

The Effect of Self-efficacy on Sustainable Development: The PetroMasila in Yemen

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ABSTRACT

This research addresses the mechanism that the components of self-efficacy impact the sustainable development efficacy among employees of PetroMasila in Yemen. The methodology of the current study was quantitative. The online questionnaire was utilized to collect data from 342 employees who are working in the department of project management. The data analysis was conducted by the Structural Equation Model (SEM) in Smart-PLS Software. The findings of this study indicated that all components of self-efficacy, namely past performance, vicarious experiences, verbal persuasion, and emotional cues, have a significant and positive influence on the oil industry's sustainable development effectiveness. The model of research explained 45% of the whole variance in sustainable development efficacy. Furthermore, this study discusses the limitation and future studies.

Keywords: Past Performance, Vicarious Experiences, Verbal Persuasion, Emotional Cues, self-efficacy, Sustainable Development, Yemen, PetroMasila.

INTRODUCTION

Sustainability development has captured the attention of academics in the field of management. This is due to the scholars' growing interest in the creation and provision of new managerial practises and sustainability principles, which are at the forefront of managers' thoughts [1, 2]. Sustainable development refers to a change process defined by harmonious resource exploitation, supply of investments, and orientation toward technical growth, as well as

institutional reforms aimed at increasing the present and future needs and aspirations of mankind [3]. In addition, Trindade, Hinnig [4] defined sustainable development as the individual's efforts to create a world that is economically, ecologically, and socially harmonious, and in which future generations may flourish.

On the other hand, the majority of organizations attempt to enhance their human resources in order to increase their productivity and effectiveness. Self-efficacy is one of the most often employed attributes by decision-makers to motivate employees to demonstrate their talents during the work cycle [5]. Self-efficacy is the most valuable feature in human resource departments that decision-makers utilise to attain corporate goals. Self-efficacy refers to the degree to which an individual believes in his or her own skills to complete a certain task. In recent years, the use of self-efficacy has mirrored the high rate of performance improvement in any [6]. Bin Hasan, Bin Hossain [7] demonstrates that decision-makers in every business emphasise self-efficacy to motivate individuals to accomplish corporate goals.

Cerezo, Fernández [8] shown that the workforce demands a high level of self-efficacy for learning, responsibility, and dedication. Chen, Li [9] shown that there is a favourable association between staff commitment (representative, occupation orientation, and organisational orientation) and high-level self-efficacy perception, but non-aligned staff has a lower self-efficacy level. Govindan, Shankar [10] discovered that self-efficacy is a work regulator and might be a factor in enhancing organisational commitment, since it reduces the propensity to quit the company.

On the other hand, Haddad and Taleb [5] assert that self-efficacy is a necessary factor in determining an employee's ability to function in an organisation. It is classified to permit workplace verbal persuasion and emotional signals. In addition, the employee's earlier success helps organisations create fresh chances for new employees. Furthermore, some companies suffer from employing family, which influences the selection criterion for personnel [11]. According to Holleb [12], some organisations disregard the amount of expertise of their employees in order to achieve leadership satisfaction. This leads to the rise of corruption by allocating unqualified workers to positions requiring high efficiency.

On the other side, Lunenburg [13] indicated that some businesses do not integrate credentials in the personnel selection process and do not utilise social persuasion, which impacts the social element of sustainable growth. Moreover, many firms do not emphasise self-persuasion throughout the selection process. It also resulted in less opportunities to increase self-efficacy [5]. In turn, a lack of self-efficacy severely impacts sustainable growth.

In industrialised nations, several studies have been conducted on the components of self-efficiency. For instance, Yang, Guo [14] imply that a person's job performance is likely to improve if he or she has a solid foundation in the particular activity; these fundamentals enable a person to work, create, and communicate successfully in the work environment. While Wang, Tian [15] noted that when a worker observes another worker completing a job, self-efficacy can also be strongly influenced by the vicarious experience of witnessing a model. Individuals evaluate their own talents based on their observations of others performing similar jobs. Hou, Wu [16] hypothesised that persuasion may exaggerate people's self-efficacy perceptions above

their actual level of ability. Several research indicate that these exaggerated beliefs amplify the effect of disconfirming events on self-efficacy.

LITERATURE REVIEW

Sustainable Development

Sustainable development refers to serving the requirements of the present without compromising the ability of future generations to do so. In this sense, social, environmental, and economic components of sustainable development rely heavily on technology [17]. Rumpel, Amiraslani [18] noted that firms generate both good and negative social and societal consequences via their everyday value chain activities. Existing connections exist between corporations and the societies in which they function. Societies rely on businesses to provide jobs and infrastructure for its citizens, while businesses rely on healthy societies to provide a trained workforce. Even while society typically relies on the private sector rather than the government for the provision of jobs and infrastructure (not to mention goods and services), only a healthy society can develop the kind of productive employees that every company seeks to employ.

The interconnectedness between firms and society demonstrates that business decisions must comply to the principle of shared value; decisions must be mutually beneficial. Shareholders, suppliers, customers, partners, regulators, activists, labour unions, employees, community members, and the government anticipate corporations to be responsible not only for their own performance, but as well as for the performance of their entire supply chain and an emerging set of sustainability issues. However, sustainability is not just a responsibility. It is an opportunity to harness human ingenuity and develop innovative strategies for preserving and enhancing our shared environment, respecting and empowering all individuals, and producing enduring riches [19].

In the majority of the world, adequate rules are in place, but they are inadequately enforced. Corruption and weak institutions are the root cause of ineffective enforcement, and poor administration perpetuates poverty. The purpose of sustainability programmes is to bridge the gap between existing and enforced legislation and the fundamentals of good business practice, such as avoiding exploitative behavior and practicing complete transparency. This pertains to being able to analyze risks more precisely and respond to them with greater initiative. As a result, not only is sustainability becoming a required organizational value, but it is also being swiftly integrated into firm goals and objectives. For future success, businesses must consider social, environmental, and supply concerns everywhere they operate, and in many instances, wherever their suppliers and customers operate [20].

It is no longer sufficient to establish a foundation or invest in a straightforward green programme. Companies are establishing ambitious objectives to increase revenue from "green" products and services. Governments are placing a far greater focus on the environmental and societal consequences of their activities [21].

The concept of Self-Efficacy

Barbaranelli, Paciello [22] define self-efficacy as the idea that an individual is capable of doing an action under specific conditions. When individual function is accompanied by or exceeds individual norms, self-efficacy is maintained more effectively. Self-efficacy decreases as a result

of poor function and lower-than-average individual standards. Self-efficacy affects many elements of life, including goal selection, decision-making, the pace of effort, the amount of continuity and stability, and facing adversities [23, 24].

Self-efficacy is indicative of an individual's expectations on their abilities to attain a particular level of performance [25]. Self-efficacy is entirely voluntary and influences people's work habits; a positive and high self-attitude can be the strongest predictor of self-regulation. Alternatively, self-efficacy may be viewed as the psychological consequence of people's promotion aspirations [26]. Akkermans, Keegan [27] discovered that the most important thing a manager can do for the effectiveness of employees is to let them experience personal supremacy over certain challenges and situations.

By performing a responsibility or addressing an issue repeatedly, individuals develop a sense of autonomy. Personal domination may be bolstered by enabling the effective completion of increasingly challenging tasks, which ultimately leads to the attainment of desirable objectives. The method of the work consists of beginning with simple tasks and progressing in modest increments to progressively harder tasks until the individual achieves a sense of mastery over all complicated topics [28]. Individuals who have strong self-efficacy beliefs seem to be more probably to have ambitious goals, select more challenging activities in the future, persevere in these tasks, and achieve success in these tasks [29]. Prior performance, vicarious experience, verbal persuasion, and emotional cues are the four origins of self-efficacy beliefs [15, 16, 27].

The component of Self-Efficacy

Past Performance

According to Bandura [30], past performance is the most important source of self-efficacy. Workers who have successfully done job-related tasks are much more likely to be confident in their future abilities to perform similar tasks. Supervisors and managers may raise self-efficacy through careful recruitment, challenging work, career development and training, goal-setting, supportive leadership, and enhanced incentives [31]. Self-efficacy is best conceptualised as a diversified collection of self-beliefs unique to different areas of functioning; it is regarded a domain-specific notion because no individual can feel competent in all tasks [32]. It has been demonstrated that a domain- or task-specific self-efficacy concept is a more accurate predictor of actual behaviour than a broad self-efficacy concept.

A great deal of research has been conducted in the past regarding Past Performance. For instance, Yang, Guo [14] found that a person's job performance is likely to improve if they have a solid foundation in the task at hand. These fundamentals enable a person to work, innovate, and communicate effectively in the workplace. In addition, Mwiya, Wang [33]. noted that academic credentials provide personnel with the abilities necessary to improve the organization's performance. Academically qualified individuals can expedite the production of high-quality products and services. Highly skilled employees may deliver superior customer service and retain more clients for longer durations. In this study, the researchers will examine the relationship between past performance as the one of dimensions of self-efficiency and sustainable development. Subsequently, the following hypothesis is proposed:

H1: *Past performance is related positively to sustainable development efficacy among employees of PetroMasila in Yemen.*

Vicarious Experience

The second form of self-efficacy is observing experiences offered by social models, sometimes referred to as "vicarious experiences." Workers learn about their own strengths through observing others, particularly peers who provide good comparison opportunities. A boost in self-efficacy resulting from observational experiences can be rapidly undermined by subsequent failures [32]. Although this vicarious source of information has a less influence than performance-based information, those with limited mastery experience or those who lack confidence in their abilities are more susceptible to it [31]. The vicarious experience of witnessing a model can have a significant impact on self-efficacy when a worker observes another worker doing a task. Individuals build opinions about their own talents by witnessing the performance of people similar to themselves [34].

The more the employees' resemblance to the observed model, the greater the likelihood that the model's performance will have an effect on them, and therefore the performance may improve. Unlike self-efficacy beliefs acquired from prior experience, observation-based self-efficacy knowledge is less stable. Once substantial self-efficacy is built through one's own personal triumphs, an occasional failure may not be detrimental; nevertheless, self-efficacy based on witnessing others succeed may decline fast if viewers later encounter failure [35].

According to Bayraktar and Jiménez [6], Adio and Popoola [36], Jani [37], an individual might see another person in a comparable position perform and then compare his own competence to that of the other person. A person's sense of self-efficacy might be bolstered, for instance, by witnessing a peer's success. Also, the converse is true; witnessing a comparable person fail can diminish self-efficacy. In the current research, the authors seek to investigate the association between vicarious experiences and sustainable development. Thus, the following hypotheses was developed:

H2: *Vicarious experiences are related positively to sustainable development efficacy among employees of PetroMasila in Yemen.*

Verbal Persuasion

The third source of self-efficacy is language-based persuasion. This involves convincing someone that they are competent of performing a specific activity. The most effective approach for a leader to use verbal persuasion is the Pygmalion effect. The Pygmalion effect is a form of self-fulfilling prophesy in which believing something to be true can lead to its actualization [5, 38].

In a recent experiment conducted by Gist [39] in a ghetto community, the Pygmalion effect was applied to the workplace. The results of his study suggested that subordinates work at a greater level when their bosses have confidence in their ability to execute a given assignment. However, the efficacy of persuasion would be contingent on the leader's credibility, historical relationship with the workforce, and organizational influence [40].

Influential individuals in our life, such as parents, teachers, supervisors, and coaches, can reinforce our confidence in our ability to achieve success. Being persuaded that we possess the ability to master specific activity increases our likelihood of exerting effort and persevering when obstacles emerge [41]. Persuasion may even induce exaggerated self-efficacy views that exceed individuals' actual capability. Several research imply that these inflated beliefs amplify

the effect of disconfirmation on self-efficacy [42]. Vu, Magis-Weinberg [43] discovered, on the other hand, that verbal persuasion was helpful in increasing self-efficacy beliefs in a range of areas. In this study, the researchers will test the relationship between verbal persuasion and sustainable development. Subsequently, the following hypothesis is proposed:

H3: *Verbal persuasion is related positively to sustainable development efficacy among employees of PetroMasila in Yemen.*

Emotional Cues

Mwiya, Wang [33] propose that Emotional cues influence self-efficacy. A person who anticipates failure or finds a task too difficult is likely to experience a variety of physiological symptoms, such as a rapid heartbeat, being flushed, sweaty hands, and headaches, among many others. The symptoms vary from one to individual, but if they persist, they may be associated with poor performance. Self-efficacy has been linked to different theories of motivation. According to Vu, Magis-Weinberg [43], goal-setting theory and self-efficacy theory compliments one another. When a leader establishes difficult objectives for employees, their self-efficacy grows and they are motivated to set greater standards for their own performance.

Bodenheimer and Handley [44] claimed that when a supervisor sets an ambitious objective for an employee, the employee feels that the supervisor has faith in his abilities and that he is capable of outperforming others. This initiates a psychological process in which he becomes more self-confident (greater self-efficacy) and sets higher personal objectives for himself, leading to improved performance. Self-efficacy may also be associated with effort-performance correlations in expectation theory [18, 44-46]. In the present research, the authors seek to investigate the association between emotional cues and sustainable development. Thus, the following hypotheses was developed:

H4: *Emotional signals are favourably connected to sustainable development efficacy among PetroMasila personnel in Yemen.*

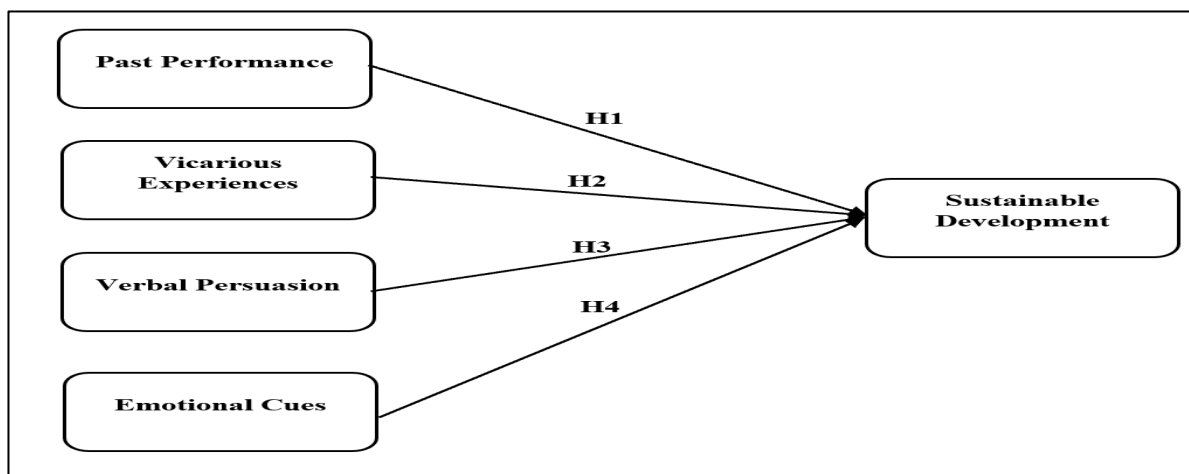


Figure 1: Research framework

METHODOLOGY

This study investigates the direct connection between the four basic components of self-efficacy and sustainable development at PetroMasila in Yemen. The quantitative technique was applied, and the survey instrument "Questionnaire" was utilised to gather data from Masila Petroleum

Exploration and Production Company project management department personnel (PetroMasila). The research's questionnaire is broken into two sections: respondents' demographic information and measurements of study variables. The first portion of the questionnaire, "the demographic," comprised seven questions (items), while the second section contained twenty questions (items) pertaining to independent factors (the components of self-efficacy) and twenty items pertaining to dependent variables (sustainable development). The 5-point Likert scale was utilised for all variables' items.

According to the annual report of PetroMasila for 2021, there were 900 workers working in the department of project management. According to the table by Krejcie and Morgan [47], the sample size for this study consisted of 269 employees. The researchers selected the sample size using probability sampling with a random sample approach. Cronbach's alpha values for all variables were greater than 0.70 [48, 49]. According to the pilot research including 30 employees, indicating the questionnaire's validity and reliability. In order to avoid the issue of a low response rate, the number of questionnaires issued to respondents during the data collection phase was raised by 50 percent to 404 [49-51]. The researchers got 360 surveys, however only 342 could be utilised. The Smart PLS-SEM instrument was utilised to analyse the acquired data and evaluate the study's hypothesis

DATA ANALYSIS AND RESULTS

Ascertaining Internal Consistency Reliability

The reflective constructs' constructing validity, convergent validity, and discriminant validity are evaluated as part of the assessment of the measuring model. In this study, the reliability (Cronbach's alpha) values for verbal persuasion varied from 0.750 to 0.883, and the composite reliability (CR) values for the same variables ranged from 0.841 to 0.915, as shown in Table 1. Therefore, all reliability and composite reliability values exceeded the acceptable threshold of 0.70 [52, 53]. With respect to the convergent validity of this, in the investigation, all item loadings were larger than 0.70, and the value of average variance extracted (AVE) was greater than 0.50; as suggested Abdulsamad, Ali [49], Hair, Sarstedt [53], Jandab, Ali [54]; hence, convergent validity was confirmed.

Table 1: Items loading, Cronbach's alpha, Composite Reliability (CR) and AVE

Main-Variable	Sub- Dimension	Code	Loading	Cronbach's alpha	CR	AVE
Self-Efficacy	Past performance	PP1	0.723	0.791	0.857	0.545
		PP2	0.719			
		PP3	0.753			
		PP4	0.747			
		PP5	0.748			
	Vicarious Experience	VE1	0.735	0.798	0.860	0.552
		VE2	0.764			
		VE3	0.733			
		VE4	0.737			
		VE5	0.745			
	Verbal Persuasion	VP1	0.746	0.750	0.841	0.569
		VP2	0.762			
		VP3	0.733			
		VP4	0.776			
	Emotional Cues	EC1	0.761	0.808	0.866	0.565
		EC2	0.726			
		EC3	0.752			
		EC4	0.765			
		EC5	0.753			
Sustainable Development	Technological Aspect	TA1	0.791	0.846	0.890	0.619
		TA2	0.756			
		TA3	0.794			
		TA4	0.789			
		TA5	0.803			
	Economical Aspect	CA1	0.811	0.861	0.900	0.643
		CA2	0.784			
		CA3	0.797			
		CA4	0.813			
		CA5	0.804			
	Environmental Aspect	EA1	0.824	0.866	0.903	0.651
		EA2	0.813			
		EA3	0.807			
		EA4	0.804			
		EA5	0.787			
	Social Aspect	SA1	0.824	0.883	0.915	0.682
		SA2	0.828			
		SA3	0.807			
		SA4	0.838			
		SA5	0.831			

Discriminant validity "is the extent to which a construct is actually distinct from other constructs and decides if the measurement is unrelated and how many indicators indicate just one construct" [55]. In this investigation, the discriminant validity of the measurement model was evaluated using the Fornell-Larcker criteria, which requires the square root of the AVEs to be greater than the correlation across exogenous components [52, 56]. Table 2 shows that the square root of the average variances extracted was all bigger than the correlation between

Direct Hypotheses Results

The three main direct hypotheses which related to the aim of this study were tested empirically. As shown in Figure 2 and Table 3, the structural equation modelling was employed via Smart-PLS as following:

H1: *Past performance is related positively to sustainable development efficacy among employees of PetroMasila in Yemen.*

Table 3 and Figure 2 indicated that past performance was statistically significant and positive influence on sustainable development ($t = 4.276$; $P < 0.01$). Therefore, the hypothesis (H1) was supported. In addition, the path coefficient was 0.281, indicating a positive relationship. It means when past performance goes up by 1 original sample (β), sustainable development goes up by 0.281.

H2: *vicarious experiences are related positively to sustainable development efficacy among employees of PetroMasila in Yemen.*

The results indicated that vicarious experiences were statistically significant and positive influence on sustainable development ($t = 3.226$; $P < 0.01$) as shown in Table 4.22. Therefore, the hypothesis (H2) was supported. In addition, the path coefficient was 0.189, indicating a positive relationship. It means when vicarious experiences go up by 1 original sample (β), sustainable development goes up by 0.189.

H3: *verbal persuasion is related positively to sustainable development efficacy among employees of PetroMasila in Yemen.*

The study' findings present that the T and p-value of verbal persuasion in predicting sustainable development were (3.422) and (0.001) respectively. It means that the probability of getting a T value as large as 3.422 in absolute value is ($P < 0.01$). In other words, the path coefficient for verbal persuasion in the prediction of sustainable development is significantly different from zero at the 0.001 level. Therefore, H3 was supported. Further, the path coefficient was 0.117, indicating a positive relationship. It means when verbal persuasion goes up by 1 original sample (β), sustainable development goes up by 0.117 as shown in Table 3.

H4: *emotional cues are related positively to sustainable development efficacy among employees of PetroMasila in Yemen.*

Table 3 and Figure 2 indicated that emotional cues were statistically significant and positive influence on sustainable development ($t = 3.429$; $P < 0.01$). Therefore, the hypothesis (H4) was supported. In addition, the path coefficient was 0.188, indicating a positive relationship. It means when emotional cues go up by 1 original sample (β), sustainable development goes up by 0.188.

Table3: Summary of Structural Model for Main Hypotheses Results

H	Exog.	Endo.	Original Sample (β)	Standard Deviation (STDEV)	t-value (C.R)	p-value	Result
H1	PP	SD	0.281	0.066	4.276	0.000	Supported
H2	VE	SD	0.189	0.058	3.226	0.001	Supported
H3	VP	SD	0.117	0.052	3.422	0.001	Supported
H4	EC	SD	0.188	0.055	3.429	0.001	Supported

****Significant at $p < 0.01$, *Significant at Bootstrapping $p < 0.05$**

Note: PP: Past Performance, VE: Vicarious Experiences, VP: Verbal Persuasion, EC: Emotional Cues, SD: Sustainable Development

Coefficient of Determination: R^2 value

The R^2 value indicates the amount of variance of dependent variables which is explained by the independent variables [49, 52, 57]. As suggested by Chin [58], the R^2 values can be deemed weak, moderate, and strong if the output of R^2 in SPL-SEM is 0.19, 0.33, and 0.67 respectively. The result of R^2 for organizational Performance (endogenous latent variable), is shown in Table 4.

Table4: Coefficient of determination result R^2

Exogenous Constructs	Endogenous Construct	R^2	Chin (1998)
The dimensions of Self-Efficacy	Sustainable Development	0.451	substantial

In this study, the model showed a good fit to the data as evidenced by the squared multiple correlations (R^2) values for the dependent variables: Sustainable Development (SD) ($R^2=0.481$) as shown in Table 4. Thus, the four latent variables (Past Performance, Vicarious Experiences, Verbal Persuasion, and Emotional Cues) explained a substantial 45% of the variance for the sustainable development among employees of PetroMasila company in Yemen.

Assessment of Effect Size (f^2)

The effect size (f^2) is estimated, in this study. Where it determines if the effect of an exogenous latent construct is significantly, moderately, or slightly on an endogenous latent construct [59]. The effect size calculates as changing the value of R^2 [53, 57]. According to Cohen [49], the threshold of f^2 at "0.02 is small, 0.15 is medium and greater than 0.35 is large". As illustrated in Table 5, the effect sizes for (PP, VE, VP, and EC), were 0.053, 0.027, 0.036, and 0.035 respectively. In following Cohen [60] guidelines, the effect sizes of these four exogenous latent dimensions on sustainable development were small effect size.

Table 6: Effect Size of predictive Variables

Variable	Effect size (f^2)	
	Sustainable Development	Rating
Past performance (PP)	0.053	Small
Vicarious Experience (VE)	0.027	Small
Verbal Persuasion (VP)	0.036	Small
Emotional Cues (EC)	0.035	Small

DISCUSSION, CONCLUSION, AND FUTURE STUDY

This study's primary objective is to comprehend the link between the components of self-efficacy and sustainable development efficacy among PetroMasila personnel in Yemen. The current study's findings indicated that the four hypotheses were supported. All factors in the analysis accounted for 45% of the change in sustainable development, whereas 55% of the change in SD is attributable to variables not included in this study.

The association between historical performance and sustainable development was the strongest and most significant ($\beta = 0.281$; $t = 4.276$; $P 0.00$). This conclusion is consistent with Hu, Zhang [61] assertion that a person's job performance is likely to improve if he or she has a solid foundation in the given activity, whereby these fundamentals enable the individual to work, create, and communicate successfully in the workplace. The association between vicarious experiences and sustainable development was strongly associated with good and significant outcomes ($\beta = 0.189$; $t = 3.226$; $P 0.001$). This conclusion was consistent with prior research, such as Kwee [62] observation that the vicarious experience of witnessing a model can also have a significant impact on self-efficacy when a worker observes another person doing a job. Therefore, sustainability boosts a variety of human traits essential for success in these contemporary situations.

This study proved the favourable and substantial influence of verbal persuasion on sustainable development among PetroMasila personnel in Yemen. The relationship between verbal persuasion and sustainable development was strongly significant with outcomes ($\beta = 0.177$; $t = 3.422$; $P 0.001$). Through verbal persuasion, important individuals in organisations, such as managers or supervisors, may persuade workers that they have what it takes to succeed, so boosting the employee's confidence, which is necessary for long-term success. This conclusion is congruent with the findings of Vu, Magis-Weinberg [43], who found that verbal persuasion was successful in increasing self-efficacy beliefs across many domains. In addition, the study corroborated H4 with ($\beta = 0.188$; $t = 3.429$; $P 0.001$), indicating that enhanced emotional cues led to an improvement in sustainable development efficacy among PetroMasila personnel in Yemen [45]. Bodenheimer and Handley [44], claimed that when a supervisor sets an ambitious objective for an employee, the employee feels that the supervisor has faith in his abilities and that he is capable of outperforming others.

The shortcomings of this study can be addressed in future research. First, this study was limited to Yemeni workers of PetroMasila Company. Therefore, the findings of this study do not represent the behaviour of other sectors in Yemen, including the public, commercial, and industrial sectors. Second, the characteristics of the personnel in the firms analysed may not be typical; hence, the generalizability of the conclusions is doubtful. To confirm or reject the conclusions, more research incorporating data from several organisations and industries is necessary. The data in this study relied on the cross-sectional technique, which implies the data were collected at a single time point; thus, longitudinal data are useful for examining the real causation.

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