The Influence Of Emotional Intelligence On Sustainable Leadership In Environmental Organizations

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Abstract

The drive toward sustainability has added increasing pressure for the environmental organizations in the world to integrate sustainability into all aspects of governance. Leadership quality is seen as the "key" for the sustainability of the organization, but the emotional competencies that underlie sustainable leadership have not been adequately studied. The study aims to explore the role of emotional intelligence (EI) and its five facets (self-awareness, self-regulation, motivation, empathy, and social skills) on sustainable leadership behaviours of 245 senior and middle managers from environmental organizations in India. As for the design; the study uses quantitative cross sectional research design and multiple regression analysis, which shows that EI has a strong and statistically significant positive effect on sustainable leadership (R^2=0.64; F=86.3; $p<0.001$). Empathy (β=0.31, $p<0.001$) and self-awareness (β=0.28, $p<0.001$) emerged as the strongest predictors. One way ANOVA also found significant differences between the groups for both EI and sustainable leadership score by organization type ($p<0.001$). The findings add to the body of Green Leadership–EI literature by providing detailed, level-by-level evidence in a non-Western environmental sector setting and have practical implications for leadership development curriculum and/or selection for sustainability-related organisations

Keywords: emotional intelligence, sustainable leadership, environmental organizations, green leadership, self-awareness, empathy and India

Introduction

The need for sustainable development has dramatically changed the roles of organizational leaders, especially the ones leading environmental organizations, non-governmental organizations (NGOs) and corporate sustainability units. These leaders operate in complex environments where ecological responsibility, stakeholder accountability, and adaptive strategy are central concerns. Successfully addressing these challenges requires not only technical knowledge and an understanding of ecological systems but also high-level emotional competencies (Desai, 2022; Mayer et al., 2016).

Emotional intelligence (EI), which is the ability to perceive, use, understand, manage, and regulate emotions in oneself and others (Salovey & Mayer, 1990; Goleman, 1995), has garnered significant empirical research in the context of general leadership. Its specific function within sustainable leadership – the ability to consider long-term environmental thinking, engage stakeholders, and allow for adaptive governance – has only recently started to be subject to systematic scrutiny, however (Dugan, 2017; Wang et al., 2023).

The green leadership literature (Yildiz et al., 2020; Leal Filho et al., 2022) indicates that high EI leaders are better at influencing pro-ecological behavior, influencing organizational resistance toward a sustainability change, and establishing trust-based stakeholder network. However, prior research has mainly focused on the Western, large corporate environment. The aim of the present study is to examine this disconnect by studying environmental organizations in India, a context where resources are scarce, there is government regulation, and a range of different stakeholders operate. This enriches the theoretical geography of EI-leadership research.

Research Questions

The study seeks to address the following research questions:

RQ1: What is the level of emotional intelligence among managers in environmental organizations?

RQ2: What is the relationship between emotional intelligence dimensions and sustainable leadership?

RQ3: Which emotional intelligence dimensions best predict sustainable leadership?

RQ4: Do emotional intelligence and sustainable leadership differ across organization types?

The remainder of the paper is organized as follows: Section 2 presents a summary of the literature developed into the hypotheses under investigation; Section 3 outlines the methodology; Section 4 provides results; Section 5 offers a discussion of the results; and Section 6 concludes with theoretical implications, limitations, and future research directions.

2. Literature Review And Hypothesis Development

2.1 Emotional Intelligence: Theoretical Foundations

The theoretical roots of emotional intelligence can be traced to the ability model proposed by Salovey and Mayer (1990), which conceptualizes EI as the ability to process emotion-laden information. Goleman (1995) took this

concept and developed a competency model with five components: self-awareness (knowledge of one's emotions), self-regulation (management of disruptive emotions), motivation (intrinsic drive to meet goals), empathy (sensing others' emotions), and social skills (managing the social landscape effectively). Bar-On (1997) expanded the construct to include adaptability and stress management. Evidence from meta-analysis is consistently positive evidencing the effect of EI on leadership effectiveness. Miao et al. (2017) reported the mean corrected correlation of r=0.59 between EI and transformational leadership. More recently, Wang et al. (2023) showed that organizational values alignment is mediated by EI
between leader pro-environmental behavior.

2.2 Sustainable Leadership in Environmental Organizations

The leadership for sustainability, as described by Hargreaves and Fink (2004) and expanded by Avery and Bergsteiner (2011), includes seven key principles: long-term thinking, ecological sensitivity, stakeholder inclusivity, adaptive governance, system-level awareness, collaborative action and ethical accountability. At the European level, sustainable leadership for environmental organisations means applying the principles to their operational decisions related to resource allocation, programme design, community engagement and advocacy (Leal Filho et al., 2022).

Theoretically, Dugan (2017) connected emotional competencies to the socially responsible leadership approach by asserting that the higher the EI of leaders, the more they can do to deal with the value conflicts that characterize environmental governance. In the context of entrepreneurship ecosystems in universities, Desai (2022) offers analogous evidence that indicates that emotionally intelligent management makes for more lasting and trusted relationships, relevant to the environmental leadership setting. A finding with direct relevance to environmental leadership contexts.

2.3 EI Dimensions and Sustainable Leadership: Hypotheses

Based on social exchange theory and the conservation of resources (COR) theory, we propose that all five EI dimensions have unique aspects that make them important to the success of sustainable leadership. Self-awareness helps the leaders to understand their short-term thinking biases and helps to foster a long-term sustainability perspective (Goleman, 1995). In cases of ecological crisis and organizational difficulties, self-regulation will help leaders stay calm and consistent strategically (Yildiz et al., 2020). The concept of intrinsic motivation is a key component of emotionally intelligent leadership, which dovetails with the long-horizon perspective that is key to sustainable leadership (Avery & Bergsteiner, 2011). Empathy, the most sustainability-critical EI dimension, helps to engage stakeholders inclusively and consider ecological impacts on vulnerable population groups (Wang et al., 2023). Lastly, social skills allow for coalition building, interorganizational collaboration and advocacy effectiveness (Leal Filho et al., 2022).

These arguments result in the following directional hypotheses:

H1: The overall EI is positively and significantly related to sustainable leadership in environmental organizations.

H2: Self-awareness is positively and significantly associated with sustainable leadership.

H3: Empathy positively and significantly predicts sustainable leadership and is expected to exert the strongest influence among the emotional intelligence dimensions.

H4: There is a significant difference between the sustainable leadership scores in different organization types.

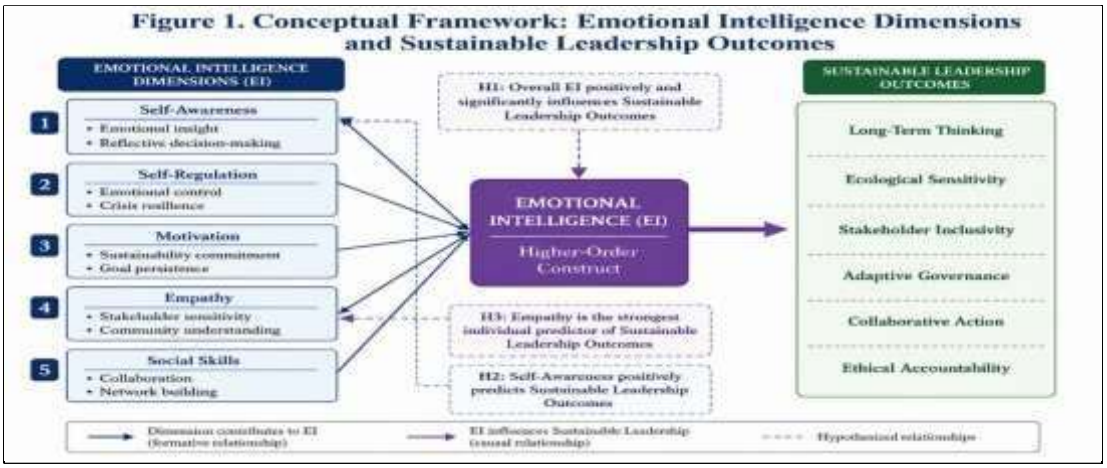

Figure 1. Conceptual Framework: Emotional Intelligence Dimensions and Sustainable Leadership Outcomes

3. Materials And Methods

3.1 Research Design

A quantitative (positivist) cross-sectional survey design was used which is suitable for testing directional hypotheses regarding EI-leadership relationships (Creswell & Creswell, 2018). Ethical approval letter from the Institutional Review Board, Parul University (Ref: PU-IMS-2024-047). Informed, anonymous and voluntary participation.

3.2 Sampling and Data Collection

The target population included senior and middle level managers (Assistant Manager to Director) working in environmental organizations across all parts of India. Purposive and snowball sampling were used to administer a structured Google Form internet survey from January to April 2024. A total of 261 people responded (response rate = 83.7%) to 312 invitations that were sent. Sixteen questionnaires were removed because of missing data (>10% of items) or straight-lining patterns, leaving an analytic sample of N=245 questionnaires. A power analysis (G*Power 3.1) was conducted with the following parameters: $f^2=0.15$, $\alpha=0.05$, power=0.80, 5 predictors, showing that a minimum of 92 was needed (obtained n=245 which represents an observed power > 0.99).

3.3 Measures

Emotional Intelligence was assessed with the EI Appraisal Instrument developed by Goleman (1998) and adapted and validated in Indian management context (20 items, each with five-point Likert scale: 1=Strongly Disagree to 5=Strongly Agree). The Sustainable Leadership Scale (12 items) was taken from Avery and Bergsteiner (2011) and used to assess Sustainable Leadership. Secondary outcome variables were drawn from Leal Filho et al. (2022) and included in the analysis in this study: Environmental Performance (8 items) and Stakeholder Engagement (6 items). All scales were translated forward and backward as per BISAN (Brislin, 1986) procedure. Demographic variables including gender, age group, education level, years of experience, and
organization type were collected and examined descriptively to provide contextual information about the respondents.

3.4 Analytical Strategy

The data were analyzed in SPSS Version 27.0. Descriptive statistics, Cronbach's α reliability coefficients, Pearson correlations, multiple linear regression (Enter method), and one-way ANOVA with post-hoc Tukey HSD tests were performed. Multicollinearity was checked using the Variance Inflation Factor (VIF) statistics and no values were greater than 2.0, which is an acceptable threshold for avoiding multicollinearity concern. The normality of residuals was checked using Shapiro-Wilk and by visual examination of the Q-Q plots.

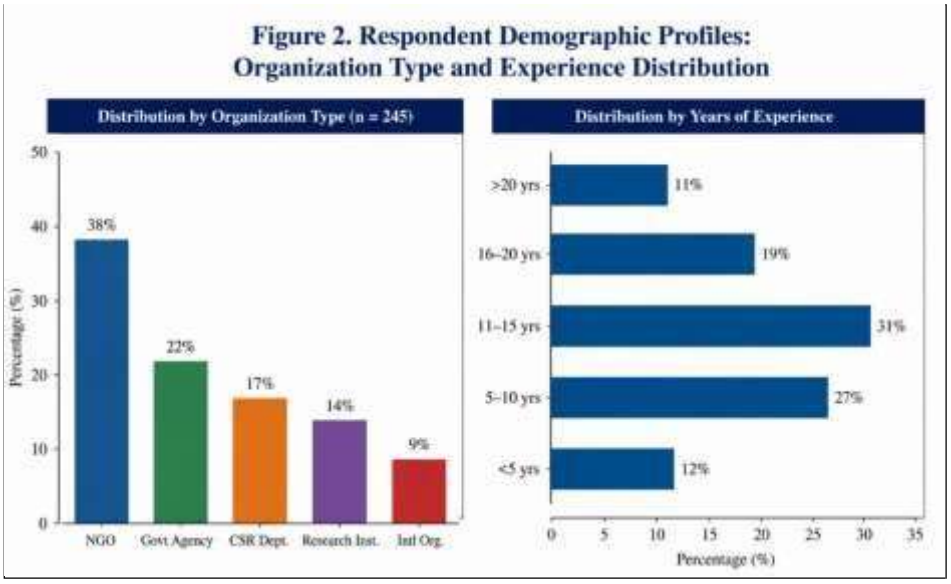

Figure 2. Respondent Demographic Profiles: Organization Type and Experience Distribution

4. RESULTS

4.1 Descriptive Statistics and Reliability

Table 1 displays descriptive statistics and reliability coefficients of study variables. The internal consistency was confirmed by all Cronbach's α values being higher than the 0.80 recommended by Nunnally and Bernstein (1994). The mean score of EI Total is 4.15 (SD=0.48), which means that the respondents have moderately high EI. The highest mean (M=4.35, SD=0.49) was for empathy, and the theoretical explanation was that interpersonal sensitivity is a part of the reason why environmental managers are hired.

Table 1. Descriptive Statistics and Reliability Coefficients (n=245)

Variable	No. of Items	Cronbach's α	Mean	SD
Emotional Intelligence (Total)	20	0.91	4.15	0.48
Self-Awareness	4	0.87	4.21	0.52
Self-Regulation	4	0.84	3.97	0.61
Motivation	4	0.85	4.08	0.58
Empathy	4	0.88	4.35	0.49
Social Skills	4	0.86	4.12	0.55
Sustainable Leadership	12	0.89	4.02	0.57

Environmental Performance	8	0.86	3.89	0.63
Stakeholder Engagement	6	0.83	3.94	0.60

Note: All Cronbach's α values p<0.001. SD = Standard Deviation.

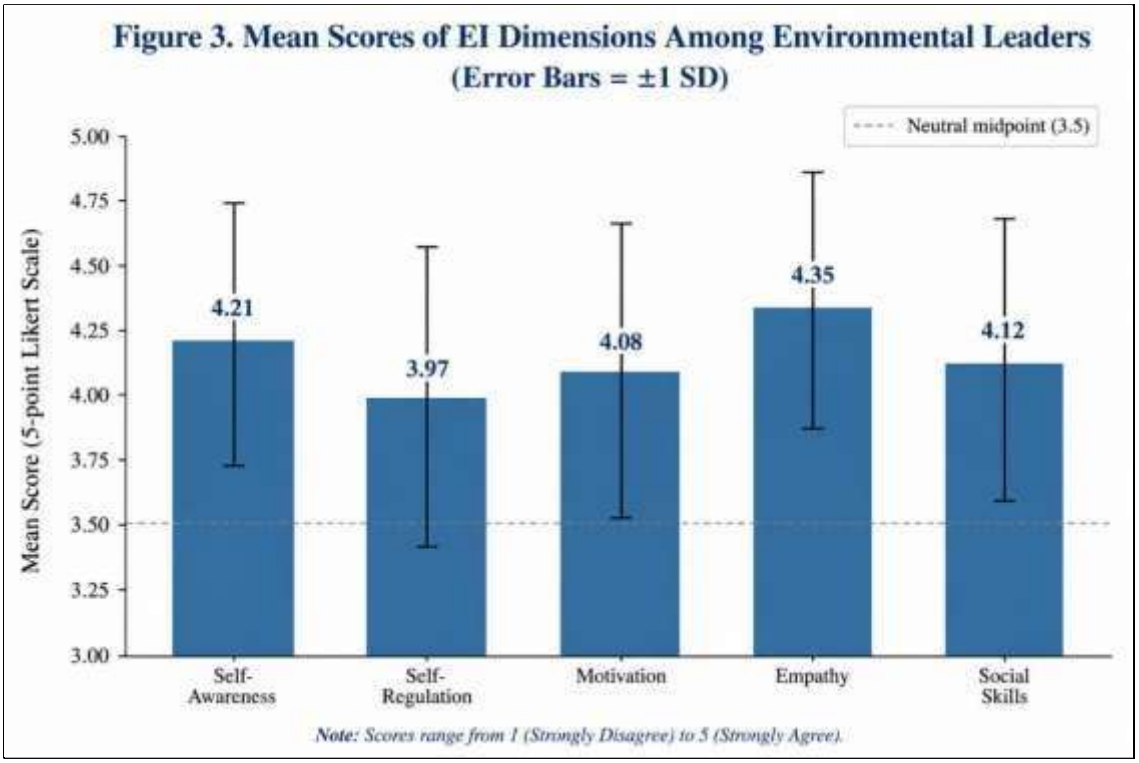

Figure 3. Mean Scores of EI Dimensions Among Environmental Leaders (Error Bars = ±1 SD)

4.2 Correlation Analysis

The Pearson correlation analysis (shown in Table 2 and visualized in Figure 4) shows that EI Total was strongly correlated and positively related to Sustainable Leadership (r=0.73, p<0.001), Environmental Performance (r=0.68, p<0.001), and Stakeholder Engagement (r=0.65, p<0.001). The dimensions of EI were correlated with each other, with Empathy having the highest correlation with Sustainable Leadership (r = 0.74, p < 0.001) followed by Social Skills (r = 0.69) and Self-Awareness (r = 0.61). The preliminary support for H1 is evident in all the correlation results being statistically significant at p<0.001.

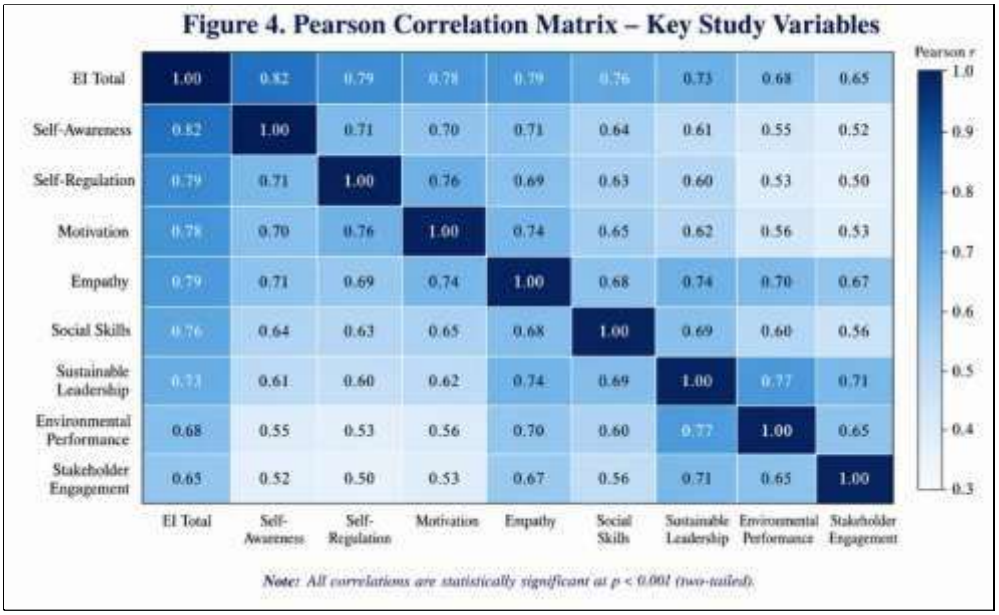

Figure 4. Pearson Correlation Matrix — Key Study Variables (all r values significant at p<0.001)

4.3 Multiple Regression Analysis

The five EI dimensions were used as predictors in a multiple regression analysis predicting Sustainable Leadership with a R^2 of 0.64 (adjusted R^2=0.63, F(5,239) = 86.3, p<0.001). Empathy emerged as the strongest predictor (β=0.31, t=6.00, p<0.001), followed by Self-Awareness (β=0.28, t=5.17, p<0.001), Social Skills (β=0.25, t=4.83, p<0.001), Motivation (β=0.22, t=4.00, p<0.001), and Self-Regulation (β=0.19, t=3.00, p=0.003). The results are

in accord with H2 and H3. The values of all the VIFs were less than 2.0, indicating that there was no multicollinearity.

Table 2. Multiple Regression: EI Dimensions Predicting Sustainable Leadership

Predictor (EI Dimension)	B	SE	β	t	p-value	VIF
Self-Awareness	0.31	0.06	0.28	5.17	<0.001	1.72
Self-Regulation	0.21	0.07	0.19	3.00	0.003	1.68
Motivation	0.24	0.06	0.22	4.00	<0.001	1.75
Empathy	0.36	0.06	0.31	6.00	<0.001	1.63
Social Skills	0.29	0.06	0.25	4.83	<0.001	1.71

Note: Dependent Variable: Sustainable Leadership. Coefficients are unstandardized (B), standardized (β) and standard error (SE). All predictors have VIF<2.0. ***p<0.001; **p<0.01.

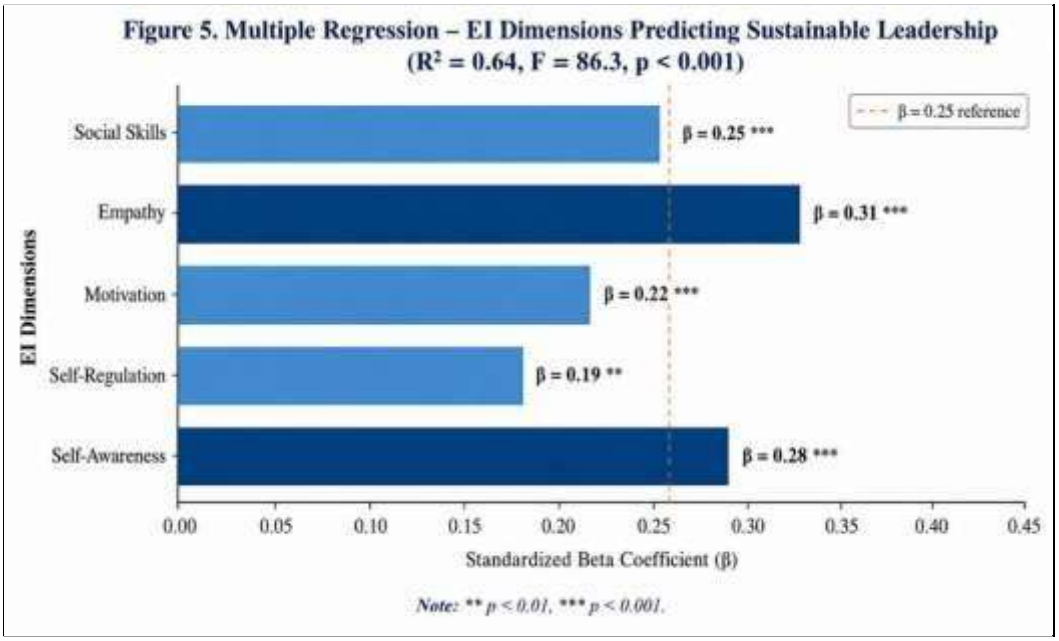

Figure 5. Standardized Beta Coefficients: EI Dimensions as Predictors of Sustainable Leadership

4.4 ANOVA: Differences Across Organization Types

A one-way ANOVA showed that there were significant differences in EI scores (F(4,240) = 4.72, p = 0.001) and Sustainable Leadership scores (F(4,240) = 5.18, p = 0.001) between the five organization types. Post-hoc Tukey HSD tests revealed that NGO managers' EI score (M_EI=4.28) and International Organisation managers' EI score (M_EI=4.32) showed significant differences with the Government Agency managers' EI score (M_EI=3.98, p<0.05). In turn, NGO

and International Organisation leaders scored much higher on sustainable leadership. The results reflect a support for H4.

Table 3. One-Way ANOVA: EI and Sustainable Leadership by Organization Type

Organization Type	n	EI Mean (SD)	SL Mean (SD)	F-stat	p-value
NGO / Non-Profit	93	4.28 (0.44)	4.19 (0.51)	—	—
Government Agency	54	3.98 (0.52)	3.81 (0.59)	—	—
CSR Department	42	4.10 (0.48)	3.95 (0.55)	—	—
Research Institution	34	4.05 (0.50)	3.88 (0.58)	—	—
International Organisation	22	4.32 (0.41)	4.25 (0.47)	—	—
Between Groups (ANOVA)	—	F(4,240)=4.72	F(4,240)=5.18	—	p=0.001

Note: Pairwise comparisons were made using Tukey HSD post-hoc tests. Dashes (—) mean that there are statistics for the group as a whole but not for any specific row.

5. Discussion

This study provides strong empirical evidence regarding the importance of emotional intelligence in sustainable leadership. This overall R^2=0.64 is higher than the range of 0.35–0.48 in similar Western studies of EI as a leadership predictor (Miao et al., 2017; Wang et al., 2023), indicating that EI might be a particularly strong predictor of leadership in resource-constrained, mission-driven environmental organizations where emotional labour and stakeholder complexity are intensified.

The prominence of Empathy (β=0.31) as the strongest predictor supports theoretical arguments that leadership for sustainability is fundamentally based on relationships and involves leaders in considering the interests of non-

human stakeholders (ecosystems, future generations) in addition to their human counterparts (Hargreaves & Fink, 2004). Empathy with the affected community, along with empathy with the ecological systems, enables environmental managers to be more able to embrace long-horizon decision-making, which differentiates sustainable from conventional leadership (Leal Filho et al., 2022). This is in line with Desai's (2022) observation that 'empathic engagement' plays a key role in creating transformative multi-actor ecosystems in institutional settings in India.

Self-Regulation (β=0.19) is also significant, although relatively less, indicating that its challenges are more specific to the Indian context of environmental work, where regulatory uncertainty and resource limitations demand flexibility of response over emotional regulation. This nuance calls for further culture-oriented research on green leadership, in line with the "contextuality-centerned green leadership research" call to arms by Yildiz et al. (2020). The findings showing higher EI and sustainable leadership in NGOs and in International Organisations than in Government Agencies align with theories of socialization of the sectors that support this research findings: NGOs are more likely to be self-selected with values-alignment and interpersonal skills while Government Agencies may have bureaucratic constraints that limit emotional expression and adaptive decision making (Dugan, 2017). The results are relevant for inter-sectoral cooperation on environmental governance.

In the context of Desai and Pandya's (2022) research on ICT interventions in education, which show how enabling environments facilitate human capability, we argue that EI is not in isolation—infrastructure, leadership development programmes and reflective practice opportunities are all parts of the enabling environment that can help to translate EI into sustainable leadership behaviours. Hence it would be helpful if EI-centred leadership development became part of an organization's investment, rather than an add-on, for environmental groups.

6. Conclusion

This study adds to the increasing interdisciplinary research on emotional intelligence and sustainable leadership by offering dimension-specific empirical support from an environmental-organization setting, outside of Western culture. This study identifies EI as a good predictor of sustainable leadership (R^2=0.64) with a strong sample (n=245) of managers across five organization types in India, particularly empathy and self-awareness aspects of EI. There are also major differences between types of organizations, which further emphasize the importance of contextually appropriate leadership development interventions.

These findings suggest, practically speaking, that environmental organisations include EI assessments in leadership appointments and promotion processes, invest in EI coaching and reflective practice programmes, and develop organisational cultures that value emotional competence as well as technical skills. The introduction of specific training programmes that build the capacity to be empathetic, by engaging with perspective taking practice, community immersion and facilitated conversations with stakeholders are likely to have the best outcomes for sustainable leadership capacity.

6.1 Limitations and Future Research

There are a few limitations of this study. The cross-sectional design does not allow for causal inferences, but future studies using longitudinal or experimental designs would support claims of the causal role of EI. There is a limited geographic generalizability due to the sampling of Indian organizations. Future studies could implement multi-country design, qualitative elements (e.g., narratives by leaders) and objective organizational performance measures and complement self-reported sustainable leadership scores. Mediating roles of organizational culture, psychological safety and institutional support are also worthy of exploration.

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References

1. Avery, G.C. and Bergsteiner, H. (2011) 'Sustainable leadership practices for enhancing business resilience and performance', Strategy & Leadership, 39(3), pp. 5–15. https://doi.org/10.1108/10878571111128766
2. Bar-On, R. (1997) The Emotional Quotient Inventory (EQ-i): A Test of Emotional Intelligence. Toronto: Multi-Health Systems.
3. Brislin, R.W. (1986) 'The wording and translation of research instruments', in Lonner, W.J. and Berry, J.W. (eds.) Field Methods in Cross-Cultural Research. Beverly Hills, CA: Sage, pp. 137–164.
4. Creswell, J.W. and Creswell, J.D. (2018) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. 5th edn. Thousand Oaks, CA: Sage.
5. Desai, P.D. (2022) 'Engaging with stakeholders for developing an effective entrepreneurial ecosystem in universities based in a rural setup', in Rural Entrepreneurship and Innovation in the Digital Era. Hershey, PA: IGI Global, pp. 252–269. https://doi.org/10.4018/978-1-7998-7867-1
6. Desai, P.D. and Pandya, B. (2022) 'Role and rewards of information and communication technology (ICT) interventions in edification during COVID-19 pandemic', in ICT Infrastructure and Computing: Proceedings of ICT4SD 2022. Singapore: Springer, pp. 645–654.
7. Desai, P.D. (2022) 'Prison entrepreneurship: A step towards social reintegration', in Transforming Business in ESG (Environmental, Social, Governance). Gujarat: Parul University Press.

8. Dugan, J.P. (2017) Leadership Theory: Cultivating Critical Perspectives. San Francisco, CA: Jossey-Bass.
9. Goleman, D. (1995) Emotional Intelligence: Why It Can Matter More Than IQ. New York: Bantam Books.
10. Goleman, D. (1998) 'What makes a leader?', Harvard Business Review, 76(6), pp. 93–102.
11. Hargreaves, A. and Fink, D. (2004) 'The seven principles of sustainable leadership', Educational Leadership, 61(7), pp. 8–13.
12. Leal Filho, W., Uhomoibhi, J., Mbah, M., Pretorius, R., Hemstock, S., Hemstock, L. and Azadi, H. (2022) 'Sustainable leadership in higher education institutions: An overview of challenges faced', Journal of Cleaner Production, 363, p. 132301. https://doi.org/10.1016/j.jclepro.2022.132301
13. Mayer, J.D., Roberts, R.D. and Barsade, S.G. (2016) 'Human abilities: Emotional intelligence', Annual Review of Psychology, 59(1), pp. 507–536. https://doi.org/10.1146/annurev.psych.59.103006.093646
14. Miao, C., Humphrey, R.H. and Qian, S. (2017) 'A meta-analysis of emotional intelligence effects on job satisfaction mediated by job resources, and a test of moderators', Personality and Individual Differences, 116, pp. 281–288. https://doi.org/10.1016/j.paid.2017.04.031
15. Nunnally, J.C. and Bernstein, I.H. (1994) Psychometric Theory. 3rd edn. New York: McGraw-Hill.
16. Salovey, P. and Mayer, J.D. (1990) 'Emotional intelligence', Imagination, Cognition and Personality, 9(3), pp. 185–211. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG
17. Wang, X., Zhou, K. and Liu, W. (2023) 'Green transformational leadership and employee green behavior: The mediating role of green psychological climate and the moderating role of leader–member exchange', Frontiers in Psychology, 14, p. 1084070. https://doi.org/10.3389/fpsyg.2023.1084070
18. Yildiz, B., Alpkan, L., Ates, H. and Sezen, B. (2020) 'Green leadership and its effects on green innovation and firm performance: Evidence from the Turkish manufacturing sector', Journal of Cleaner Production, 258, p. 120601. https://doi.org/10.1016/j.jclepro.2020.120601
19. Rodríguez Flores, E.A., Garcés Giraldo, L.F., Valencia-Arias, A. and Benjumea-Arias, M.L. (2026) 'Artificial intelligence in human resources: A systematic review', International Journal of Aquatic Research and Environmental Studies, 6(S1), pp. 1–15.
20. Kumar, U., Singh, A., Chattopadhyay, S. and Tiwari, I.D. (2026) 'Biodiversity conservation and environmental jurisprudence: Emerging trends in ecological governance', International Journal of Aquatic Research and Environmental Studies, 6(S1), pp. 275–280.
21. Restrepo Morales, J.A., Garcés Giraldo, L.F., Vargas Febres, C.G. and Sepúlveda Aguirre, J. (2026) 'Exploring the impact of sustainable development strategies on SME performance: A sector, size, and age perspective', International Journal of Aquatic Research and Environmental Studies, 6(S1), pp. 212–228.
22. Restrepo Morales, J.A., García Arango, D.A. and Garcés Giraldo, L.F. (2026) 'The interplay of corporate governance, human capital, and innovation in driving firm performance', International Journal of Aquatic Research and Environmental Studies, 6(S1), pp. 245–252