Innovative leadership and sustainable performance: a moderation study through personality traits

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Abstract

Purpose – The present study aims to investigate the relationship between innovative leadership and sustainable performance in the education sector. The present study also tested the moderation role of personality traits agreeableness, extraversion, emotional stability, conscientiousness and openness in the relationship.

Design/methodology/approach – Data for the present study were collected from 209 university teachers. The employed sampling technique was convenience, and the sample size was calculated through the Kerjias–Morgan method. Furthermore, a survey method using a questionnaire was used in this study. For the data analysis, SPSS and SmartPLS were used.

Findings – The present study found that innovative leadership has a significantly positive relationship with sustainable performance. Results also confirmed the moderating effects of personality traits such as agreeableness, extraversion, emotional stability, conscientiousness and openness.

Originality/value – The relationship between innovative leadership and sustainable performance for the first time in the education sector’s context. Secondly, this study contributed to the moderating role of personality traits such as agreeableness, extraversion, emotional stability, conscientiousness and openness between innovative leadership and sustainable performance, which was a yet-to-explored phenomenon. The study model was tested through the combination of the big five-factor model and the theory of planned behaviour, which is another novelty of the study.

Keywords Innovative leadership, Sustainable performance, Personality traits, Theory of planned behaviour, Big five-factor model

Paper type Research paper

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Introduction
Sustainable performance is the ability of an organisation to achieve long-term success whilst considering the environmental, social and economic impacts of its operations (Mousa and Othman, 2020). The sustainable performance of educational institutions is crucial for nurturing resilient, flexible and aware communities. In addition to sharing knowledge, these institutions act as catalysts for promoting sustainable development by influencing attitudes and actions towards environmental conservation, equitable practices and economic sustainability (Chege and Wang, 2020). Embracing sustainability in education not only guarantees the durability of resources and infrastructure but also fosters a generation equipped with the capacity for critical thinking and an ethical framework essential for tackling global concerns (Zalėnienė and Pereira, 2021). It promotes a culture that encourages new and creative ideas, encourages responsible use of resources and ensures that everyone is included, creating a foundation for a peaceful and sustainable relationship between humans and the world. The long-term success of educational institutions is crucial, since it not only impacts the present situation but also play a vital role in fostering a future where both human well-being and environmental sustainability are mutually reinforced (Kopnina, 2020).

Since educational institutions are dependent on the services of their staff, the role of leadership is very crucial (Saputra and Mahaputra, 2022). Leadership can inspire guide and motivate the employees to perform their tasks in a better way (Susanti and Gistitutti, 2020). They are responsible for making tough decisions, managing conflicts and adapting to changing environments. Good leaders lead by example, communicate clearly and effectively and empower their subordinates to reach their full potential (Görgens-Ekermans and Roux, 2021). Likewise, innovative leaders, who are good at situation handling and making decisions depending on the need of the time, can help educational institutions seeking sustainable performance (Aman-Ullah et al., 2022a, b). They are willing to take risks and experiment with new ideas, technologies and processes that can help their organisation succeed sustainably.

Personality traits are something we all carry in our personalities, and it has a strong impact on our behaviour at the workplace. However, this factor rarely gets attention from management and researchers. Personality traits such as agreeableness, extraversion, emotional stability, conscientiousness and openness can influence how innovative leadership practices affect employees’ performance (Soomro et al., 2022). According to Hassan et al. (2016), the leaders’ conduct and their personality strongly influence behaviour. Leaders with strong personalities will make decisions with much ease as compared to those with weak personalities (Soomro et al., 2023). Therefore, we can argue that personality traits such as agreeableness, extraversion, emotional stability, conscientiousness and openness will affect the relationship between innovative leadership and sustainable performance. Chang et al. (2018) found that agreeableness and conscientiousness moderate the relationship between innovative leadership and sustainable performance. Specifically, they found that the positive relationship between innovative leadership and sustainable performance was stronger for firms with leaders high in agreeableness and conscientiousness. Similarly, Ma et al. (2020) found that emotional stability moderated the relationship between innovative leadership and sustainable performance in the Chinese manufacturing firms. They found that the positive relationship between innovative leadership and sustainable performance was stronger for firms with leaders high in emotional stability.

Therefore, it can be argued that innovative leadership can facilitate sustainable performance in educational institutions. The relationship between innovative leadership and sustainable performance can be moderated by personality traits such as agreeableness, extraversion, emotional stability, conscientiousness and openness. Understanding these personality traits and how they interact with innovative leadership can help organisations develop more effective leadership practices and enhance sustainable performance.
The present study contributes to the existing literature in the following context: first of all, the relationship between innovative leadership and sustainable performance is yet to be explored the phenomenon in the education sector of Pakistan. At the same time, none of the study studies have tested the moderating role of personality traits such as agreeableness, extraversion, emotional stability, conscientiousness and openness in the relationship between innovative leadership and sustainable performance. The relationship was explained through the theory of planned behaviour (TPB) for the first time, which is another contribution of this study (see Figure 1).

Literature review and hypothesis development

Hypothesis development

Innovative leadership and sustainable performance. Scholars have identified a positive relationship between innovative leadership and sustainable performance. For instance, Aman-Ullah et al. (2022a, b) studied the relationship between innovative leadership and sustainable performance in the hospitality industry. Likewise, Borah et al. (2022) explored the relationship between digital leadership and sustainable performance in SMEs. Studies have shown that innovative leaders are more likely to develop and implement sustainability strategies that contribute to organisational growth, enhance performance and increase long-term profitability (Rosário et al., 2022). Innovative leadership is essential for promoting organisational learning, creating a culture of innovation (Montes et al., 2005) and fostering creativity and flexibility in responding to changes in the business environment (Vargas, 2015).

Enough literature is found on the role of leadership in organisational performance (Montes et al., 2005; Vargas, 2015). However, the relationship between innovative leadership and sustainable performance whilst none of the studies has been found in the educational sector context; however, the concept can be explained through the TPB. The TPB theory says that an individual’s behaviour is influenced by their attitude, subjective norms and perceived behavioural control (Bakari et al., 2017). By targeting these three factors, leaders can encourage their teams to embrace an innovative mindset. For example, leaders can work to shift their team’s attitudes towards risk-taking and experimentation by highlighting the potential benefits and demonstrating their willingness to take risks (Lash et al., 2023). They can also create subjective norms by publicly recognising and rewarding innovative thinking and behaviour (Pearsall et al., 2022). Finally, leaders can help their team members feel more in control of their ability to innovate by providing resources, training and support. By leveraging the TPB, innovative leaders can create a supportive environment that fosters sustainable performance (Yadav and Pathak, 2017).

![Figure 1. Conceptual model](source(s): Figure created by authors)

Innovative leadership

Personality Traits

- Agreeableness
- Extraversion
- Emotional stability
- Conscientiousness
- Openness

Sustainable Performance
H1. Innovative leadership has a significantly positive relationship with sustainable performance.

Personality traits as moderator with innovative leadership and sustainable performance. According to Bucher et al. (2019), personality traits refer to the patterns of thinking, feeling and behaving that are exhibited by the individuals and tend to remain consistent across various situations and over time. Ling et al. (2020) found that, within the group of project managers, there exist significant correlations between various personality traits, namely agreeableness, extraversion, conscientiousness and openness, except for emotional stability. The research conducted by Shi et al. (2022) reveals that self-efficacy plays a mediating role in the development of the relationship between leaders’ engagement and personality traits such as extraversion, conscientiousness and emotional stability. Further, researchers like Tang (2021) found a significant association between agreeableness and openness traits amongst Nigerian university students and their engagement. Isaga (2018) found that the performance of small and medium-sized enterprises (SMEs) in Tanzania is significantly influenced by their personality traits and cognitive characteristics. Esmaeelinezhad and Afrazeh (2018) empirical study reveals that conscientiousness and openness have a positive impact on knowledge acquisition and knowledge application behaviours within a comparable field. The research outcomes indicate that the traits of extraversion and conscientiousness exert a significant impact on behaviours related to the retention of knowledge.

Emotional stability is a core personality trait that pertains to an enduring inclination or predisposition to encounter negative emotional states, such as self-awareness, wrath, unease, vexation, culpability and despondency. According to Martin et al. (1983), individuals with high levels of emotional stability and inadequate management of environmental stress tend to perceive routine situations and minor setbacks as insurmountably daunting. The study conducted by Munir et al. (2019) examined the impact of personality traits and the TPB on entrepreneurial intentions in China and Pakistan. The results revealed notable distinctions between the two countries regarding the influence of personality traits and TPB on entrepreneurial intentions. Rashid and Boussabiane (2021) have reported that the Big Five personality traits do not indicate an individual’s risk propensity or behaviour. The Big Five personality traits, also known as the Big Five-factor model, are considered the most widely accepted the personality theory.

According to Jirásnek and Sudzina (2020), the five-factor model categorises personality into five distinct components, namely agreeableness, conscientiousness, extraversion, openness and emotional stability. Challacombe et al. (2019) further found a noteworthy correlation between agreeableness and extraversion as well as a significant association between extraversion and openness to novel experiences. The regression analysis reveals a statistically significant positive correlation between extroversion and the excitement brand personality, in line with the aforementioned aspect. Lin (2010) has identified positive correlations between excitement, personality and agreeableness.

H2a. Agreeableness moderates the relationship between innovative leadership and sustainable performance.

H2b. Extraversion moderates the relationship between innovative leadership and sustainable performance.

H2c. Emotional stability moderates the relationship between innovative leadership and sustainable performance.

H2d. Conscientiousness moderates the relationship between innovative leadership and sustainable performance.
H2e. Openness moderates the relationship between innovative leadership and sustainable performance.

Methodology
In this study, the primary data through structured questionnaires were collected from 209 teachers working in different universities in Pakistan by using convenience sampling. The reason for choosing this technique is the availability of respondents and time constraints. The respondents of this study were lecturers, assistant professors, associate professors and professors. These respondents have been chosen based on the fact that they are the key players of educational institutions as their responsibility is to deliver the service every educational is meant to deliver. Out of the distributed questionnaires, 31 questionnaires with incomplete information were removed from the data analysis. The questionnaires had two sections: 1) demographics and 2) questions related to variables. Further, the data analyses were conducted through the Statistical Package and partial least squares structural equation modelling (PLS-SEM) through SmartPLS v 4.0.

Research instrument
Innovative leadership: To measure innovative leadership, the present study adapted five items were adapted from (Khalili, 2017). The sample item of innovative leadership is in this organisation; leaders encourage employees to develop their own ideas.

Personality traits: In the present study, personality traits were measured through five personality dimensions, namely agreeableness, extraversion, emotional stability, conscientiousness and openness to experience. The detail is as follows: to measure the agreeableness, three items were adapted from (McCrae and Costa, 1987). The sample item of the scale is I see myself as a person open to criticism. To measure extraversion, four items were adapted (McCrae and Costa, 1987). The sample item of the scale is I see myself as a talkative, cheerful, lively, sociable person and as a person who likes to be in the community. To measure emotional stability, four items were adapted from (McCrae and Costa, 1987). The tester item is I see myself as worried, tense and anxious and a person who needs the approval of others. To measure conscientiousness, four items were adapted from (McCrae and Costa, 1987). The sample item is I see myself as a tidy, careful and meticulous person. To measure the openness to experience, three items were adapted (McCrae and Costa, 1987). The sample item of the scale is I see myself as an analytical thinking, researching person.

Sustainable performance: To measure sustainable performance, seven items instrument was adapted form (Garnett, 1983). The sample items include, My Institute is using the teaching methods appropriate for objectives, learners and environment.

Results
Demographics
The demographic analysis provides help in the comprehension of population characteristics and their potential evolution, which is crucial for decision-making processes (Amin et al., 2022). In the present study, demographics include gender, education, age and designation. Table 1 results show that male respondents (n = 113, 54.1%) dominated the response. Answering about their educational background, most of the respondents (n = 81, 38.7%) said that they had a bachelor’s degree, whilst (n = 73, 34.9%) had a master’s degree and (n = 55, 25.8%) had an M.Phil and above degrees. Whilst answering about their age, most of them (n = 75, 36.4%) said they have ages between 36–40 years, followed by (n = 64, 31.1%) from the age group of 41–45, (n = 45, 20.2%) belonged to 46 and above and lastly (n = 25, 12.1%)
belonged to 30–35 age bracket. Further about their academic designations this study shows that (n = 31, 14.8%) respondents were lecturers, (n = 80, 38.2%) respondents were assistant professors, (n = 31, 14.8%) respondents were associate professors and lastly, (n = 43, 20.6%) respondents were professors. This indicates that participants of this study had diverse backgrounds in terms of age, gender, qualification and designations.

Structural equation modelling
The statistical technique employed to analyse the outcomes of this investigation was PLS-SEM using SmartPLS (Version 4). SmartPLS is a second-generation method that exhibits superior performance in data handling and the theoretical model management compared to other methods (Aman-Ullah et al., 2023). This study utilized two SmartPLS models, specifically the measurement model and the structural model. The algorithmic technique was employed to compute the measurement model, wherein the content validity, discriminant validity and convergent validity were assessed, as per the methodology proposed by (Sarstedt, 2019). The authors conducted a bootstrapping analysis with 5,000 subsamples to test the structural model. This involved calculating path coefficients, $R^2$, $f^2$ and $p$-values.

Measurement model
The assessment of the measurement model was conducted through the utilisation of content validity, convergent validity and discriminant validity (Aman-Ullah and Mehmood, 2023). Initially, the content validity was assessed through the utilisation of cross-loadings. Böhm-Thies and Albers (2010) assert that content validity pertains to the degree to which an assessment tool accurately reflects or represents the construct. The verification of content validity can be conducted through the examination of cross-loadings in SmartPLS. The findings indicate that the cross-loadings of each succeeding indicator were lower than the preceding one, thus satisfying the acceptable standard of content validity, as stated by Hair (2009). The assessment of convergent validity was conducted through the utilisation of outer loadings, Cronbach’s alpha ($\alpha$), composite reliability (CR) and average variance extract (AVE), as presented in Table 2. Values with outer loadings below 0.50 were removed from the
dataset as they could potentially compromise the reliability of the data. Following the guidelines set forth by Hair et al. (2016), the present investigation has attained the minimum acceptable levels of 0.60 for CR and 0.70 for AVE, as demonstrated in Table 2.

### Discriminant validity

The assessment of discriminant validity (DV) was conducted to ascertain potential distinctions between constructs. The present research employed the heterotrait-monotrait ratio (HTMT ratio), to evaluate the discriminant validity. The HTMT ratio is considered a more sophisticated approach to assessing the discriminant validity between constructs (Aman-Ullah et al., 2022a, b). The study met the threshold criterion for the HTMT ratio, which is 0.90, as shown in Table 3.

### Latent variable correlation

Correlation is a statistical measure that elucidates the extent and nature of the association between two or more variables. The present investigation involved the extraction of correlation outcomes from the analysis of the measurement model. The threshold value for correlation is 0.70, fulfilled in this study, as all the values were above 0.70, indicating the absence of a

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### Table 2.

Convergent validity measurement

<table>
<thead>
<tr>
<th>Items</th>
<th>VIF</th>
<th>Outer loadings</th>
<th>A</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
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<tr>
<td>Innovative leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IL1</td>
<td>1.876</td>
<td>0.798</td>
<td>0.869</td>
<td>0.905</td>
<td>0.656</td>
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<tr>
<td>IL2</td>
<td>1.928</td>
<td>0.782</td>
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<td></td>
</tr>
<tr>
<td>IL3</td>
<td>2.239</td>
<td>0.846</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IL4</td>
<td>1.833</td>
<td>0.799</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IL5</td>
<td>2.164</td>
<td>0.824</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGB1</td>
<td>1.119</td>
<td>0.960</td>
<td>0.692</td>
<td>0.761</td>
<td>0.628</td>
</tr>
<tr>
<td>AGB3</td>
<td>1.118</td>
<td>0.758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXT2</td>
<td>2.331</td>
<td>0.891</td>
<td>0.875</td>
<td>0.923</td>
<td>0.801</td>
</tr>
<tr>
<td>EXT3</td>
<td>2.689</td>
<td>0.910</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXT4</td>
<td>2.226</td>
<td>0.884</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional stability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ES1</td>
<td>1.601</td>
<td>0.726</td>
<td>0.760</td>
<td>0.850</td>
<td>0.655</td>
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<tr>
<td>ES2</td>
<td>1.446</td>
<td>0.779</td>
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<tr>
<td>ES3</td>
<td>1.598</td>
<td>0.911</td>
<td></td>
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<td></td>
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<tr>
<td>Conscientiousness</td>
<td></td>
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</tr>
<tr>
<td>CONS1</td>
<td>1.970</td>
<td>0.903</td>
<td>0.808</td>
<td>0.881</td>
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<td>CONS3</td>
<td>1.577</td>
<td>0.730</td>
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<tr>
<td>CONS4</td>
<td>1.877</td>
<td>0.889</td>
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</tr>
<tr>
<td>Openness</td>
<td></td>
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</tr>
<tr>
<td>OE1</td>
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<td>OE2</td>
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<tr>
<td>OE3</td>
<td>2.098</td>
<td>0.878</td>
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<tr>
<td>Sustainable performance</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SP1</td>
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<td>0.798</td>
<td>0.784</td>
<td>0.860</td>
<td>0.605</td>
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<td>0.805</td>
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<tr>
<td>SP3</td>
<td>1.869</td>
<td>0.735</td>
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</tr>
<tr>
<td>SP4</td>
<td>2.068</td>
<td>0.772</td>
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</table>

**Note(s):** The threshold ratio of A, CR and AVE is 0.70, 0.70 and 0.50. All determined values are above threshold.

**Source(s):** Table created by authors.
correlation problem (Table 4). In addition, the variance inflation factor (VIF) values ranged between 1.119 and 2.689, less than the threshold value of 3, indicating that the presence of correlation was not a concern in the present investigation (Aman-Ullah et al., 2022a, b). Likewise, the inter-construct correlation was measured through the SmartPLS algorithm shown in Table 5. The results revealed that all the values are within the acceptable range.

**Structural model**

Following the evaluation of the measurement model, the present study proceeded to evaluate the structural model through the utilisation of SmartPLS (v 4.0) shown in Table 5 and the application of the bootstrapping technique with 5,000 subsamples. Sarstedt et al. (2022) computed various statistical measures, including the coefficient of determination ($R^2$), effect size ($f^2$), path coefficient ($\beta$), t-statistic and significance ($p$), to empirically evaluate the hypotheses and assess the significance of the research model. The $R^2$ findings indicate that innovative leadership is 51.4% related to sustainable performance. At the same time, the effect size $f^2$ values are 0.213 for innovative leadership, 0.031 for AGB, 0.58 for EXT, 0.020 for

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypothesis</th>
<th>$\beta$</th>
<th>SD</th>
<th>$T$ statistics</th>
<th>$p$ values</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>IL $\rightarrow$ SP</td>
<td>0.183</td>
<td>0.083</td>
<td>2.218</td>
<td>0.027</td>
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<tr>
<td>H2a</td>
<td>AGB* IL $\rightarrow$ SP</td>
<td>0.255</td>
<td>0.086</td>
<td>2.638</td>
<td>0.023</td>
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</tr>
<tr>
<td>H2b</td>
<td>EXT* IL $\rightarrow$ SP</td>
<td>0.559</td>
<td>0.067</td>
<td>8.316</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2c</td>
<td>ES* IL $\rightarrow$ SP</td>
<td>0.311</td>
<td>0.072</td>
<td>3.149</td>
<td>0.002</td>
<td>Accepted</td>
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<tr>
<td>H2d</td>
<td>CONSC* IL $\rightarrow$ SP</td>
<td>0.236</td>
<td>0.081</td>
<td>2.438</td>
<td>0.026</td>
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<tr>
<td>H2e</td>
<td>OE* IL $\rightarrow$ SP</td>
<td>0.264</td>
<td>0.064</td>
<td>4.105</td>
<td>0.000</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
ES, 0.023 for CONS and 0.17 for OE. Cohen (1988) says that $\beta$ is small at $\geq 0.02$, medium at $\geq 0.15$ and large at $\geq 0.35$ is large. Therefore, the effect size of innovative leadership is medium to large, AGB is medium, EXT is large, ES is small, CONS is medium and OE is medium.

When conducting the hypothesis testing, the three most crucial values are the $\beta$-value, $t$-values and $p$-value. The findings indicate that there exists a noteworthy correlation between innovative leadership and sustainable performance at ($\beta = 0.183$, $t = 2.3218$, $p = 0.027$), accepting H1. Regarding the moderation relationships, results revealed that AGB moderates the relationship between innovative leadership and sustainable performance at ($\beta = 0.255$, $t = 2.638$, $p = 0.023$), supporting H2a. The study found that EXT moderates the relationship between innovative leadership and sustainable performance at ($\beta = 0.559$, $t = 8.316$, $p = 0.000$), supporting H2b. Further, the moderation effect of ES on the relationship between innovative leadership and sustainable performance was confirmed at ($\beta = 0.311$, $t = 3.149$, $p = 0.002$), supporting H2c. Whilst the moderation effect of CONSC on the relationship between innovative leadership and sustainable performance was confirmed at ($\beta = 0.236$, $t = 2.438$, $p = 0.026$), providing support for H2d. Lastly, the moderation effect of OE on the relationship between innovative leadership and sustainable performance was confirmed at ($\beta = 0.264$, $t = 4.105$, $p = 0.000$), supporting H2e.

Discussion
The sustainable performance of educators plays a vital role in shaping the future of education and ensuring the holistic development of students. Sustainable performance refers to the ability of educators to consistently deliver high-quality teaching and learning experiences whilst maintaining their well-being and professional growth over an extended period. It involves striking a balance between meeting the immediate needs of students and the long-term goals of education, all whilst considering the well-being of educators themselves and the resources available to them. The key factors that contribute to the sustainable performance of educators can be continuous professional development, fostering collaboration, encouraging creativity, student-centred approaches, resource management, reflection and feedback. Further, innovative leadership in the university teaching involves leveraging personality traits such as agreeableness, extraversion, emotional stability, conscientiousness and openness to improve sustainable performance. These traits contribute to creating a positive and engaging environment that fosters innovation, collaboration and continuous improvement amongst teachers.

The present study tested the relationship between innovative leadership and sustainable performance along with the moderation effects of personality traits agreeableness, extraversion, emotional stability, conscientiousness and openness. Results of the present study show that innovative leadership has a significantly positive relationship with sustainable performance at $p = 0.027$. This indicates that the staff or academicians adopting innovative leadership style bring better outcomes and show sustainable performance. This finding is similar to the previous results (Hartnell et al., 2020). Innovative leadership can play a crucial role in improving the sustainable performance of the university teachers by fostering an environment that encourages creativity, collaboration and continuous learning. For instance, innovative leadership can inspire the university teachers to think outside the box and come up with innovative solutions to challenges in their teaching. By encouraging creativity, innovative leaders can help teachers improve the quality of their teaching and enhance their students’ learning experiences. Further innovative leaders can create opportunities for university teachers to collaborate, share ideas and best practices and work together on projects. This can help to foster a sense of community amongst teachers and promote a culture of learning.

Furthermore, in the present study, moderating effect of agreeableness was confirmed at $p = 0.023$. This indicates that teachers with a high level of agreeableness are empathetic,
cooperative and understanding. They are open to others’ perspectives and can establish harmonious relationships with students, colleagues and stakeholders. By being approachable and receptive to feedback, agreeable teachers create an inclusive and supportive environment that encourages creativity and collaboration. This finding is also supported by the existing literature. For instance, Soomro et al. (2022) say that personality traits have a strong influence on employees’ performance in the education sector.

Likewise, the present study confirmed the moderation effect of conscientiousness and extraversion on innovative leadership and sustainable performance at \( p = 0.026 \) and \( p = 0.000 \), respectively. These findings are supported by Chamorro-Premuzic and Furnham (2003), who highlighted the influence of these personality traits amongst academicians. Conscientious teachers are organised, disciplined and responsible. They prioritize planning, set high standards and strive for excellence. Their attention to detail and commitment to continuous improvement enable them to deliver quality education and inspire their students. Conscientious teachers promote accountability, efficiency and effectiveness in teaching practices, resulting in sustainable performance and student success. Extraverted teachers are outgoing, energetic and enthusiastic. They excel in building connections and engaging with students and colleagues. Their sociability and assertiveness facilitate effective communication, teamwork and networking. Extraverted teachers can inspire and motivate others, fostering a dynamic and vibrant learning environment that encourages innovation and experimentation.

The present study confirmed the moderation influence of emotional stability and openness on the relationship between innovative leadership and sustainable performance at \( p = 0.002 \) and \( p = 0.000 \), respectively. This indicates that teachers with high emotional stability are calm, resilient and adaptable. They handle stress and challenges effectively, maintaining composure and providing stability to their students and colleagues. Their emotional resilience enables them to navigate changes and uncertainties, ensuring a consistent focus on student learning and growth. Emotionally stable teachers contribute to a positive work environment that enhances sustainable performance. Openness to new experiences and ideas is a vital trait for innovative leadership. Teachers who possess openness embrace creativity, curiosity and intellectual exploration. They encourage students to think critically, challenge assumptions and engage in interdisciplinary learning. Open-mindedness and adaptability to change enable these teachers to adopt the innovative teaching methods, technologies and approaches, promoting sustainable performance and continuous growth. These findings are supported by Kuśnierz et al. (2020) by testing personality traits amongst academic leaders’ performance. They found that personality traits can influence performance.

Implications of the study
Innovative leadership can contribute to sustainable performance in several ways: firstly, innovative leaders can promote a culture of sustainability by encouraging their employees to think creatively and come up with new solutions to improve the organisation’s environmental and social impact. This can lead to the development of new sustainable ways that can contribute to the organisation’s long-term success. Secondly, innovative leaders can leverage technology to achieve sustainability goals. By investing in innovative technologies such as renewable energy, green buildings and sustainable transportation, technological use in problem solutions for students, organisations can reduce the burden on the students and teachers to improve their performance. By using sustainable technologies, organisations can ease efficiency, further contributing to their financial cut-down, timesaving and access to more literature. Finally, innovative leaders can partner with stakeholders to promote sustainability. This can involve collaborating with parents, students and management to promote sustainable
practices throughout the system. By engaging with stakeholders and creating shared value, organisations can positively impact the organizational environment, society and the economy. Likewise, practitioners, researchers and policymakers may get help in understanding the nexus of innovative leadership, leaders’ personality traits and sustainable performance.

**Conclusion**

The present study confirmed the relationship of innovative leadership and sustainable performance along with the moderating effect of agreeableness, extraversion, emotional stability, conscientiousness and openness in enhancing the relationship. The results confirmed all the personality traits highlighting the importance of personality traits namely agreeableness, extraversion, emotional stability, conscientiousness and openness. From this study, we can conclude that innovative leadership is crucial for sustainable performance. Therefore, educational institutions and their policymakers should choose the leadership that is willing to take risks and make innovative decisions. Likewise, personality traits that are built-in characteristics of individuals should be kept in focus whilst deciding to choose leadership.

**References**


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