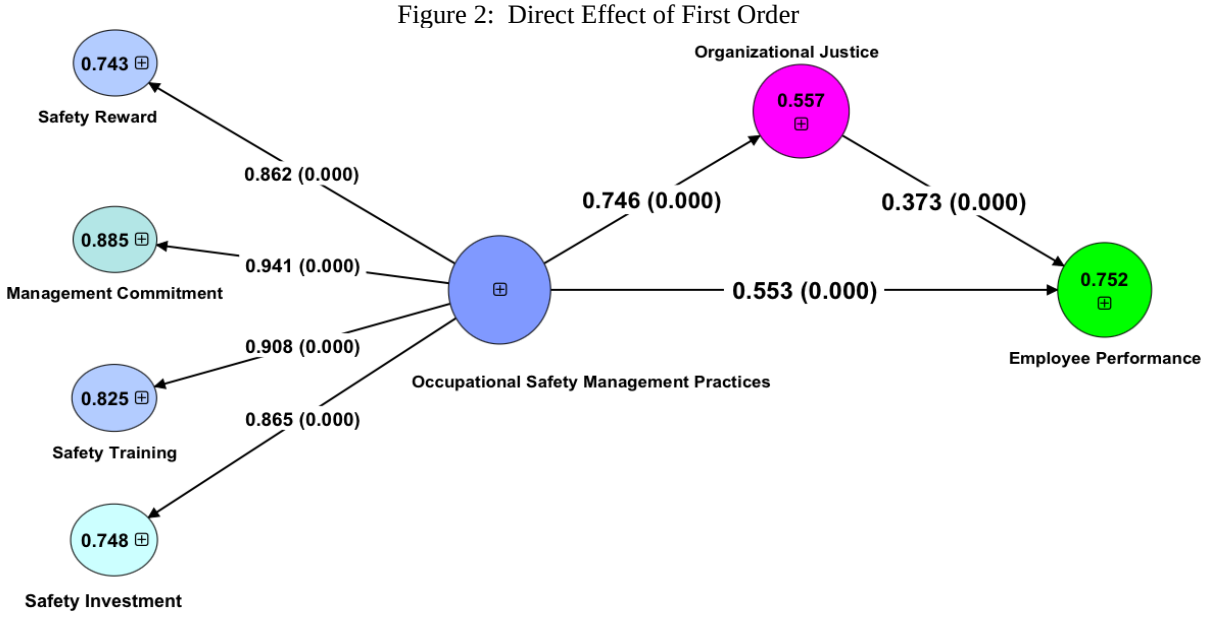
	F-square		R-square	
Predictors	**EP**	**Organisational justice**	**EP**	**OJ**
Organisational justice	0.248	-	0.752	-
OSMP	0.549	0.958		0.557
Management Commitment	0.083	-	0.712	-
Safety Investment	0.038	-		-
Safety Reward	0.194	-		-
Safety Training	0.004	-		-

Source: Prepared by the authors (2023)

Hypotheses Testing

The direct effect of OSMP and organisational justice on EP is presented, and it shows that the effect is positive and significant for the second order.

Figure 2: Direct Effect of First Order



Source: Prepared by the authors (2023)

Table 7 shows the hypothesis (H), path, path coefficient (B), standard deviation (Std), t-value (T), and P-value (P), as well as the label.

Table 7: Result of Hypotheses Testing

H	Path	B	Std	T	P	Label
H1	OSMP -> EP	0.553	0.05	11.128	0.000	Supported
H1a	Safety Investment -> EP	0.167	0.04	4.148	0.000	Supported
H1b	Safety Training -> EP	0.063	0.055	1.136	0.256	Rejected
H1c	MC -> EP	0.322	0.065	4.961	0.000	Supported
H1d	Safety Reward -> EP	0.381	0.049	7.842	0.000	Supported
H2	OJ -> EP	0.373	0.048	7.756	0.000	Supported
H3	OSMP -> OJ -> EP	0.278	0.042	6.587	0.000	Supported

Source: Prepared by the authors (2023)

As shown in Table 7, the relationship between OSMP and EP is positive and significant (B=0.553, T>1.96, P<0.05). Thus, H1 is supported. For H1a, the relationship between safety investment and EP is also positive and significant (β= 0.167, T=4.148, P<0.05). Therefore, H1a is supported. For H1b, it was rejected. The relationship between safety training and EP is not statistically significant (β= 0.063, T=1.136, P>0.05). H1c is supported because the relationship between management commitment and EP is significant (β=0.322, T=4.961, P<0.05). Thus, H1c is supported. The safety reward statistically related EP (B=0.381, T=7.756, P<0.05). Increasing the safety reward by oil and gas companies in Iraq will positively increase EP in Iraqi oil and gas companies. Thus, H1d is supported.

Based on the results in Table 7, the relationship between OJ and EP was found to be positive and significant (β=0.373, T=7.756, P<0.05). Thus, organisational justice has a significant positive relationship with EP. The increase in organisational justice will cause an increase in the EP of oil and gas companies in Iraq. For the mediating role of OJ, the direct relationship was found to be positive as well as the indirect relationship (OSMP→OJ→EP) is also positive (β=0.278, T=6.587, P<0.05). Thus, H3 is supported.

DISCUSSION

The first hypothesis of this study proposed a direct and positive relationship of OSMP and its dimensions, such as safety investment, safety training, management commitment, and safety reward with EP. The findings of this study showed that OSMP is a critical predictor of EP. The increase in the level of OSMP causes an increase in the EP of oil and gas companies in Iraq. The positive relationship of OSMP could be related to the notion that when Iraqi oil and gas companies invest in safety, the management has a high commitment to ensure safety in the workplace as well as the management reward the safety behaviour of employees. The

positive relationship of OSMP with EP aligns with the findings of prior literature. For example, previous literature, such as Yusuf et al. (2012), found that OSMP has an essential and positive effect on EP and job satisfaction. In addition, the lack of job security has a negative impact on EP (Wang et al. 2019).

The findings showed that the relationship between safety investment and EP is positive and significant. This has confirmed that the safety investment is a critical factor for Iraqi oil and gas EP. The increase in safety investment increases the EP of oil and gas companies in Iraq. In line with the findings of this study, researchers found that companies that invest in safety improve the work environment (Zhang et al. 2019). Other researchers found that investment in safety positively impacts EP (Lu et al., 2016). The safety investment increases the positive attitude of employees toward their organisation (Mearns et al., 2010).

Safety training was proposed to relate the EP of Iraqi oil and gas companies, and the findings showed no statistically significant relationship with EP. Therefore, it was concluded that training in safety among oil and gas companies is not a critical predictor of EP. This insignificant relationship could be due to ineffective training safety. This research's findings contradict those of other researchers who found that safety training has a positive relationship with EP. For instance, safety training positively impacted the performance in the study of Khdair et al. (2011). In addition, safety training was found to be a critical predictor of safety performance and EP (Vinodkumar & Bhasi, 2010). Nevertheless, in line with the findings of this study, the study of Caffaro et al. (2018) indicated that training did not affect the employees' outcomes.

Management commitment was suggested to improve EP in Iraqi oil and gas companies. This study confirmed the hypothesis. Increased managerial commitment to safety will improve EP in Iraqi oil and gas companies. This study agrees with other researchers who found that managerial commitment predicts safety plans and practices in organizations and improves EP. This study suggested and found that safety reward improves Iraqi oil and gas company EP. This could be because Iraqi oil and gas firms tie pay rises to employee safety performance, which may encourage safety and performance. According to past research, an efficient reward system helps companies handle EP (Vinodkumar & Bhasi, 2010).

OJ positively related EP. The positive relationship of OJ with EP could be related to the fact that employees perceived their workload to be fair and their job responsibility to be appropriate. The findings of prior literature agreed with the findings of this study. For instance, the survey results by Kaufman et al. (2014) indicated that the effect of organisational justice on

safety performance is positive and significant. Similarly, Moazzezi et al. (2014) found that organizational justice positively affected EP. In addition, researchers also confirmed the effect of organisational justice on EP (Ganesh & Gupta, 2015; Heffernan & Dundon, 2016). OJ also mediated the effect of OSMP on EP of oil and gas companies in Iraq. The indirect effect of OSMP on EP via the mediator organisational justice is positive and significant. This confirmed that organisational justice mediated the relationship of OSMP and EP and this mediation is partial. Therefore, part of the relationship between OSMP and EP can be explained by organisational justice.

Fair practices can cause an increase in the perception of OSMP and its impact on the EP. Similarly, transformational leadership is about the wellbeing of employees (Sathyamoorthi et al., 2023). The findings of this study agree with the results of prior literature regarding the mediating role of organisational justice. Organisational justice mediated the effect of high-commitment performance management practices and employee commitment (Zee & Zinkham 2010). Organisational justice also mediated the effect of the performance working system on job satisfaction, affective commitment, and work pressure (Heffernan & Dundon, 2016).

CONTRIBUTION

The OSMP was operationalized and tested to the effect of safety investment, safety training, management commitment, and safety reward. This study has contributed to the theory and body of knowledge regarding EP in developing countries' oil and gas industries. The study has contributed by examining the EP in the context of the public sector, such as Iraq's oil and gas industry. It has also contributed by testing the EP rather than the safety or organisational performance because most prior studies focused on these outcomes and less examined the EP. The study has contributed to the literature by focusing on risky industries such as oil and gas, while prior literature concentrates on manufacturing, SMEs, and the service sector in developed countries.

This study deploys the SET in developing the conceptual framework of this study to explain the relationship of the OSMP and its components on EP. Organisational justice theory was deployed in this study, and it was confirmed that organisational justice theory is essential in explaining the relationship of organisational justice with EP in explaining the mediating role of organisational justice on EP. Therefore, the applicability of organisational justice theory in the context of oil and gas companies in Iraq is confirmed.

This study has contributed to the EP. The study found that the relationship of OSMP and EP is positive and significant. Therefore, it can be recommended that decision-makers focus on implementing safety practices to enhance the performance of the employee and the performance of the organisation. The study found that the relationship of safety investment is critical. Thus, it is recommended to invest in safety by implementing safety measures, techniques, and procedures. Decision-makers can focus on creating a safety indicator, measure the implementation of safety by employees, and reward the practice of safety. This is because the safety reward is critical for the EP. In addition, management commitment is essential for safety. Management should communicate the importance of safety to all employees and ensure the safety requirement is installed and implemented. Therefore, the management of oil and gas companies should focus on investing in safety and communicating the commitment toward safety to all employees as well as rewarding safety behaviour.

The study found that organisational justice is an essential predictor of EP. Therefore, decision-makers in the oil and gas companies are recommended to enhance organizational justice and focus on procedural, interactional, and distributive justice. This can be done by ensuring competitive and equal pay for all oil and gas companies' employees compared with other public and private organisations. The reward of employees must be fair and equal to their efforts and contribution to the oil and gas companies. The decision-makers are advised to provide the employee with more job responsibility and appropriate workload that suit their skills and qualification.

The mediating role of organisational justice was confirmed between OSMP and EP. The organisational justice can explain a part of the relationship between these variables. Therefore, decision-makers are recommended to improve organisational justice to enhance the impact of OSMP on EP. Safety training was found to have an insignificant effect on EP. Decision makers are advised to do training analysis need. This is because safety issues might be due to the need for more knowledge about safety procedures and practices. A proper safety training program can strengthen the employee's experience and knowledge and make the job easier and safer. This study has contributed to the decision-makers in Iraq by explaining more than 75% of the variation in EP. Improving the EP has a critical implication for the decision-makers and the productivity of oil and gas companies in the country.

CONCLUSION

This study examined the EP among employees working for oil and gas companies in Iraq. There is a high level of risk and accident rate among the oil and gas companies in Iraq, and previous studies needed to pay more attention to the issue in developing countries. This study examined the relationship between OSMP and OJ with EP and the mediating role of OJ between OSMP and EP. The findings showed that OSMP and organizational justice significantly relationship with EP of oil and gas companies in Iraq. In addition, the results showed that the dimension of OSMP, such as safety investment, management commitment, and safety reward, have positive relationship with EP. Organisational justice mediated the relationship between OSMP and EP. The findings of this study are limited to the oil and gas sector in developing countries and Iraq. The study is limited to safety and includes only oil and gas company field employees. The study is also limited to occupational safety, organisational justice, and EP variables. Future studies are recommended to examine the EP of oil and gas companies using different sampling methods, such as random sampling. Further studies are suggested to explore the OSMP in other public organisations, such as white-collar employees working in governmental agencies such as manufacturing companies or the service sector. Future studies are also suggested to focus on sub-ordinates employees working in a specific field or to collect the data from a particular group such as operational management or middle management. Decision-makers in Iraqi oil and gas are recommended to establish and support safety initiatives and to spread justice and fairness in all practices and transactions to improve the EP.

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