

**“ENVIRONMENTAL CONCERN AMONG YOUNG ADULTS”  
THE ROLE OF ENVIRONMENTALLY SPECIFIC TRANSFORMATIONAL  
LEADERSHIP.**

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### **Abstract**

India, along with other developing nations, is currently experiencing an industrial revolution. Global carbon emissions are increasing at an alarming pace. Organizations in all sectors must implement measures to address this escalating issue. Accordingly, organizations must include green concepts in their operational strategy to achieve environmental sustainability. However, creating and implementing green initiatives depend to some extent on organizational leaders. Therefore, an impressive body of research has started investigating environmental-specific leadership. The importance of environmental concern in this relationship is rarely discussed, even though the research shows a connection between students' green behavior and environmentally specific transformational leadership. Scholarly research explaining the connection between students' environmentally conscious green activities and transformational leadership that is tailored to the specific needs of the environment is scarce. This study, therefore, studied the possible mediating effect of environmental concern in relation to environmentally specific transformational leadership and green behavior at Universities and HEIs among a sample of 302 students from various universities and HEIs in Delhi and NCR. The results of structural equation modelling indicate that environmentally specific transformational leadership significantly positively correlates with environmental concern, which positively predicts students' green behavior after controlling for age and gender. The findings also showed that the association between environmentally specific transformational leadership and green behavior was mediated by environmental concern. The findings of this study have implications for both research and practice.

**Key Words:** Environmental-specific Transformational Leadership (ESTL), Environmental Concern, Green Behavior, Higher Education Institutes (HEIs).

### **Introduction**

India and other developing nations are experiencing an industrial revolution. Globally, carbon emissions are increasing at an upsetting rate. To stop this expanding issue, organizations across all sectors must take the required steps (Ahuja et al., 2022). Owing to serious environmental

management problems, many stakeholders—including governments, legislators, non-governmental organizations, and consumers—are compelling businesses to implement eco-friendly practices to lessen the harm that their operations cause to the environment (Iqbal et al., 2021). In line with the above statement, organizations are expected to implement green concepts as a key component in their operational strategies to achieve environmental sustainability (Chen & Wu, 2022). However, creating and implementing green initiatives depend to some extent on organizational leaders (Robertson & Barling, 2017). A huge amount of research has begun to look into leadership, particularly in the context of the environment. While earlier studies (Portugal & Yukl, 1994) demonstrated the elements of successful leadership in the environmental field, more current research has begun to explore the impact of leadership behaviors (such as spirituality, feedback, and supervisor support) on workers' environmentally conscious actions (Raineri & Paillé, 2016; Afsar et al., 2016).

Transformational leadership theory is crucial for understanding environmental sustainability, as it improves performance (Portugal & Yukl, 1994; Egri & Herman, 2000). In a similar vein, Robertson and Barling (2013) introduced the concept of environmentally specific transformational leadership (ESTL), or transformational leadership that is specifically centered around promoting environmentally friendly activities. Beyond the general leadership style, the research suggests that ESTL promotes green behavior (Robertson and Barling, 2017; Graves et al., 2013; Robertson, 2018). For more than 20 years, the field of education has been investigating the implementation of leadership theories (Baba & Ace, 1989). One of the most popular leadership theories is transformational-charismatic approaches (e.g. Bass, 1985; Burns, 1978). This theory has been well-studied in other contexts, but less so in higher education, it is surprising that we know so little about the effects of transformational leadership in higher education, given its popularity in other fields. The breadth of this research indicates that transformational leadership is a promising approach to leadership in higher education. (Pounder, 2014). Therefore, the study aims to elucidate the role of environment-specific transformational leadership. Employee actions that contribute to environmental sustainability inside an enterprise are referred to as "green behavior" (Ones & Dilchert, 2012). The majority of the research in the literature on ESTL and environmentally friendly behavior is done at the individual level (Kura, 2016; Robertson, 2018). But there's a lot of doubt about whether adopting more pro-environmental behaviors on an individual basis can bring about the kind of change needed to move toward a more sustainable world (Bamberg et al., 2015). According to Fritsche et al. (2018), environmental problems cannot be solved by individual green behavior alone and inevitably requires collaboration to resolve the environmental issues at large. Given this backdrop, we try to explore whether ESTL of the parents, teachers and administrators of the University leads to green behaviors of students in Higher education institutes.

This study aims to investigate the impact of environmental consciousness on the green behavior of students at universities and other higher education institutions by examining the interaction between ecologically specific transformational leadership of parents, teachers, and administrators. The following chapters of this paper will help us accomplish our research goal. First, we go over the key ideas behind environmental sustainability in the education sector. We

specifically look at the ideas of green behavior in students, transformational leadership that is focused on the environment, and environmental concerns. Next, we examine the actual research that has already been done and link the ideas to the formulation of hypotheses. The section that follows discusses the research technique, which includes the respondents and procedure, measuring devices, analytical approach, and model estimation. Afterward, we present the discussion and findings of the study and conclude.

### **Literature Review**

The idea of green behavior at work has received enough attention from academic scholars in the past few years (Norton et al., 2012). Sharma, (2014) and Renwick et al., (2013) also worked on the areas of green behavior at work. The role of leaders is crucial in influencing the green behavior of workers (Unsworth et al., 2013). Many academics from a variety of disciplines have concurred that, in today's competitive marketplace, effective leadership is essential to developing innovative capacity of the employees (Iqbal et al., 2021). Employers may be emphasizing green behavior because they want their staff to use resources sensibly, save the environment, and get rid of harmful substances that affect workers' health (Alfred & Adam, 2009). According to Graves et al., (2013), "green behavior at work" refers to a wide range of ecologically conscious actions, including learning more about the environment, creating and implementing strategies to lessen the organization's environmental impact, creating green processes, recycling, reusing, and challenging environmentally harmful practices. The likelihood that employees will practice environmentally friendly conduct at work can be influenced by both individual and situational factors, according to theory and actual data. As an example, scholars have proposed that transformational leadership is essential for encouraging green behavior in the workplace (Graves et al., 2013; Robertson & Barling, 2013). Accordingly, Chen and Chang (2013) have defined environmentally specific transformational leadership as 'behaviors of leaders who motivate followers to achieve green goals and inspire followers to act beyond expected levels of environmental performance'. Four key traits of a transformational leader have been identified by Bass (1990): idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. All of these traits can have a significant impact on employees' green behavior within an organization's overall environmental performance. (Bass & Riggio, 2006)

Transformational leadership theory states that when an organization's leaders model environmentally specific behavior and have clear goals for the environment, their followers attempt to imitate them. These leaders set an example by sharing their environmental values, emphasizing the value of environmental sustainability, and creating and implementing solutions for environmental impact (Bass, 1988, 1995; Graves et al., 2013). We postulate that environmentally-specific transformational leadership is positively correlated with green behavior in the workplace, based on several prior studies as well as theoretical data. While numerous studies (e.g., Graves et al., 2013) have demonstrated a positive correlation between environmentally specific transformational leadership and green behavior in organizations based on theory and empirical evidence, few have looked at the mechanisms by which these leaders influence their followers to adopt green behavior. Understanding the fundamental cause of how environmentally specific transformational leadership affects green behavior at work is therefore

critically important (Bass, 1999; Avolio, Zhu, Koh & Bhatia, 2004; Chen & Chang, 2013). The premise of this study is that environmental concern could be an important mechanism or process in explaining the relationship between environmentally specific transformational leadership and green behavior at work. However, it is also significant to study the green behavior of individuals in Higher education institutes as the students of these institutes will be the future employees of the various organizations and Universities are the foundations for building societies and contributing to the advancement and development of the nation. University leaders that facilitate the effective realization of the university's strategic plans, aspirations, and objectives help the university achieve its sustainable goals (Al Shammari, 2020). Therefore, the need to study the effect of environmentally specific transformational leadership on students' green behavior becomes indispensable.

According to Dunlap and Jones (2002), environmental concern is the degree to which people are aware of and concerned about environmental issues, take the initiative to address them, or indicate that they are willing to directly contribute to the solutions. In order to encourage sustainable green behavior and so lessen the growing threat of climate change, environmental concern is a crucial prerequisite (Takacs Santa, 2007). Furthermore, research has shown that employees' green behavior is significantly predicted by their concern for the environment (Fujii, 2006; Bissing et al., 2013; Huddart Kennedy, Krahn & Krogman, 2013). The theory of planned behavior (Ajzen, 1991), which contends that people who care deeply about the environment are more inclined towards green behavior, also supports this prediction. Despite the considerable research on environmentally specific transformational leadership, environmental concern, and green behavior at organizations or workplaces a gap exists in understanding their combined effects in the context of universities.

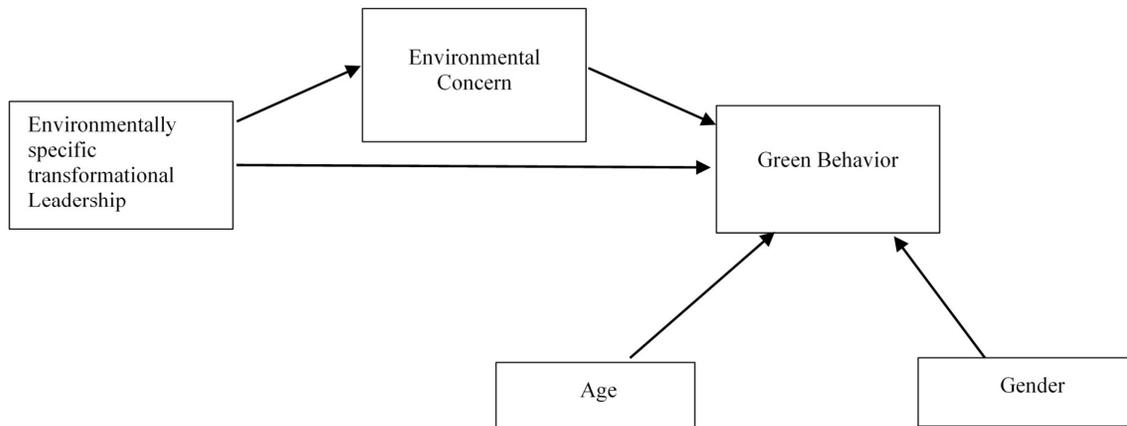


Figure 1. Conceptual framework

**Hypotheses Development**

**Environmentally-specific transformational Leadership and Green Behavior**

According to Robertson and Barling (2012), ESTL is a sign of transformational leadership, wherein the leadership behaviors are committed to promoting green initiatives and behaviors. Environmentally personalized consideration, environmentally inspired motivation,

environmentally intellectual stimulation environmentally idealized influence are the four behaviors that characterize Environmentally Specific Transformational Leadership (ESTL). (Robertson & Barling, 2012). It has been observed that inspirational motivation specifically leads to increased green behavior among employees by encouraging them to go beyond their self-interest and work for the common vision of protecting the environment. Universities are the foundations for building societies and contributing to the advancement and development of the nation. University leaders facilitate the effective implementation of the university's strategic plans, ambitions, and objectives, hence enabling the university to achieve its sustainable goals (Al Shammari, 2020). Therefore, the environmentally specific transformational leadership displayed by university administrators, teachers, and parents positively impacts the behavior of students studying at universities and thus the following hypothesis has been derived from the existing literature.

**H1. Environmentally-specific transformational leadership is positively related to green behavior.**

#### **Environmentally-specific transformational Leadership and Environmental concern**

According to Dunlap and Jones (2002), environmental concern is the degree to which people are aware of and worried about environmental issues, take the initiative to address them, or indicate that they would be prepared to directly contribute to the solutions. In order to encourage sustainable green behavior at work and reduce the growing threat of climate change, environmental awareness is a crucial prerequisite (Takacs Santa, 2007). Furthermore, research has shown that employees' green behavior at work is significantly predicted by their concern for the environment (Fujii, 2006; Bissing et al., 2013; Huddart Kennedy, Krahn & Krogman, 2013). The theory of planned behavior (Ajzen, 1991), which asserts that people who care deeply about the environment are more likely to engage in green activity, also supports this prediction. Therefore, the following hypothesis below is developed.

**H2. Environmentally-specific transformational leadership is positively related to Environmental concern.**

#### **Environmental Concern and Green Behavior**

Environmental concern is substantially associated with private-sphere green behavior, and it also mediates the effect between objective social class and private-sphere green behavior. (Niu et al., 2023) the mediating roles of Environmental concern and pro-social attitude were also validated while studying the behavior of individuals towards green products/services. (Afridi et al., 2021). Therefore, the environmental concerns generated among the students through transformational leadership displayed by university leaders like teachers and administrators would increase the green behavior of students. Hence, the following hypothesis can be derived from the literature.

**H3. Environmental concern is positively related to the green behavior.**

#### **Environmental Concern as a Mediator.**

Theoretically and empirically, research have demonstrated a positive correlation between environmentally specific transformational leadership and green behavior in organizations (e.g., Graves et al., 2013). However, few studies have looked at the mechanisms by which environmentally specific transformational leaders exert their influence over their followers to participate in green behavior. As a result, it is crucial to comprehend the fundamental cause of how environmentally specific transformational leadership affects green behavior in the workplace

(Avolio, Zhu, Koh, & Bhatia, 2004; Bass, 1999; Chen and Chang, 2013). To explain the relationship between environmentally specific transformational leadership and green behavior, this study has assumed that environmental concern may be a crucial mediating element in understanding the link between the two. Thus, the following hypothesis is proposed

**H4: Environmental concern mediates the positive relationship between environmentally specific transformational leadership and green behavior.**

### **Research Methodology**

#### **Sample and Procedure**

The study sample consists of 302 students, from various Universities of Delhi NCR as this region of the country has the highest level of environmental pollution, I am confining my study to young students of Higher Education Institutes and Universities as they are the most appropriate population for this study where we are trying to see the green behavior of young people influenced by the environmentally-specific transformational leadership styles depicted by their parents, teachers and administrators. Out of the 302 responses received 192 males and 110 females whose mean age was 20.39 years. In terms of educational qualification, 72 percent of the participants were from Undergraduate courses, 25 percent were from Postgraduate Courses and the remaining were the Ph.D. students. 500 students who willingly agreed to participate in the survey were given a self-administered questionnaire. In order to mitigate the common method variance, respondents were guaranteed total secrecy regarding their survey participation. They also received the assurance that they could withdraw from the survey at any moment. Given that the sample frame was based on students studying in Delhi NCR Universities and colleges and who have opted for Environmental education as one of their subjects, in this investigation, a probability sampling technique was used. 106 out of the 500 students returned the survey, the final sample size was decreased to 302 because of missing values and multivariate outliers, and the final sample size produced a valid response rate of 73%.

### **Measures**

#### **Environmentally Specific Transformational Leadership**

The seven-item transformational leadership scale developed by Carless, Wearing, and Mann (2000) was used to measure environmental transformational leadership. To ensure that this scale—which represents the global standard for transformational leadership—was appropriate for use in motivating young adults toward environmental sustainability, it was modified. On a 5-point Likert scale with 1 representing "strongly disagree" and 5 representing "strongly agree," participants expressed their answers. The statement, "My parents, teachers, and administrators communicate a clear and positive vision of the future," is an example item from the transformational leadership measurement scale.

#### **Environmental Concern**

Twelve questions were modified from environmental psychology literature (e.g., Hansla, Gamble, Juliusson and Gärling, 2008; Schultz, 2001) in order to measure the environmental concern. Using a five-point Likert scale, which goes from 1 (not at all concerned) to 5 (very concerned), participants indicated their answers. "I am concerned about environmental problems because of the consequences for my health," is an example of a sample item.

**Green Behavior**

On a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), the green behavior was evaluated using Robertson and Barling's (2013) five-item university campus environment-friendly behavior assessment. "I turn lights off when not in use" is an example of a response on this scale.

Two control variables have also been used in the analysis namely age and gender. Age and gender are common demographic variables that can influence attitudes and behaviors. By controlling for age and gender, we can account for any variations in the responses to environmentally specific transformational leadership, environmental concern, and green behavior that might be attributed to these demographic factors.

**Result and Analysis**

We employed Structural Equation Modelling (SEM) to empirically examine the suggested hypotheses. The study employed an exploratory factor analysis (EFA) to assess the latent variables of the proposed model. In order to enhance the reliability of the indicators, items exhibiting loadings below 0.60 were excluded from further analyses. This procedural step resulted in a reduction from 28 items to 26 items. Subsequently, a confirmatory factor analysis (CFA) was performed to assess the efficacy of the measurement. In order to assess the reliability and precision of the scales, the researchers employed Cronbach's  $\alpha$ , as well as measures of convergent validity and discriminant validity. Table 1 shows Cronbach's  $\alpha$ , factor loadings, composite reliability (CR) and average variance extracted (AVE). The study's findings indicate that both Cronbach's  $\alpha$  and CR values above 0.7, which is a strong indicator of reliability (Fornell & Larcker, 1981). Furthermore, the AVE value surpasses 0.5, signifying strong convergent validity (Hayes, 2015). Chi-square is 232.794, CMIN is 2.676, RMSEA is 0.075, and CFI is 0.944. The CFA findings demonstrate an excellent model fit.

**Table 1. Cronbach's  $\alpha$ , Factor loadings, composite reliability (CR) and AVE**

| Constructs   | Items  | $\lambda$ | Cronbach's Alpha | CR    | AVE   |
|--|--------|-----------|------------------|-------|-------|
| Environmentally Specific Transformational Leadership | ESTL32 | 0.802     | 0.917            | 0.918 | 0.737 |
|  | ESTL33 | 0.85      |                  |       |       |
|  | ESTL34 | 0.859     |                  |       |       |
|  | ESTL35 | 0.786     |                  |       |       |
| Environmental Concern                                | EC36   | 0.743     | 0.913            | 0.914 | 0.681 |
|  | EC37   | 0.815     |                  |       |       |
|  | EC38   | 0.825     |                  |       |       |
|  | EC39   | 0.818     |                  |       |       |
| Green Behavior                                       | EC40   | 0.797     | 0.802            | 0.804 | 0.507 |
|  | GB41   | 0.788     |                  |       |       |
|  | GB42   | 0.831     |                  |       |       |
|  | GB44   | 0.685     |                  |       |       |
|  | GB45   | 0.775     |                  |       |       |

**Table 2. Results of Hypotheses Testing**

| Hypotheses   | Estimate | S.E.  | C.R.   | P-value | Result          |
|--|----------|-------|--------|---------|-----------------|
| Environmentally Specific Transformational Leadership --> Environmental Concern | 0.861    | 0.082 | 10.469 | ***     | Significant     |
| Environmentally Specific Transformational Leadership --> Green Behavior        | 0.204    | 0.076 | 2.692  | 0.007   | Significant     |
| Environmental Concern --> Green Behavior                                       | 0.205    | 0.062 | 3.305  | ***     | Significant     |
| Gender--> Green Behavior   | 0.14     | 0.112 | 1.249  | 0.212   | Not Significant |
| Age--> Green Behavior  | 0.024    | 0.016 | 1.444  | 0.149   | Not Significant |

Mediation analysis was also done to check the indirect effect of Environmental Concern on the relationship between Environmentally Specific Transformational Leadership (ESTL) and Green Behavior. The standardized indirect (mediated) effect of ESTL on GB is significantly different from zero at the 0.01 level ( $p=.005$  two-tailed). This is a bootstrap approximation obtained by constructing two-sided bias- corrected confidence intervals.

**Discussion**

This study's primary goal is to investigate how environmentally specific transformational leadership affects green behavior in HEIs, using environmental concern as a mediating factor. We developed a model and measured the direct and indirect effects of transformational leadership that is environmentally specific on green behavior using SEM. We also created four hypotheses based on theoretical observation and literature analysis to test the model. Positive significance was found in the results of the four tests of hypotheses. The first hypothesis (H1) has been formulated as the positive influence of environment-specific transformational leadership on green behavior which was consistent with the result of Singh et al. (2020), who discovered that the role of green transformational leadership positively influences environmental performance. Sustainable practice and managers' leadership relate to green transformational leadership (Pham and Kim, 2019).The influence of environmentally-specific transformational leadership on environmental concern (H2) does not have much literature so we tried to fill the gap by this study. The third hypothesis's (H3) result, which demonstrates a substantial influence of respondents' environmental concern on their pro-environmental behavior, supports the idea that attitude influences behavior (Fishbein and Ajzen 1975) and validates earlier research (Roberts 1996; Straughan and Roberts 1999).To shed further light on the process by which environmental concern is converted into green behavior at work, the fourth hypothesis (H4) developed and tested a mediation model (Fujii, 2006; Bissing et al., 2013; Huddart Kennedy, Krahn & Krogman, 2013)to explain more about the instrument through which environmental concern is translated

into green behavior. Durmaz and Akdogan (2023) investigated the effect of environmental responsibility on green consumption intention, with the mediating role of environmental concern. The results of our research validate that the direct association between ecologically focused transformational leadership and green behavior is, in fact, mediated by environmental concern. Overall, all of the hypotheses and our suggested study model have statistical support.

### **Theoretical implications**

The positive impact of environmentally specific transformational leadership on the green behavior of the students mediated through environmental concern hypothesized in this study is likely to provide the following theoretical contributions. First, this study shows that students' green behavior is positively impacted by environmentally specific transformational leadership and environmental concern. This can aid in the understanding of the formation process of green behavior by enabling scholars to comprehend how the two types of environmental influences impact the green behavior of students enrolled in universities and higher education institutions. Although, scholars have been studying how green transformational leadership affects employees' green behavior for a long time (Graves, Sarkis, and Zhu, 2013) at workplaces but the effect of environmentally specific transformational leadership on students has been neglected. Second, this study helps understand the pattern of the environmentally specific transformational leadership and environmental concern leading to green behavior of individuals. The above results would enable the scholars to understand the underlying mechanism and mediation effect of environmental concern on environmentally specific transformational leadership and students' green behavior.

### **Practical implications**

Higher education institutions (HEIs) must contribute to the 2030 sustainable development agenda, aiming to equip all learners with the knowledge and skills needed to promote sustainable cities and communities, ultimately leading to a more sustainable nation. Consequently, the SDGs provide a reason for HEIs to integrate SD concepts into their day-to-day activities (Elmassah et al., 2022). In response to the international 2030 sustainable development (SD) agenda, Universities and Higher education institutions are starting to see sustainable development as an integral component of their plan, or as a duty, to support environmental protection both at home and abroad. This study offers some useful insights by demonstrating the synergistic effect of environmental concern and environment oriented transformational leadership on students' green behavior. First, through frequent training programs, universities should support environmentally-specific transformational leadership among educators, parents, and administrators in order to encourage students to adopt green behavior. Second, in order to improve environmental knowledge and abilities among university leaders the government should also start taking steps to train them in environmentally relevant transformational leadership. Finally, trusting only on environmentally-specific transformational leadership has certain limitations. It is difficult to make sure that every student is influenced by the values and concerns communicated by the leader. Therefore, Universities should also establish a standard system of sustainability management, such as integrating environmental issues into different modules of the curriculum, motivating students to engage in green behavior and indulge in green and sustainable projects

with standardized evaluation criteria.

### **Limitations and Scope for Further Research**

Despite some theoretical and practical significance, there are few limitations of the study. First, this study only selected a population sample from the universities and higher education institutes of Delhi, NCR offering environmental education as a course. Also, only transformational leadership is considered in the study despite the various leadership theories and styles available in the literature. Therefore, future research can focus on other universities and educational institutes in other parts of the country. Second the study only included the universities offering environmental education courses, however, sustainability is required for all the students irrespective of the fact that whether they studied environmental education as a subject or not. Third, different theories of leadership can be explored as antecedents leading to environmental concern and green behavior.

### **Concluding Remarks**

To conclude, the current study has offered strong evidence in favor of environmental concern serving as a mediating factor in the relationship between environmentally specific transformational leadership and green behavior at HEIs and universities. This empirical research uses primary data collection through a self-administered survey instrument. For testing the proposed hypothesis, the collected data was subsequently analyzed and tested through structural equation modelling. The results show that environmental concern has an indirect effect on the relationship between environmentally specific transformational leadership and green behavior. This study has both theoretical and practical implications towards sustainable development of the Universities and HEIs.

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