

Zahra, Taqveem Tayyasar; Waheed, Ajmal

**Article**

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## **Influence of Ethical Leadership on Innovative Work Behavior: Examination of Individual-Level Psychological Mediators**

Taqveem Tayyasar Zahra (Corresponding author)  
Quaid-i-Azam School of Management Sciences, Quaid-i-Azam University, Islamabad, Pakistan  
School of Economics and Management, Tsinghua University, Beijing, China  
Email: tayyasar\_qau@yahoo.com

Ajmal Waheed  
Quaid-i-Azam School of Management Sciences, Quaid-i-Azam University, Islamabad, Pakistan  
Email: awkhan2@yahoo.com

### **Abstract**

This research aims to empirically examine the influence of ethical leadership on innovative work behavior by focusing on meaning; self-efficacy; self-determination; and, self-impact as individual-level psychological mediators of the proposed relationship. Present study used a sample of 508 researchers working in ten government research institutions of Pakistan. To analyze data for this cross-sectional study PROCESS, an add-on to SPSS was used. The study reveals significant positive influence of ethical leadership on innovative work behavior that was partially mediated by meaning; self-efficacy; self-determination; and, self-impact. The results are noteworthy as providing deeper insight of ethical leadership and innovative work behavior relationship via examining individual-level psychological mediators. Particularly, these findings are valuable for public sector practitioners who want to understand basic psychological processes for encouraging innovative work behavior of followers. Furthermore, present empirical research will assist scholars focusing on individual level outcomes of ethical leadership.

**Keywords:** ethical leadership, innovative work behavior, meaning, self-efficacy, self-determination, self-impact

### **1. Introduction**

In recent years, ethical leadership has gained extensive attention of both the management practitioners and scholar. The two basic reasons behind increased emphasis on ethical leadership include recent corporate ethical scandals and increased pressure for organizational efficiency (Hassan, 2015; Khokhar & Zia-ur-Rehman, 2017). First, recent scandals of fraud making once renowned organizations to fall (e.g., Lehman Brothers and Enron), in part, accrued due to leaders' unethical behaviors, damaged the organizations and shaken stakeholders' trust in leaders. More explicitly, leader's unethical conducts resulted into astounding costs in financial, social and human perspectives, Edelman and Nicholson (2011) pointing out the fall of Enron noted that it caused loss of investment, reduced consumer confidence, caused unemployment of numerous individuals, evoked

strict government regulations and damaged financial industry. Considering these costs of unethical behaviors, organizations necessitated investigation, understanding and promotion of ethical leadership for restoring public faith in general and to avoid legal encounters in particular. Second, the fierce competition for resources along with increased pressure for efficiency and cost reduction has emphasized the significance of ethical leadership practices. Since, effective leadership is essential for fostering employee in-role and extra role behaviors (Carmeli et al., 2013) to leverage organizational success.

Currently management literature on ethical leadership is focused on (1) role of ethical leadership in determining organizational and individual outcomes; and, (2) issues involved in implementation of ethical leadership practices. Despite of extensive focus on ethical leadership there exist many areas that require further investigations (Walumbwa et al., 2011; Mehmood, 2016). Most of the previous researches emphasized moral other than the motivational aspect of ethical leadership and investigated its impacts on subordinates' ethical and unethical conducts. Such as, Mayer et al. (2009) reported that employee perceived ethical leadership reduce their organizational deviance. Whereas, literature is scant with respect to motivational role of ethical leadership in determining employee attitudes and behaviors necessary for organization's successful survival in increasingly dynamic and complex environment. Particularly, the need is to focus on role of ethical leadership for encouraging employee job related extra role behaviors that are necessary for organizational efficiency (Hassan, 2015). One particular extra-role employee behavior which drawn considerable attention of researchers and has been presented to contribute for long-term organizational survival is innovative work behavior (Mehmood, 2016). Yidong and Xinxin (2013) examined intrinsic motivation as mediator for testing influence of ethical leadership on employee innovative work behavior. They recommended that more individual-level mediators should be considered to explain ethical leadership---innovative work behavior relationship. Few scholars have worked on employee innovative work behavior and creativity [i.e., Ma et al. (2013), Chen and Hou (2016), Dhar (2016), Mehmood (2016)] however, much research and empirical investigations are still required for examining influence of ethical leadership on innovative work behavior of employees. Researchers [e.g., Yidong and Xinxin (2013), Ma et al. (2013), Mehmood (2016)] have recommended that individual-level psychological mediators should be investigated to explore ethical leadership and innovative work behavior relationship. In sum, emphasizing both the contextual (i.e., ethical leadership) and personal (i.e., individual-level psychological mediators) factors literature present two important questions to be answered i.e., "Is ethical leadership behavior related to innovative work behavior?" and "If yes, how ethical leadership influence innovative work behavior?" Finding solutions to these literary questions is the actual problem of interest. To fill the gaps, present study contributes via focusing on meaning, self-efficacy, self-determination and self-impact as individual-level psychological mediators of ethical leadership and innovative work behavior relationship.

Examining influence of ethical leadership on employee extra-role behaviors is also important with reference to government sector organizations. Since, government organizations are also under tremendous pressure of finding effective ways to fulfil organizational objectives. At the same time, operating environment of government organizations has become increasingly dynamic, interdependent and complex. In such circumstances, employees are not only required to perform their job related tasks but go

beyond formal job contents through engaging in citizenship and extra role behaviors (Vigoda-Gadot & Golembiewski, 2001). There exist few researches that examined the relationship of ethical leadership and employee extra-role behaviors with reference to government organizations. Hassan (2015) has studied ethical leadership as antecedent to employee's voice behavior among state agency workers. Researcher found support for moderation of personal control in ethical leadership---voice behavior relationship. However, study concluded that while examining influence of ethical leadership on employees' extra-role behaviors future studies should consider empowerment related aspects. In this context, study conducted by Chen and Hou (2016) is more important as examining psychological processes that link ethical leadership and creativity among government R&D employees in Taiwan. They provided support for mediating role of voice and moderating role of climate for innovation in ethical leadership---creativity relationship. However, they necessitated more investigations regarding ethical leadership influence on creativity and innovation. To fill this context specific research gap, present study extends literature via examining more distinct psychological processes in the link between ethical leadership and innovative work behavior (which relates to both the creativity and voice behavior, as it require generation and promotion of novel ideas for organizational improvements) among researchers in the government sector research institution of Pakistan.

Keeping in view the background of the study, research gaps and the problems identified, aim of present study is to empirically answer following questions:

- Does ethical leadership relate to employee innovative work behavior?
- Does individual-level psychological factors including meaning, self-efficacy, self-determination and self-impact mediate ethical leadership---innovative work behavior relationship?

Present research is significant as it focuses on how ethical leadership influence and encourage innovative work behavior. Most importantly, objectives of this research also include investigation of mediating roles of individual-level psychological factors (including meaning, self-efficacy, self-determination and self-impact) in the relationship of ethical leadership and innovative work behavior. Moreover, this study supplement literature relating to government sector organizations via investigating proposed model using a sample of researchers from government R&D institutions (for agriculture, poultry, veterinary, health and medicine) of Pakistan. The sample of researchers is selected as they are individuals usually involved in the innovative activities for introducing new products and process, rectifying issues that occur and providing solutions of the problems.

By examining ethical leadership as an antecedent to employee innovative work behavior this study offers implications for both management scholars and practitioners. Incorporating role of meaning, self-efficacy, self-determination and self-impact, this study will help scholars and practitioners to understand how and to what extend ethical leadership can contribute for encouraging innovative work behavior. Particularly, these findings are valuable for public sector practitioners who want to understand basic psychological processes for encouraging innovative work behavior of followers. It will also assist organizational leaders to design more distinct polices for work place ethics to

promote and reward desired behaviors among employees. Furthermore, present empirical research will assist scholars focusing on individual level outcomes of ethical leadership.

Rest of the manuscript is divided into five parts (identified as section 2-6). The first part (section 2) covers literature review, research hypotheses and the proposed conceptual model. The research methodology is given in the second part (section 3). Third part provides results of the statistical analysis (section 4). Discussion of research findings, study contributions and implications are given in the fourth part (i.e., section 5) of the study. Last part (section 6) is about study limitations and future directions.

## **2. Literature Review**

### *2.1 Ethical Leadership*

Ethical leadership is one dimension of overall leadership construct which basically relates to vision, stimulation and inspirational behavior. Brown et al. (2005) provided a multidimensional and most widely used conceptualization of ethical leadership and defined it as demonstration of appropriate actions personally and in interactive relationships, as well as, promotion of this behavior to subordinates via two-way communication, reinforcement and decisions making. Highlighting two basic aspects of ethical leadership i.e., moral manager and moral person (Brown & Trevino, 2006) suggested that ethical leaders have to (i) become role model by demonstrating ethical practices in normatively appropriate manner; (ii) provide subordinates with voice and procedurally just process other than merely drawing attention to ethical practices by explicitly talking about them (Howell & Avolio, 1992; Bass & Steidlmeier, 1999); (iii) set and maintain ethical standards by rewarding compliance and punishing those who violate (Gini, 1998); and, (iv) make decisions ethically that could be observed by others in consideration with the possible consequences (Burns, 1978; Bass & Avolio, 2000). More explicitly, ethical leadership is different from other leadership styles for having qualities of people orientation, trustworthiness, justice, openness, supportiveness, collective motivation, mutual respect, clear vision, fair treatment, balanced decision making and altruism (Zhu et al., 2004; Brown et al., 2005; Resick et al., 2006; Brown & Trevino, 2006). Due to such characteristics, researchers reported that ethical leadership significantly influence followers' attitudes and behaviors such as organizational commitment, job satisfaction, organizational citizenship behavior, organizational identification, job performance and voice behavior (Brown et al., 2005; Walumbwa et al., 2011; Avey et al., 2012; Qi & Ming-Xia, 2014; Wang et al., 2015; et al., 2017). However, studies conducted by Yidong and Xinxin (2013) and Dhar (2016) are among the few which explicitly examined effect of ethical leadership on innovative work behavior.

### *2.2 Innovative Work Behavior*

De Jong and Den Hartog (2008) provided a broader view of innovative work behavior as being comprised of opportunity exploration, generation of ideas, championing and ideas implementation. This is a complex behavior displayed via generating, promoting and applying novel ideas to improve organizational functioning (Janssen, 2000, 2005). These three activities occur in a proper sequence (Scott & Bruce, 1994) whereas, an individual may engage in one or more activities at the same time. Van der Vegt and Janssen (2003) noted that when an individual come up with a new idea, he promote his idea to find support for implementing it and he is expected to apply idea for completing the innovation process. Therefore, innovative work behavior is different from creativity, as

creativity just involves idea generation, whereas innovative work behavior is a complete process that extends beyond idea generation and includes idea promotion and idea implementation as well.

More and more organizations attempt to encourage innovative work behavior among employees for successful survival in the dynamic and turbulent environment. Previous researches have examined role of leadership and organizational climate in determining employee innovative work behavior and found that supportive and empowering work environment and leadership behaviors encourage innovation on the part of employees (Oldham & Cummings, 1996; Martins & Terblanche, 2003; Dhar, 2016). In line with the preceding studies present research is intended to investigate influence of ethical leadership on innovative work behavior of researchers in the government institutions.

### *2.3 Ethical Leadership and Innovative Work Behavior*

Social exchange theory (Blau, 1964) provide basis for ethical leadership---innovative work behavior relationship. Since, followers of ethical leaders perceive themselves as being in high quality social exchange relationship with their leader; they reciprocate by exerting more efforts and get themselves engaged in innovative work behavior (Brown et al., 2005; Yidong & Xinxin, 2013). Furthermore, ethical leaders via demonstrating qualities of honesty, openness, collective motivation, altruism, trustworthiness, justice and fair treatment (Brown et al., 2005; Resick et al., 2006; Brown & Trevino, 2006) contribute at every stage of innovative work behavior process. At the first stage of idea generation, ethical leaders by facilitating two-way communication and listening to their subordinates encourage followers to generate and express new ideas for improving work processes and procedures (Martins & Terblanche, 2003). Moreover, as ethical leaders respect dignity and talent of others (Ciulla, 2004), so they provide followers with the opportunities to acquire work related knowledge and skills, assign them tasks which best suits their capabilities (Zhu et al., 2004) hence make them capable of introducing novel improvements. In the second stage of innovative work behavior (i.e., idea promotion) ethical leaders contribute via exhibiting traits of altruism and honesty (Gardner et al., 2005), making employees feel more psychological safety to speak up for promoting their ideas. At third stage, ethical leaders via providing followers with more autonomy, freedom, independence, active role and control over the tasks to be performed (Brown et al., 2005; Oke et al., 2009; Piccolo et al., 2010) facilitate them to implement new ideas and work processes.

According to theoretical justifications stated above ethical leadership can influence innovative work behavior of subordinates. The previous studies have empirically examined ethical leadership---innovative work behavior relationship in different contexts. For instance, in their study of 309 individuals working in 4 manufacturing, technology and logistics companies of china, Ma et al. (2013) concluded that ethical leadership positively relates to employee creativity (an important component of innovative work behavior---in fact the very initial step of innovation process). Yidong and Xinxin (2013) investigated influence of ethical leadership on innovative work behavior of 302 employees working in manufacturing and telecommunication industries of china. They found that perceived ethical leadership positively relates to employee innovative work behavior. Dhar (2016) in their study of 468 employees (first hotels of Uttarakhand, India) concluded that ethical leadership positively influences innovative work behavior. Mehmood (2016) also investigated impact of ethical leadership on creativity of 126

employees from private organizations of Pakistan. She noted that ethical leadership positively relates to employee creativity. Most of the empirical researches regarding ethical leadership and innovative work behavior relationship were conducted using samples from private sector organizations, very few attempts were made in the government sector. For example, Chen and Hou (2016) reported a strong positive relationship between ethical leadership and creativity for employees of government R&D institutions in Taiwan. Accordingly, it is expected that ethical leadership will positively relate to innovative work behavior of researchers working in government institutions of Pakistan. Therefore, first hypothesis of the study is proposed in a new context.

- **H<sub>1</sub>:** Ethical leadership is positively related to innovative work behavior.

#### *2.4 Meaning, Self-Efficacy, Self-Determination and Self-Impact*

Meaning, self-efficacy, self-determination and self-impact are the four main constituents of overall psychological empowerment construct (Thomas & Velthouse, 1990; Spreitzer, 1995, 1996). First, *meaning* is referred to the value of purpose or work goal, judged by the individual in relation to his own standards and ideas (Thomas & Velthouse, 1990). Second, *self-efficacy* or *competence* reflects employee's belief on his own capabilities for carrying out the tasks assigned with required skill (Bandura, 1977; Gist, 1987). Third, *self-determination* is an employee's perception of having choice in regulating and initiating actions and activities (Deci et al., 1989). Therefore, it reflects autonomy for deciding about continuation or even initiation of work processes and behaviors; for instance making decisions regarding work methods, efforts and pace (Spector, 1986). Last, *self-impact* reflects the degree of an employee's perceived influence on administrative, strategic and operating outcomes at workplace (Ashforth, 1989). In sum, meaning, self-efficacy, self-determination and self-impact are the psychological processes that relate to employee personal perceptions and could not be imposed (Spreitzer, 1995).

For organizations operating in today's dynamic and complex environment, it is essential to identify factors that contribute to employee's perceived meaning, self-efficacy, self-determination and self-impact. Raub and Robert (2012) suggested that leader's behavior is a significant contextual factor in this regard. However, very few researches focused on ethical leadership as a means to enhance employee innovative work behavior via mediating roles of meaning, self-efficacy, self-determination and self-impact.

#### *2.5 Mediating Role of Meaning, Self-Efficacy, Self-Determination and Self-Impact*

Ethical leaders as having qualities of coaching, trustworthiness, participative decision making, informing, leading by example and showing concern (Brown et al., 2005) can encourage followers innovative work behavior via mediating roles of meaning, self-efficacy, self-determination and self-impact. Theoretically, the mechanisms for the mediating roles of meaning, self-efficacy, self-determination and self-impact are discussed as follows:

First, Piccolo and Colquitt (2006) noted that leader influence followers' sense of meaning through altering subordinates' perception of job, considering dimensions related to experienced meaningfulness of the tasks. Tasks can be considered meaningful if perceived by employees as (1) contributing for achievement of goals; and, (2) strengthening connection with the community (Podolny et al., 2004). Ethical leaders via showing concern for followers, offering more involvement in decision making and

providing personal attention enhances subordinates perceived meaningfulness of the job. When ethical leader highlight importance of subordinates roles, it encourage them to pay more attention to their work and generate new ideas for achieving organizational goals (Brown & Trevino, 2006; Yidong & Xinxin, 2013). In this way, via improving meaning perception of employees, ethical leadership can encourage followers innovative work behavior. Second, Bandura (1986) noted that self-efficacy is enhanced via mastering necessary skills and getting praise from supervisor. Accordingly, ethical leaders as they provide followers with the opportunities to acquire work related knowledge and assign them tasks which best suits their capabilities (Zhu et al., 2004) enhance employees self-efficacy perception. Consequently employees become more willing to engage in innovation related activities (Ma et al., 2013). Hence, it can be proposed that self-efficacy mediate ethical leadership---innovative work behavior relationship. Finally, higher level of decision making participation and free interaction with the leader enhances subordinates' perception of influence and impact (Scandura et al., 1986) that ultimately foster their experience of self-determination. More autonomy and freedom to schedule work related tasks improve employee motivation (Brown et al., 2005; Piccolo et al., 2010) that ultimately encourage them to expand work efforts and practice innovative work behavior (Yidong & Xinxin, 2013).

Preceding discussion provide theoretical rational for examining mediating role of meaning, self-efficacy, self-determination and self-impact in the link between ethical leadership and innovative work behavior. However, there exist empirical researches as well that provide basis for mediating roles of meaning, self-efficacy, self-determination and self-impact in ethical leadership and innovative work behavior relationship. Yidong and Xinxin (2013) investigated ethical leadership---innovative work behavior relationship and reported significant indirect effect of ethical leadership on innovative work behavior considering mediating role of intrinsic motivation. However, they emphasized that future studies should incorporate other mediating and moderating variables (e.g, self-efficacy and personality) in the link between ethical leadership and innovative work behavior. Present research not only answered the literary call but also extends their work (by considering meaning, self-efficacy, self-determination and self-impact) as mediators. Ma et al. (2013) found association between ethical leadership, self-efficacy, knowledge sharing and employee creativity (an initial stage of innovative work behavior process). They proposed that ethical leaders facilitate knowledge sharing and enhance perceived self-efficacy which in turn positively influences employee creativity. Current study extends their work by incorporating more individual-level mediators.

Wang et al. (2015) demonstrated that ethical leadership positively relates to voice behavior. They suggested that link between ethical leadership and voice was mediated by employee perceived self-efficacy and self-impact. Whereas, Chen and Hou (2016) noted that voice behavior mediate the effect of ethical leadership on creativity. Findings of Wang et al. (2015) and Chen and Hou (2016) provided empirical justifications for examining mediating role of self-efficacy and self-impact in the link between ethical leadership and innovative work behavior. Dhar (2016) further added to the previous work by confirming leader-member exchange as an individual-level mediator of ethical leadership and innovative behavior. Therefore, it can be argued that ethical leaders can shape employee perceptions regarding personal capabilities and workplace relationships which ultimately influence their innovative work behavior. Particularly in the context of



government sector, to explore influence of ethical leadership on employees extra role behaviors, recent research emphasize to focus on individual-level psychological mediators (e.g., Hassan, 2015). However, to the best of our knowledge there exist no empirical research (considering employees of government organizations) investigating mediating role of meaning, self-efficacy, self-determination and self-impact in the relationship of ethical leadership and innovative work behavior. Therefore, current study with a focus on government sector employees proposes meaning, self-efficacy, self-determination and self-impact as mediators to ethical leadership and innovative work behavior relationship.

- **H<sub>2</sub>**: Meaning mediates the ethical leadership---innovative work behavior relationship.
- **H<sub>3</sub>**: Self-efficacy mediates the ethical leadership---innovative work behavior relationship.
- **H<sub>4</sub>**: Self-determination mediates the ethical leadership---innovative work behavior relationship.
- **H<sub>5</sub>**: Self-impact mediates the ethical leadership---innovative work behavior relationship.

2.6 Conceptual Model

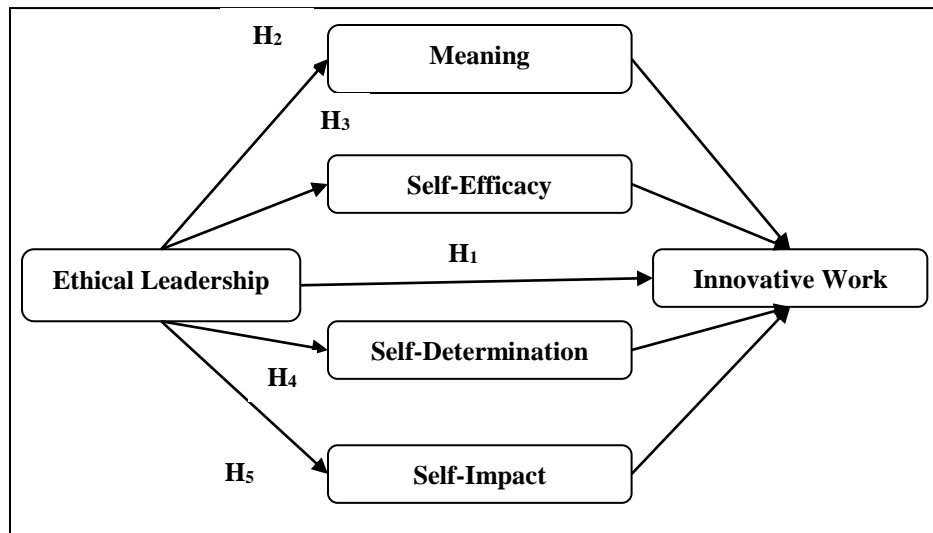


Figure 1: Conceptual Model

3. Methodology

3.1 Population, Sample and Procedure

Target population considered for the present study is researchers from the government research institutions of Pakistan. Sample of researchers was selected from ten research institutions (for agriculture, poultry, veterinary, health and medicine related research) located in four major cities (Islamabad, Rawalpindi, Lahore and Faisalabad). Reasons behind selection of researchers are twofold. First, this study is focused on innovative work behavior and researchers are the individuals who are usually involved in innovative

projects. Second, previous studies have also used researchers as sample for investigating creativity and innovation related behaviors (e.g., Chen & Hou, 2016). For the purpose of data collection, respective authorities of selected institutions were contacted personally. After obtaining permission from the authorities of institutions, respondents were approached individually. Participants were ensured of their voluntary participation, anonymity and confidentiality before being presented with the survey material. Survey material was comprised of a cover letter (explaining purpose of research and instructions for completing survey); demographic sheet; and, the research scales. Initially 800 self-reported questionnaires were distributed from which 508 correctly filled questionnaires were obtained showing 63.5% rate of response. Final sample was comprised of 59.4% male and 40.6% female respondents, most of them (35%) belong to age group of 27-33 (years), almost half of the sample (42.9%) were PhD degree holders, 51.6% were having less than 5 years length of service and 65.4 % were permanent employees. Complete profile of respondents is given in Table 1 below.

**Table 1: Respondents Profile**

<b>Demographic Variable</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
Gender		
Male	302	59.4
Female	206	40.6
<b>Total</b>	<b>508</b>	<b>100.0</b>
Age Group (Years)		
20-26	38	7.5
27-33	178	35.0
34-40	169	33.3
41-47	61	12.0
48 or above	62	12.2
<b>Total</b>	<b>508</b>	<b>100.0</b>
Qualification		
Bachelor	30	5.9
Master	66	13.0
M.Phil	194	38.2
Ph.D	218	42.9
<b>Total</b>	<b>508</b>	<b>100.0</b>
Length of Service (Years)		
5 or less	262	51.6
6-10	110	21.7
11-15	73	14.4
16-20	21	4.1
21 or above	42	8.3
<b>Total</b>	<b>508</b>	<b>100.0</b>
Employment Status		
Contractual Employee	176	34.6
Permanent Employee	332	65.4
<b>Total</b>	<b>508</b>	<b>100.0</b>

*Note.* N = 508

### 3.2 Measures

Scales to measure the study variables were adapted with due permission of respective authors. To measure “ethical leadership” scale developed by Brown et al. (2005) was used. Ten items of the measure were to be rated on five point scale i.e., 1 (strongly

disagree) to 5 (strongly agree). Sample item was, “My ‘boss’ listens to what employees have to say.”

To measure “innovative work behavior” scale developed by Scott and Bruce (1994) was used. Six items of the measure were to be rated on five point scale i.e., 1 (strongly disagree) to 5 (strongly agree). Sample item was, “I promote and champion ideas to others.”

Psychological empowerment scale developed by Spreitzer (1995) was used to measure “meaning, self-efficacy, self-determination and self-impact”. Twelve items (three items for each of the meaning, self-efficacy, self-determination and self-impact) were to be rated on the seven point scale i.e., 1 (strongly disagree) to 7 (strongly agree). A sample item was, “The work I do is meaningful to me.”

### *3.3 Control Variable*

Following the previous empirical studies on ethical leadership and followers innovative work behavior (e.g., Yidong & Xinxin, 2013), gender of employees was controlled in this research to reduce confounding effects.

### *3.4 Data Analysis Protocol*

Research data was analyzed using Statistical Package for Social Sciences (SPSS) version 20. Primarily, frequency and percentages were computed for gender, age, qualification, length of service and employment status to describe the respondents’ profile. Means, standard deviations, alpha reliabilities and bivariate correlations were computed in the descriptive statistics section. Important regression assumptions were also tested prior to hypotheses testing. To test direct and mediation hypotheses PROCESS an add-on in SPSS was applied. Meaning, self-efficacy, self-determination and self-impact were tested as separate mediators to ethical leadership and innovative work behavior relationship considering Baron and Kenny (1986) recommendations as: (i) independent variable (IV) predicts dependent variable (DV) (path-c), (ii) IV must predicts mediating variable (MV) (path-a), (iii) MV must be related to DV (path-b), and (iv) when both IV and MV are included, IV no longer predicts DV (full mediation) or lessened predicting DV (partial mediation) (path-c’). Moreover, following the suggestion of Preacher and Hayes (2004) significance of indirect effect was also tested, as a necessary component of mediation to occur in each case, using bootstrap approach (95% confidence intervals were obtained using 5000 bootstrap samples) and normal theory approach (i.e., Sobel test). According to Preacher and Hayes (2004), 95% bootstrapped confidence interval for indirect effect if not include zero, shows that indirect effect is significantly differ from zero and mediation has occurred. Whereas, Sobel test compare strength of indirect effect to null hypothesis that it is zero. Significant Sobel test result show that total effect of independent variable on dependent variable was reduced significantly with the addition of mediator in the model and mediation has occurred (Preacher & Hayes, 2004). Criterion for statistical significance of results was  $p < .05$  for the current study.

### *3.5 Common Method Bias*

The current research used self-reported questionnaires for collecting primary data on study variables therefore, following Simonin (1997) and Zheng et al. (2010); Harman’s one factor test was applied to assess possibility of common method bias. Results for principal components factor analysis showed 5 factors with eigenvalues greater than 1.

These 5 factors accounted for 66.09% cumulative variance, the first factor accounted for only 29.74% (less than 50%) variance. Thus, there was no serious issue of common method bias for the present study (Podsakoff & Organ, 1986).

#### 4. Results

##### 4.1 Descriptive Statistics

Mean (M), standard deviation (SD) and bivariate correlation coefficients for study variables along with reliability coefficients for measures used in the present research are given in Table 2 below.

**Table 2: Descriptive Statistics, Correlation and Reliability**

	Variables	M	SD	1	2	3	4	5	6	7
1	Gender	1.41	.49	-						
2	Ethical Leadership	3.71	.79	-.01	(.93)					
3	Innovative Work Behavior	3.81	.65	-.00	.25**	(.86)				
4	Meaning	6.12	.95	.08	.18**	.32**	(.87)			
5	Self-Efficacy	6.08	.89	.00	.17**	.40**	.65**	(.85)		
6	Self-Determination	5.47	1.07	-.00	.34**	.25**	.41**	.47**	(.80)	
7	Self- Impact	4.49	1.38	.01	.27**	.24**	.17**	.20**	.46**	(.88)

Note. N = 508. Reliability coefficients are given on the diagonal.

\*\* $p < .01$ . sig (2-tailed)

The mean and standard deviations showed that overall responses on study variables were above the mean with non-zero variance. Correlation results endorsed the discriminant validity of measures being used since, correlations between variables were well below 0.75 the threshold value (Kline, 1998). This showed that study variables are significantly distinct and discriminant from one another. Furthermore, correlations between study variables have shown that all the variables were significantly and positively related to each other in the expected directions. Table 2 also shows Cronbach's alpha reliabilities for study scales (all above .60) indicating that scales were internally consistent and reliable (Sekaran, 2005).

##### 4.2 Regression Assumptions

Prior to testing the research hypotheses, important regression assumptions were tested as per criteria suggested by Field (2005). First assumption require that predictors should be categorical or quantitative (i.e., measured at interval level), and outcomes should be continuous, quantitative and unbounded. Current study holds this assumption as predictor and outcome variables were quantitative and continuous. Moreover, for present study actual and observed ranges of outcome variables (MVs and DV) were same indicating unboundedness. Second, assumption of non-zero variance was also satisfied as predictor variables (IV and MVs) of present research have variation in their values (non-zero SD's as reported in descriptive statistics section of this study). Third, there was no serious issue of multicollinearity as predictor variables were not too highly correlated (Field, 2005, Montgomery et al., 2009). Fourth, following the suggestions of Filed (2005) for large

samples (more than 200), normality assumption was checked via inspecting P-P Plots (Normal Probability plots) for study variables. These plots were generated by graphing cumulative probability of study variables against cumulative probability of normal distribution. For all the study variables, it was observed that data points on P-P plots fall closer to ideal diagonal line indicating no deviations from normality. Five, assumption of independent errors was tested via computing Durbin-Watson statistics for study models. Test statistics were found within acceptable range (1.5 to 2.5) suggesting that adjacent residuals were not correlated. Finally, assumption of homoscedasticity was confirmed through Scatter Plot of standardized residuals appearing like a random display of dots consistently dispersed around zero. Hence, data holds the assumption of homoscedasticity as well.

4.3 Hypotheses Testing

To test the direct and mediation hypotheses, PROCESS was used following the guidelines of Preacher and Hayes (2004). PROCESS is a computational method to test path models i.e. mediation, moderation and the combinations of mediation and moderation. In case of testing mediation, PROCESS generates number of output options such as estimation of OLS regression coefficients; 95% confidence interval for the size of indirect effect; and, the Sobel test results.

Table 3: Ethical Leadership and Meaning as Predictors of Innovative Work Behavior

Variable	Innovative work behavior		
	Model 1 <i>B</i>	Model 2	
		<i>B</i>	95% CI
Constant	3.03***	2.03***	[1.62, 2.44]
Gender	0.00	-0.03	[-0.14, 0.08]
Ethical leadership	0.21***	0.17***	[0.10, 0.23]
Meaning		0.20***	[0.14, 0.25]
<i>R</i> <sup>2</sup>	.06	.14	
<i>F</i>	17.24***	28.36***	
$\Delta R^2$		.08	
$\Delta F$		11.12	

Note. *N* = 508. CI = confidence interval.  
 \**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

As shown by model 1 of table 3 after controlling for the effect of gender, ethical leadership significantly and positively predicted innovative work behavior. Ethical leadership explained 6% variance in innovative work behavior. Therefore, first hypothesis was supported. It also confirmed first recommendation (i.e. path-c) of Baron and Kenny (1986) for testing mediation of meaning in ethical leadership and innovative work behavior relationship. For mediation analysis results showed that ethical leadership significantly and positively predicted meaning (path-a), as *F* (2, 505) = 10.05\*\*\*, *R*<sup>2</sup> = .04, *B* = .22\*\*\*, *t* (505) = 4.09. Moreover, ethical leadership and meaning (when both were included i.e., model 2) were found predicting innovative work behavior

significantly. Whereas, meaning significantly predicted innovative work behavior (i.e., path-b) with  $B = .20^{***}$ ,  $t(504) = 6.89$ . However, when meaning was considered as mediator, ethical leadership was lessened predicting innovative work behavior (i.e., path-c') with  $B = .17^{***}$ ,  $t(504) = 4.81$ . Thus, remaining three recommendations of Baron and Kenny (1986) were also satisfied suggesting partial mediation of meaning in the relationship of ethical leadership and innovative work behavior. Figure 2 show the mediation results.

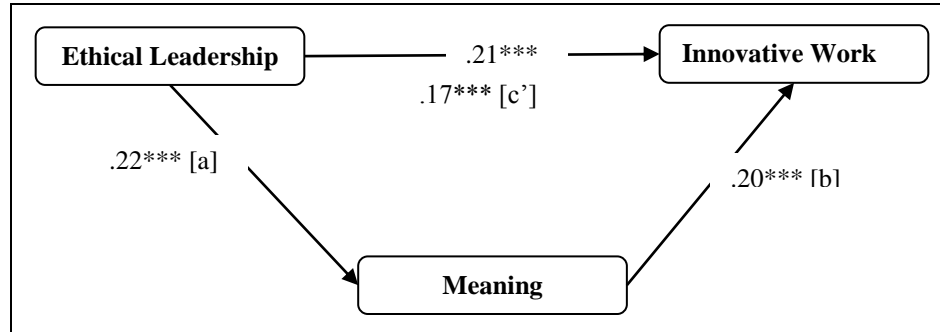


Figure 2: Mediating Role of Meaning

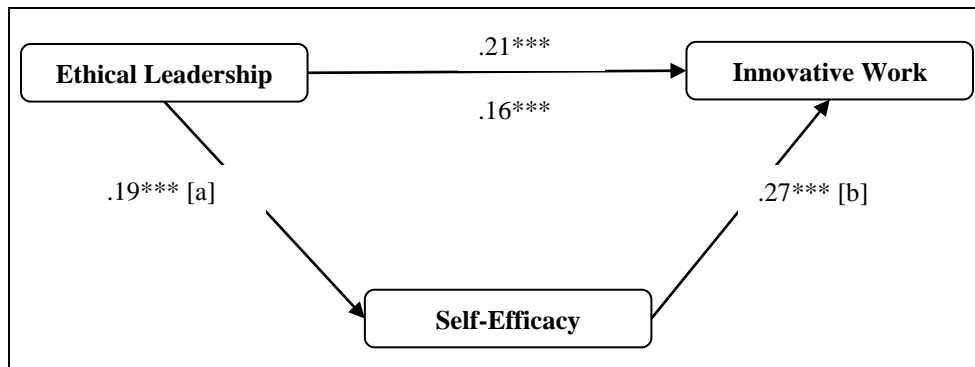
Figure 2 shows the total [c] and direct [c'] effects of ethical leadership on innovative work behavior suggesting indirect effect of  $(ab \text{ or } c-c') = .04$ , that is significantly different from zero as indicated by 95% confidence interval of [0.02, 0.09] for indirect effect. Sobel test result ( $z = 3.49, p < .001$ ) also confirmed that total effect of ethical leadership on innovative work behavior was significantly reduced with the addition of meaning in the model 2. Results revealed that meaning partially mediate ethical leadership---innovative work behavior relationship. Thus,  $H_2$  was supported.

Table 4: Ethical Leadership and Self-Efficacy as Predictors of Innovative Work Behavior

Variable	Innovative Work Behavior		
	Model 1 B	Model 3	
		B	95% CI
Constant	3.03***	1.58***	[1.16, 2.00]
Gender	0.00	0.00	[-0.10, 0.10]
Ethical Leadership	0.21***	0.16***	[0.09, 0.22]
Self-Efficacy		0.27***	[0.21, 0.33]
$R^2$	.06	.20	
F	17.24***	41.57***	
$\Delta R^2$		.14	
$\Delta F$		24.33	

Note.  $N = 508$ . CI = confidence interval  
 $*p < .05$ .  $**p < .01$ .  $***p < .001$

Following the recommendations of Baron and Kenny (1986) mediating role of self-efficacy in the relationship of ethical leadership and innovative work behavior was tested through examining path-c, path-a, path-b and path-c'. Results indicated that after controlling for the effect of gender, ethical leadership significantly and positively predicted innovative work behavior (see model 1 i.e., path-c) and self-efficacy (with  $F(2, 505) = 7.13^{***}$ ,  $R^2 = .03$ ,  $B = .19^{***}$ ,  $t(505) = 3.78$ ) i.e., path-a. Moreover, ethical leadership and self-efficacy (when both were included i.e., model 3) were found predicting innovative work behavior significantly. Whereas, self-efficacy predicts innovative work behavior (i.e., path-b) with  $B = .27^{***}$ ,  $t(504) = 9.19$ . When self-efficacy was considered as mediator, ethical leadership was lessened predicting innovative work behavior (path-c') with  $B = .16^{***}$ ,  $t(504) = 4.73$ . Both ethical leadership and self-efficacy explained 20% variance in innovative work behavior. These findings confirmed Baron and Kenny (1986) recommendations suggesting partial mediation of self-efficacy in ethical leadership---innovative work behavior relationship. Figure 3 show the mediation results.



**Figure 3: Mediating Role of Self-Efficacy**

In case of self-efficacy, indirect effect (ab or c-c') of ethical leadership on innovative work behavior was .05 that is significantly different from zero as suggested by the 95% confidence interval for indirect effect [0.02, 0.10]. Sobel test results ( $z = 3.47$ ,  $p < .001$ ) also confirmed partial mediation of self-efficacy in the ethical leadership and innovative work behavior relationship. Thus,  $H_3$  was supported.

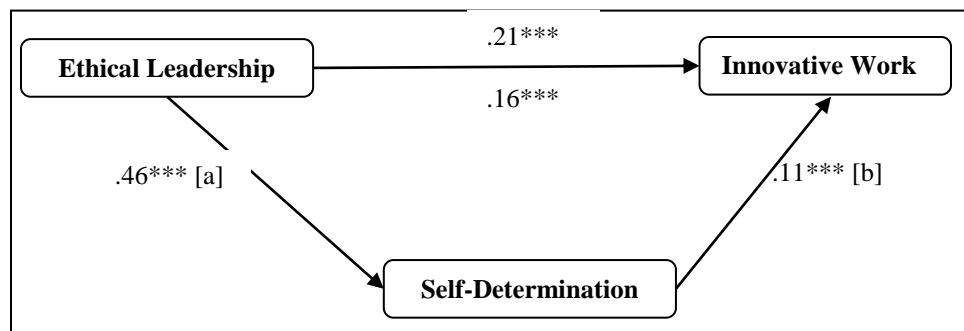


**Table 5: Ethical Leadership and Self-Determination as Predictors of Innovative Work Behavior**

Variable	Innovative Work Behavior		
	Model 1 <i>B</i>	Model 4	
		<i>B</i>	95% CI
Constant	3.03***	2.62***	[2.25, 2.98]
Gender	0.00	0.00	[-0.11, 0.11]
Ethical Leadership	0.21***	0.16***	[0.09, 0.23]
Self-Determination		0.11***	[0.06, 0.16]
<i>R</i> <sup>2</sup>	.06	.09	
<i>F</i>	17.24***	17.34***	
$\Delta R^2$		.03	
$\Delta F$		.10	

Note. *N* = 508. CI = confidence interval  
 \**p* < .05. \*\**p* < .01. \*\*\**p* < .001

Following Baron and Kenny (1986) approach to test mediation of self-determination; path-c, path-a, path-b and path-c' were examined. Results as given in table 5 suggested that after controlling for the effect of gender, ethical leadership significantly predicted innovative work behavior (i.e., path-c) and accounted for 6% variance in it. Ethical leadership was also found predicting self-determination significantly (path-a), with *F* (2, 505) = 32.43\*\*\*, *R*<sup>2</sup> = .11, *B* = .46\*\*\*, *t* (505) = 8.05. Moreover, ethical leadership and self-determination (when both were included in model 4) were also found predicting innovative work behavior significantly. Whereas, self-determination predicted innovative work behavior (i.e., path-b) with *B* = .11\*\*\*, *t* (504) = 4.06. When self-determination was considered as mediator, ethical leadership was lessened predicting innovative work behavior (path-c') with *B* = .16\*\*\*, *t* (504) = 4.24. All recommendations of Baron and Kenny (1986) were satisfied suggesting partial mediation of self-determination in ethical leadership---innovative work behavior relationship. Results are shown in figure 4 below.



**Figure 4: Mediating Role of Self-Determination**

## Influence of Ethical Leadership on Innovative Work Behavior

Taking self-determination as mediator of the relationship, indirect effect of ethical leadership on innovative work behavior was  $(ab \text{ or } c-c') = .05$ . 95% confidence interval [0.02, 0.09] for the indirect effect suggested that indirect effect was significantly different from zero. Sobel test (with  $z = 3.60$ ,  $p < .001$ ) also confirmed that total effect of ethical leadership on innovative work behavior was significantly reduced with the addition of self-determination in the model 4. These findings supported the fourth hypothesis of current study suggesting partial mediation of self-determination in the relationship between ethical leadership and innovative work behavior.

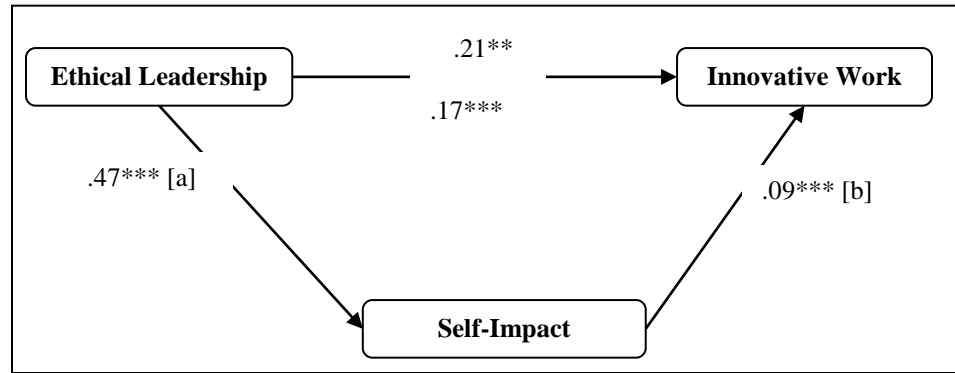
**Table 6: Ethical Leadership and Self-Impact As Predictors of Innovative Work Behavior**

Variable	Innovative Work Behavior		
	Model 1 <i>B</i>	Model 5	
		<i>B</i>	95% CI
Constant	3.03***	2.79***	[2.47, 3.12]
Gender	0.00	0.00	[-0.11, 0.11]
Ethical Leadership	0.21***	0.17***	[0.10, 0.24]
Self-Impact		0.09***	[0.05, 0.13]
<i>R</i> <sup>2</sup>	.06	.10	
<i>F</i>	17.24***	18.12***	
$\Delta R^2$		.04	
$\Delta F$		.88	

Note.  $N = 508$ . CI = confidence interval.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Mediating role of self-impact in the relationship of ethical leadership and innovative work behavior was tested through examining path-c, path-a, path-b and path-c'. Results indicated that after controlling for the effect of gender, ethical leadership significantly and positively predicted innovative work behavior (model 1 i.e., path-c) and self-impact (i.e., path-a, with  $F(2, 505) = 19.72***$ ,  $R^2 = .07$ ,  $B = .47***$ ,  $t(505) = 6.28$ ). Moreover, ethical leadership and self-impact (when both were included i.e., model 5) were found predicting innovative work behavior significantly. Whereas, self-impact predicted innovative work behavior (i.e., path-b) significantly with  $B = .09***$ ,  $t(504) = 4.32$ . When self-impact was considered as mediator, ethical leadership was lessened predicting innovative work behavior (path-c') with  $B = .17***$ ,  $t(504) = 4.59$ . Thus, all the recommendations of Baron and Kenny (1986) were satisfied and suggested partial mediation of self-impact in ethical leadership---innovative work behavior relationship. Figure 5 show the mediation results.



**Figure 5: Mediating Role of Self-Impact**

For self-impact, indirect effect (ab or c-c') of ethical leadership on innovative work behavior was .04. 95% confidence interval [0.02, 0.08] for the indirect effect suggested that indirect effect was significantly different from zero. Sobel test (with  $z = 3.53$ ,  $p < .001$ ) also confirmed that total effect of ethical leadership on innovative work behavior was significantly reduced with the addition of self-impact in the model 5. These findings suggest partial mediation of self-impact in the relationship of ethical leadership and innovative work behavior. Hence, support the study hypothesis 5.

## 5. Discussion

The present study was aimed at (1) empirically examining ethical leadership and innovative work behavior relationship; and, (2) investigating mediating roles of “meaning”, “self-efficacy”, “self-determination” and “self-impact” in the relationship between ethical leadership and innovative work behavior. For this purpose five hypotheses were proposed and tested (via estimating OLS regression coefficients, 95% bootstrap confidence intervals for indirect effect; and, Sobel test using PROCESS in SPSS).

Results for the first study hypothesis (see Table 3) confirmed that ethical leadership significantly and positively relates to innovative work behavior. These findings are consistent with the previous empirical research by Yidong and Xinxin (2013) suggesting that employee’s perceived ethical leadership positively relates to individual’s innovative work behavior. Moreover, present research endorses findings of Dhar (2016) who confirmed that ethical leadership promotes innovative work behavior of subordinates. These previous researches were conducted using data from private sector organizations. Similar results of current study (using sample of government employee) suggest that irrespective of work context, ethical leadership is equally important in both public and private sector organizations to encourage followers’ innovative work behavior.

Findings of mediation analysis showed that H<sub>2</sub>, H<sub>3</sub>, H<sub>4</sub> and H<sub>5</sub> were supported. Results suggested that “meaning”, “self-efficacy”, “self-determination” and “self-impact” partially mediate ethical leadership---innovative work behavior relationship. Current findings are in line with the previous studies on individual-level psychological mediators of the link between ethical leadership and employee extra role behaviors (e.g., innovative work behavior, voice behavior and creativity). Ma et al. (2013) found that self-efficacy mediate the relationship between ethical leadership and employee creativity (similar to

idea generation stage of innovative work behavior). The results of current research are in line with their findings and extend their work by identifying and confirming three additional individual-level mediators (meaning, self-determination and self-impact) of ethical leadership and innovative work behavior relationship. Wang et al. (2015) reported that self-efficacy and self-impact mediate the link between ethical leadership and employee voice behavior (similar to idea promotion stage of innovative work behavior). Present research support and extend their findings via confirming mediating role “meaning”, “self-efficacy”, “self-determination” and “self-impact” in the link between ethical leadership and innovative work behavior. Javed et al. (2016) in their study of hotel employees reported that perceived psychological empowerment mediate the effect of ethical leadership on employee creativity. Current findings are in line with their research and confirmed four empowerment cognitions as mediators to the ethical leadership and innovative work behavior relationship. This shows that ethical leadership (in public sector organizations as well) enhances followers’ perceived job meaningfulness, self-efficacy, self-determination and self-impact which in turn encourage them to engage in more innovative work activities.

### *5.1 Contributions and Implications*

This study contributes to the literature in numerous ways. First, the study hypotheses were tested and confirmed using a sample from government sector organizations where empirical literature on study variables is scarce. Second, this is a first research that provides empirical support for mediating role of “meaning”, “self-determination” and “self-impact” in ethical leadership and innovative work behavior relationship. Third, this study, via identifying the individual-level psychological mediators, extends literature on psychological processes involved in the link between ethical leadership and innovative work behavior. Lastly, the study contributes via supporting the applicability of social exchange theory (Blau, 1964) as a primary mechanism through which ethical leadership encourages employee innovative work behavior. As results suggested that, ethical leaders enhance followers’ sense of meaning, self-efficacy, self-determination and self-impact that ultimately encourages them to reciprocate the treatment they receive by engaging into more innovative work activities.

Current study offers some theoretical and practical implications as well. First, incorporating individual-level mediators, present research may assist scholars to understand how ethical leaders can encourage innovative work behavior of public sector employees. Second, study findings will assist researchers focusing on individual level outcomes of ethical leadership. Third, via identifying “meaning”, “self-efficacy”, “self-determination” and “self-impact” as mediators, this research suggest that leaders should play their role in shaping employees’ perceptions of work and work environment to facilitate innovative work behavior. Fourth, results are also valuable for public sector practitioners who want to understand basic psychological processes for encouraging innovative work behavior of followers. The study proposed that managers of government organizations can increase subordinates’ sense of empowerment via highlighting meaningfulness of their job for the organization, providing opportunities for acquiring necessary skills, encouraging participative decision making and listening to their concerns. Lastly, results suggested that ethical leadership is more instrumental for encouraging employee innovative work behavior. Therefore, managers should develop and practice more distinct code of ethics for enhancing followers innovative work behavior.

## 6. Limitations and Future Research

There are some limitations of present study. First, this study used self-rated questionnaires to collect data. This may give rise to common method bias. Although, results of Harman's one factor test suggested that there was no serious issue of common method bias in the current research. Future studies may consider different sources of primary data, such as supervisory assessment of subordinates' innovative work behavior. Second, in this research other related forms of leadership were not controlled. Future studies via controlling for other related leadership styles may examine unique variance being explained by ethical leadership. Finally, this research examined four individual-level mediators of the relationship between ethical leadership and innovative work behavior. However, future studies may consider other relevant mediators and/or moderators (e.g., psychological safety, organizational identification, duty orientation, perceived task significance and personality) to examine ethical leadership—innovative work behavior relationship.

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