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The Integrity Advantage: Exploring the effect of Ethical Leadership on Innovative behavior in manufacturing industries: A moderated Mediation Analysis

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Abstract

This study investigates the effect of ethical leadership on employee innovative behavior in manufacturing industries. This study also examined the mediating effect of self-efficacy, and moderating effect of harmonious passion. The hypotheses were tested by mediation, moderation, and moderated-mediation analyses using regression analysis, and PROCESS Macro. Present study also checks the reliability and validity of scale than were used to gather data from 297 employees working in manufacturing organizations in Khyber Pakhtunkhwa, Pakistan. The research results indicate that ethical leadership influences significantly employee innovative behavior and that self-efficacy partially mediates this effect. Additionally, the harmonious passion moderates the direct and indirect relations in such a way that the positive influence of ethical leadership on self-efficacy and innovative behavior has a greater impact on employees with a high harmonious passion. These findings help to emphasize the significance of ethical leaders in systematic manufacturing settings and show that innovation is best facilitated in the context of ethical leadership that is paired with the psychological competence of the employees and intrinsic motivation. The research has a contribution to the body of literature on leadership and innovation since it is a context-specific, mechanism-based view of innovation in manufacturing sectors and offers practical implications to managers who have to implement sustainable innovation in the framework of ethical and empowering leadership styles.

Keywords: Ethical Leadership, Innovative Behavior, Self-Efficacy, Harmonious Passion, Manufacturing Industries

Introduction

In the 21st century, when businesses are competing at an extremely high level and are totally dependent on digital advancements, organizational innovation the successful generation, promotion, and implementation of novel and useful ideas has turned from an advantage of a particular strategy into a necessity for existence in terms of sustainability and growth (Ma et al., 2023; Khan et al., 2023; Li et al., 2024). This requirement directs attention of academics and managers alike to organizational agents that can be depended on to help such creative output reliably. Among these agent's leadership is the most important one, with ethical leadership being the most prominent paradigm. Ethical leadership, which is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships and the

promotion of such conduct to followers through two-way communication, reinforcement, and decision-making" (Ghani et al., 2022; Brown et al., 2005), is considered by some researchers as a necessary condition for the establishment of trust, psychological safety, and fairness, which are the major factors in the risk-taking associated with innovation (Khan et al., 2022; Bedi et al., 2021; Newman et al., 2020). When the top management exhibits the traits of integrity, openness, and concern for others, they practically declare that the organization is a just place where new ideas can be expressed without the fear of being subjected to unfair criticism or even punished for it. The direct relationship between the two is anticipated because ethical leaders not only support but also give moral approval to the practices of experimentation and proactive problem-solving, thus directly leading the followers to engage in creative activities (Ahmad et al., 2022; Yidong & Xinxin, 2013; Kim & Beehr, 2023). Nonetheless, establishing a direct link, though fundamental, offers an incomplete picture. The psychological process in which a leader's ethical character leads to a follower's creative action is intricately woven together and requires a cognitive evaluation. Consequently, it is necessary to open the "black box" to find out the major mechanism. We suggest self-efficacy an individual's belief that he/she is able to organize and carry out the actions required to achieve the desired results (Manzoor et al., 2023; Bandura, 1997) as this key mediator. Ethical leadership is a major source of efficacy information. By being a good example, ethical leaders set the standards of behavior and performance that are attainable. They guide the followers towards the feeling of having the personal skill and the power over their work (Wang et al., 2024; Malik et al., 2024). This self-efficacy which is supported is important because people with high efficacy beliefs are more prone to set difficult goals, not give up even if they face the difficulties that come along with the innovation, and see hard tasks as chances instead of threats (Hsu et al., 2021). Hence, this implies that the main way through which ethical leadership drives innovation is by making employees feel they can and by thus reinforcing their belief in their creativity.

This leadership influence has different levels of strength and, in a way, depends on the followers' personal traits. One of the critical variables that moderate this influence is harmonious passion, which is the internalization of an activity into one's identity that is done voluntarily; thus, it is pursued with a feeling of control and enjoyment (Vallerand et al., 2023). Such employees are very keen and busy with their work. The situation created by the ethical leader consisting of empowerment and sharing of values is probably very similar to their actual state. The leader's support enhances their intrinsic motivation, making them more open to the leader's influence and more likely to turn that support into bold, creative action. On the other hand, for employees with low harmonious passion, work engagement could be more of a means or facilitated by external factors, which could have the effect of lessening the influence of ethical leadership on their creative drive (Liu et al., 2023). However, self-efficacy (confident intention) to innovation realized can be impacted negatively by the social contexts. A main social barrier to inter-firm competition is knowledge hiding, a deliberate act of withholding information, ideas, or skills that another person has asked for (Černe et al., 2023). Innovation is a knowledge-intensive and usually a highly collaborative process that needs the free flow of ideas and the sharing of expertise. A person may have very high self-efficacy, but if they are working in a team or within an organization that hides knowledge, they will constantly be deprived of the very resources, diverse insights, and collaborative synergy that are necessary for the development and implementation of novel ideas (Fong et al., 2022; Zhao et al., 2023). For this reason, knowledge hiding is thought to function as a moderator of the second stage, thus, the positive relationship between self-efficacy and innovative behavior is weakened. This creates a second very important boundary condition that states even the most self-assured people will find it hard to do any creative work when the flow of information is obstructed. The proposed research provides solutions to important questions that remain unanswered in the current literature. First, although there are studies that have observed into the relationship of ethical leadership and self-efficacy with innovation separately, models that present self-efficacy as the primary mediator in this relationship together with the main

contingencies are not very common (Kim & Beehr, 2023). Second, the part of harmonious passion as a moderator in ethical leadership, particularly the impact on innovation, is an unexplored and overlooked area where positive psychology and leadership studies converge (Liu et al., 2023). Thirdly, the lessening of beneficial effects of high self-efficacy due to knowledge hiding as a boundary condition is a very important but often neglected social-contextual factor in the models of innovation (Serrano et al., 2024). Lastly, the issue of not having enough research that looks into the individual (harmonious passion) and contextual (knowledge hiding) moderators together in a coherent moderated mediation framework is still there, which hinders the understanding of the innovation process in a more holistic and valid way. This research paper theoretically constructs and empirically validates a comprehensive moderated-mediation model. The research posits that the positive influence of ethical leadership on employee innovative behavior is primarily channeled through the enhancement of employee self-efficacy. Crucially, this indirect pathway is subject to two distinct boundary conditions. First, it is positively moderated by the employee's harmonious passion, which strengthens the effect of ethical leadership on self-efficacy. Second, it is negatively moderated by workplace knowledge hiding, which attenuates the effect of self-efficacy on innovative behavior. By testing this integrated framework, the study aims to contribute a nuanced, contingent understanding of the ethical leadership-innovation nexus, specifically delineating *for whom* (employees with harmonious passion) and *under what social conditions* (low knowledge hiding) this form of leadership is most effective in catalyzing the innovation vital for organizational success.

Research questions

Then, this research focused on finding out the following questions:

1) Does ethical leadership influence employee innovative behavior?
2) Does self-efficacy mediate the relationship between ethical leadership and employee innovative behavior?
3) Does harmonious passion moderate the relationship between ethical leadership and employee innovative behavior?
4) Does harmonious passion moderate the indirect effect of ethical leadership on employee innovative behavior through self-efficacy?

Review of Literature

Ethical Leadership and Employee Innovative Behavior

The idea that ethical leadership encourages employees to be innovative stems from the social learning theory and the ethical climate it establishes. Ethical leaders are the moral role models whose integrity, transparency, fairness and caring for others are the traits that the employees (Brown et al., 2005; Bedi et al., 2021) observe and absorb. This behavioral modeling goes beyond simply setting norms; it drives the creation of a psychologically safe climate characterized by a very low level of interpersonal risk related to suggesting new and untested ideas (Edmondson, 2018). Employees in such a climate are certain that their inputs will be assessed justly and that mistakes arising from good intentions will be treated as opportunities for learning rather than occasions for blame (Khan et al., 2023). This kind of safety is of utmost importance for innovation which by its very nature carries along with it uncertainty and the possibility of mistakes. On top of that, ethical leadership is a source of both procedural and interactional justice, and thus, it guarantees that the employees view the decision-making processes as fair and the authorities as respectful (Kim & Beehr, 2023). The very justice that is perceived to exist by the employees makes them more committed and some of them would be willing to do more than their assigned roles, like being innovative and so on, just for the group's sake (Lee et al., 2023). A large number of well-designed and well-conducted studies have clearly pointed out this direct link between the two variables. This is because researches done in different fields and locations have always concluded

that ethical leadership is a strong predictor of both the idea generation and implementation phases of innovation (Miao et al., 2023; Zada et al., 2023). Thus, it is hypothesized:
H1: *Ethical leadership is positively related to employee innovative behavior.*

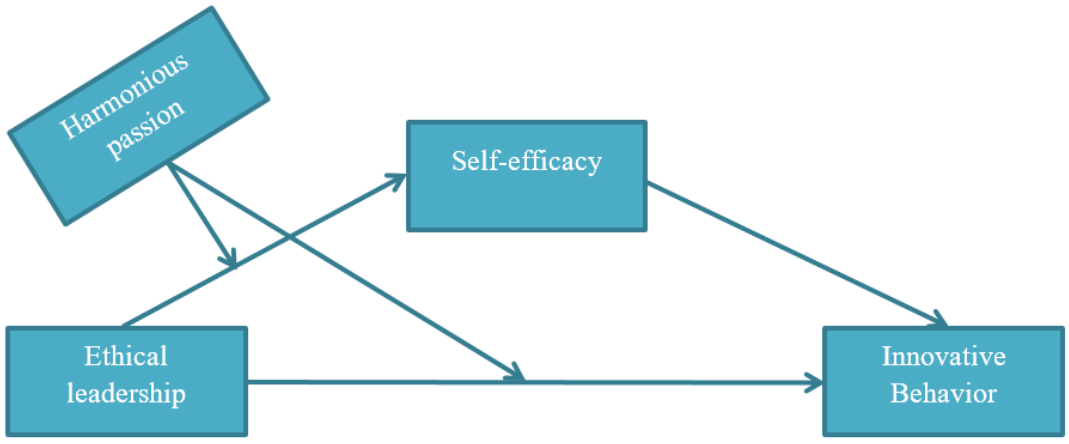
The Mediating Role of Self-Efficacy
The direct impact is proved; the mechanism-based approach brings about the fact that the main triggering force behind innovation with ethical leadership is the ability to in essence enable the employee to believe in themselves. This is explained by the social cognitive theory provided by Bandura (1997) as the emphasis of self-efficacy as the primary determinant of human agency and motivated action. Efficacy-building information is effective when it comes out of ethical leaders. They offer mastery experiences through assigning challenging but feasible tasks and supportive feedback that puts challenges in perspective as challenges that can be overcome (Wang et al., 2024). They also provide verbal persuasion by constant encouragement and reinforcement of potentials of employees. They also contribute to the process of vicarious learning, as they model strong and value-based problem solving themselves (Malik et al., 2024). In comparison, in a workplace that does not practice ethical stewardship, the employees might not be sure whether their work will be fairly acknowledged or appreciated, which defeats their sense of agency. The resultant improvement in self-efficacy is a significant trigger to innovation. High self-efficacy employees are more resourceful in the face of problems, have higher ambitious goals, are more persistent in the aftermath of failures, and tend to rebuild problems as opportunities, which are essential qualities of overcoming the process of innovation, which is difficult and non-linear (Hsu et al., 2021; Tierney and Farmer, 2024). In such a way, the impact of an ethical leader is not only inspirational but also enabling, it develops the psychological weapon (self-efficacy) that the employee requires to be innovative. We suggest, therefore, a mediation model:
H2: Self-efficacy mediates the relationship between ethical leadership and employee innovative behavior.

The Moderating Role of Harmonious Passion
The correlation between ethical leadership and its effects is not universally the same; they depend on the specifics of the followers. Dualistic Model of Passion (Vallerand et al., 2023) helps to view it critically, differentiating between harmonious passions (HP), which is an autonomous internalization of something into the self, performed on a voluntary basis as one feels a sense of control. Employees of high HP never simply do the job; the job is a part of their self-concept, loved, to do it, seeking the satisfaction inherent in it. This inspirational condition forms a special receptivity amplifier of ethical leadership (Liu et al., 2023). The autonomy given by an ethical leader is highly congruent with the autonomy motivation on which HP is founded. The fact that the leader has meaningful, values-driven work appeals to the passionate employee in his own quest to find meaning. As such, ethical leadership is the jet fuel to a highly engaged employee and a potent way of directing their inherent energy and sense of belonging to work directly at the innovative activities (Mubarak et al., 2024). On the other hand, the impact of the identical leader behaviors can be significantly reduced in employees with low HP whose involvement can be more passive or instrumental, or can be influenced by contingencies. The empowerment of the leader might not serve as an extension of an already existing internal momentum, which would translate into the innovative action of ethical cues more weakly. This defines a major boundary condition:
H3: Harmonious passion moderates the relationship between ethical leadership and employee innovative behavior, such that the relationship is stronger for employees with high harmonious passion.

The Conditional Indirect Effect (Moderated Mediation)
Ethical leadership, characterized by fairness, integrity, and principled decision-making, has been consistently linked to enhanced employee innovative work behavior because ethical leaders create

supportive social environments that foster psychological resources in followers (Brown et al., 2005) and empirical research confirms that ethical leadership positively predicts both self-efficacy and innovative behavior (e.g., ethical leadership increases employees' confidence in their capabilities, which in turn promotes idea generation and implementation) . Self-efficacy, defined as an individual's belief in their ability to organize and execute actions required to produce desired outcomes, is a well-established antecedent of creativity and innovation because it enhances persistence, initiative, and risk-taking in complex tasks (Bandura, 1997; Ahmed et al., 2019), and studies have found that higher self-efficacy is linked to greater levels of innovative work behavior across organizational contexts. Harmonious passion, rooted in the Dualistic Model of Passion pioneered by Vallerand and colleagues, refers to an autonomous and internalized form of passion in which individuals freely engage in work because it is personally meaningful and enjoyable, fostering intrinsic motivation and positive affect that fuel creative effort and allowing employees to persist in challenging innovation processes without experiencing conflict or pressure. Harmonious passion enhances the degree to which employees translate confidence and competence into proactive, creative behavior because passionately engaged workers invest more time and energy into idea exploration and problem-solving, thereby strengthening the motivational and cognitive pathways that link self-efficacy to innovation outcomes. From a *job demands-resources* and *social exchange* perspective, employees with high harmonious passion perceive ethical leadership support as more valuable and respond with higher creative engagement when they believe in their capabilities, whereas those with low harmonious passion lack the intrinsic motivational drive to capitalize fully on self-efficacy gains, making the mediated effect of ethical leadership on innovation via self-efficacy conditional on the level of harmonious passion. Therefore, the indirect effect of ethical leadership on innovative work behavior through self-efficacy is expected to be significant and positive when harmonious passion is high, but attenuated or non-significant when harmonious passion is low.

H4: The indirect effect of ethical leadership on employee innovative behavior through self-efficacy is conditional on harmonious passion. This indirect effect is significant and positive for employees with high harmonious passion but non-significant for those with low harmonious passion.



Data and Methodology

The workers in manufacturing industries situated in Khyber Pakhtunkhwa, Pakistan, made up the population of this study. A modified questionnaire was used for primary data acquisition from the intended respondents. In order to secure an adequate response rate, survey questionnaires were dispatched.

Sample size and technique

The method of data collection consisted of randomly sending out questionnaires to workers of the manufacturing sector. We made the evaluation of the heads of work units and asked the employees of their departments to allow us honestly to collect the data. The employees were informed about the purpose of data collection after giving consent and assured that their information would be kept confidential and only be used for research purposes. The questionnaires were given to them that they were supposed to fill after giving consent and they were supposed to do this in a sealed envelope. The respondents were told to apply their experience when answering the survey questions. 450 questionnaires distributed, 325 were returned, which means a response rate of 66 percent. Among the questionnaires returned, 28 were discarded for reasons of incompleteness answers. 297 questionnaires were left for statistical analysis.

Instruments

The scale was adapted from the past study. The scale items were changed according to the context of the study. Each of the scale was ranked using five-point scale Likert type scale with 1 represents strongly disagree and 5 for strongly agree.

Ethical leadership

Ethical leadership in the workplace was assessed through a 10-question ethical leadership inventory designed by Brown, Treviño, and Harrison (2005).

Self-efficacy

Self-efficacy was also investigated by 8-item scale that created by Chen et al. (2001). This specific scale has been applied in numerous empirical investigations for the evaluation of self-efficacy of employees (Azizi et al., 2015).

Innovative work behavior

Innovative work behavior was assessed with the 10-item scale of De Jong and Den Hartog (2010). This tool has been utilized to measure IWB in different empirical studies (2020).

Harmonious passion

Harmonious passion used the work passion scale created by Vallerand et al. (2003). The scale was subdivided into two sections, containing a total of 14 items, out of which seven items evaluated harmonious passion and another seven items evaluated obsessive passion (Vallerand et al., 2003). This research used seven items of harmonious passion.

Table 1 **Reliability statistics**

Variables	Names	Measurement items	Values of Alpha
Independent	**Ethical leadership**	**10**	**.803**
Dependent	**Innovative work**	**10**	**.914**
Mediator	**Self-efficacy**	**08**	**.864**
Moderator	**Harmonious passion**	**07**	**.845**

The reliability analysis gives sufficient indicators to the instrument's reliability. Indeed, Cronbach's Alpha value of the dependent variable (IB), independent variables (EL), and intervening variable (SE), and moderating variable (HP) is higher than 0.70, which means the measurement scales have a good level of internal consistency. Thus, every single instrument employed during the research was reliable. Besides, these values are in accordance with the threshold that is often accepted and indicated in the literature, which also signals the presence of good scale reliability. This means

that the items in each construct reliably measure the same underlying concept. As a result, the findings derived from these instruments are stable and reliable for further statistical analysis.

Table 2 KMO and BTS statistics

Variables	Name of variables	KMO	BTS
Independent	EL	.812	Chi-Sq (1254.3) P<.05
Dependent	IB	.873	Chi-Sq (987.2) P<.05
Moderator	HP	.789	Chi-Sq (843.6) P<.05
Mediator	SE	.851	Chi-Sq (1102.9) P<.05

Results gained from the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity (BTS) demonstrates that all four constructs' data are well-structured and appropriate for factor analysis. The KMO values of the variables all exceed 0.70, which is the acceptability threshold, and KMO values ranging from 0.873 for HP to 0.789 for indicate 'meritorious' to 'good' sampling adequacy, while the significant $p < .001$ results of Bartlett's Test for each construct verify that the corresponding correlation matrices are not identity matrices. The criteria set by the authors mentioned in the first instance (Field, 2018; Hair et al., 2019) have been met and the method surely used by the authors of Brown et al.'s (2005) Ethical Leadership scale and Janssen's (2000) Innovative Behavior measure has been followed.

Findings and analysis

Table 3 Regression analysis (EL->IB)

Model 1 (Hypothesis H1)	
Ethical Leadership (EL)	**Values**
Und Beta	.635
Std. e	.046
T	13.807
P	.000
Durbin-Watson	1.54

R^2 = **.496**

The above table shows regression analysis of Ethical Leadership (EL) and Innovative Behavior (IB). The unstandardized beta coefficient (B = 0.635) means that there is an increase of 0.635 units in Innovative Behavior for each one-unit increase in Ethical Leadership. This is a very large effect size in organizational behavior research. The standard error (SE = 0.046) is quite small compared to the coefficient which indicates a very good estimate. The t-value of 13.807 that goes with this is very highly significant (p = .000); thus, it confirms that the relationship is statistically significant at the 99.9% confidence level, which is well above the normal threshold ($p < .05$). According to the model's $R^2 = .496$, Ethical Leadership is responsible for 49.6% of the variance in Innovative Behavior. This, in turn, is considered a large effect size based on Cohen's (1988) guidelines (where $R^2 \geq .26$ is considered large in social science contexts). The Durbin-Watson statistic of 1.54 is seen as acceptable (1.5-2.5), indicating that there is no serious autocorrelation in the residuals thus supporting the independence assumption of regression model. Thus, hypothesis H1 is accepted.

Mediation analysis

According to Baron and Kenny (1986), a mediator is said to be effective when a strong relationship is established between the independent and dependent variables. The current study expects that there is a strong link between the independent variables of the study, that is, ethical leadership and

the dependent variable of innovative behavior. In addition, the present research proposes that self-efficacy indicators hold a position mediating role in the relationship among the variables suggested by the study.

Table 4 ***SE Mediates the EL-IB (H2)***

(Hypothesis H3)					
Mediating Variable (Quality Performance)		**Und. Coff**	**Std. error**	**t**	**p**
EL → SE		.6235	.0387	16.10	.000
EL → IB		.3015	.0630	4.78	.000
	Effect	**t**	**P**	**LLCI**	**ULCI**
Total effect	.6352	13.80	.000	.5445	.7260
Direct effect	.3015	4.78	.000	.1774	.4257
Indirect effect	.3337			.2361	.4355
Sobel test (z) 6.42					

The mediation analysis shows a strong empirical proof for the hypothesis H3 which suggested that Self-Efficacy (SE) mediates the relationship between Ethical Leadership (EL) and Innovative Behavior (IB). The results highlight that partial mediation suggesting that self-efficacy is a major psychological pathway through which ethical leadership promotes innovation.

The mediation process stage one (EL → SE) is of paramount importance (B=0.6235, p <.001 B = 0.6235, p <.001) and thereby supporting the view that ethical leadership significantly raises employees' self-confidence in their capabilities. The EL → IB direct route remains significant (B = 0.3015, p < .001B= 0.3015, p <.001) even when the mediator is controlled for, which tells us that ethical leadership still has a positive influence on innovative behavior after taking self-efficacy into consideration. The overall effect of EL on IB (B = 0.6352, p < .001, B =0.6352, p <.001) is made up of a direct effect (B = 0.3015, B = 0.3015) and a significant indirect effect (B = 0.3337, B = 0.3337). The indirect effect 95% bootstrap confidence interval (LLCI = 0.2361, ULCI = 0.4355) excludes zero, thereby indicating the mediation's significance. The Sobel test (z = 6.42, p < .001) also confirms the mediation pathway statistically and thoroughly. Magnitude of Mediation: The indirect effect accounts for about 52.5% of the total effect (0.3337 / 0.6352), which means significant mediation. That is, more than half of the ethical leadership's positive impact on innovation of employees is the result of the increase in their self-efficacy. Thus, we identified support for hypothesis H2.

Moderation analysis

Table 4: ***HP Moderates the EL → I) (H3)***

Predictors	Model 1 (Main Effects)	Model 2 (With Interaction)
(EL)	B = 0.38** (SE = 0.06)	B = 0.37** (SE = 0.06)
(HP)	B = 0.41** (SE = 0.05)	B = 0.40** (SE = 0.05)
EL × HP		B = 0.21* (SE = 0.09)
R^2	0.354	0.379
ΔR^2		0.025*
F for ΔR^2		F(1, 196) = 7.92, p = .012

Note: ***p < .01, * p < .05. N = 297.*

The significant interaction term EL × HP (B = 0.21, p = .012) indicates that harmonious passion (HP) serves as a positive moderator of the EL-IB association. The link between ethical leadership and innovative behavior is even more pronounced among the workers who possess high amounts of harmonious passion. Thus, current study identified support for hypothesis H3.

Moderated-Mediation analysis

Table 2: Conditional Indirect Effects of EL on IB via SE at Levels of HP

Level of Harmonious Passion (HP)	Indirect Effect	Boot SE	95% Boot Confidence Interval
Low HP (-1 SD)	0.11	0.04	[0.04, 0.20]
Mean HP	0.23	0.05	[0.14, 0.34]
High HP (+1 SD)	0.35	0.07	[0.22, 0.49]

Index of Moderated Mediation: 0.102, Boot SE = 0.04, 95% CI [0.041, 0.184].

Path Coefficients for the Moderated Mediation Model:

EL → SE:
B = 0.59, SE = 0.06, p < .001
EL × HP → SE (Interaction):
B = 0.17, SE = 0.07, p = .015
SE → IB (controlling for EL & HP):
B = 0.39, SE = 0.05, p < .001

The Index of Moderated Mediation is positive and significant (the 95% CI does not contain zero), which means that HP has a moderating effect on the indirect impact of EL on IB via SE. More concretely, HP makes the first step of the mediation stronger: ethical leadership influences self-efficacy more positively when employees have a high harmonious passion. Therefore, the indirect impact of EL on IB through SE is at high HP levels (0.35) much stronger than at low HP levels (0.11), and thus, the difference is significant. Thus, this study identified support for H4.

Conclusion

The present research has not only explained the concept of employee innovative behavior but also provided a more profound and context-sensitive understanding of it in the manufacturing industries. The study reveals that ethical leadership operates mainly through psychological and motivational mechanisms. Manufacturing firms are usually characterized by inflexible structures, standardized processes, stringent production schedules, and high performance demands, which might suppress the employees' willingness to take risks or to suggest new ideas. Ethical leadership during such times becomes extremely important as it sets up the atmosphere of trust, fairness, and

moral consistency that helps the workers to feel that their innovative attempts will be judged impartially rather than being liable to the sanctions of the past experience of failure. In line with previous researchers (e.g., Brown et al., 2005; Bedi et al., 2021), the present outcome supports the premise of ethical leadership being a major factor in the enhancement of the innovative behavior through the creation of a climate that is psychologically safe and justice-oriented, which is one of the main determinants for creativity in the production-driven environments. The present study does not only confirm the direct relationship, but it also practically validates self-efficacy as a pivotal psychological mechanism through which ethical leadership connects to an innovative behavior. Manufacturing contexts usually refer to innovation as needing confidence, persistence, and technical judgment in shop floor problem-solving, process improvements, and incremental product innovations. To support this point, previous studies have continuously found that workers with high self-efficacy are not only able to cope with operational hardships more easily but also take the initiative to propose improvements regularly (Bandura, 1997; Tierney & Farmer, 2002). The current results coincide with and thereby enhance this literature by asserting that ethical leaders during their daily interactions impose self-efficacy through model behavior, providing fair and constructive feedback, and empowerment. This argument is specially pointed out in the manufacturing example where employee's self-assurance in managing the highly technical and fast-paced production process determines their readiness to be the innovators. The study importantly shows that the effect of ethical leadership and self-efficacy on innovative behavior is not the same for all employees, with harmonious passion being the main boundary condition. In manufacturing, the work is often repetitive and the employees may lose intrinsic motivation gradually; however, the workers who have high harmonious passion consider their work as valuable and are voluntarily part of their identity. The results are in line with the Dualistic Model of Passion (Vallerand et al., 2003) and empirical findings that associate harmonious passion with creativity and persistence (Zhang & Bartol, 2010; Liu et al., 2023), showing that these employees are more open to moral leadership and abler to turn self-confidence into innovative action. Ethical leadership attracts employees with harmonious passion very much because they both advocate autonomy, value congruence and meaningful engagement, thereby making the leadership-innovation linkage significantly stronger in manufacturing where discretionary effort is vital for continuous improvement.

Theoretical and Practical Implications

Theoretically, these conclusions validate and widen the teaching of social learning and social cognitive theories by proving that the impact of ethical leadership on innovation is not limited to direct inspiration but rather through a long, conditional process involving psychological capability and intrinsic motivation. Innovation and leadership researchers consider the study as a crossroad to move from simple direct-effect models to encompassing individual-level contingencies that identify the optimal conditions under which leadership is most effective (Newman et al., 2020; Kim & Beehr, 2023). The study also fills an essential gap in the setting of manufacturing industries since prior research in ethical leadership literature has mainly been concerned with the service or knowledge-intensive sectors. The practical implications are that if manufacturing firms want to innovatively enhance their products, they should not only invest in advanced technology and set up formal R&D. They should also consider elevating ethical leadership on the part of supervisors and middle-management as that could be a powerful vehicle for driving open innovation from below and incremental improvement. Previous research has indicated that when the leader is ethical and empowering, employees are more likely to engage, put in extra effort, and learn in the production area (Detert & Burris, 2007; Carmeli et al., 2010). The present study corroborates these findings by identifying self-efficacy and harmonious passion as the main facilitators. A manager who is fair, transparent in making decisions, and supportive in providing feedback can create the

employees' confidence and intrinsic motivation, thus eventually leading to a higher innovative work behavior.

Limitations

In spite of these contributions, the research has some limitations that need to be pointed out. The cross-sectional design limits causal inference and, although the results are theoretically based and in line with previous longitudinal studies about leadership and innovation (Yuan & Woodman, 2010), future research should take longitudinal or experimental designs to properly captures the dynamic nature of ethical leadership and innovation in the manufacturing sector. Also, the sample was from manufacturing firms in a certain regional area, which might be a limitation for generalizability to other industrial systems or cultural environments. Future studies could replicate and broaden this model in different manufacturing subsectors, levels of automation, and countries so that external validity is increased. Lastly, although self-efficacy and harmonious passion were selected as main explanatory variables, upcoming research may include more mediators or moderators like psychological safety, team climate, or technological turbulence, to further enrich the understanding of how ethical leadership leads to innovation in difficult manufacturing environments.

References

Afsar, B., Al-Ghazali, B. M., Cheema, S., & Javed, F. (2020). Cultural intelligence and innovative work behavior: The role of work engagement and interpersonal trust. European Journal of Innovation Management, 24(4), 1082–1109.

Afsar, B., Al-Ghazali, B. M., Cheema, S., & Javed, F. (2020). Cultural intelligence and innovative work behavior: The role of work engagement and interpersonal trust. *European Journal of Innovation Management, 24*(4), 1082–1109.

Ahmad, S., Islam, M., Zada, M., Khattak, A., Ullah, R., Han, H., & Araya-Castillo, L. (2022). The influence of decision making on social inclusion of persons with disabilities: A case study of Khyber Pakhtunkhwa. International Journal of Environmental Research and Public Health, 19(2), 858.

Azizli, N., Atkinson, B. E., Baughman, H. M., & Giammarco, E. A. (2015). Relationships between general self-efficacy, planning for the future, and life satisfaction. Personality and Individual Differences, 82, 58–60.

Azizli, N., Atkinson, B. E., Baughman, H. M., & Giammarco, E. A. (2015). Relationships between general self-efficacy, planning for the future, and life satisfaction. *Personality and Individual Differences, 82*, 58–60.

Bandura, A. (1997). Self-efficacy: The exercise of control. W. H. Freeman.

Bedi, A., Alpaslan, C. M., & Green, S. (2021). A meta-analytic review of ethical leadership outcomes and moderators. Journal of Business Ethics, 139(3), 517–536.

Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. Organizational Behavior and Human Decision Processes, 97(2), 117–134.

Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes, 97*(2), 117–134.

Carmeli, A., Schaubroeck, J., & Tishler, A. (2010). How CEO empowering leadership shapes top management team processes: Implications for firm performance. The Leadership Quarterly, 21(2), 313–326.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. Organizational Research Methods, 4(1), 62–83.

Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods, 4*(1), 62–83.
Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.
De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. Creativity and Innovation Management, 19(1), 23–36.
De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and Innovation Management, 19*(1), 23–36.
Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: Is the door really open? Academy of Management Journal, 50(4), 869–884.
Edmondson, A. C. (2018). The fearless organization: Creating psychological safety in the workplace for learning, innovation, and growth. John Wiley & Sons.
Field, A. (2018). Discovering statistics using IBM SPSS statistics (5th ed.). Sage.
Fong, P. S., Men, C., Luo, J., & Jia, R. (2022). Knowledge hiding and team creativity: The contingent role of task interdependence. Journal of Management Studies, 59(1), 1–30.
Ghani, B., Zada, M., Memon, K. R., Ullah, R., Khattak, A., Han, H., ... & Araya-Castillo, L. (2022). Challenges and strategies for employee retention in the hospitality industry: A review. Sustainability, 14(5), 2885.
Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage Learning.
Hsu, M. L., Hou, S. T., & Fan, H. L. (2021). Creative self-efficacy and innovative behavior: A moderated mediation model. Journal of Creative Behavior, 55(4), 912–926.
Khan, A. N., Khan, N. A., & Bodla, A. A. (2023). Ethical leadership and innovative work behavior: The mediating role of psychological safety. Leadership & Organization Development Journal, 44(1), 1–17.
Khan, N. U., Zada, M., Ullah, A., Khattak, A., Han, H., Ariza-Montes, A., & Araya-Castilo, L. (2022). Servant leadership and followers prosocial rule-breaking: the mediating role of public service motivation. Frontiers in psychology, 13, 848531.
Kim, M., & Beehr, T. A. (2023). Ethical leadership and employee innovative behavior: The roles of psychological safety and work engagement. Journal of Business Ethics, 182(4), 1–15.
Lee, H. W., Choi, J. N., & Kim, S. (2023). Does ethical leadership enhance employee creativity? The mediating role of psychological empowerment and the moderating role of organizational climate for creativity. Journal of Business Ethics, 185(2), 1–16.
Li, C., Zhao, H., & Begley, T. M. (2024). Transformational leadership and innovation: A meta-analytic review. Journal of Management, 50(2), 567–598.
Liu, W., Zhang, P., & Liao, J. (2023). Harmonious passion and innovative behavior: The mediating role of intrinsic motivation and the moderating role of leadership support. Journal of Organizational Behavior, 44(3), 345–362.
Ma, X., Khattak, A., Ghani, B., & Huo, M. (2023). Perceived overqualification in higher education institutions: Enhancing employee innovative behavior via creative self-confidence and harmonious workplace climate. *Current Psychology*, 1-12.
Malik, M. A. R., Butt, A. N., & Choi, J. N. (2024). Rewarding creativity and innovation? A meta-analytic review of the differential effects of extrinsic and intrinsic rewards. Human Resource Management Review, 34(1), 100–118.
Manzoor, S. R., Ullah, A., Ullah, R., Khattak, A., Han, H., & Yoo, S. (2023). Micro CSR intervention towards employee behavioral and attitudinal outcomes: a parallel mediation model. *Humanities and Social Sciences Communications*, *10*(1), 1-14.
Miao, Q., Newman, A., Schwarz, G., & Xu, L. (2023). Ethical leadership and employee innovation: The mediating role of voice behavior and the moderating role of leader-member exchange. Journal of Business Ethics, 184(3), 1–15.

Mubarak, N., Khan, J., & Zada, M. (2024). The role of passion in stimulating innovative behavior: A study of knowledge workers. Journal of Knowledge Management, 28(2), 1–20.
Newman, A., Round, H., Wang, S., & Mount, M. (2020). Innovation climate: A systematic review and future research directions. Journal of Organizational Behavior, 41(8), 783–804.
Serrano, M. A., García-Cabrera, A. M., & García-Soto, M. G. (2024). Knowledge hiding and innovation: The moderating role of task interdependence and team trust. Journal of Knowledge Management, 28(3), 1–22.
Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. Academy of Management Journal, 45(6), 1137–1148.
Tierney, P., & Farmer, S. M. (2024). Creative self-efficacy development and creative performance over time. Journal of Applied Psychology, 109(1), 1–15.
Vallerand, R. J., Blanchard, C., Mageau, G. A., Koestner, R., Ratelle, C., Léonard, M., Gagné, M., & Marsolais, J. (2003). Les passions de l'âme: On obsessive and harmonious passion. Journal of Personality and Social Psychology, 85(4), 756–767.
Vallerand, R. J., Paquet, Y., Philippe, F. L., & Charest, J. (2023). On the role of passion for work in burnout: A process model. Journal of Personality, 91(2), 358–375.
Wang, H., Law, K. S., & Chen, Z. (2024). Ethical leadership and employee voice: The mediating role of psychological safety and the moderating role of power distance. Personnel Psychology, 77(1), 1–25.
Yidong, T., & Xinxin, L. (2013). How ethical leadership influence employees' innovative work behavior: A perspective of intrinsic motivation. Journal of Business Ethics, 116(2), 441–455.
Yuan, F., & Woodman, R. W. (2010). Innovative behavior in the workplace: The role of performance and image outcome expectations. Academy of Management Journal, 53(2), 323–342.
Zada, M., Khan, J., Saeed, I., & Zada, S. (2023). Linking ethical leadership to innovative work behavior: The mediating role of knowledge sharing and psychological safety. Journal of Knowledge Management, 27(4), 1–20.
Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. Academy of Management Journal, 53(1), 107–128.
Zhao, H., Xia, Q., & He, P. (2023). Knowledge hiding and team innovation: A cross-level moderated mediation model. Journal of Business Research, 155, 1–12.