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WHY DAILY WORKERS SAFETY PARTICIPATION AND ETHICAL LEADERSHIP ARE IMPORTANT FOR SAFETY COMPLIANCE: EMPIRICAL EVIDENCE FROM PROJECT-BASED COMPANIES IN INDONESIA

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Abstract

The purpose of this study was to determine the direct impact of factors related to the formation of occupational safety compliance in the daily workforce. This study used a quantitative approach and cross-sectional survey method. Data collection using questionnaires and purposive sampling techniques with a total sample of 301 respondents of daily workers in building construction and coal mining companies in Indonesia, obtained percentages based on gender as many as 267 men and 34 women, The findings in this study indicate management commitment (MCO) has a significant influence on safety participation (SPA) and safety compliance (SCO), the effect of safety procedures (SPR) is not significant on SPA and SCO. However, the moderating effect of ethical leadership (ETL) has a significant influence on SPA and SCO. The research shows that management commitment (MCO) and ethical leadership (ETL) play an important role in safety behavior to comply with safety procedures. The conclusion of this study highlights the importance of safety participation in the workplace and progress in identifying factors that influence it, with a focus on safety participation. The research also sought to link ethical leadership behaviors and management commitment with worker compliance and participation in maintaining workplace safety. The results showed that ETL moderated the effect of MCO on SPA and strengthened the effect of SPR on SPA. Meanwhile, SPA mediates the influence of MCO and SPR on SCO. In line with these results, MCO, SPR, ETL and SPA have an important role in improving safety compliance.

Keyword: Management Commitment (MCO); Safety Procedure (SPR); Safety Participat (SPA); Safety Compliance (SCO); Ethics Leadership (ETL).

JEL Classification: J28; L79: M12

1. INTRODUCTION

The construction industry is the most dangerous Industrial sector and accounts for many work accidents worldwide (Berglund et al., 2019), and according to Harris (2014) mining is the most dangerous occupation in the world. In Indonesia, these two industries are the largest contributors to the number of accidents and deaths where the construction industry accounts for 32% of all work accidents that occur (Machfudiyanto et al., 2017) and data from the Ministry of Energy and Mineral Resources (ESDM) in 2021 recorded 104 accidents occurred in mining, 35% of minor accidents, 55% of serious accidents and 11% caused death. Accidents that occur cause great losses to the company loss of production time, damage to the company's

reputation, and decreased trust among the workforce as well as causing losses due to compensation fines from the authorities. It is imperative for every industry to establish a management commitment to occupational safety that should play an important role in addressing issues aimed at reducing occupational accidents by improving compliance with safety regulations so that a safe working climate is established.

A safe work climate is an important factor that is closely related to safety motivation, safety compliance, and safety participation (Chairuddin et al., 2022; Nahrgang et al., 2011). Two safety-related behaviors, safety compliance and participation, are particularly interesting because they are the best predictors of safety-related outcomes such as workplace accidents, near misses, and injuries (Al Hakim et al., 2022; Nahrgang et al., 2011). Previous studies have discussed the variables of safety compliance and participation related to workplace accidents and safety (Enwereuzor et al., 2020; Peker et al., 2022; Saebah & Merthayasa, 2023; Siabi et al., 2022; Yang et al., 2021; Zhang et al., 2020), but limited to the relationship between safety climate and participation by top management to supervisors, no one has thoroughly discussed the safety climate that can be created if safety participation is carried out to daily workers who are widely used in the construction industry and mining industry because many project sites are in remote and remote areas in Indonesia. Based on experience work we found a strong relationship between the commitment of top management and the procedural requirements of the company to the safety compliance of daily workers in the construction and mining industries, moderated by ethical supervisors. The uniqueness of daily workers is that the competence of everyone is uneven, both from the level of education, the level of experience and the level of expertise, but because the number is quite dominant, daily workers play a major role in creating a safety climate by implementing safety compliance in the workplace. The purpose of this study was to determine the direct impact of factors related to the formation of safety compliance enforced from top management by daily workers. This study proposes a model that describes the relationship of all factors in the formation of overall safety compliance. Safety compliance refers to important behaviors expected of all workers, such as wearing personal protective equipment to maintain a safe working environment, this study also shows that the attitude of supervisors moderates the implementation of procedures that have been issued from top management to participants as mentioned by (Ebenezer, 2022) who reported significant variations in perceptions of safety climate between work groups in one organization, which were caused by supervisors' discretion in enforcing safety procedures and safety rules. The purpose of this research is to determine the contribution of daily workers to maintaining a safety climate in the workplace, where management commitment and safety procedures are mediated by safety participation to produce daily workers' safety compliance, besides that ethical leadership is tested as a moderation in management commitment and safety procedures for bringing daily workers to participate in safety.

2. LITERATURE REVIEW

2.1 Conceptual framework

OHS culture is the values, attitudes, perceptions, norms, and patterns of behavior carried out by members of the organization related to OHS issues. Research conducted by Faridahwati (2016) found three dimensions in safety management, especially for safety compliance, namely management commitment, safety

procedures and safety training. These three dimensions have a very significant relationship with safety compliance, with safety participation as a mediator in this relationship. In research conducted by Yang (2021) Compliance in safety (SC-Safety Compliance) and participation in safety (SP-Safety Participant), which are key factors in predicting safety outcomes. However, which factor is more significant is still controversial. Based on research Mehmet (2022), the integrity of supervisory behavior in safety is perceived by employees, which as a moderation in the relationship between safety climate in top management and safety performance is compliance with safety and safety participation, the mediated relationship between top management and safety behavior is through stronger safety motivation derived from employees to report high levels of integrity of supervisory behavior in safety. Research conducted by Ibeawuchi (2020) the results showed that ethical leadership is positively related to trust in leaders, but not related to safety compliance, besides that trust in leaders is positively related to safety compliance and mediates the positive relationship between ethical leadership and safety compliance. Research conducted by Zhang (2020) the results show that safety leadership has a positive influence on employee safety behavior, including compliance, participation, and adaptation. Restoration of trust partially mediates this influence, while perceived risk negatively moderates the effect.

2.2 Hyphotesis Development

Management Commitment (MCO), the success of a safety program is due to the strong influence of management commitment. High attention from top management to safety programs can create work safety for employees and this must be reflected in management commitment (Saebah et al., 2023; Zohar & Luria, 2005). Various approaches that emphasize responsibility as outlined in management commitment can guarantee work safety in carrying out activities. Factors that can influence safety at work are the responsibility of employee involvement in implementing a safety management system and the existence of this system can encourage an organization to comply and participate in safety. Strategy, procedures, and policies are a form of management commitment in an organization aimed at improving work safety. The role of management commitment in safety is to encourage worker behavior to comply with work safety (Zohar & Luria, 2005). A strong relationship in management commitment to safety compliance can motivate workers to improve safety behavior in the workplace and this management commitment must be easily and clearly demonstrated to workers.

Safety Procedures (SPR), according to effective safety procedures are critical to the success of OHS programs such as safety training that led to improved behavioral skills, knowledge and/or related attitudes, and act as a catalyst to predict accidents. Safety procedures in an organization aim to create a clear mission, responsibilities, and objectives in carrying out work, and establish standards and systems for employees in the work safety system and to improve safety behavior so they can participate in workplace safety (Yang et al., 2021). Research has found that employees with less education tend to have less and in jobs that tend to be inexperienced, the potential for safety violations is very possible. Safety participation is a supporting mechanism. for employees in promoting safety in the workplace, and this safety participation causes other employees to work together in creating a safe work area (Christian et al., 2009). Compliance with safety procedures is one form of compliance with safety, in this research the important role played by employees in safety compliance can reduce the risk of accidents and injuries in the workplace

(Subramaniam et al., 2016). To prevent frequent accidents in an organization is to carry out more frequent training and socialization of work safety procedures to employees (Clarke, 2006). The indirect impact of safety participation is a lack of resources in worker involvement in carrying out safety procedures and safety compliance, for this reason there is a need for comprehensive safety management in the formation of human resources (Enwereuzor et al., 2020).

Safety Participation (SPA), an environment that supports safety and good safety participation contributes to forming a safety culture in the workplace and safety participation also reflects organizational and worker culture in reducing work accidents (Yang, 2021). To improve work safety, it is necessary to provide employees with a clear understanding of safety regulations and procedures which are supported by management commitment in creating workplace safety programs (Zohar & Luria, 2005). Workers' participation in the process of carrying out safety management is the main key in establishing safety compliance within an organization, because this involvement can empower workers mentally and psychologically through workers' participation in a safety committee. Reviewed various work safety programs carried out by the HSE department and found that companies that encourage and focus on worker participation on matters related to work safety can mostly be characterized by reduced levels of workplace accidents and injuries.

Ethical Leadership (ETL), a safety climate that is stated by top management but is not supported by ethical leadership from supervisors will lead to a process of perceived company uncertainty from workers. However, top management that has a high safety climate supported by high supervisory leadership integrity for safety, provides a strong signal that safety is the highest priority and is valuable in various conditions (Aditya, 2020; Zohar & Luria, 2005). Research conducted by Peker et al., (2022) provides important and useful information by stating that supervisors' ethical leadership for safety moderates the relationship between perceived top management safety climate and safety motivation and mediates the relationship between top management safety climate and two safety indicators namely safety motivation and safety compliance through safety motivation. All possible accidents encountered in the workplace cannot all be covered by formal policies and procedures (Zohar & Luria, 2005). This results in supervisors having the opportunity for self-decision making which can lead to large differences between established safety policies and safety practices enforced in the field. Thus, the behavioral integrity (ethical leadership) of supervisors for safety practices is an important factor in understanding how formal procedures stated by organizational management relate to employee safety motivation and behavior (Muna, 2022; Zohar & Luria, 2005). Safety compliance can occur if it is assisted by the implementation and formulation of policies carried out by ethical leaders, and fulfills all needs to support safety compliance. Ethical leaders serve as examples and sources of information for expected safety behavior, they implement ethical policies and procedures on the job, and set good standards for workers to use in carrying out their duties.

Based on the above discussion, the following hypotheses are proposed as below and for the design model can be seen at Figure 1:

Hypothesis 1 : MCO has an influence on SPA.

Hypothesis 2: SPR have a significant influence on SPA.

Hypothesis 3: MCO has a Significant influence on SCO.

Hypothesis 4: SPR have a positive influence on SCO.

Hypothesis 5: SPA has a significant influence on SCO.

Hypothesis 6a : ETL Moderates the Effect of MCO on SCO.

Hypothesis 6b : ETL Moderates the Effect of SPR on SCO.

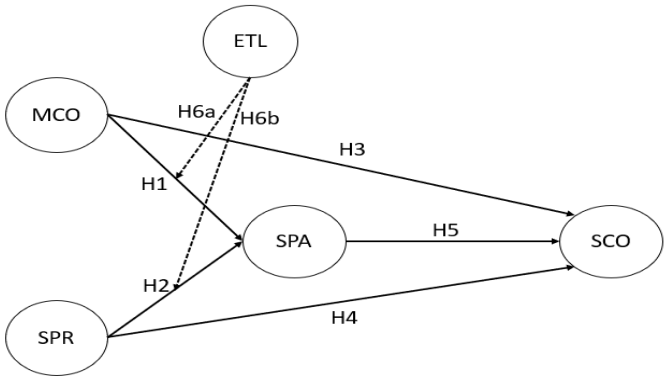

Figure 1: Model Design Variable

3. METHODS

3.1 Sampling Method and Participant

Using a non-probability sampling technique, namely Purposive Sampling where our research sample is 301 respondents with status as daily workers in building construction companies as many as 210 people and coal mining as many as 91 people, with the data collected from this collection obtained the percentage of gender type is 267 (88.7%) male respondents and 34 (11.3%) female respondents, then based on age classification, namely there are 149 (49.5%) respondents aged 18 to 30 years, 81 (26.9%) respondents aged 31 to 40 years, 61 (20.3%) respondents aged 41 to 50 years and 10 (3.32%) respondents aged 51 to 55 years, then the classification of respondents based on education level obtained data 36 (11.9%) respondents graduated from elementary school, 147 (48.8%) respondents graduated from junior high school, 114 (37.9%) respondents graduated from high school and 4 (1.33%) respondents did not attend school, then from the work experience of the respondents in coal mining and building construction companies there were 187 (62.1%) respondents with work experience of 3 to 4 years, 111 (36.9%) respondents with work experience of 1 to 2 years and 3 (0.99%) respondents with new work experience of 1 to 11 months.

3.2 Measurement

Data collection using questionnaires to these daily workers, the types of questions used are divided into several parts, namely questions about demographics or worker profiles and questions about behavior regarding variables. The hypothesis testing theory used in data processing in this study is divided based on the needs of the variables that have been determined, namely how management commitment and safety procedures have a significant influence on safety participation moderated by ethical leadership and have a significant positive influence on participation and safety compliance in the workplace, especially daily workers who work in companies that support the production process. Testing will use SmartPLS 4.0 with operational variable parameters.

Management Commitment (MCO), based on (Zohar, 2005) we use 5 indicator items to measure employee perceptions of company commitment, these indicators are Company Vision, Safety Investment, Communication, Training, Worker Involvement. Based on these indicators, the measures used are safety is given a high priority by management, providing all the necessary equipment to do the job safely, giving workers a lot of information about safety, investing a lot of time and money in safety training, management always accepts opinions from employees before making final decisions. For the scale measured using a 1-5 rating where 1 (Strongly Disagree) to 5 (Strongly Agree).

Safety Procedure (SPR), is an important tool for managing work, helping to ensure work is carried out smoothly and effectively. Company procedures are also an important tool in implementing the company's commitment to safety, indicators used, completeness of documents, responsibilities, safety equipment, safety procedures, work area inspections. Measures of indicators used, safety rules and procedures followed in the company are sufficient to prevent incidents from occurring, supervisors and managers always try to enforce safe work procedures, facilities in the safety department are adequate, safety procedures and practices in the organization are useful and effective, safety inspections are carried out regularly.

Ethics Leadership (ETL), there are two emerging factors identified as supervisory actions and expectations, the first factor refers to open supervisory reactions to subordinate behavior (i.e., negative-positive feedback) and initiation of actions related to safety issues, the second factor refers to supervisory expectations rather than actions and gives priority to aspects of the task that are not commensurate, using indicators, knowledge, participation, leadership. Indicator measures, leaders set an example for employees to prevent work accidents, leaders approach workers to discuss safety issues, supervisors get upset if workers ignore safety regulations.

Safety Participant (SPA) is a clear understanding of employees about safety rules and procedures, and the commitment of management in making safety programs can improve safety performance and bring employees to participate in improving safety-related management practices (Zohar, 2005) indicators used, acting, safety reporting, providing ideas, training, communication. Indicator measures, helping coworkers and ensuring that they do their jobs safely, seeing safety-related problems and notifying leaders or supervisors, striving to improve workplace safety, voluntarily carrying out tasks or activities that can improve workplace safety, inviting coworkers to work safely.

Safety Compliance (SCO) is a safety culture reflecting an organization's priorities, commitment, and approach to safety, as well as how organizational members interact with each other in the context of safety, indicators used, work equipment, work procedures, work area inspection, decision making, leadership. Indicator measures used, using safety equipment provided by the company, following safety procedures so that work is completed safely, keeping the work area clean, following safety rules, inviting coworkers to maintain safety.

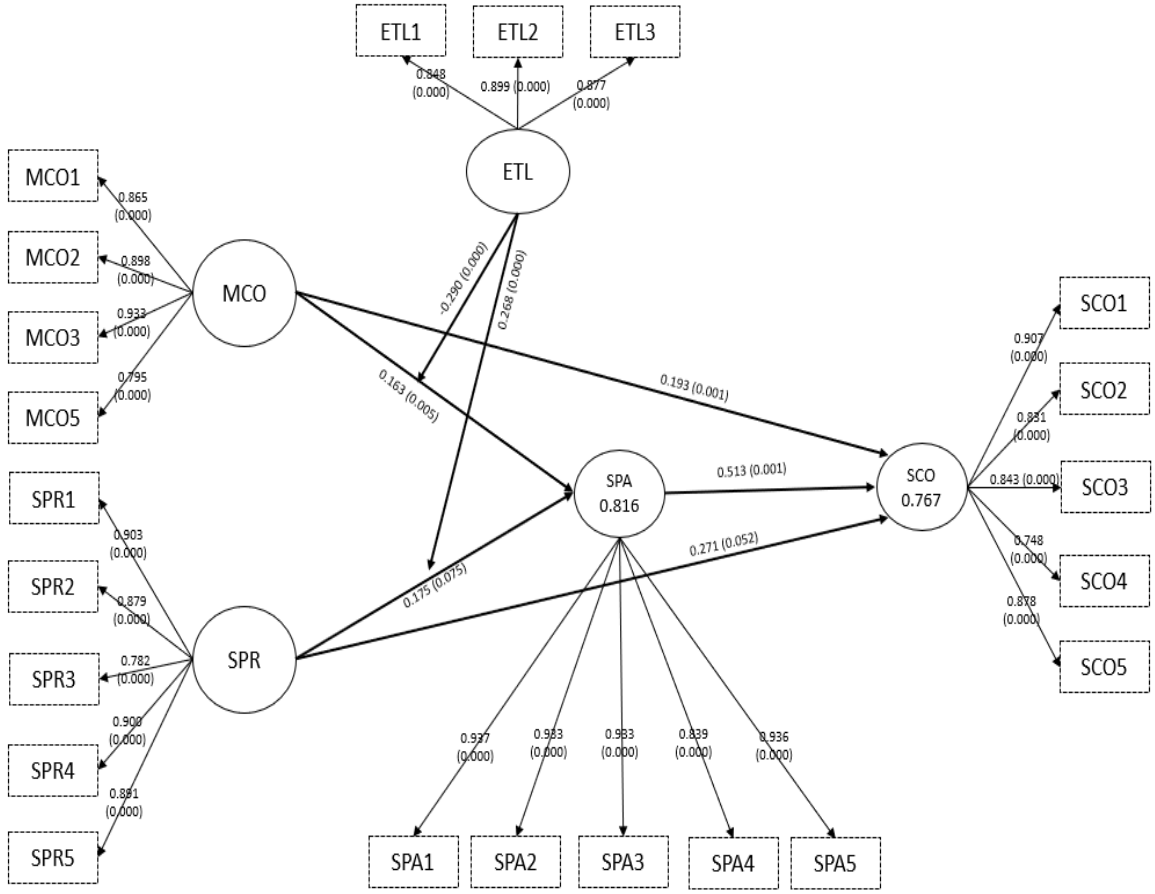

Figure 2: Graphical output, R-square, p value with path coefficients and outer weights/loadings

4. RESULTS

4.1 Measurement Model (Confirmatory Factor Analysis & Reliability)

Testing the reflective measurement model in determining validity, the standard value of factor loading used is ≥ 0.708 or AVE ≥ 0.5 so that it can be seen in the outer loading Table 1 of smartPLS 4.0 data for the MCO variable, there is one indicator that cannot be used, namely MCO4 with a factor loading value < 0.708 so that the data must be deleted and recalculated, then for the second test by looking at the value of discriminant validity which refers to the Fornell-Lacker value comparing the AVE root value of each construct variable with the correlation value of the variable, the variable root value is located at the top of the variable column and make sure the variable root value must be greater than the correlation value of the root, then there is no correlation value greater than the latent variable root and it can be concluded that this data has been fulfilled, then reliability testing is carried out by referring to the Cronbach alpha value with a standard ≥ 0.7 for the variable value MCO = 0.896 (≥ 0.708), SPR= 0.921 (≥ 0.708), SPA = 0.952 (≥ 0.708), ETL = 0.846 (≥ 0.708) and SCO = 0.897 (≥ 0.708) then the composite reliability value with a standard ≥ 0.7 for the variable value MCO = 0.899 (≥ 0.7), SPR = 0.927 (≥ 0.7), SPA = 0.956 (≥ 0.7), ETL = 0.850 (≥ 0.7) and SCO = 0.904 (≥ 0.7), it can be concluded that the latent variable construct data in this measurement model are qualified and acceptable for use.

Table 1: Construct Reability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
ETL	0.846	0.850	0.907	0.765
MCO	0.896	0.899	0.928	0.764
SCO	0.897	0.904	0.925	0.711
SPA	0.952	0.956	0.963	0.840
SPR	0.921	0.927	0.941	0.760

4.2 Hipotesis Test (Structural Model)

In testing the hypothesis using a structural model where there are one or more independent variables even with moderators, there are two tests, namely by using coefficient of determination testing, the standard value is substantial = 0.75, moderate = 0.50 and weak = 0.25, path coefficient testing is further divided into two, namely directional (one-tail test) standard t-value> 1.645 and p-value <0.05, the second test is non-directional (two-tail test) with a standard t-value> 1.96 and p-value <0.05. This research test uses a non-directional (two-tail test) because it is not yet known in a certain direction in the research thinking and wants to know the differences in general. The moderator effect in this study is Ethics Leadership (ETL) where the researcher assumes there are differences in the influence of ethical leadership in shaping participation and safety compliance, as shown in the model structure below by displaying the outer model values (outer weights/loadings and p values), inner model (path coefficients and p values) and constructs (R-square).

4.3 Path Coefficient

Based on the assessment of the test with the path coefficient using the two-tail test Table 2, the t-value of the MCO variable on SPA = 2.842 (> 1.96), MCO on SCO = 3.319 (> 1.96), it means that the MCO variable has an influence on SPA and SCO, SPR on SPA = 1.781 (< 1.96), SP on SCO = 1.945 (< 1.96) can be interpreted that the SPR variable has no influence on SPA and SCO, SPA on SCO = 3.300 (> 1.96) can be interpreted that the SPA variable has an influence on SCO, moderator ETL on MCO and on SPA = 4.576 (> 1.96), moderator ETL on SPR and on SPA =4.409 (> 1.96) can be interpreted that the ETL moderator variable has an influence on the independent variables MCO and SPR, then when viewed from the p-value of the MCO variable on SPA = 0.005 (<0.05), MCO on SCO= 0.001 (<0.05), it means that the MCO variable has a significant influence on the SPA and SCO variables, SPR on SPA = 0.075 (>0.05), SPR on SCO = 0.052 (>0.05), it means that the SPR variable does not have a significant influence on SPA and SCO, SPA on SCO = 0.001 (<0.05), it means that the SPA variable has a significant influence on the SCO variable, ETL moderator on MCO and on SPA = 0.000 (<0.05), moderator ETL on SPR and on SPA = 0.000 (<0.05) means that the ETL moderator variable has a significant influence on the MCO and SPR variables, then the original sample value for the MCO variable on SPA = 0.163 (positive), MCO on SCO = 0.193 (positive) means that the effect of MCO is positive on SPA and SCO, SPR on SPA = 0.175 (<positive), SPR on SCO = 0.271 (positive) means that the effect of SPR is positive on SPA and SCO, SPA on SCO = 0.513 (positive) means that the effect of SPA is positive on SCO, moderator ETL on MCO and on SPA = -0.290 (negative), moderator ETL on SPR and on SPA = 0.268 (positive) means that only the effect of ETL on MCO is negative but for the positive ETL effect on SPR. From the results of this path coefficient test, it can be concluded that the effect of MCO is very positive and significant on SPA and SCO, then the effect

of SPR is positive but not significant on SPA and SCO, then for the effect of SPA on SCO is very positive and significant, if the moderator effect of ETL has a negative and significant effect on MCO and SPA, in contrast to the moderator effect of ETL on SPR and SPA, it has a positive and significant effect.

Table 2: Path coefficient (Mean, STDEV, T Value, p Value)

	O	M	STDev	T value	P value
ETL → SPA	0.512	0.499	0.080	6.438	0.000
MCO → SCO	0.193	0.193	0.058	3.319	0.001
MCO → SPA	0.163	0.158	0.057	2.842	0.005
SPA → SCO	0.513	0.525	0.155	3.300	0.001
SPR → SCO	0.271	0.257	0.140	1.946	0.052
SPR → SPA	0.175	0.196	0.098	1.781	0.075
ETL x MCO → SPA	-0.290	-0.281	0.063	4.576	0.000
ETL x SPR → SPA	0.268	0.261	0.061	4.409	0.000

Note: O original sample, M sample mean, STDEV standard deviation

4.4 Specific Inderect Effect

Based on the test assessment with a specific indirect effect using a two-tail test Table 3, the t-value of the MCO structure model on SPA and SPA mediation on SCO obtained a value = 1.995 (> 1.96) which means that MCO has an influence on SPA and SCO, then for the SPR model on SPA and SPA mediation on SCO obtained a value = 1.289 (< 1.96) which means that SPR has no influence on SPA and SCO, then for the moderating effect of ETL on MCO- SPA-SCO = 2,763 (> 1.96), the effect of ETL on SPR-SPA-SCO = 2,911 (> 1.96) and the moderating effect of ETL on SPA and SCO = 3,237 (> 1.96) which means that the moderating effect of ETL has an influence on the latent variables MCO, SPR, SPA and SCO.

Then when viewed from the test p-value of the MCO structure model on SPA and mediation of SPA on SCO, the value = 0.046 (<0.05) which means that MCO has a significant influence on SPA and SCO, then for the SPR model on SPA and mediation of SPA on SCO, the value = 0.197 (> 0.05) which means that SPR does not have a significant influence on SPA and SCO, then for the effect of the moderating effect of ETL on MCO-SPA-SCO = 0.006 (<0.05), the effect of ETL on SPR-SPA-SCO = 0.004 (<0.05) and the moderating effect of ETL on SPA and SCO = 0.001 (<0.05) which means that the moderating effect of ETL has a significant influence on the latent variables MCO, SPR, SPA and SCO.

Then seen from the original sample (O) value of the MCO variable structure model on SPA and SPA mediation on SCO, the value =0.084 (positive) which means that MCO has a significant positive effect on SPA and SCO, then for the SPR model on SPA and SPA mediation on SCO, the value = 0.090 (positive) means that SPR has a positive value but its effect is not significant on SPA and SCO, then for the moderating effect of ETL on MCO-SPA-SCO = -0.149 (negative), the effect of the ETL effect on SPR-SPA-SCO = 0.138 (positive) and the moderating effect of ETL on SPA and SCO = 0.262 (positive) can mean that the moderating effect of ETL does not all have a positive value, such as the effect of ETL on MCO-SPA-SCO in this case has a negative significant effect, in contrast to the effect of ETL on SPR and SPA has a positive significant effect.

Table 3: Specific indirect effect

	O	M	STDev	T value	P value
ETL x SPR → SPA→ SCO	0.138	0.134	0.047	2.911	0.004
MCO → SPA → SCO	0.084	0.084	0.042	1.995	0.046
ETL x MCO → SPA → SCO	-0.149	-0.146	0.054	2.763	0.006
SPR → SPA → SCO	0.090	0.106	0.070	1.289	0.197
ETL → SPA → SCO	0.262	0.259	0.081	3.237	0.001

Note: O original sample, M sample mean, STDEV standard deviation

5. DISCUSSION

Research on safety behavior has been the subject of much progress in identifying the factors that influence it. One factor that is very important and closely related to safety motivation is the creation of a good workplace safety climate, with safety compliance and safety participation from workers (Christian et al., 2009; Hadi, 2022). In the activity of improving the safety climate in order to make everyone compliant and have the willingness to participate in improving safety, many of the previous studies relate to the effects of safety behavior (Peker et al., 2022; Sururiyah, 2023), but the researcher in this case tries to relate ethical leadership behavior and the influence of management commitment and even the fulfillment of work procedures can affect compliance and bring workers to participate in maintaining work safety. It can be seen from the results of hypothesis testing that has been carried out indeed if the influence of management commitment can significantly influence workers to participate and comply in maintaining safety, but for the safety procedure itself it must be influenced by the moderating effect of ethical leadership to be able to make workers want to participate and comply in maintaining work safety, in accordance with the definition of Brown (2006) an ethical leader is a moral person, who as a role model shows ethical behavior both in word and deed.

The effect of management commitment on safety participation and safety compliance can be concluded to have a significant influence on workers to maintain safety, but in terms of the moderating effect of ethical leadership this influence becomes negative, researchers assume that this ethical leadership arises not only from the personal of a leader himself, but the influence of management commitment plays the biggest role in terms of forming an ethical leader, because companies that run businesses based on good business ethics will create a work environment with ethical leader and worker behavior, in this case further research needs to be done to prove this hypothesis. However, if the effect of a leadership ethic in the discipline of carrying out and enforcing the implementation of work based on safety procedures to workers, then this can make workers participate and comply in maintaining safety in the workplace, accompanied by a commitment from management along with good leadership ethics, it is very influential to bring workers to actively participate in making work safety compliance better and the work environment safe and secure.

6. CONCLUSION

In this study, the influence of management commitment and safety procedures had a significant positive impact on safety participation and safety compliance, ethical leadership moderated the influence of management commitment on safety participation and strengthened the influence of safety procedures on safety participation. Partially, management commitment has a positive and significant effect

on safety participation and safety compliance, but the interesting finding in this research is that safety procedures have an insignificant effect on safety participation and safety compliance and further research needs to be carried out on the same topic.

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