القيادة الأخلاقية والسلوكيات الخضراء للعاملين في صناعة النسيج في مصر: الدور الوسيط للتمكين النفسي

Ethical Leadership and Employee Green Behavior in Egypt's Textile Industry: The Mediating Role of Psychological Empowerment

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Abstract

As climate change has escalated, organizations have begun to focus on sustainable business practices, and employees' eco-friendly behaviors are increasingly fundamental. Promoting green behavior among staff members is not straightforward. More work must be done to assess the impact of leadership and workplace environment on such environmentally concerned behavior. This study investigated the direct impact of ethical leadership on employee green behavior and psychological empowerment and examined the mediating role of psychological empowerment by drawing on Social Cognitive Theory (SCT). Data were collected using validated scales from 212 employees working in public-sector companies in the Egyptian textile industry. The results from structural equation modeling indicated that ethical leadership has positive effects on employees' green behavior and psychological empowerment. Additionally, psychological empowerment mediates the relationship between ethical leadership and green employee behavior. To understand the relationship between ethical leadership, environmentally responsible behaviors, and psychological empowerment in resource-intensive industries, this study finds that ethical leadership contributes to both environmentally responsible behaviors and psychological empowerment. Furthermore, this study provides insights for organizations aiming to improve their environmental performance through strategies based on leadership and employee empowerment.

Keywords; Ethical Leadership (EL), Employee Green Behavior (EGB), Psychological Empowerment (PE), Social Cognitive Theory (SCT).

المستخلص

تماشياً مع التغيرات المناخية المستمرة، بدأت المنظمات في التركيز على دمج الممارسات المستدامة في أعمالها، وتوجيه سلوكيات العاملين نحو السلوكيات الصديقة للبيئة - وهو ليس بالأمر الهين- حيث يتطلب الأمر قيادة واعية ترتكز على البعد الأخلاقى لخلق بيئة عمل تشجع على تعزيز السلوكيات الخضراء لدى العاملين. ولهذا قامت الدراسة الحالية بدراسة التأثير المباشر للقيادة الأخلاقية على السلوكيات الخضراء للعاملين، والتأثير المباشر على التمكين النفسى للعاملين ، وكذلك استهدفت الدراسة اختبار الدور الوسيط للتمكين النفسى في العلاقة بين القيادة الأخلاقية والسلوكيات الخضراء للعاملين، استناداً على نظرية الإدراك الإجتماعى (Social Cognitive Theory SCT). تم الإعتماد على أسلوب الإستقصاء بإستخدام مقاييس معتمدة لجمع البيانات الأولية للدراسة من ٢١٢ موظفاً بشركات القطاع العام بقطاع الغزل والنسيج بمصر. وقد توصلت نتائج الدراسة المستمدة من نمذجة المعادلات الهيكلية (Structure Equation Modeling) إلى أن القيادة الأخلاقية لها تأثير إيجابى على كل من السلوكيات الخضراء والتمكين النفسى للعاملين، كذلك يتوسط التمكين النفسى العلاقة بين القيادة الأخلاقية والسلوكيات الخضراء للعاملين. وفى ضوء نتائج الدراسة تم طرح رؤى لشركات الغزل والنسيج تهدف إلى تحسين أدائها البيئي من خلال استراتيجات ترتكز على القيادة الأخلاقية والتمكين النفسى للعاملين بها.

الكلمات المفتاحية: *القيادة الأخلاقية ، السلوكيات الخضراء للعاملين ، التمكين النفسى ، نظرية الإدراك الإجتماعى.*

1. Introduction

In industries with substantial ecological impacts, environmental sustainability has become critical for every organization. The need for environmental sustainability is especially critical in Egypt's textile industry, one of the largest and most energy- and resource-intensive industries, which generates substantial water pollution, chemical waste, and energy consumption (Egyptian Environmental Affairs Agency [EEAA], n.d.; Rifaat, 2017). These challenges need to be addressed by understanding the factors that promote environmentally responsible conduct by organizations more deeply (Jamali & Mirshak, 2010; Ren et al., 2024).

In today's time, the textile industry is confronted by the most demanding environmental issues and the necessity for that transition toward sustainability (Farhana et al., 2022). Egypt's textile manufacturing industry is a crucial sector and the link between ethical leadership, psychological empowerment, and green behaviors needs to be examined (Jamali & Mirshak, 2010; Ren et al., 2024). With increasing environmental concerns in Egypt's industrial sector, textile companies, more and more, find themselves being compelled to consider different ways of operation and encourage environmentally friendly practices (Egyptian Environmental Affairs Agency [EEAA], n.d.; Rifaat, 2017).

The Egyptian textile sector is a distinguished research context, distinguished by the size of its economic contribution and the appearance of its sustainability challenges. While textile manufacturing accounts for 3–4% of Egypt's GDP and employs over half a million people, activities that promote green behaviors are critically important to economic and environmentally sustainable development (UNIDO, 2020).

According to existing research, leadership is an essential element in the organizational sustainability initiative, and ethical leadership serves as an important factor in the promotion of environmentally responsible practices (Mayer et al., 2010; Zhu et al., 2019). Leader styles that are upright and open in

decision have been shown in conceptual models to influence the environmental attitudes and behavioral intentions of organizational members (Brown & Treviño, 2006).

However, Robertson and Barling (2017) indicate that research on the way managers can motivate employees to adopt pro-environmental behaviors remains in its early stages. Therefore, demand for the identification of leadership strategies that promote eco-friendly employee behavior and reduce the environmental impact of business organizations in ways that do not hurt profitability has continued to rise.

Many businesses worldwide are attempting to increase their environmental impact by encouraging their staff to adopt more eco-friendly practices (Robertson & Barling, 2015). This paper deals with the concept of employee green behavior (EGB) emerged as an important area of study in research on organizational behavior (OB), in particular (Tian & Robertson, 2019). EGB encompasses environmentally beneficial actions performed by employees within their workplace, representing an identifiable type of pro-environmental conduct in professional settings (Ones & Dilchert,,2012; (Norton, Zacher, Parker, & Ashkanasy, 2017). Studies have shown that EGB affects the natural environment and has significant implications for organizations, leaders, and employees. For example, EGB aids organizations in achieving sustainable development objectives and improving environmental performance (Tian, Zhang, & Li, 2020), while also boosting leader effectiveness and employee job satisfaction (Norton, Zacher, & Ashkanasy, 2015). Given these valuable outcomes, current literature focuses on identifying EGB's precursors, such as perceived organizational support (Lamm, Tosti-Kharas, & King, 2015), environmental policies (Ramus & Steger, 2000), employee motivation, conscientiousness, environmental knowledge and awareness (Bissing-Olson, Iyer, Fielding, & Zacher, 2013; Safari, Salehzadeh, Panahi, & Abolghasemian, 2018), environmental-specific servant leadership (Afsar & Badir, 2017), and human resource management practices (Saeed et al., 2019). Existing research also looks at the factors that encourage green behavior and the indirect

relationships that encourage employees to participate in eco-friendly activities. It places a strong emphasis on workers' social duty to conserve the environment, emphasizing the value of selfless, humane, and voluntary actions in resolving environmental problems. Research on EGB precursors is still in its infancy despite these studies. (Robertson & Barling, 2015; Norton, Zacher, & Ashkanasy, 2015; Saeed et al., 2019), specifically in emerging and developing contexts like Egypt. Consequently, the understanding of how organizations can foster EGB is limited and incomplete (Norton et al.,2015). Current research also lacks insight into the boundary conditions and theoretical frameworks explaining the relationship between organizational environmental policies and practices and EGB (Norton et al.,2015). Immediate supervisors or directors play a crucial role in inspiring and stirring employees to become obsessive about environmental protection, as leaders can conjure emotions in their subordinates (Barnett, Clarke, Cloke, & Malpass, 2005; Afsar, Badir, & Kiani, 2016). However, Robertson& Barling (2013) noted that existing research fails to adequately explain how managers encourage workers to exhibit green behaviors.

In this dynamic, psychological empowerment acts as a crucial intermediary construct, functioning as an internal motivational mechanism that allows employees to experience significance, capability, autonomy, and influence within their organizational environment (Spreitzer, 1995). Research signifies that when workers feel psychologically empowered, they are extra inclined to participate in proactive environmental actions and exhibit increased organizational citizenship behaviors related to sustainability (Lamm, Tosti-Kharas, and King,2015; Zafar et al., 2022). Prior studies have primarily concentrated on direct connections between leadership and environmental outcomes, neglecting the subtle psychological processes that mediate these relationships (Robertson & Barling, 2013). This paper therefore broadly aims to fill these gaps in the literature by looking at how ethical leadership can motivate green behavior in the Egyptian textile industry. Further, it aims to investigate whether psychological empowerment mediates between ethical leadership and green behavior.

This study is based primarily on Bandura's social cognitive theory (Bandura, 1986), as the basis for which the proposed ethical leadership could positively affect employees' green behaviors (EGB) through psychological empowerment. SCT posits that individuals behave to acquire those that are appropriate, observed, and imitated by other people, especially those in positions of authority or influence. Ethical leaders are moral leaders and have a reputation for being transparent; they are credible role models, who influence employees' values, attitudes, and behaviors concerning environmental sustainability. By establishing an organizational environment that supports sustainability activities, which indicates that sustainability activities and environmental behaviors are appreciated and promoted by these leaders, they are also worthy of their workers. If employees see these signals, they are more likely to adopt the organizational sustainability goals and do EGB. In addition, psychological empowerment reinforces this relationship by increasing the employees' intrinsic motivation and belief in the ability to impact positively sustainability goals. Empowered employees experience a stronger sense of competence, self-determination, and impact, which intensifies their involvement in environmentally responsible practices.

This research increases the understanding of SCT and EGB by introducing - psychological empowerment a novel mediating factor in the relationship between ethical leadership and green behaviors. Besides, the study extends OB literature with context-focused insights into the Egyptian textile sector. Which is critical but under-researched about environmental sustainability. Through explicating the interplay between leadership, psychological processes, and sustainability, in particular in emerging economies where organizational and environmental pressures intersect this study significantly contributes to theory and practice. Consequently, the study seeks to:

1. Examine the effect of ethical leadership on employee green behavior.
2. Investigate how ethical leadership enhances psychological empowerment.
3. Explore the relationship between psychological empowerment and employee green behavior.
4. Examine the mediating role of psychological empowerment.

5. Provide practical recommendations for leadership and sustainability practices.

2. Hypotheses Development:

2.1 Ethical Leadership (EL) and Employee Green Behavior (EGB)

Interest has been growing regarding the role of ethical leadership in business organizations' development of environmental practices. According to such studies as Brown & Treviño (2006) and Zhu et al. (2019), leaders who are perceived to be upstanding, open, and make decisions that are both fair and transparent appear to possess the greatest ability to drive teams and companies to behave more ecologically. In the context of Egypt's textile industry, where there are important pressures of environmental issues, the possible effect of ethical leadership on employee green behavior (EGB) is significant. According to SCT Individuals learn appropriate behavior through observation and imitation of role models (primarily those in a leadership role), Ethical leaders set an example by how they behave and make choices that promote environmental responsibility, which in turn influences employees to have and practice pro-environmental attitudes toward sustainable thinking. Moreover, they create an organization ethically committed to responsibility for the environment. This atmosphere helps employees to adopt sustainability objectives and participate in eco-friendly practices. Kim et al. (2014) retrieved that ethical leadership positively affected employees' eco-friendly behavior in the hospitality sector, mediated by environmental concern. In a similar vein, Zhao and Zhou (2019) demonstrated that ethical leadership is positively associated with employee green behavior in Chinese manufacturing companies through a green psychological climate conditional upon employee environmental awareness. Ahmad, S., Islam, T., Sadiq, M., and Kaleem, A. (2021) found that ethical leadership positively influenced workers' pro-environmental behavior mediated by green work climate, while moderated by environmental knowledge in the context of the Pakistani textile sector. Additionally, Luu (2020) demonstrated that ethical leadership positively

impacted employee green behavior in the tourism sector, mediated by green human resource management practices and moderated by environmental-specific servant leadership. In Egypt's textile industry, where environmental concerns are particularly prominent, this relationship is expected to be even more pronounced. Based on these theoretical arguments and empirical evidence, the following hypothesis is proposed;

H1: Ethical leadership is positively related to employee green behavior in Egypt's textile sector.

2.2 Ethical Leadership (EL) and Psychological Empowerment (PE)

Psychological empowerment is understood as a perceived mental condition or set of cognitive processes. According to Conger and Kanungo (1988), PE is described as a method of enhancing employee self-efficacy beliefs by recognizing conditions that promote powerlessness and eliminating them through both formal organizational practices and informal techniques that provide efficacy information. The concept of empowerment involves distributing decision-making authority, which means granting lower-level employees the responsibility to make decisions and ensuring they have the necessary resources to do so independently (Barton & Barton, 2011; Mills & Ungson, 2003; Pardo del Val & Lloyd, 2003). These attributes are often associated with ethical leadership practices (Shalley & Zhou, 2008).

Leaders who prioritize ethics consider the individual growth requirements and capabilities of their employees to ensure they are placed in roles that align strategically with their skills (May, Gilson, & Harter, 2004; Zhou, 1998). These leaders treat their staff with dignity, rather than viewing them solely as instruments for achieving organizational objectives and productivity. Ethically minded leaders excel at enhancing employees' self-esteem and assurance, fostering a sense of ownership, facilitating team member growth and

development, and harmonizing employee aspirations with organizational goals (May et al., 2004; Zhu, 2008; Zhu, May, & Avolio, 2004). In essence, ethical leadership safeguards and advances employees' rights, dignity, and independence, potentially leading to psychological empowerment.

Ethical leadership has been found to have a significant positive impact on the psychological empowerment of employees across various sectors. Multiple studies have demonstrated that ethical leadership behaviors promote psychological empowerment, which in turn leads to improved employee outcomes (Beiranvand et al., 2021; Dust et al., 2018; Javed et al., 2016). For instance, research in the nursing sector showed that ethical leadership explained 87.7% of the variance in psychological empowerment among nurses (Beiranvand et al., 2021). Similarly, hospitality and banking industry investigations, have also pointed to psychological empowerment the moderation of the relationship between ethical leadership and creativity of employees, work engagement, and organizational engagement (Ahmad & Gao, 2018; Javed et al., 2016; Zhu et al., 2004). While research about the effects of ethical leadership on psychological empowerment is primarily positive, a few studies have discovered hindrances. Research has shown that emotional exhaustion can attenuate the empowering effect of ethical leaders (also referred to as ethical condition) by blunting the direct influence on psychological empowerment (Dust et al., 2018). Overall, current research provides convincingly strong evidence that ethical leadership fosters psychological empowerment, which in turn positively relates to employee outcomes in terms of creativity, job satisfaction, and organizational commitment, (Duan et al., 2018; Qing et al., 2019; Suifan et al., 2020). This relationship appears recurrent across industries and cultural contexts, as has been shown for Chinese businesses (Duan et al., 2018) and Jordanian financial institutions (Suifan et al., 2020). According to these findings, ethical leadership practices are important to create a work environment that encourages employee empowerment and the overall organization's success (Alshammari et al, 2015; Abuzaid et al., 2024). A case study of Egypt's textile industry, in which environmental challenges are apparent, illustrates how ethical leadership can empower employees to face these issues. Based on this background, the following hypothesis is proposed.

H2: Ethical leadership is positively related to psychological empowerment in Egypt's textile sector.

2.3 Psychological Empowerment (PE) and Employee Green Behavior (EGB)

Psychological empowerment is key to fostering employees' motivation to adopt voluntary actions that are beneficial for the organization (e.g., environmentally friendly actions). Employees who feel empowered to act in a meaningful, competent, self-determining, and impactful manner are more likely to assume ownership of environmental situations and initiate sustainable practices. Through Social Cognitive Theory (SCT) the relationship between psychological empowerment and employee green behavior (EGB) can be understood. According to Khalid et al. (2022), the psychological factors that influence employees' green behavior should be distinct from the mandatory and voluntary green behaviors of employees. On the one hand, Zhang et al. (2021) also indicate that employee green behavior can enhance employee self-esteem and that employee well-being can be affected by the improvement of self-esteem, showing possible reciprocity among psychological elements and green behaviors. According to Khalid et al. (2022), the psychological factors that determine employees' green behavior should be distinct from the mandatory and voluntary green behavior of employees. In addition, Zhang et al. (2021) state that employee green behavior positively impacts self-esteem and affects employee well-being, suggesting that psychological factors influence employee green behavior, and vice versa. Finally, in the sense that the mentioned papers do not imply a direct link between PE and EGB, while others hand of the evidence support such a positive result between psychological empowerment and employee green behavior. Psychological empowerment likely enhances employees' motivation and ability to engage in both required and voluntary green behaviors. Current research is focused on exploring this relationship more directly. In the context of Egypt's textile industry, where individual actions can significantly impact environmental outcomes, this relationship is anticipated to

be particularly strong. Based on these arguments, the following hypothesis was structured:

H3: Psychological empowerment is positively related to employee green behavior in Egypt's textile sector.

2.4 The Mediating Role of Psychological Empowerment

PE serves as a mediator, elucidating how ethical leadership transforms into concrete environmental actions by employees. This mediation hypothesis aligns with Social Cognitive Theory (SCT), which underscores the significance of both environmental (leadership) and personal (psychological) elements in influencing behavior. This also aligns with past research which finds that employee conduct is frequently mediated by psychological states when they relate to leadership (Robertson & Barling, 2013).

There are existing studies that have shown the positive effects of ethical leadership on employee's psychological empowerment (Ahmad & Gao, 2018; Qing et al., 2019). Ethical behavior on the part of leaders sends out a message that employees know they are empowered and challenged to make smart decisions that serve the goals of the company. However, this empowerment can result in many different positive outcomes, such as green behavior, and so on. The studies do not directly test the association between PE and EGB, but the findings are consistent with this hypothesis. As an example, Khan et al. (2019) demonstrate how ethical leadership makes a positive connection to organizational environmental citizenship behavior as mediated by a green psychological climate. This means that ethical leadership creates an environment conducive to green behavior.

Based on these results, psychological empowerment integrates the process through which EL impacts EGB. Psychologically, ethical leaders tend to

empower their employees by increasing their feelings of responsibility and autonomy (Duan et al. 2018; Zhu et al. 2004). Such empowerment might make employees believe that they have the capability and become willing to do (unpaid) environmentally friendly behaviors for they can bring a positive impact on the environment. In conclusion, there is no explicit mediation of PE between EL and EGB in the previous research, but the evidence suggests that one can conceive of such a hypothesis. Thus, the following study hypothesis is developed:

H4: Psychological empowerment mediates the relationship between ethical leadership and employee green behavior in Egypt's textile sector.

Figure 1: displays the study hypotheses with the mediation of PE between EL and EGB. The study's hypotheses were derived through the lens of SCT.

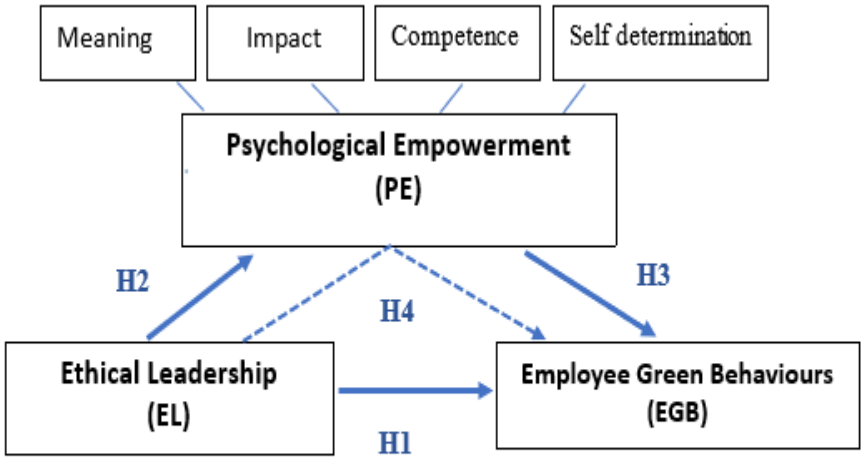

Figure 1: The Hypothesized Model

3. Methods

3.1 Participants and Procedures

The research methodology used was quantitative and followed by a deductive approach conducted towards the theoretical development of the study, and was further supported by surveys for data collection. The sample of the research consisted of 460 companies in the Egyptian public textile sector with a total workforce of 167,614 individuals based on the June 2021 Economic Activity Statistics of Public Sector Establishments. To determine the sample size, the following equation was applied:

$$n = \frac{N \cdot Z^2 \cdot p \cdot (1-p)}{e^2 \cdot (N-1) + Z^2 \cdot p \cdot (1-p)}$$

Using this equation, the calculation of the sample size resulted in a sample of 383 employees, with a confidence level of 95% and a 5% margin of error; this met the study's statistical requirements. Simple random sampling was used in the research and the data was collected using an electronic survey conducted via Google Forms. Data was collected between September and October 2024. At a 56% response rate, 212 completed and valid questionnaires for statistical analysis were returned from the total number of questionnaires sent out.

3.2 Measures

Ethical leadership: Ethical leadership was measured by using a 10-item EL developed by Brown et al. (2005). Followers were required to evaluate the supervisor's behavior using a 5-point Likert-type scale ranging from strongly agree to strongly disagree. The validity of this scale is widely proven in several studies across the globe (Saleem et al.,2020; Engelbrecht et al. 2017; Ko et al. 2018; Wang et al. 2017). An example item for this study included: "My leader applies the moral values he believes into himself before others". The Cronbach's alpha is noted 0.977 for this scale.

Psychological Empowerment: The evaluation of psychological empowerment was based on a 12-item four-dimensional empowerment scale developed by Spreitzer (1995b). This scale has been widely adopted in recent studies (Yue et al.,2022; Ahmad and Gao 2018; Dust et al. 2018). Example questions for each of the four dimensions are: "My job activities are personally meaningful to me" (meaning), "I have significant autonomy in determining how I do my job" (self-determination), "I have significant influence over what happens in my department" (impact) and "I am self-assured about my capabilities to perform my work activities" (competency Overall Cronbach's alpha for psychological empowerment is 0.992.

Employee Green Behavior: EGB was measured by the 16-item, five-dimensional scale developed by Graves [67]. Example questions for each of the five dimensions are: "I take into consideration environmental issues when I design tasks and duties" (Transforming), "I am using the available recycling process at my workplace." (Conserving), "I consider my environmental impact by keeping track of my carbon footprint." (Avoiding Harm), "I respect my coworkers who take food waste home to compost" (Influence others), and "I advocate for environmentally beneficial programs and policies." (Taking initiatives). Overall Cronbach's alpha for Employee green behavior is 0.994.

4. Data Analysis and Results

4.1 Descriptive analysis

The researcher has checked all responses of the survey to ensure their validity and excluded the items not sufficiently answered. The data were then analyzed by applying the statistical methods mentioned in the program of (SPSS v26) and (AMOS v26) as follows:

Reliability is an indicator that can be evaluated using Cronbach's alpha, which is defined as a criterion for internal consistency reliability that provides an estimation of The reliability for each dimension of the questionnaire based on

the intercorrelations of the items of the study variables. The statistically acceptable limit for Cronbach's alpha should not be less than 0.60 (Churchill, 1979). Table (1) shows overall Cronbach's alpha has a higher value (0.997), referring to an acceptable internal consistency. Cronbach's alpha for " Ethical Leadership", "Employee Green Behaviors" and "Psychological Empowerment" domains were 0.977, 0.994, and 0.0.992, respectively. With the above it is confirmed that the questionnaire is measuring what it is supposed to measure, and all items of the study are clear to the respondents but there is no ambiguity if the researcher uses the same questionnaire to ask a given sample a second time, he will get almost the same results.

Table (1): Reliability Statistics for the dimensions of the study questionnaire.

Reliability Statistics	Cronbach's Alpha coefficient	N of Items	validity
Ethical Leadership	0.977	10	0.988
Employee Green Behaviors	0.994	16	0.997
Psychological Empowerment	0.992	12	0.996
Total	0.997	10	0.998

Table (2) shows that the mean of all items is more than (4), this is confirmed by the value of (T-test) which is positive for all items, which confirms that the mean of these items is greater than the hypothetical mean (Test Value=4), and (Sig < 0.01).

The standard deviation for all items ranges from 0.620 to 0.710 and this is a small percentage the standard error mean for all items is less than 10%, which means that the dispersion in the answers of most of the study sample about these items is low.

Therefore, it can be concluded that all items are statistically significant, which means that the sample study agrees about these items of the study variables

(independent, dependent, and mediator). The following figure shows the mean opinions of the respondents about all dimensions of the study:

Table (2): Descriptive Statistics and t-test for items of the study variables

		Mean	Std. Deviation	C.V.	Degree Of Agreement	t	p_value
Independent	Ethical leadership	4.15	0.685	16.5%	82.9%	3.088	.002
Dependent	Transforming	4.23	0.668	15.8%	84.5%	4.903	.001
	Conserving	4.21	0.676	16.0%	84.2%	4.538	.001
	Avoiding Harm	4.21	0.710	16.9%	84.2%	4.291	.001
	Influencing Others	4.21	0.661	15.7%	84.3%	4.730	.001
	Taking Initiative	4.20	0.696	16.6%	84.0%	4.235	.001
	Green Behavior	4.21	0.674	16.0%	84.3%	4.591	.001
Mediator	Meaning	4.23	0.652	15.4%	84.5%	5.043	.001
	Impact	4.22	0.621	14.7%	84.4%	5.132	.001
	Competence	4.21	0.620	14.7%	84.2%	4.916	.001
	Self-determination	4.19	0.637	15.2%	83.7%	4.279	.001
	Psychological Empowerment	4.21	0.620	14.7%	84.2%	4.937	.001

4.2 Hypotheses Testing

Based on a comprehensive review of relevant literature directly and indirectly related to previous studies, the researcher formulated the study hypotheses. In response to the research problem and the associated questions, these hypotheses were developed. These hypotheses are formulated as testable propositions and systematically examined to derive the findings of this study.

Correlation analysis was used to determine the relationships between the independent variable (EL), the mediating variable (PE), and the dependent variable (EGB). Table 3 presents the findings of the analysis are shown in Table (3).

Table (3): The results of the correlation matrix

Spearman's correlation	Ethical Leadership	Employee Green Behavior	Psychological Empowerment
Ethical Leadership	1.000	.816**	.831**
Employee Green Behavior	.816**	1.000	.867**
Psychological Empowerment	.831**	.867**	1.000

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Prepared by the researcher based on the results of statistical analysis (SPSS).

The findings in Table 3 reveal the following:

Relationship Between Ethical Leadership and Employee Green Behavior:

A positive and significant correlation ($p < 0.01$) exists between Ethical Leadership and Green Behavior ($R = 0.816$). Both indicators have a strong positive relationship, therefore providing a positive correlation. Specifically, it shows that an employee's green behaviors are more likely when ethical leadership levels are high. The findings of this result support the first hypothesis (H1) of the current study. This corroborates studies that have previously been conducted. For instance, Ahmad et al. (2021) and Luu (2020) confirmed that ethical leadership drives green behavior; especially in the resource-intensive sector, one of the sectors is labeled as textiles and tourism. These studies focus on ethical leaders as role models of moral behavior that shape employees' attitudes and behaviors towards sustainability.

The relationship Between Ethical Leadership and Psychological Empowerment

In addition, the correlation coefficient of Ethical Leadership and Psychological Empowerment ($r = 0.831$, $p < 0.01$). This indicates a strong positive relationship between ethical leadership and employees' psychological empowerment. The second hypothesis (H2) of the current study was validated by this finding. Spreitzer (1995) showed this finding by supporting the proposition that leadership styles, that empower employees, have a positive impact on their intrinsic motivation, as well as psychological empowerment. According to Javed et al. (2017), ethical leaders enable employees to feel competent, self-reliant, and influential by instigating a work environment that empowers them. Furthermore, according to Dust et al. (2018), ethical leadership improves employees' sense of powerlessness and cultivates their psychological empowerment.

Relationship Between Psychological Empowerment and Green Behavior

Psychological Empowerment and Green Behavior are correlated to each other with a correlation coefficient of 0.867, a positive strong significant relationship ($p < 0.01$). Therefore, this indicates that employees who psychologically feel empowered will be more responsive to conducting green behaviors within the organization. This result corroborates the third hypothesis (H3) of the study. In line with Lamm, Tosti-Kharas, & King (2015) who found psychological empowerment to drive voluntary green behaviors, the relationship holds. According to Yue et al. (2022), psychological empowerment enhances employees' motivation and competence and therefore allows them to practice both in-role and extra-role green behaviors.

To test hypothesis 4 - psychological empowerment mediates the relationship between ethical leadership and employees' green behaviors—Structural Equation Modeling (SEM) was used. IBM SPSS Amos is a powerful SEM software that integrates standard multivariate statistical techniques such as regression, factor analysis, and correlation used in the analysis. The software was used to build and test the hypothesized model and confirmed that it met acceptable fit criteria as determined through literature benchmarks. The results

of the goodness of fit test of the proposed model, as per Table (4), showed that the proposed model was statistically significant at the 1% level. Fit indices indicated that the hypothesized model fit the observed data acceptably and reasonably. Key-fit statistics are presented below:

Chi-square (χ^2) = 19.519
Degrees of Freedom (df) = 7
Chi-square/df (CMIN/DF) = 2.788 (acceptable threshold: < 3.0)
Goodness-of-Fit Index (GFI) = 0.986 (acceptable threshold: > 0.90)
Comparative Fit Index (CFI) = 0.991 (acceptable threshold: > 0.90)
RMR = 0.004 (smaller is better fit)
Root Mean Square Error of Approximation (RMSEA) = 0.062 (acceptable threshold: < 0.08).

Table (4): the AMOS goodness of model fit indicator for the proposed model

Chi-square χ^2	Degrees of freedom	P_value	χ^2/df	GFI	CFI	RMSEA
19.519	7	0.007	2.788	0.986	0.991	0.062

Source: Prepared by the researcher based on the results of the statistical analysis (AMOS).

These results suggest that the model does have a good fit with the data, as all the indices meet or exceed the recommended cut-off values. A modest RMSEA value also enhances the legitimacy of the model, in that it indicates a minimum level of discrepancy between the observed and hypothesized model.

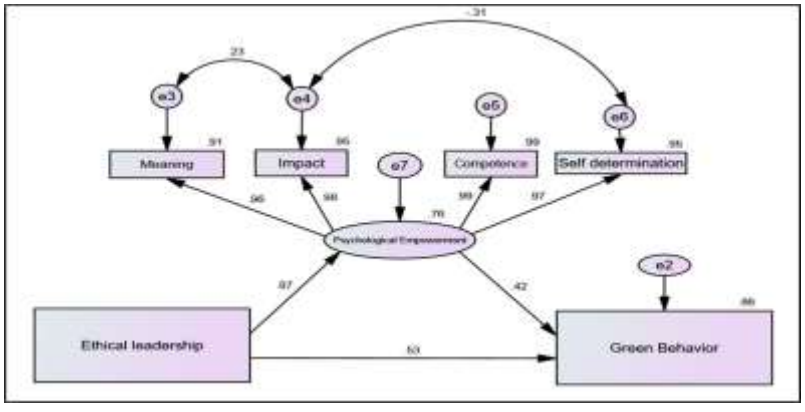

Figure (2): Amos's path diagram illustrates the SEM model to prove hypotheses**Table (5):** SEM Model, path analysis indicator for the proposed model

Hypotheses			Estimate	Standardized Estimate	S.E.	C.R.	P	Label	Decision
Ethical leadership	→	Green Behavior	0.529	0.538	0.071	7.417	0.001	H1	Supported
Ethical leadership	→	psychological empowerment	0.791	0.873	0.047	16.964	0.001	H2	Supported
psychological empowerment	→	Green Behavior	0.452	0.416	0.080	5.648	0.001	H3	Supported

Source: Prepared by the researcher based on the results of the statistical analysis (AMOS).

Results from a SEM path analysis are presented in Table 5 which suggests strong evidence in support of the hypothesized relationships. The directional relationships among the study variables in terms of strength and significance are presented in terms of the standardized estimates, critical ratio (C.R.), and the p-values. For instance, they show how ethical leadership directly and positively affects green behavior and psychological empowerment and the way that psychological empowerment facilitates green behavior by employees. The results for each hypothesis are explained in detail, below.

Hypothesis H1: A strong and positively statistically significant ($p<0.001$) relationship is indicated by a standardized estimate of 0.538 and (C.R.) of

7.417. This thus confirms that ethical leadership positively influences employee green behavior. Employees are inspired by leaders who are fair, transparent, and ethically upright to do what is environmentally right. Therefore, ***H1: EL is positively related to EGB is supported.***

Hypothesis H2: The standardized estimate of 0.873 is highly significant ($p < 0.001$) with (C.R.) of 16.964 strongly suggesting a very strong, positive, and statistically significant relationship. This evidences that Ethical leadership raises employees' psychological empowerment and substantially increases autonomy, competence, and sense of purpose in employees' experiences. Therefore, ***H2: EL is positively related to PE is supported.***

Hypothesis H3: Further, a standardized estimate of 0.416 and a (C.R.) of 5.648 confirm a positive and statistically significant relationship ($p < 0.001$). This verifies that, across types of green behaviors, Employees who view themselves as psychologically empowered are more likely to engage in them as they feel intrinsically motivated and feel that they are able to contribute in meaningful ways to sustainability. Therefore, ***H3: PE is positively related to EGB is supported.***

Table (6): The total, direct, and indirect effect between variables

	Total Effects		Direct Effects		Indirect Effects	
	Ethical leadership	psychological empowerment.	Ethical leadership	psychological empowerment.	Ethical leadership	psychological empowerment.
psychological empowerment.	0.873	0	0.873	0	0	0
Meaning	0.832	0.952	0	0.952	0.832	0
Impact	0.849	0.972	0	0.972	0.849	0
Compet	0.870	0.996	0	0.996	0.87	0

ence						
Self-determination	0.847	0.970	0	0.970	0.847	0
Green Behavior	0.902	0.416	0.538	0.416	0.364	0

Direct and Indirect Effects

1. Ethical Leadership → Psychological Empowerment (Direct Effect): The study revealed a strong, positive, and significant relationship between Ethical Leadership and Psychological Empowerment such that the direct effect of Ethical Leadership on Psychological Empowerment is 0.873. It demonstrates that leaders with ethical values, fairness, and moral integrity are able to promote employees' psychological empowerment. Ethical leadership fosters the feeling of confidence, respect, and ability to do something important among employees.

2. Ethical Leadership → Green Behavior (Direct Effect): Green Behavior has a moderate, positive, and significant relationship with Ethical Leadership by direct effects of 0.538. Thus, the study findings showed that ethical leadership directly influences employees to behave in a manner that contributes to environmental responsibility, thereby showing how ethical leaders serve as drivers of sustainability practices.

3. Ethical Leadership → Green Behavior (Indirect Effect via Psychological Empowerment): The indirect effect of Ethical Leadership on Green Behavior is 0.364, mediated through Psychological Empowerment. It means that a significant part of Ethical Leadership's effect on Green Behavior is indirect via the mediated effect of employees 'psychological empowerment'. Psychological empowerment is found to mediate the relationship between each of the two antecedents, intrinsic motivation and empowerment, and green behaviors, underscoring the importance of intrinsic motivation and empowerment in driving green behaviors.

4. Total Effect of Ethical Leadership on Green Behavior: On the other hand, the total effect is 0.538 (direct) plus 0.364 (indirect) is 0.902. The statistical total effect is a substantial one indicating that Ethical Leadership exerts a significant influence on Green Behavior, and Psychological Empowerment significantly increases this relationship.

Mediating Role of Psychological Empowerment

Hypothesis (H4), that Psychological Empowerment mediates the relationship between Ethical Leadership and green behavior, is also supported. The mediation of this effect was confirmed by the indirect effect (0.364) of Ethical Leadership on Green Behavior, in addition to a direct effect (0.538). That is, the presence of this mediating variable increases the overall relationship, indicating the need to create an empowering environment in organizations to facilitate success in pursuit of sustainability goals. Therefore, ***H4: PE mediates the relationship between EL and EGB is supported.***

5. Discussion and Conclusions

The study investigated the relationship between ethical leadership, Psychological Empowerment, and Employee Green Behavior conduct in the Textile industry of Egypt. Results provide valuable guidance as to how ethical leadership influences the eco-friendly behavior of workers. The findings of the study confirm a robust positive link between ethical leadership and green employee behavior supporting Hypothesis 1. , and consistent with previous findings from several other sectors, including hospitality and manufacturing indicating that ethical leadership leads to environmentally conscious and green behavior (Brown et al., 2005; Zhang et al., 2024; Omarova & Jo, 2022). What this finding signifies is the fundamental need for ethical leadership in promoting the adoption of sustainable practices in textiles in Egypt, where the environment is a particularly acute issue. Hypothesis 2 was confirmed via research and presented with a robust positive correlation between ethical leadership and psychological empowerment. The results support earlier studies from nursing, hospitality, banking, and other sectors that show ethical

leadership facilitates psychological empowerment (Dust et al., 2018, Javed et al., 2017). The significance of the ethical leadership practice in supporting an empowering work environment in the Egyptian textile sector where employee empowerment can have a hand in tackling environmental issues is emphasized in this finding. Hypothesis 3 is supported by the study because it also confirms a positive relation between psychological empowerment and employee green behavior. We also find that psychological empowerment is correlated with voluntary eco-friendly behaviors and both required and discretionary environmental actions (Khalid et al. (2022); Zhang et al. (2021). This result emphasizes the need to enable psychological empowerment within the textile sector in Egypt context where individual decisions can have major environmental consequences. It is found that psychological empowerment is a mediator variable between ethical leadership and employees' green behavior, supporting Hypothesis 4. The mediating effect is indicative that ethical leadership directly influences green behavior and indirectly via the degree to which it enhances employees' sense of psychological empowerment (Yue et al., 2022; Ashraf et al., 2022). This result contributes to our knowledge of how leadership affects environmental practices in organizations. The total effect of ethical leadership on eco-friendly behavior, both direct and indirect indicates that ethical leadership is a crucial factor in creating favorable conditions for promoting environmentally responsible behaviors. This impact extends the great importance of ethical leadership in leading sustainability efforts in the Egyptian textile industry. In conclusion, this research contributes to the construct of the interplay among ethical leadership, psychological empowerment, and environmentally conscious employee behavior in the Egyptian textile sector. Results indicate ethical leadership is key for promoting eco-friendly practices directly and indirectly by empowering the mind. The results highlight the importance of ethical leadership in solving environmental problems in resource-intensive sectors. By specifying how leadership affects employee actions, this research contributes to the increasingly lengthy literature on organizational sustainability. As an intermediary factor, psychological empowerment plays an important role in creating a work environment that is empowering to develop environmentally friendly behavior of employees.

5.1 Theoretical and practical implications

These research outcomes have important practical implications, as well as theoretical understanding. The present study contributes to this theoretical area on ethical leadership, psychological empowerment, and employees' green behavior by providing the empirical support for the relationships in the context of a resource-captive industry in an emerging economy.. It extends the application of Social Cognitive Theory to environmental behaviors in an organizational setting to show the interactions among leadership and psychological constructs that impact what employees do (Bandura, 1986). The results demonstrate, from a practical point of view, that in the textile industry of Egypt, the ethics of leadership should be cultivated in order to advance sustainability. Organizations can directly encourage environmentally friendly behaviors by cultivating these sorts of ethical leadership, and in doing so, they are also creating an empowering culture for staff, which may further motivate them to take part in eco-conscious actions. Human resources strategies should focus on addressing the type of leaders that they need to bring on board and look at leaders who have strong ethical principles and understand the art of empowering their team members. These discoveries give Egypt's textile sector and other similar industries clear guidance for increasing sustainability initiatives for professionals. Many advantages in terms of employee participation in green behaviors are achievable by allocating resources to ethical leadership development and implementing structures that support psychological empowerment.

5.2 Recommendations

This study accordingly recommends that enhancing sustainability in Egyptian textile public sector companies would entail a strategic focus on ethical leadership and psychological empowerment in Egypt's textile sector. (1) organizations need to make optimal efforts to foster ethical leadership within their entity through training and providing the necessary tools for leaders to model transparency, fairness, and moral decision-making. (2) Equally important, is creating an empowering organizational culture. As leaders have control over employees' work, leaders can effectively reward them by

providing opportunities to contribute meaningfully to their work, giving them the autonomy to make decisions on it, and providing them with the resources needed to do their best. This sense of psychological empowerment can stimulate employees to act on their own accord and engage in green behaviors in accordance with a broader vision of sustainability. (3) Practical steps that organizations can take to encourage employees to engage and adopt a 'Green' attitude for sustainability initiatives such as green task force, workplace recycling program, and energy saving campaigns (4) Workshops and educational sessions regularly provide employees with the skills and the insights on how to conduct nationally accepted environmentally friendly behavior. Simultaneously, organizations should implement policies to monitor and review green practices within the workplace. (5) Organizations should outline clear goals and benchmarks that enable them to track progress, as they design an agenda focused on ethical leadership and psychological empowerment as the central elements of this vision. Finally, organizations should encourage their leaders to exert their influence beyond their organization's boundaries. Serving as a sustainability ambassador.

5.3 Limitations and Directions for Future Studies

However, this study had some limitations that must be known. The cross-sectional data collection approach does not allow us to set causal relationships among the analyzed variables. Moreover, the study focuses on a single industry in just one country, which could lower the power of generalization of results to other sectors or other cultural environments. These shortcomings can be addressed in future studies using longitudinal designs able to capture the dynamic nature of leadership influences and employee behavior over time. The external validity of the findings is improved by extending the scope to include multiple industries and countries. Moreover, there is additionally exploration of possible moderating factors (e.g., organization culture or individual personality traits) which may be used to obtain a better understanding of how ethical leadership influences employee green behavior. Finally, the practical implications of the research for organizational sustainability initiatives would be improved by incorporating objective environmental performance measures in addition to participant self-reported behaviors.

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