



THE IMPACT OF EMPLOYEE SAFETY CLIMATE ON SAFETY BEHAVIOR IN SMALL & MEDIUM ENTERPRISES: AN EMPIRICAL STUDY

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Article History: Received on 23rd January 2020, Revised on 14th April 2020, Published on 14th May 2020

Abstract

Purpose of the study: The objective of this study is to examine the mediation effect of ESC on the relationship between climate constructs and intention to Safety in small and medium enterprises.

Methodology: A structured self-administrative questionnaire was distributed to the employee of the small-medium enterprise in Peninsular Malaysia using simple random sampling. The Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) procedure were carried out to filter the items and validate the constructs in the study. The study tested the proposed hypotheses using the second-generation method of multivariate analysis Structural Equation Modelling (SEM). Furthermore, the results were confirmed through the bootstrapping procedure. All analysis of this study was conducted using IBM-SPSS-AMOS version 24.0.

Main Findings: All items retained from EFA results were rearranged for the field study questionnaire. The CFA results indicated that the absolute fit index (RMSEA= 0.071) CFI = 0.975, TLC = 0.964, chisq/df = 2.431 achieved the requirement level. The results of this present study revealed that employee safety climate mediated the relationship between WO, IWE, and intention to safety behavior. Additionally, results indicated that ESC is the most prominent factor of intention to safety behavior.

Applications of this study: The results from this study contribute to the improvement of proactive safety performance measures in small-medium enterprises, but further efforts are required for achieving an excellent safety performance level.

Novelty/Originality of this study: The present study adds to the literature of safety performance and provides direction for future research work in this area. Additionally, the results of this present study mark an important step towards standardizing the measurement of safety climate in small and medium industries.

Keywords: *Employee Safety Climate, Small-medium Enterprise, Islamic Work Ethic, Mediation, Safety Behavior, Structural Equation Modeling.*

INTRODUCTION

Safety in the workplace has always been widely described as a behavior-based approach (BBS) (Griffin & Neal, 2000). Safety behavior can be referred to as behavior needed to stimulate safety at the workplace and behavior that does not directly influence the worker's Safety but it helps to build conducive environments that promote Safety (Neil and Griffin, 2006; Mahmud & Yusof, 2018). The notion of BBS derived from behavior science which refers to operant psychology applied behavioral analysis and behavior modification (DeJoy, 2005). To date, BBS can be described as systematic valuations of implementations (Glendon, McNally, Jarvis, Chalmers, & Salisbury, 2014) and on human behavior studies have emphases on the credentials and continues adjustment of safety behavior required management commitment (ESC) involvement as a medium that enabled successive refinements of the safety problem (Guo et al., 2018; Guo, Yiu, & González, 2018; Li, Lu, Hsu, Gray, & Huang, 2015). Behavior is a function of its consequence, thus many intents to prove that behavior-based Safety is functions of several consequences such as employee safety climate (ESC) and its antecedents have developed in the large scale industry (Yuesof, 2000; Guo et al., 2018). Nevertheless, a current study indicated that proactive safety performance assessment tools are poorly adapted to small-medium enterprises (Tremblay & Badri, 2018a).

SMEs have contributed significantly to economic growth, in terms of 60% of the total employment, 97% of the total company establishment, and contribute a significant percentage of the overall national GDP (SME Corporation Malaysia, 2017a, 2017b). However, their contribution to the total number of industrial accidents and benefits claimed substantially high when compared to large companies. Tremblay and Badri (2018b) indicated that SMEs contributed eight times more fatal accidents and several researchers revealed that more than 50% of non-fatal injuries contributed by SME (Guo et al., 2018). Additionally, some of the researchers indicated that SMEs owned a higher number of occupational-related accidents (Cagno et al., 2013; Floyde, Lawson, Shalloe, Eastgate, et al., 2013; Ma & Yuan, 2009). Scholars collectively agreed that SME bound with a bundle of weaknesses which led to a high accident occurrence (Masi & Cagno, 2015; Masi, Cagno, Micheli, Cagno, & Micheli, 2015). Empirical evidence from previous studies shows that the key function of SME in economics is attached to several weaknesses which lead to an incline in safety performance in this particular industry.

The growing interest in understanding occupational safety and health issues is happening at a global level. For instance, one study has suggested that behavior-based and safety climate-based approaches are the most effective approach combinations to overcome occupational-related accidents ([Lund & Aarø, 2004](#))([Liu et al., 2015](#)). Besides that, most safety-related studies suggest that ESC is an indicator of behavior-based Safety ([Fugas, Silva, & Meliá, 2012](#); [Zhou, Fang, & Wang, 2008](#); [Zohar, 2010](#)). However, the integrated ESC into behavior-based safety performance is not enough to guarantee a consistent improvement in safety performance. Hence, it is essential to understand construction couraging intention to safety behavior (ITS). Thus, this effort might help to encourage the potential to increase the level of safety performance in small and medium enterprises.

To the researchers' knowledge, there is many past studies have acknowledged several constructs that affect behavior-based Safety in the context of small-medium enterprises ([Floyde et al., 2013](#); [Kongtip, Yoosook, & Chantanakul, 2008](#); [Legg, Olsen, Laird, & Hasle, 2015](#); [Tremblay & Badri, 2018b](#); [Unnikrishnan, Iqbal, Singh, & Nimkar, 2015](#)). Despite this progress, an extensive review of these particular areas uncovers that some missed constructs which are considered highly significant to behavior-based Safety performance under the climate domain. Moreover, several numbers of researchers found their is a lack of empirical evidence attempting to assess the antecedents and determinants of employee safety ([Nguyen, Teo, Grover, & Nguyen, 2017](#)). In this regard, the objective of this study is to examine the mediation effect of ESC on the relationship between climate constructs and intention to Safety in small and medium enterprises.

In this study, researchers argue that ESC and domain climate construct could play a vital role in encouraging ITS in the small and medium enterprise. This present study, emphasis on answering two research questions: (1) Does ESC has a positive effect on ITS in small and medium enterprise? And (2) Does the domain climate constructs can stimulate ESC in the small-medium enterprise?

The first question in this study has been addressed by examining the effect of ESC and ITS in the context of small manufacturing. The second question has been addressed by concerning on the role of the first climate construct namely work ownership (WO), which has been widely assumed in the previous studies to have a positive and direct effect on behavior-based Safety ([Lee, Wu, & C.-W. Hong, 2007](#); [Schneider & Barbera, 2014](#); [Zohar, 2008](#); [Zohar, Huang, Lee, & Robertson, 2014](#)) and to the author's knowledge, there is no study exploring the linkage between WO and ESC in the context of the small-medium enterprise literature in particular. Drawing on the ESC literature, WO has been argued as an important antecedent of ESC, and therefore it not only has a positive and direct effect on ITS. On the other hand, researchers identify a key construct of Islamic Work Ethic (IWE)– which directly affects the feeling of ESC as stated in the following evidence. Previous studies have been associated with Islamic work values, including enhanced organizational commitment ([Yousef, 2000](#)) reduced abusive supervision ([Khan & Moss, 2018](#)) and knowledge hindering behavior ([Khalid, Bashir, Khan, & Abbas, 2018](#)) improved work involvement ([Khan et al., 2015](#)), innovation ([Kumar & Rose, 2010](#)), and organizational citizenship behaviors ([Alhyasat, 2012](#)). According to the above discussion, therefore, IWE can be a strong antecedent for employee safety climate and behavior-based Safety.

In the next section, the issues and problems in small and medium enterprises and literature review about behavior-based Safety in the small-medium enterprise will be described, as well as the theoretical background on the role of ESC. This study aims to examine the psychological aspect of behavior that has concerned to help clarify the mechanisms central to the linkage between the climate domain constructs and ITS as it was guided by the Theory of Planned Behavior (TPB) and Social Exchange Theory (SET).

LITERATURE REVIEW

Model of Intention to Safety (ITS) Behavior

Many behavior theories such as SET, TPB, the theory of reasoned action, goal setting theory, reinforcement theory, etc. have been used to study models of intention to specific Safety-related behavior. From which it was established that the two key causes why employees decide to behave safely associated with their judgments (which is likely used for a basic of ESC or the possibility to control their behavior), and other emergency climate factors ([Zohar et al., 2014](#)). Researchers found that studies discovered behavior under the notion of psychology still limited ([Fogarty & Shaw, 2010](#)) even missed out on some of the factors ([Zhang, Fang, Wei, & Chen, 2010](#)).

Furthermore, [Fogarty and fellow researchers \(2010\)](#) revealed that a strong link between attitudes, intentions, and behavior is the concept under the scope of TPB. TPB is found to be the most frequently used in the field of safety-related studies. In a current safety, the study indicated that TPB has been applied in many research areas such as traffic violation, unsafe behavior([Champahom, Jomnonkwao, Satiennam, Suesat, & Ratanavaraha, 2019](#)) and varieties food safety intention (see [Rezaei, Mianaji, & Ganjloo, 2018](#)). According to [Ajzen \(2001\)](#), intention to behavior in TPB is determined by three core factors, 1) attitudes, 2) subjective norms, and 3) perceived behavioral control. Many researchers supported that attitudes likely manager attitude toward Safety ([Chee, Ramayah, & Subramaniam, 2018](#); [Choudhry, 2014](#); [Fogarty & Shaw,](#)

2010) was the most crucial determinant factor of ESC in order to predict safety performance which is in line with [Zohar \(1980\)](#) revealed that an employee's perception on management's attitudes towards Safety was a higher-order factor of safety climate. Similarly, one study revealed that reciprocity of good relationship between management and employees has postulated a positive employee safety behavior ([McLain, 2014](#); [Mullen, Kelloway, & Teed, 2017](#)). As regards the above consequence link between attitude and behavior, researchers found that a previous study devoted to proof that behavior is a function of its consequences ([Guo et al., 2018](#)).

Besides that, some authors noted that critical link of a behavioral theory of TPB explained about reciprocity ([Mullen et al., 2017](#); [Smith, 2017](#)), motivation ([Champahom et al., 2019](#)) and individual behavior ([Huyghebaert, Gillet, Lahiani, Dubois-Fleury, & Fouquereau, 2018](#)) from a psychological aspect. On the other hand, many researchers have emphasized that employee safety behavior is a reflection of two factors which are societal and organizational that influence employee perception and belief ([Burt, Williams, & Wallis, 2012](#)). Nevertheless, there is only a small number of studies exploring the role of emergency climate on safety climate and safety behavior constructs simultaneously ([Mearns, Whitaker, & Flin, 2003](#); [Nguyen et al., 2017](#); [Smith, 2017](#); [Zhang et al., 2010](#)). Taking into this consideration, this present study will extend the TPB by suggesting WO and IWE as motivational factors of ESC and predictor of intention to Safety.

Thus, the model of ITS adapted from TPB in this current study comprises of emergency factors of attitudes (WO and IWE), ESC (psychological safety attitude), and ITS are operationally defined as follows:

- a. **Intention to Safety** behavior in this study has been defined as a safety Individual's intention to perform a safety behavior and follow a safety procedure ([Uryan, 2010](#)).
- b. **Employee Safety Climate** in this present study is attitude based perception of the individual employee on management commitment toward Safety ([Lee et al., 2014](#)).
- c. **Work Ownership** in this present study has been defined as an occupational circumstance in which one feels as though an aspect of one's work has become part of, or an extension of the self, ([Zohar et al., 2014](#)).
- d. **Islamic Work Ethic** includes the application of real Islamic concepts in the workplace such as hard work, commitment, and dedication to work, following Islamic understanding, trust and confidence by not neglecting duties as a Muslim in the workplace ([Yousef, 2000](#)).

Relationship between WO, ESC, and ITS

The past fourteen years study of PO has directly addressed that organization based psychological ownership refers to three categories of the relationship between possession and feelings of ownership, such as a) organization as a whole; directed at the organization (or workplace), b) specific aspect of organization; the group, job, and work tools likely a computer or production machine, and c) work itself ([Van Dyne & Pierce, 2004](#)). PO which is specifically concerned about work and focuses on the entire environment in the workplace such as job, workspace, production, or tools also called WO. Besides that, WO ownership can be viewed as an essential part of the PO.

WO is a second emergency factor of attitudes that also act as a motivational role to ESC. According to [Avolio \(2010\)](#), the sense of PO in employees positively postulated improvement on employees' commitment toward Safety within group members in the firm. On the other hand, many studies indicated that employee ownership is positively associated with individual attitudes ([Pierce & Rodgers, 2004](#)) such as an individual's awareness, beliefs, and organizational commitment ([Pierce, Kostova, & Dirks, 2003](#); [Wagner et al., 2003](#)). Several researchers have confirmed that WO has a significantly related to safety climate and safety performance ([Haro, 2010](#); [Weatherford, 2011](#)). This inline with a current study by [Mohammad and fellow \(2018\)](#) researchers indicated that employees with WO experience have significant implications on their emotional attitudinal and behavioral. For instance, many studies have revealed that PO has an essential role in enhancing employee attitudes: organizational commitment ([Mayhew, Ashkanasy, Bramble, & Gardner, 2007](#)), intention to behavior: intent to stay at an organization increased intent to stay ([Peng & Pierce, 2015](#); [Pierce & Jussila, 2011](#)), and (employee behavior) improved employee performance. From the above evidence, thus it when to postulated the hypotheses as follows:

H1: Work Ownership (WO) has a significant effect on Employee Safety Climate (ESC).

H2: Work Ownership (WO) has a significant effect on Intention to Safety behavior (ITS).

Islamic work ethic is motivational factors of ESC and ITS behavior

Muslims should have dedicated their lives to God, and his/her believe is reflected in their attitudes and behavior which parallel with the basic principle in Islam ([Rahman, Muhamad, & Othman, 2006](#)). Thus, compliance with occupational safety

and health procedures is a Muslim obligation to organization procedures and religious (Hayat, 2018). Besides, Hayat (2018) pointed out that, safety work behavior has been significantly reinforced by religion.

Many authors identified that great IWE postulated numerous positive effects a branch of attitudes related outcome, for example; employees have a high organizational commitment (Salahudin, Baharuddin, Abdullah, & Osman, 2016) and resilience, optimism, self-efficacy, and positive perception towards the organization (Sehhat, Mahmoudzadeh, Ashena, & Parsa, 2015).

According to WHO (1998), religion is a kind of belief that is one of the important elements in psychological attitudes other than value and perception. Religion is important to the employees to be a guide to their behavior in the workplace (Ali & Al-Owaihan, 2008; Rizk, 2008). This is in agreement with Townsend and Thompson (2013) found that a specific type of religious work ethic affects the performance of the organization. Moreover, empirical study in SME revealed that employee attitudes and intention to work and behavior are depending on their level of belief and value on religiosity (Ghouri, Khan, & Abdul Kareem, 2016). Interestingly, the influence of religion on the daily routine of work attitudes and behavior from TPB has been highlighted in Mohammad et al.(2018) study. From the previous discussion, researchers found that IWE is a religious commitment.

Growing concerned on religious work ethic especially IWE encouraged many Islamic scholars have considered the role of IWE on ESC related dimensions such as work environment (Abdus Satta & Aiza Hussain, 2012), and innovation capability (Farrukh et al., 2015; Kumar & Rose, 2010). The behavioral intention at work may be affected by individual belief and value through underlying TPB (Ghouri et al., 2016). It is shown that the need for IWE in attitude and behavior studies, however, several researchers clarified that less attention was given to assess the notion of IWE (Mohammad et al., 2018). Therefore, in this study, the researcher developed several hypotheses as follows:

H3: Islamic Work Ethic (IWE) has a significant effect on Employee Safety Climate (ESC).

H4: Islamic Work Ethic (IWE) has a significant effect on Intention to Safety behavior (ITS).

Employee safety Climate as a determinant of intention to Safety

According to the Theory of planned behavior, safety attitude is the first-order factor of safety intention and employee safety behavior. The attitude in this study refers to ESC. Most of the safety research devoted to proof that the safety climate is employees' attitude-based perceptions on management commitment towards Safety effectively increased the level of safety behavior in the workplace. ESC in this present study focuses on a single leading or higher order of safety climate dimension which is known as "management commitment" (Lee et al., 2014). In the safety climate study, researcher realistically demonstrated the importance of employee perception about organizational priorities or as an antecedence to safety outcomes (Sinclair, Martin, & Sears, 2010).

A review study conducted on 203 previous studies found that safety climate contributed to 49.8% of unsafe behavior variance (Nahrgang, Morgeson, & Hofmann, 2011). Besides, several researchers revealed that management commitment was the prominent factor of safety compliance (Liu et al., 2015), (Vinodkumar & Bhasi, 2010) and injuries (Liu et al., 2015).

Several past studies focus on ESC rather than group safety climate which is referred to shared perceptions among employees in a various work environment such as health care, public organization, and transportation industry (Alfayez, Subramaniam, & Mohd Zin, 2017; Nguyen et al., 2017; Silla & Gamero, 2018; Zohar et al., 2015). Besides, Fogarty and Shaw (2010) indicated that levels of study such as organization, group, or individual employee on safety outcomes. Therefore, it could be postulated that ESC could be the best indicator of intention to Safety from TPB. Thus, when to developed hypothesis 5 as follow:

H5: Employee Safety Climate (ESC) has a significant effect on Intention to Safety (ITS) behavior.

Intention to Safety

The intention was originally introduced by Ajzen (2006) in TPB to strengthen the relationship between both determinant factors of behavior and behavior (Ajzen, 2006). Behavior intention is one of the three crucial determinant factors of behavior as it was comprehensively explained by TPB (Ajzen, 2006). Mahmud and Yusof (2018) clarified that willingness to perform a safety goal could be defined as a person's plan or intention to perform safe behavior. On the other hand, several researchers clarified that intention is feeling wanting to implement behavior as a function of the consequences of cognitive attitude to behavior intention and behavior (Conner, McEachan, Lawton, & Gardner, 2016; Guo et al., 2018; Sheeran & Webb, 2016).

Understanding the construct of intention to behave in more detail is important because higher levels of intention to behavior or in case of this study are intended to Safety are typically related to positive and desirable behavior-based safety outcomes. Intention or behavioral intentions from psychological are regarded as products of attitudes (Fogarty & Shaw, 2010). Besides that, many scholars in safety research agreed that intention to Safety is also shaped by ESC as according to TPB principle

(Armitage & Conner, 2001; Javadi, Kadkhodae, Yaghoubi, Maroufi, & Shams, 2013; Lee & Beck, 2019; Robertsen et al., 2018; Wong & Lee, 2016), and effective catalyst to positive behavior outcome (Fogarty & Shaw, 2010; Hall, 2006; Uryan, 2010). Some authors in safety research indicated that behavioral intention is the heart of performing the behavior (Mahmud & Yusof, 2018). While many previous studies clarified that specific safety behavior could be referred to as planned non-conformance to unarranged complete task in a safe manner (Fogarty & Shaw, 2010; Johnson & Hall, 2005).

In this way, WO, IWE, and ESC are observed to predict the individual ITS. ESC is the mediator construct of the theoretical model. It was suggested that an ESC was influenced by the WO and IWE. From this discussion, hypotheses can be derived as follows:

H6: Employee Safety Climate (ESC) mediates the relationship between WO and ITS.

H7: Employee Safety Climate (ESC) mediates the relationship between IWE and ITS.

SMEs play a vital role in country economics, suffer from the higher number of industrial accidents and injuries that mainly cause an incline in safety performance (safety behavior) which hinders SMEs from achieving optimal business performance (Tremblay & Badri, 2018b). Therefore, in this present study, researchers emphasize on considering the most applicable issue of behavior-based Safety in SMEs. The ESC is a key indicator that has been proposed in encouraging ITS in SMEs. Additionally, researchers have explored two climate domain constructs which are WO and IWE as important antecedents affecting the ESC as illustrated in Figure 1.

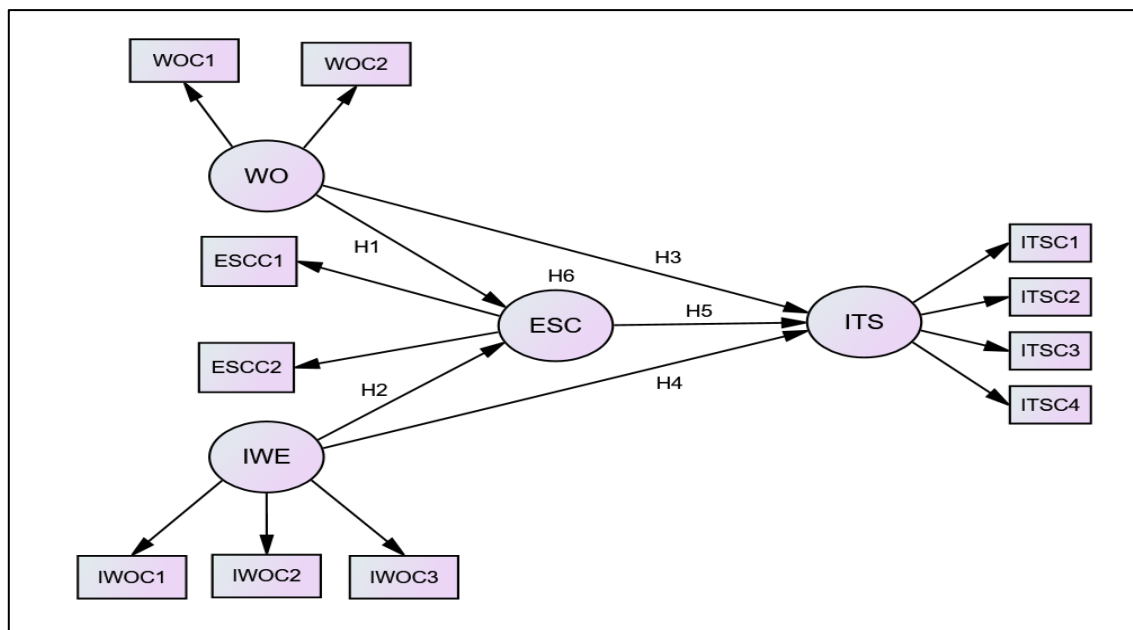


Figure 1: The research framework and hypotheses of the study

METHODOLOGY

Sample and population

The unit analysis set in the present study is the employee of the small enterprise on the east coast of peninsular Malaysia. Of the 400 questionnaires distributed to selected manufacturing enterprises with a range of 5 to 75 numbers of employees, 250 were completed and usable for analysis. To ensure the quality of the data, the screening and cleaning procedure was carried out.

Instrument

A structured questionnaire comprises three sections consisting of the respondent general information, WO, IWE, ESC, and ITS. Respondent demographics were measured using a nominal scale. The constructs were measured using an interval scale ranging from 1 = strongly disagree to 10 = strongly agree.

Climate antecedents constructs comprise of WO adopted (Van Dyne & Pierce, 2004) (6 items), and IWE (10 items) adapted from (Yousef, 2001) and **Employee Safety Climate** was measured was adapted by Zohar et al. (2014) with a little adjustment, the specific scale of the original 12 items (a detailed description of this scale development and its psychometric)

properties can be found in previous researches ([Lee et al., 2014](#)). Scale items refer to the employee's view of firm policies and procedures and operator practices.

Intention to Safety behavior was measured by scale adapted from [Uryan \(2010\)](#) of the original 5 items. The item was designed to enhance the uniqueness characteristic in small enterprise manufacturing refers to potential ignorance of safety practices in Malaysian small enterprise manufacturing.

Analysis

Before collecting field study data, the instruments for measuring all constructs have undergone the stringent procedure of pretest and pilot test. The pre-testing was carried out to obtain the expert validation for content validity, face validity, and criterion validity ([Bahkia et al., 2019](#); [Rahlin et al., 2019](#)). After that, the pilot study was carried out and the data was analyzed through Exploratory Factor Analysis (EFA) procedure to explore, filter, and determine the factorial structure of the items ([Mahfouz et al., 2019](#); [Shkeer & Awang, 2019](#)). The EFA was carried out using IBM-SPSS 24.0. Based on the EFA results, certain items were removed due to poor factor loading, and the retained items were rearranged for the field study questionnaire.

Using the field study data, the Confirmatory Factor Analysis (CFA) was carried out to validate the measurement model of latent constructs. The CFA procedure assessed three types of validity, namely construct validity, convergent validity, and discriminant validity together with composite reliability ([Rahlin et al., 2019a](#); [Shkeer & Awang, 2019a](#); [Aftthanorhan et al., 2019](#)). Once the CFA procedure was completed, the study developed the structural model and performed the Structural Equation Modeling (SEM) procedure to estimate the inter-relationships among the constructs in the model. Using the results from SEM, the study tested the proposed hypotheses of this study. Both CFA and SEM were carried out using IBM-SPSS-AMOS 24.0.

The significance of this indirect effect was using bootstrapping procedures to confirm the significance of the mediation effect. Both direct and indirect effects were computed using 5,000 bootstrapped samples. 95% confidence interval was computed by determining the p-value of significance two tails of the indirect effect in bootstrapping procedure. The p-value is 0.01, thus, the indirect effect was statistically significant.

RESULT AND DISCUSSION

EFA results

Table 1: Discriminant Validity Index Summary

Construct	Component	AVE	CR	WO	IWE	ESC	ITS
WO	0.82	0.71	0.63	0.83	0.8	0.69	0.19
	0.86						
IWE	0.83	0.68	0.71		0.82	0.21	0.1
	0.89						
	0.76						
ESC	0.90	0.78	0.64			0.88	0.62
	0.87						
ITS	0.84	0.51	0.70				0.71

Number bold indicated square root of AVE

The square root of AVE (in bold) must be higher than the correlation values between the respective pair of constructs to fulfill the discriminant validity. In this study, the square root of AVE of every construct is higher than the correlation coefficient value between constructs. Thus, the evidence from this study proved that the measurement model fulfilled the discriminant validity ([Awang, 2015](#); [Aziz et al., 2016](#); [Yusof et al., 2017](#); [Awang et al., 2018](#); [Asnawi et al., 2019](#)).

Fitness index

The construct validity was assessed based on the fitness index of the model ([Mohamad et al., 2016, 2017, 2018](#); [Rahlin et al., 2019a](#)). The results in Figure 2 indicated the structures of the model present a satisfactory fit for all three model fit categories ([Awang et al., 2018](#); [Shkeer & Awang, 2019](#)). The absolute fit index (RMSEA= 0.071) was accepted less than 0.08 and the incremental fit index of CFI = 0.975 and TLC =0.964 was satisfactory, while the parsimony fit index of chisq/df = 2.431 achieved the required level. Moreover, the intention to Safety model was significant at p=0.00. The good Fitness index is reflected from the low modification index (MI) (MI <15) of every item ([Awang, 2015](#); [Yusof et al., 2017](#); [Awang et al., 2018](#)) and it also specified that data is free from multicollinearity problem. This model fit indicators must be achieved before data are qualified for further covariance-based analysis likely convergent and discriminant validity.

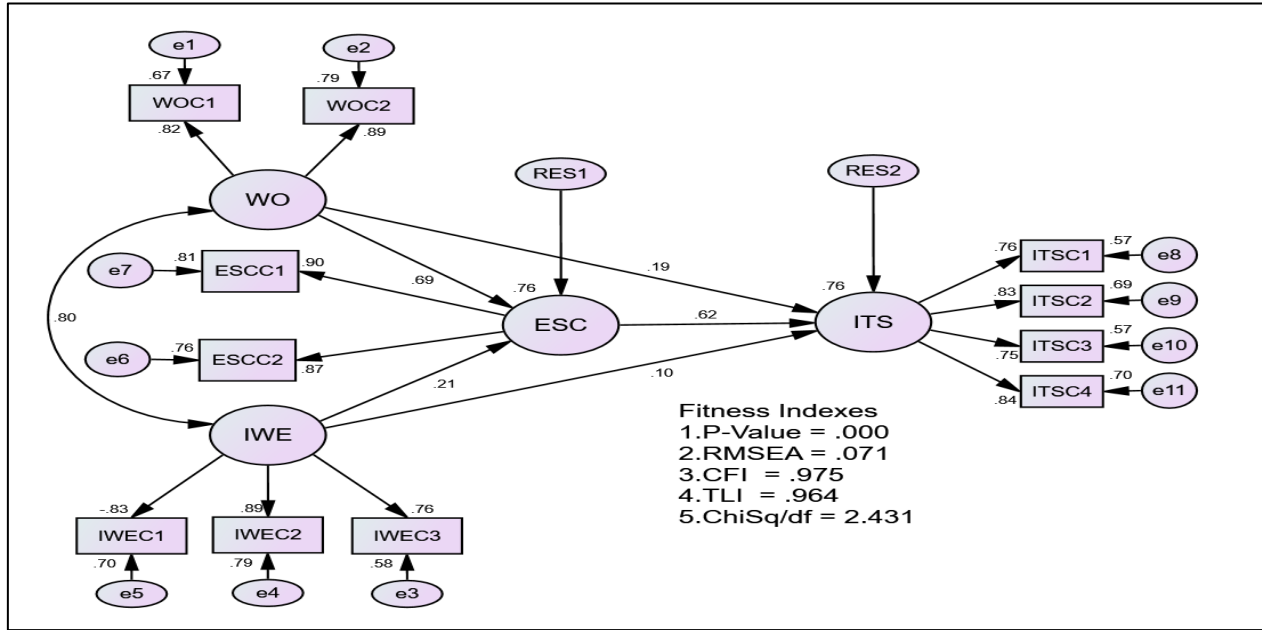


Figure 2: The standardized regression path coefficient among constructs

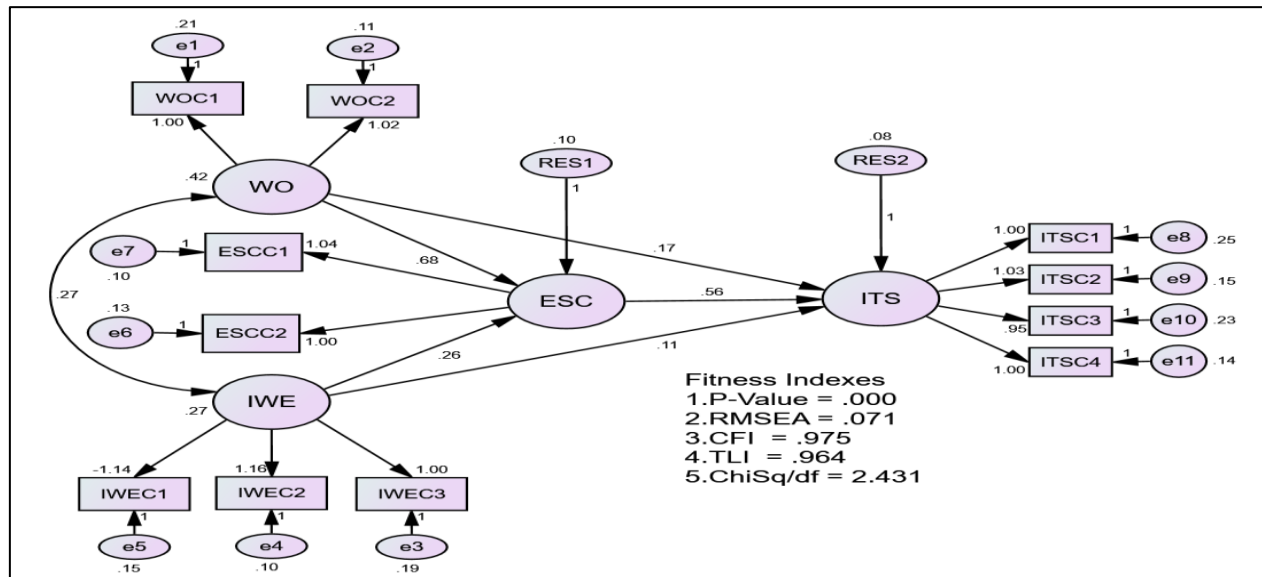


Figure 3: The regression path coefficient among constructs

Hypothesis testing

A path analysis was used to test the hypotheses as presented in Table 2. This section discusses the results of hypotheses 1, 2, 3, 4, and 5 as present in Table 2.

Table 2: The Regression Path Coefficient and its Significance

			Estimate	S.E.	C.R.	P	Result
WO	→	ESC	0.681	0.099	6.884	0.001	Significant
IWE	→	ESC	0.262	0.116	2.260	0.024	Significant
ESC	→	ITS	0.559	0.110	5.095	0.001	Significant
IWE	→	ITS	0.114	0.096	1.188	0.235	Not Significant
WO	→	ITS	0.166	0.114	1.455	0.146	Not Significant

Table 3: The Hypothesis Testing for Direct Effect and Result

	P	Hypothesis
H1 WO has a positive and significant effect on ESC	0.001	Supported
H2 IWE has a positive and significant effect on ESC	0.024	Supported
H3 WO has a positive and significant effect on ITS	0.001	Supported
H4 IWE has a positive and significant effect on ITS	0.235	Not Supported
H5 ESC has a positive and significant effect on ITS	0.146	Not Supported

Testing the first mediation effect of employee safety climate

H6 is testing the mediating impact of ESC on the relationship between WO and ITS.

The purpose of H6 is to prove that ESC mediates the relationship between WO and ITS. The procedure for testing the mediator is simplified in Figure 4.

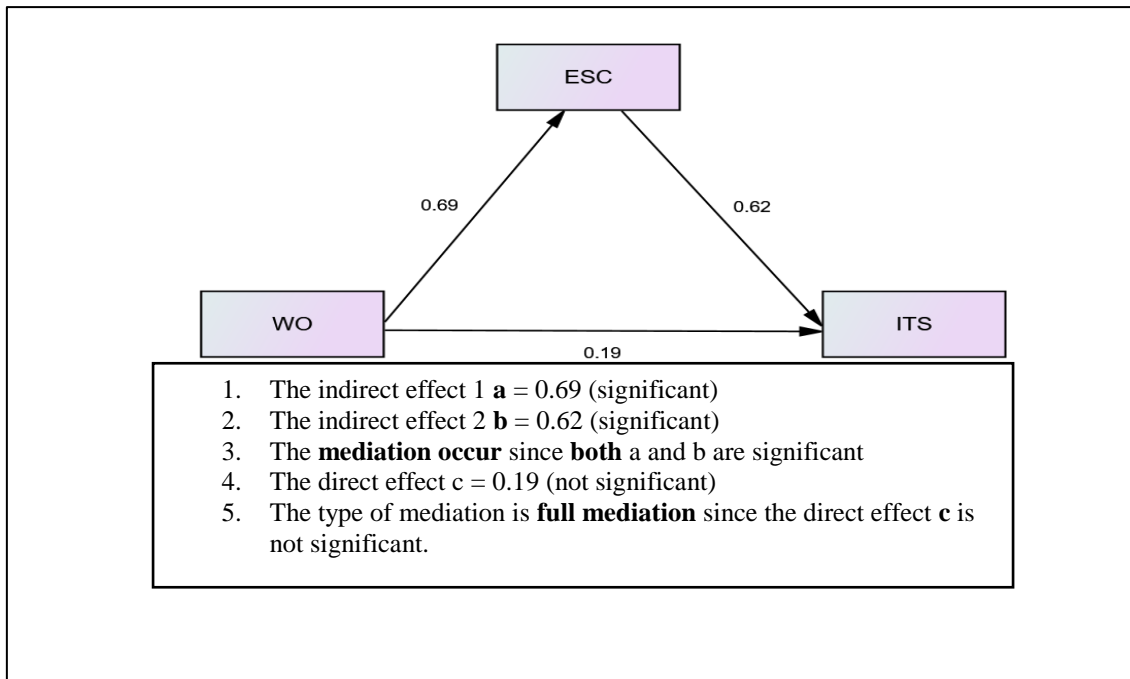


Figure 4: The Procedure for Mediation Analysis

Bootstrapping results in Table 5 reconfirm that WO has a significant indirect effect on ITS ($b = .4297, p=0.001$), and WO has a significant direct effect on ITS with involving ESC as the mediator in the relationship ($b = .187, p= 0.252$). Based on bootstrapping results in Table 5, researchers conclude that bootstrapping is consistent with results in Figure 4. These results supported the hypothesis 6, which is indicated that ESC fully mediates the relationship between WO and ITS.

Table 5: The Bootstrapping Results

	Indirect Effect (WO to ITS)	Direct Effect (WO to ITS)
Bootstrapping Results	0.429	0.187
Bootstrapping P-Value	0.001	0.252
Result	Significant	Not Significant
Type of Mediation	Full mediation since the direct effect is NOT significant	

Testing the second mediation effect of employee safety climate

H7 is testing the mediating impact of ESC on the relationship between IWE and ITS.

The purpose of H7 is to prove that ESC mediates the relationship between IWE and ITS. The procedure for testing the mediator is simplified in Figure 5.

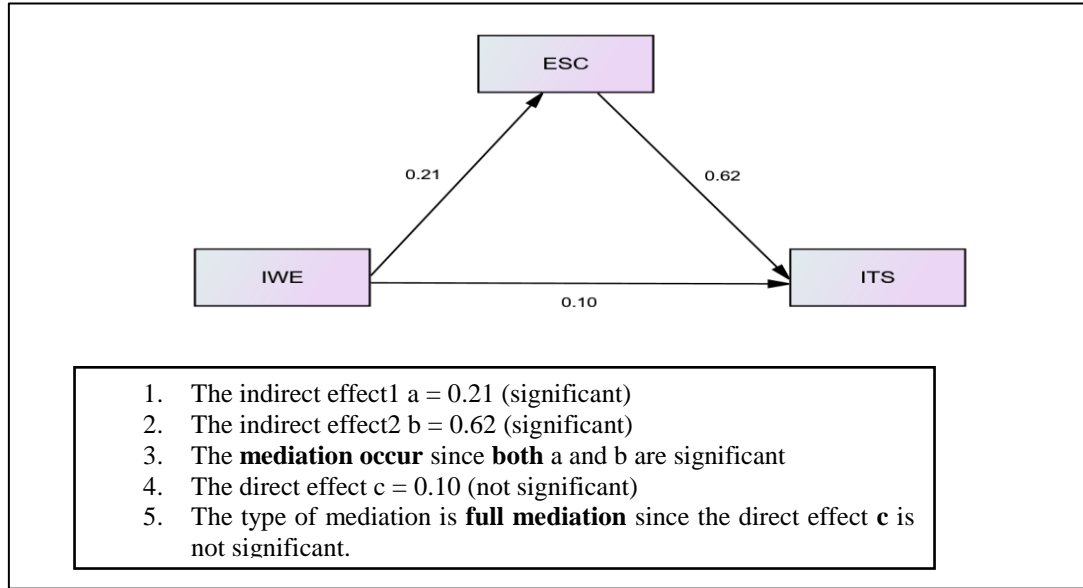


Figure 5: The Procedure for Mediation Analysis

Bootstrapping results in Table 6 shows that IWE has a significant indirect effect on ITS ($b = .132, p=0.011$), and WO has a significant direct effect on ITS with involving ESC as the mediator in the relationship ($b = .103, p= 0.357$). Based on bootstrapping results in Table 6, researchers conclude that bootstrapping is consistent with results in Figure 5. These results supported hypothesis 6, which indicated that ESC fully mediated the relationship between IWE and ITS.

Table 6: The Bootstrapping Results

	Indirect Effect (IWE TO ITS)	Direct Effect (IWE TO ITS)
Bootstrapping Results	0.132	0.103
Bootstrapping P-Value	0.011	0.357
Result	Significant	Not Significant
Type of Mediation	Full mediation since the direct effect is Not significant	

The results revealed that WO and IWE as important in the workplace to improve the level of ESC. Additionally, results indicated that ESC is the most prominent factor in ITS. Thus, these results bring comprehensive understandings into the mechanisms by which climate factors like IWE and WO act as a motivational factor to ESC and as consequence strongest the effect of ESC towards ITS. The empirical results in this present study provided evidence that safety performance can be improved by concentrating on climate factors to change the behavior which is a practical aim for frontline employees in the workplace. This allowed the practitioner to detect inadequate behaviors so that safety behavior can be modified by the empowering climate factor as proposes in this study, namely, WO, IWE, and ESC.

PRACTICAL IMPLICATIONS

Concerning practical implications, the present study demonstrates how small manufacturing managers and firms can concern the critical role that climate factors play in influencing ECS. These findings highlight the importance of both Wo and IWE as multi-faceted ESC antecedents to influence and improve small manufacturing enterprise ESC to enhance workplace safety. These findings may in various ways apply to the Muslim population and non-Muslim population to improve Safety at the workplace. Thus, HRM at local and multinational companies who are practicing a comprehensive work ethic such as IWE are beneficial to the work environment. On the other hand, the effectiveness of the PO required more time and the short implication of WO in the short term did not appear to be large. The integration of psychological ownership construct has to emerge over a longer period and at higher levels to become meaningful (Pierce & Jussila, 2011). This is a significant contribution to the literature on psychological ownership and provides valuable information for enterprises on how to provide more work experiences that are personally valued by employees and that growth to feelings of ownership.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study has some limitations that should be addressed in future research. First, the data are collected at one point in time from small manufacturing enterprise companies in Peninsular Malaysia. Thus, the generalization of the finding to the other industries should be cautious because it may have varied with the sample, time, production category, and geographic



location. The second limitations are the validity and reliability regarding the use of self-administered questionnaires as tools of data collection. From a theoretical perspective, this finding cannot be generalized to other regions and countries due to sampling selection. Because it is a complicated psychological aspect of behavioral theory, future research must further explore possible motivational antecedents constructs in the model.

CONCLUSION

These results lend support to [Neal and Griffin's](#) basic model of the pathways linking the individual level of unit measurement for ESC perceptions to ITS from TPB. Additionally, the study reveals that the results support SET which indicated that climate factors such as WO and IWE have increased the ability to predict and understand employee attitudes (employee safety climate) and indirectly affect their safety behavior at the workplace. Furthermore, results are in accord with TPB indicating those employees' attitudes, behavioral intentions, and behavior at the workplace. Results also demonstrate that ESC was fully mediated the relationship between climate factors and ITS and both of climate factors explained a moderate portion of the variance in ITS construct. This model seems to be an acceptable framework to guide further studies on safety-related behavior, and we might inspire more replicated present study models as confirmatory frameworks in different industries.

SUGGESTIONS

The main impact of the employee safety climate in this is employee attitudes based perception on management commitment towards Safety on the intention of safety behavior. The results of this study proved that the employee safety climate is the most crucial factor affecting the success of safety programs in small-medium enterprises. From the finding of this present study, authors suggest that effort toward enhancing Safety in the workplace could be achieved by taking Safety as a priority in job design, the establishment of job-training programs, participation of high-level managers in safety committees, transfer of executive authority to safety officials, including required work pace. Besides that, that effort could reduce the negative effect of a weak safety climate on the intention of safety behavior.

This present study adds to the literature on safety performance and gives direction to other researchers for future work. Additionally, the results of this present study mark an important step to standardizing safety climate measurement in the small-medium industry.

CO-AUTHOR CONTRIBUTION

The authors affirmed that there is no conflict of interest in this article. Nor Azma Rahlin carried out fieldwork and wrote the manuscript, Ayu Suriawati & Zulkifli Abd Rahim refined the write-up in methodology and analysis, while Zainudin Awang carried out statistical analysis procedures, testing hypothesis and interpretation of the results.

ACKNOWLEDGMENTS

This work was completed as part of the Ph.D. research at University Sultan Zainal Abidin, Terengganu Malaysia. The authors would like to appreciate University Sultan Zainal Abidin for making this research possible.

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