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ENVIRONMENTAL SELF-IDENTITY AND ENERGY SAVING BEHAVIOUR OF HOTEL EMPLOYEES: THE MEDIATING ROLE OF INTRINSIC MOTIVATION

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Abstract: The emission of carbon dioxide and other greenhouse gases through energy (electricity) consumption by firms is one the significant drivers of climate change. Energy conservation is one of the ways to achieve a cleaner, healthier environment and manage climate change. Energy conservation in firms is to a large extent dependent on employee participation and personal factors are significant determinants of pro-environmental behaviour. The aim of the paper is to examine the relationship between environmental self-identity and energy saving behaviour of employees of hospitality firms. In addition, the study investigates whether intrinsic motivation (measured by obligation-based intrinsic motivation and enjoyment-based intrinsic motivation) mediates the relationship between environmental self-identity and energy saving behaviour. The study uses the quantitative research design and the cross-sectional survey method is adopted for data collection. The hypotheses of the study are tested using the Partial Least Square Structural Equation modelling (PLS SEM). The results of the empirical study indicate that environmental self-identity is positively related to energy saving behaviour. The mediating effects of obligation and enjoyment-based intrinsic motivation are significant. The results suggest that intrinsic motivation is a mechanism through which environmental self-identity can affect employee energy saving behaviour.

Key words: electricity saving behaviour, employee, environmental self-identity, obligation-based intrinsic motivation, enjoyment-based intrinsic motivation

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INTRODUCTION

The emission of carbon dioxide and other greenhouse gases through energy (electricity) consumption by individuals and firms is one the significant drivers of climate change (Mardiana and Riffat, 2015). Most of the energy produced currently is from non-renewable energy sources. Coal mining for the production of energy can pollute water and create solid waste (Liu et al., 2020). Coal accounts for approximately 75% of primary energy supply and over 90% of electricity generation in South Africa and the country is ranked amongst the top 15 largest carbon dioxide emitters in the world (Akinbami et al., 2021). Energy conservation is one of the ways to achieve a cleaner, healthier environment and manage climate change (Moriaty and Honnery, 2019). One way to ensure energy conservation is the behavioural change of individuals at home or at work. Therefore, it is important to investigate energy conservation in the business context. The performance of a firm's environmental programme is to a large extent dependent on employee behaviour (Wesselink et al., 2017). Energy conservation by employees is often discretionary and not a required task. Individually, the impact of each employee in respect of energy conservation may look small, but collectively the effect is significant (Zhang et al., 2014; Wesselink et al., 2019). Electricity is the main form of energy conservation in organisations, thus the focus will be on electricity conservation (saving) behaviour of employees (Zhang et al., 2014).

Lalot et al. (2019) point out that many factors affect the pro-environmental behaviour of individuals. Personal values, ethics and self-identity are critical to more enduring sustainable behaviours (Steg and Vlek, 2009). Whitmarsh and O'Neill (2010) and Barbarossa et al. (2017) describe environmental self-identity as a person's overall perceived identification as an environmentalist and is a motivation for different types of pro-environmental behaviour. However, the mechanism through which environmental self-identity is linked to pro-environmental behaviour is under-explored (Lalot et al., 2019). Kim (2016) remarks that the issue of how individuals with a strong environmental self-identity tend to act more pro-environmentally is unclear. This study draws on intrinsic motivation as a mediating variable between environmental self-identity and energy conservation behaviour. Intrinsic motivation in the context of the environment refers to the tendency of an individual to engage in pro-environmental behaviour out of the affection that they have for the environment (Silvi and Rosa, 2017; Ali et al., 2020; Ojo, 2021). The motivation comes from within and not dependent on external reward (Budzanowska-Drzewiecka and Tutko, 2021).

Intrinsic motivation can be divided into enjoyment-based intrinsic motivation and obligation-based intrinsic motivation. Enjoyment-based intrinsic motivation depicts the enjoyment that individuals experience when they engage in pro-environmental behaviour (Taufik et al., 2014). Obligation based intrinsic motivation is similar to personal norms and can be described as the feeling of being morally obliged to perform a behaviour (Van der Werff et al., 2013; Kim, 2016). Studies

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by Van der Werff et al. (2013), Zhang et al. (2014), Hwang et al. (2015) and Kim (2016)) show that enjoyment-based intrinsic motivation and obligation-based intrinsic motivation can influence pro-environmental behaviour. This suggests that employees with a strong environmental identity may engage in energy saving behaviour because they enjoy it or because they feel the moral obligation to do so. The goal framing theory suggests that an individual's pro-environmental behaviour can be linked to hedonic, gain, and normative goals (Lindenberg and Steg, 2007). Thus, the aim of this study is to investigate if enjoyment-based intrinsic motivation and obligation-based intrinsic motivation mediate the relationship between environmental self-identity and energy saving behaviour of hotel employees.

This study has theoretical, empirical and policy significance. First, research on the mediating effect of the two types of intrinsic motivation in the relationship between environmental self-identity and energy saving behaviour is scarce. While the direct effects of environmental self-identity and intrinsic motivation on different types of pro-environmental behaviour have been investigated, there is the need to examine the indirect effects (Barbarossa et al., 2017). In addition, Ahn et al. (2020) remark that research on personal norms shows that individuals behave environmentally friendly because of moral obligations, but this does not explain why people engage in pro-environmental behaviour because they enjoy it. Limited studies have tested enjoyment-based intrinsic motivation because it was originally considered less relevant in the environmental domain. However, recent studies have focused on the role of enjoyment in pro-environmental behaviour. This study intends to test a theoretical model that includes the mediating effects of both obligation and enjoyment-based intrinsic motivation in the relationship between environmental self-identity and energy saving behaviour. Second, studies on energy conservation behaviour of individuals have mainly focused on households with scant attention paid to employees in the business context. However, hotels consume a lot of energy and are ranked among the top five in terms of energy consumption in the tertiary building sector (Hotel Energy Solution, 2021). Therefore, it is important for researchers to understand the factors that can influence energy conservation in hotels. Third, the United Nations Framework Convention on Climate Change (COP26) agrees that net zero emissions should guide business principles and operation. Understanding the factors that can positively affect energy conservation can help the hospitality sector in South Africa to contribute to net zero. This study will be guided by two research questions. RQ1: What is the relationship between environmental self-identity and employee 'energy saving behaviour? RQ2: does intrinsic motivation mediate the relationship between environmental self-identity and employee energy saving behaviour?

LITERATURE REVIEW AND RESEARCH HYPOTHESES

1. Energy (electricity) saving behaviour

Energy (Electricity) saving behaviour refers to the behaviours that an individual performs to reduce overall energy (electricity) use (Sweeney et al., 2013). Energy saving behaviour include (1) *curtailment behaviours*- This kind of behaviour saves energy through reduced use. Curtailment behaviour such as turning off lights, reducing appliance usage and unplugging appliances must be repeated frequently for consistent energy saving (Boudet et al., 2016) (2) *efficiency behaviours*. This approach is related to the purchase of more efficient appliances (3) *maintenance behaviours*- this involves saving energy by better maintaining appliances as this improves their performance and efficiency (Azizi et al., 2019).This study focuses on how curtailment behaviour can improve energy saving behaviour in hospitality firms. Curtailment behaviour is relatively low cost compared to efficiency behaviour (Karlin et al., 2014).

2. Environmental self-identity

Biddle et al. (1987, p. 326) define self-identity as "a person's self-conception, self-referent cognitions, or self-definition that people apply to themselves as a consequence of the structural role positions he or she occupies or a particular behaviour he or she engages in regularly". Theoretically, the concept of self-identity is derived from the identity theory (Stryker, 1968, 1980; Burke, 1991). The theory views the self not as an autonomous psychological entity but as a multifaceted social construct that emerges from people's roles in society and the behaviours they perform. Environmental or green self-identity can be described as the perception of an individual about supporting pro-environmental causes (Whimarish and O'Neill, 2010). Van der Werff et al. (2013) define environmental self-identity as the extent to which an individual sees him/herself as a person whose actions are environmentally-friendly. Studies such as Van der Werff et al., (2013) and Kim (2016) have linked environmental self-identity to different pro-environmental behaviours.

3. Intrinsic motivation

The Self-Determination Theory (SDT) by Ryan and Deci (2000) focuses on the extent to which the behaviour of an individual is self-motivated and self-determined. The SDT explains the motivation behind the choices made by an individual in the absence of external influences and distractions. SDT distinguishes between intrinsic and extrinsic motivations. Intrinsic motivation focuses on the engagement of activities for the inherent rewards of the behaviour. Intrinsic motivation can be used to describe activities done for their own sake or for their inherent interest and enjoyment (Grobbelaar et al., 2019; Ryan and Deci, 2020; Van den Broeck et al., 2021). Extrinsic motivation focuses on behaviours done for reasons other than their inherent satisfactions and can be divided into four major types.

These are (1) external regulation which focuses on rewards and punishments that are externally imposed. (2) introjected regulation which focuses on extrinsic reward that is partially internalised and motivated by the reward of self-esteem for success or the avoidance of guilt or shame for failure. (3) Identified regulation which refers to an individual identifies or endorses the value of an activity and (4) integrated regulation which refere to when an individual's recognition and identification with the value of an activity (Ryan and Deci, 2020).

Van der Werff et al. (2013) point out that intrinsic motivation can be divided into enjoyment-based intrinsic motivation and obligation-based intrinsic motivation. Enjoyment-based intrinsic motivation shows itself in warm glow that individuals experience when they engage in pro-environmental behaviour because they enjoy it (Taufik et al, 2014). Obligation- based intrinsic motivation is similar to personal norms and can be defined as the feeling of being morally obliged to perform a behaviour (Van der Weiff et al., 2013; Kim, 2016; Wang et al., 2021).

4. Hypotheses

4.1. Environmental self-identity and energy saving behaviour

Whitmarish and O'Neill (2010) investigate the effect of environmental self-identity across different pro-environmental behaviours in the United Kingdom. The findings of the study indicate that environmental self-identity positively predicts pro-environmental behaviours such as recycling, energy conservation and water conservation. Dean et al. (2012) examine the role of self-identity and past behaviour in predicting the intention to purchase fresh and processed organic food. The findings of the study indicate a significant positive relationship between self-identity and organic food. Gatersleben et al. (2014) find that values and identities are important factors in explaining individual pro-environmental behaviours. The study by Van der Werff et al. (2013) find a significant positive relationship between environmental self identity and intention to conserve energy. Barbarossa et al. (2017) remark that environmental self-identity positively affects consumer green product purchase behaviour. This is because individuals that identify with the environment tend to derive personal satisfaction from pro-environmental behaviour. Consequently, it is hypothesised that: H1 Environmental self-identity is positively related to energy conservation behaviour.

4.2. Environmental self-identity and obligation-based intrinsic motivation

Barbarossa et al. (2017) describe moral obligation as a personal internal state construct that focuses on how an individual feels a sense of responsibility to act morally in an ethical situation such as pro-environmental behaviour. The more an individual sees him/herself as a green consumer, the more likely the individual will feel a moral obligation to protect the environment. Van der Weiff et al. (2013) investigate the relationship between environmental self-identify and obligation-based intrinsic motivation. The results indicate that environmental self-identity influences obligation-based intrinsic motivation in the context of intention to use green energy. This suggests that individuals with a strong environmental self-identity will feel morally obliged to act in an environmentally-friendly.manner. It is hypothesised that: H2 Environmental self-identity is positively related to obligation-based intrinsic motivation.

4.3. Environmental self-identity and enjoyment-based intrinsic motivation

Taufik et al. (2014) point out that acting environmentally friendly can elicit psychological rewards through positive feelings. Intrinsic benefits can show themselves in warm glow that individuala experience when they feel good about themselves because of pro-environmental behaviour. Thus if an employee enjoys pro-environmental behaviour such employee will engage in environmentally friendly behaviour (Pugno and Sarracino, 2021). The findings of the study by Tanu and Parker (2018) show that students engage in pro-environmental behaviour because they enjoy it and because it is the fun thing to do. Venhoeven et al. (2016) investigate the relationship between environmental self-identity of individuals and the emotions elicited by their purchases. The results indicate that environmental self-identity is positively associated with positive emotions that people feel about their green purchases. Kim (2016) points out that environmental self- identity will affect enjoyment-based intrinsic motivation because acting on self-identity makes people feel good and enables them to maintain or enhance a positive self-esteem. The findings of the study by Kim (2016) indicate a significant positive relationship between environmental self-identity and enjoyment-based intrinsic motivation. It is hypothesised that: H3 Environmental self-identity is positively related to enjoyment-based intrinsic motivation.

4.4. Obligation-based intrinsic motivation and energy saving behaviour

Van der Weiff et al. (2013) investigate the relationship between obligation-based intrinsic motivation and intention to use green energy. The results indicate that obligation based intrinsic motivation as measured by personal norm predicts the intention to use green energy. Kim (2016) finds that obligation-based intrinsic motivation positively affects the purchase of eco-friendly apparel. Barbossa et al (2017) find that that moral obligation is a significant predictor of consumer intention to use electric vehicles. Hwang et al. (2015) examine Generation Y's moral obligation and purchase intention of green products. The results indicate a significant positive relationship between moral obligation and purchase intention of organic and recycled products. This suggests that individuals with a strong obligation-based intrinsic motivation will engage in pro-environmental behaviour because they feel morally obliged to do so. It is hypothesised that: H4 Obligation-based intrinsic motivation is positively related to energy conservation behaviour

4.5. Enjoyment based intrinsic motivation and energy saving behaviour

Kim (2016) finds that enjoyment-based intrinsic motivation positively affects the purchase of eco-friendly apparel. Van der Werff et al. (2013) point out that enjoyment based intrinsic motivation does not affect pro-environmental behaviour. Only obligation-based intrinsic motivation does. Pro-environmental behaviour such as electricity saving behaviour is difficult to describe in terms of inherent satisfaction. Lindenberg and Steg (2007) note that not all environmentally friendly behaviours are pleasurable or enjoyed. Individuals that want to feel good should not include pro environmental behaviour in their goals because it often involves personal sacrifice. Zhang et al. (2014) however

remark that enjoyment of a particular behaviour can significantly motivate the performance of such behaviour. Enjoyment can positively influence the knowledge of pro-environmental action and attitude towards electricity saving. Individuals can get involved in pro-environmental behaviour because they enjoy it (Ahn et al., 2019). It is hypothesised that: H5 Enjoyment-based intrinsic motivation is positively related to energy conservation behaviour.

4.6. Mediating effects of obligation-based and enjoyment-based intrinsic motivation

Van der Weiff et al. (2013) investigate the mediating effect of moral obligation in the relationship between environmental self-identity and pro-environmental behaviour. The findings indicate a significant mediating effect. Environmental self-identity is associated with pro-environmental intentions through the moral route.

Barbosa et al. (2017) find that the effect of green self-identity on intention through moral obligation becomes stronger at higher levels of self-transcendence. Kim et al. (2012) indicate that social norms mediate the relationship between green identity and purchase intentions, whereas personal norms do not. Ali et al. (2020) find that green intrinsic motivation as measured by enjoyment mediates the relationship between green altruism and green thinking and purchase intention for green electronic products. This suggests that individuals with a strong environmental self-identity can perform environmentally-friendly behaviour because they enjoy it or feel morally obliged to do so. It is hypothesised that:

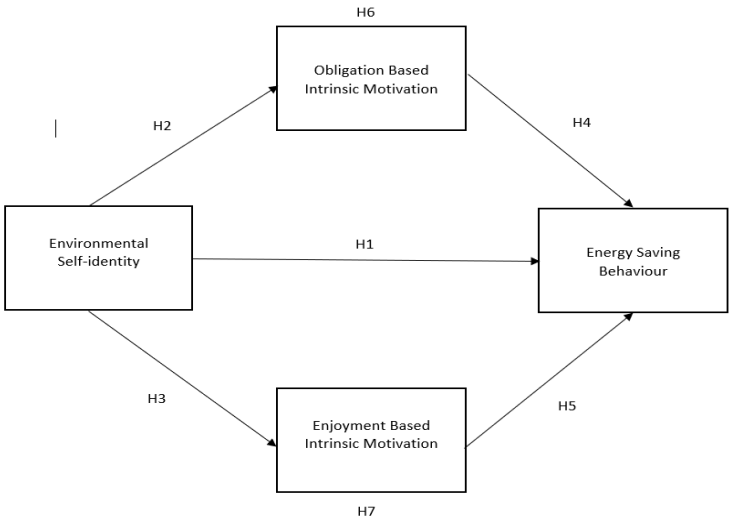

Figure 1. The conceptual model

H6: Obligation-based intrinsic motivation mediates the relationship between environmental self-identity and energy conservation behaviour.

H7: Enjoyment-based intrinsic motivation mediates the relationship between environmental self-identity and energy conservation behaviour

RESEARCH METHODOLOGY

The quantitative research approach was adopted for the study. The cross-sectional survey method was used to collect data from the respondents. Data was collected through the self-administered questionnaire method. The survey was conducted in Johannesburg and Pretoria of the Gauteng Province and Polokwane in the Limpopo province of South Africa. The three cities contain a large number of s firms in the hospitality sector.

The convenience sampling method was used to identify the survey participants from the website of Trivago, a hotel search firm and a data collection agency assisted in the process. The study followed two processes. First the participating firms were identified. The owners and managers of the identified firms were contacted through personal meetings, emails and telephone calls to explain the purpose of the research and seek for permission to contact their employees. The number of employees working in each firm was obtained from the owner/manager.

Before actual data collection, a pilot study was done with ten firms and thirty employees following the same process. These firms or the employees did not participate in the main survey. The results of the pilot study led to minor adjustments to the questionnaire. In addition, the questionnaire was examined by two experts in the area of sustainability and their comments were incorporated in developing the final questionnaire. The participants were all office staff. The cell phone numbers and or the email addresses of the employees were obtained after the delivery of the questionnaire. Each participant was given two weeks to complete the questionnaire. If the questionnaire is completed, it is then collected. The participants were reminded every two week through phone calls or email messages to complete the questionnaire. This process was repeated for eight weeks. If the questionnaire is not completed after eight weeks, it is considered as non-response. The participants in the survey were assured of anonymity and confidentiality. The Partial Least Square Structural Equation Modelling (PLS SEM) was used for data analysis.

Measures: The items used to measure the constructs of the study were obtained from past studies and were anchored on the five-point Likert scale ranging from "1 strongly disagree to 5 strongly agree". The items used to measure environmental self-identity were adapted from Van der Werff et al. (2013). The items used to measure obligation based and enjoyment based intrinsic motivation were adapted from Van der Warf et al. (2013), Zhang et al. (2014) and Kim (2016). The items used to measure energy saving behaviour were adapted from Chen and Liu (2019). All the items are indicated in the measurement model.

RESULTS

1. Response rate and biographical detail

Nine hundred and ten questionnaires were distributed and four hundred and four hundred and fifty-five questionnaires were returned. Eleven questionnaires were not used because the respondents did complete some important parts of the questionnaire. Four hundred and forty four questionnaires were usable.

The biographical details of the respondents are: gender: 229 females and 215 males. Age: 21-30 years (135 respondents), 31-40 years (185 respondents), 41-50 years (98 respondents), 51-60 years (26 respondents). Educational qualifications: 256 with Matric qualification and 188 with post matric qualification.

2. PLS SEM

Hair et al. (2019) remark that the PLS SEM consists of two sub-models. The measurement model which depicts the relationships between the observed data and the latent variables and the structural model which shows the relationship between the latent variables. The evaluation of the measurement model should include the factor loadings (>0.708), Average variance explained (>0.500), Cronbach's alpha (>0.700) and composite reliability (0.70 to 0.95).

Table 1. Measurement model

Construct	Measurement items	Loading	Cronbach's alpha	Composite reliability	AVE
Environmental self-identity (ESI) (Mean 3.52Standard deviation 1.01)	I am the type of person that saves electricity at work) ESI1	0.805	0.805	0.826	0.612
	I see myself as someone that is engaged in electricity saving (ESI2)	0.782			
	Saving electricity at work is an important part of whom I am (ESI3)	0.760			
Obligation-based (OBL))Mean 3.45 Standard deviation 1.04)	I feel morally obligated to save electricity at work (OBL1)	0.775	0.813	0.833	0.624
	I would feel guilty if I did not save electricity at work (OBL2)	0.793			
	I would be a better person if I would save electricity at work (OBL3)	0.801			
Enjoyment-based intrinsic motivation (Mean 3.15 standard deviation 0.98)	Saving electricity at work is pleasurable (ENJ1)	0.836	0.736	0.836	0.627
	I enjoy saving electricity at work (OBL2	0.799			
	I am delighted to save electricity at work (OBL3)	0.742			
Energy Conservation behaviour (ENE) 4.26 standard deviation 1.03	I turn off the lights at work when going out even for a short time (ENE1)	0.819	0.762	0.901	0.564
	I reduce the use of the fan/ air conditioner by opening the windows at work (ENE2)	0.729			
	I switch off the computer at work when it is not used. (ENE3)	0.808			
	I limit the duration that the refrigerator door is kept open at work in my workplace. (ENE4)	0.731			
	I turn off the lights at work when the sunshine is bright enough (ENE5)	0.747			
	.I properly close the room when I use the air-conditioner at work (ENE6)	0.726			
	I switch off all lights when leaving work as the last person (ENE7)	0.759			

Table 2. Discriminant validity

CON	ESI	OBL	ENJ	BEH
ESI	0.782			
OBL	0.648	0.790		
ENJ	0.601	0.593	0.792	
ENE	0.574	0.526	0.626	0.751

Table 3. HTMT

CON	ESI	OBL	ENJ	BEH
ESI				
OBL	0.425			
ENJ	0.541	0.586		
ENE	0.596	0.561	0.690	

Table 4. Path coefficient and T-statistics* p<0.01; ** <0.05

Hypothesised path	**Path coefficient**	**T-statistics**	**Decision**
H1 ESI→ENE	0.207	7.214 *	Supported
H2 ESI→OBL	0.229	5.068 *	Supported
H3 ESI-ENJ	0.107	2.813**	Supported
H4 OBL- ENE	0.215	4.935*	Supported
H5 ENJ-ENE	0.117	2.862**	Supported

Table 5. Mediation results* P<0.01; ** <0.05

Mediation path	Indirect effect	Total effect and T-statistics	Confidence interval bias (corrected)		Decision	VAF
			LL	UL		
H6 ESI→ OBL→ENE	0.196*	0.241* (1.398)	0.067	0.232	Accepted (full mediation)	81.32%
H7 ESI→ ENJ→ENE	0.138**	0.308** (1.116)	0.053	0.177	Accepted (partial mediation)	44.81%

Table 1 shows that all these requirements are met and convergent validity is established. To assess discriminant validity, the study used the Fornell-Larcker test and the heterotrait–monotrait ratio (HTMT). Tables 2 and 3 depict the results of the Fornell-Larcker test and the HTMT The square root of the AVE should be higher than the correlations among the latent variables (Hair et al., 2019). In addition, all the values of the HTMT ratio depicted in table are below

the conservative threshold of 0.850 (Henseler et al., 2015). These two tests confirm an adequate discriminant validity of all latent variables. Diagonals in bold signify the square root of the AVE while the other figures depict the correlations.

Structural model

Hair et al. (2019) point out that the assessment of the structural model should include the analysis of the common method bias (CMB), the $R^{2,}$ the Q^2 and the evaluation of the path coefficients. The variance inflation factor (VIF) values range from 1.58 to 2.18 and below 3.3. This suggests that the model is free of CMB. In addition, the values of the GOF range from 0 to 1 with 0.10, small, 0.25 medium and 0.36 large. The GOF obtained by the study is 0.471 which is higher than the 0.36 standard for good model fit. This suggests that that the empirical data satisfactorily fits the model. The $Q^2 >$ 0.5 is considered a predictive model. The Q^2 obtained in the study ranges from 0.139 to 0.264. These figures are greater than zero and indicate the cross validity of the model. The effect size (f^2) shows the effect of one construct on another construct and values are 0.02 (small), 0.15 (medium) and 0.35 (large). The effect sizes obtained in the study range from 0.272 to 0.299. The standardised root mean square residual (SRMR) was used to measure the model fit. SRMR has values from 0 to 1.The SRMR obtained in the study is 0.03. Table 4 depicts the results of the structural model.

The results (β 0.207, T 7.214, $p<0.01$) show a significant positive relationship between ESI and ENE Hypothesis one is supported. The results (β 0.229, T 5.068, $p <0.01$) depict a significant positive relationship between ESI and OBL Hypothesis two is supported. The results (β 0.107, T 2.813, $p <0.05$) show a significant positive relationship between ESI and ENJ. Hypothesis three is supported. The results (β 0.215, T 4.935, $p <0.01$) show a significant positive relationship between OBL and ENE. Hypothesis four is supported. The results (β 0.117, T 2.862, $p <0.05$) show a significant positive relationship between ENJ and ENE. Hypothesis five is supported. Table 5 depicts the results of mediation. The indirect path between ESI, OBL and ENE is positive and significant. Thus a complementary full mediation is confirmed. Thus, hypotheses six is supported. In addition, the indirect path between ESI, ENJ and ENE is positive and significant and a complementary partial mediation is confirmed. Hypothesis seven is supported.

DISCUSSION

The emission of carbon dioxide and other greenhouse gases through energy (electricity) consumption by individuals and firms is one the significant drivers of climate change. Energy conservation is one of the ways to achieve a cleaner, healthier environment and manage climate change. One way to ensure energy conservation is the behavioural change of individuals at work as this will reduce energy demand. The study examined the relationship between environmental self-identity and energy saving behaviour of employees of hospitality firms. In addition, the study investigated whether intrinsic motivation (measured by obligation-based intrinsic motivation and enjoyment-based intrinsic motivation) mediates the relationship between environmental self-identity and energy saving behaviour. The findings indicate a significant positive relationship between environmental self-identity and energy conservation behaviour. The findings suggest that individuals with environmental self-identity derive personal satisfaction from pro-environmental behaviour. The findings are consistent with the results of previous empirical studies. Whitmarish and O'Neill (2010) find that environmental self-identity and pro-environmental behaviours are significantly positively related. Van der Werff et al. (2013) find a significant positive relationship between environmental self –identity and intention to conserve energy. The findings indicate a significant positive relation between environmental self-identity and obligation-based intrinsic motivation.

The results suggest that the more an individual see him/herself as a green consumer, the more likely that individual will develop the feelings of moral obligation to perform pro-environmental behaviour. The findings are consistent with the results of similar empirical studies. Van der Werff et al. (2013) find a significant positive relationship between environmental self-identify and obligation-based intrinsic motivation. The findings indicate a significant positive relationship between environmental self-identity and enjoyment-based intrinsic motivation. The findings suggest that individuals with environmental self-identity can have intrinsic motivation to act pro-environmentally because they enjoy doing so. The findings are consistent with previous empirical studies. Taufik et al. (2014) remark that acting environmentally friendly can elicit psychological rewards through positive feelings. Intrinsic benefits can show themselves in warm glow that individuals experience when they feel good about themselves because of pro-environmental behaviour. Kim (2016) finds a significant positive relationship between environmental self-identity and enjoyment-based intrinsic motivation. The results indicate a significant positive relationship between obligation-based intrinsic motivation and energy saving behaviour**.** The findings suggest that individuals with strong obligation-based intrinsic motivation will engage in pro-environmental behaviour because they feel morally obliged to do so.

Van der Werff et al. (2013) find that obligation based intrinsic motivation as measured by personal norm predicts the intention to use green energy. Kim (2016) finds that obligation-based intrinsic motivation positively affects the purchase of eco-friendly apparel. Hwang et al. (2015) find that moral obligation has a significant positive effect on purchase intention of organic products and recycled materials. The results indicated that enjoyment based intrinsic motivation and energy saving behaviour are significantly positively related. The findings suggest that the enjoyment of a particular behaviour can significantly motivate the performance of such behaviour. The study by Kim (2016) finds that **e**njoyment-based intrinsic motivation positively affects eco-friendly apparel purchasing behaviour.

Zhang et al. (2014) find that enjoyment can also positively influence knowledge of pro-environmental action and positively affect attitude towards electricity saving. The findings of the study indicate a full mediating effect of obligation-based intrinsic motivation and partial mediating effect of enjoyment-based intrinsic motivation. The findings suggest that individuals with a strong environmental self-identity can perform environmentally-friendly behaviour

because they enjoy it or feel morally obliged to do so. Van der Weiff et al. (2013) find a significant mediating effect obligation-based intrinsic motivation in the relationship between environmental self-identity and pro-environmental behaviour. Ali et al. (2020) find that green intrinsic motivation as measured by enjoyment mediates the relationship between green altruism and green thinking and purchase intention of green electronic products.

CONCLUSION

The study examined the relationship between environmental self-identity and energy saving behaviour of employees of hospitality firms. In addition, the study investigated whether intrinsic motivation (measured by obligation-based intrinsic motivation and enjoyment-based intrinsic motivation) mediates the relationship between environmental self-identity and energy saving behaviour. Theoretically, the study tested a model that shows the mediating effect of intrinsic motivation in the relationship between environmental self-identity and energy saving behaviour. To improve attitude towards electricity saving, employees must be able to obtain intrinsic motivation. This can be done through an increase in the level of environmental concern and knowledge that high energy consumption significantly contributes to climate change. Training of employees by hospitality firms about the importance of environmental protection can help to improve knowledge about environmental issues and enhance self-identity and intrinsic motivation. The study has some limitations. First data was collected from employees in three cities in South Africa and this may limit the generalisability of the results. The study depended on self-reported data of employees rather than rather than objective observations. This may lead to social desirability bias. Other studies can examine the moderating effects of demographic factors (age level of education and gender) in the relationship between environmental self-identity and energy conservation intention.

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