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How Ethical Leadership Cultivates Innovative Work Behaviors in Employees? Psychological Safety, Work Engagement and Openness to Experience

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Abstract: In this study, social exchange theory and social learning theory are integrated to explain how and when ethical leaders promote innovative work behaviors among employees. Specifically, this research developed a moderated mediation model to examine the mediating effect of psychological safety and work engagement and the moderating effect of openness to experience. The survey data were collected from 397 full-time employees of various service industry companies operating in China in two stages with a two-week gap. SPSS and AMOS were used to assess the study hypotheses. First, SPSS 22.0 was used to test the reliability of variables and conduct descriptive statistics, correlation, and regression analysis, and AMOS 22.0 was used to conduct confirmatory factor analysis. Second, Version 22 of SPSS and the PROCESS macro were used to analyze mediation, moderation, and conditional process effects. The results indicated that ethical leadership was positively related to employees' innovative work behavior. Ethical leadership significantly positively affects employees' innovative work behaviors by mediating psychological safety and work engagement. Moreover, the results showed that openness to experience plays a moderating effect in the positive relationship between work engagement and employees' innovative work behavior. Finally, openness to experience moderates the indirect relationship (via work engagement) between ethical leadership and employees' innovative work behavior. This research contributes to the existing literature on ethical leadership and provides a reference for companies to stimulate employees' innovative work behavior.

Keywords: ethical leadership; innovative work behavior; moderated mediation model; psychological safety; work engagement; openness to experience

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1. Introduction

An important factor in determining organizational competitive advantage and maintaining sustainable growth is employees' innovative work behavior [1–3]. Due to increasing global competition, customer expectations, and a highly dynamic business environment, organizations need to develop innovations to meet emerging issues and challenges [4]. Long et al. [5] stated that innovation can lead to new products, services, business models, and changes to socioeconomic systems. Lasisi et al. [6] emphasizes that successful organizations must be innovative and creative and states that employees are the key drivers of innovation and creativity, and they will lead the organization to a sustainable competitive advantage. When employees are innovative, organizations are better able to meet the changing needs of their customers, and their constant innovative work behaviors also provide long-term benefits to the organization [7]. On the other hand, research by Kindstrom et al. [8] emphasizes that organizations need to continuously innovate their services to survive and grow in today's intense business competition. Further, service organizations have played a crucial role in the flourishing of developing economies [9]. However, although the importance of service organization innovation has been recognized by scholars and practitioners, innovation in service organizations in developing economies

has not attracted much research attention from academia [9,10]. Therefore, effective innovation in service organizations becomes a major concern to provide a competitive tool in a highly dynamic business environment [8]. Thus, in this context, understanding the driving factors of individual innovation behavior and effectively stimulating them in the service organization is the research objective of this study.

Past research has identified leadership as a major source of promoting innovative work behaviors among employees [2,4]. With the frequent outbreak of global corporate scandals, scholars have turned their attention to corporate ethics and social responsibility, demanding more ethical behavior from leaders than ever before [2]. Against this backdrop, ethical leadership has become a focus of academic scholarly attention over the past decade [11–14]. Ethical leadership is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers" (p. 120) [15]. Social exchange theory provides the theoretical basis for the relationship between ethical leadership and innovative work behavior [16]. According to the view of social exchange theory, leaders' justice, trust, and fairness for followers can bring great psychological experience to individuals and make employees experience more meaning at work [17]. In return, employees develop a strong sense of responsibility and will voluntarily devote energy to more innovative activities for the organization. Therefore, the social exchange theory is used in this study to explain the influence mechanism between ethical leadership and employees' innovative work behavior. A growing body of research has shown that ethical leadership has a significant impact on employees' work attitudes and behaviors, such as effectively predicting job satisfaction, organizational commitment, ethical behavior, knowledge hiding, knowledge sharing, psychological well-being, and organizational environmental citizenship behaviors [11,17–21]. However, research on the role of ethical leadership in influencing subordinate task performance, particularly innovative work behaviors, is relatively limited. Furthermore, most studies have focused on the impact of ethical leaders on employee creativity [12,22,23], while rarely theorizing about its impact on innovative behavior. Although Tu and Lu [24] and Wen, Wu, and Long [2] have revealed that ethical leadership is positively related to employees' innovative work behavior, as noted by Ahmad et al. [1], there is a minority of research on the internal mechanisms and boundary conditions of this relationship. Demirtas et al. [25] called for further exploration of potential mediators that can link ethical leader behavior to the outcomes of follower behaviors. Based on this argument, it is believed that there are two key mediating variables that will lead to enhanced employee innovation behavior triggered by ethical leadership, i.e., psychological safety and work engagement.

Drawing on social learning theory [26] and social exchange theory [27], psychological safety and work engagement are proposed as important mechanisms for the positive relationship between ethical leadership and employees' innovative work behaviors to fill the current research gap. Psychological safety was defined by Edmondson [28] as the "shared belief that the team is safe for interpersonal risk taking" (p. 354). It is a state of mind in which employees feel safe to "show and employ one's self without fear of negative consequences to self-image, status or career" (p. 708) [29]. Social learning theory suggests that ethical leaders could influence the behavior of followers through role modeling [30], and followers also learn and imitate the behavior of leaders in the work environment [15]. Specifically, the strong moral qualities that ethical leaders possess (such as responsibility, concern for others, honesty, and fairness) will set an example for followers. Followers learn from the words and actions of ethical leaders and apply these observed ethical behaviors to their colleagues. That is, ethical leaders influence employees' attitudes and behaviors through their own qualities, thus creating an atmosphere of mutual respect and trust [19], i.e., enhancing employees' psychological safety. Employees with high levels of psychological safety feel safe in expressing their ideas and are willing to offer suggestions and new ideas [1], thereby promoting innovative behaviors. In conclusion, when employees feel that their leaders respect them and care about their interests, it makes them believe that they are in a safe climate in the organization [23], which increases psychological safety, which, in

turn, increases the likelihood of innovative work behavior [1]. Work engagement is defined by Schaufeli and Bakker [31] as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 295). Ethical leadership behaviors with managers can enhance employees' dedication to work by building employee relationships based on trust, thus promoting work engagement [32]. Employees with higher levels of work engagement, dedication, and absorption are more likely to bring new ideas to work and increase innovative work behaviors [33,34]. The principle of reciprocity emphasized by social exchange theory helps explain this exchange relationship. According to the social exchange theory, when employees are treated with fairness, care, and respect by their leaders, they are more engaged in their work and are more likely to exhibit innovative behavior when faced with complex tasks out of appreciation for such treatment. Furthermore, as employees' psychological safety is enhanced, it will lead to employee engagement, which enables employees to exhibit more creativity at work [35]. Thus, ethical leadership also indirectly influences employees' innovative work behaviors through psychological safety and work engagement serial mediation pathways. Hence, this study aims to explore the relationship between the two important dual mediating roles of psychological safety and work engagement in the influence of ethical leadership on employees' innovative behavior. This work has advanced our understanding of the potential mechanisms between ethical leadership influencing employees' innovative work behaviors.

In addition, the positive impact of employee work engagement in an organization on innovative behavior may depend on other factors, such as an individual's openness to experience. Previous research has suggested that employees with high openness to experience are more proactive in seeking new information and knowledge at work [36], and confident in their ideas [37], more likely to exhibit higher creativity [38,39]. As a result, employees with higher openness to experience are more likely to exhibit innovative behaviors than those with lower openness to experience, given the level of work engagement. Thus, to deepen our understanding of the influencing mechanism between ethical leadership and employees' innovative work behaviors, this study further investigates the moderating role of openness to experience.

Ultimately, the objectives of this study were fourfold. First, we examined the impact of ethical leadership on employees' innovative behavior to substantiate our reliance on social exchange theory to explain the impact of ethical leadership on employees' innovative behavior. Second, we examined the mechanisms of influence between ethical leadership and employees' innovative behavior. The dual mediating role of psychological safety and work engagement in this relationship was tested. Third, we investigated the moderating role of openness to experience in the relationship between work engagement and employees' innovative work behavior. Finally, we considered whether openness to experience positively moderates the mediating effect of work engagement on the relationship between ethical leadership and innovative behavior. The findings of this study could also provide some managerial recommendations for organizations to understand the importance of focusing on the development of managers' ethical leadership.

2. Literature Review and Hypotheses

2.1. Ethical Leadership and Employees' Innovative Behavior

According to Brown, Treviño, and Harrison [15], ethical leadership was 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" (p. 120). From this definition, ethical leaders can be understood in dimensions of both the moral person and the moral manager [12,40]. Specifically, for a leader to be considered ethical, he must be both a moral person and a moral manager. The moral person dimension includes honesty, integrity, altruism, and other personality traits expected of an ethical person [41]. Further, the moral manager dimension refers to an ethical leader exercising his or her power to protect the interests of employees, the organization, and society at large by demonstrating ethical

management behaviors [11]. This can be achieved through a variety of channels, such as discussing ethical standards at work with employees, rewarding and intervening in ethical/unethical behavior of employees, and establishing a fair and equitable decision-making process based on ethical standards [17]. Such channels may positively influence employees' motivation to engage in innovative behavior.

Innovative work behavior refers to the behavior of individuals initiating and intentionally introducing new and useful ideas related to processes, products, or procedures within a work role, team, or organization [42]. It is a complex work behavior that includes three different tasks: idea generation, idea promotion, and idea realization [43]. The definitions of creativity and innovation are closely related, so their similarities and differences are also frequently mentioned in research [42,44]. Although the two are often used interchangeably in the literature, innovative work behaviors do not equate to creativity at work [37]. Specifically, creativity mainly emphasizes the cognitive generation of new and useful ideas [45], and Coelho, Augusto, and Lages [46] also pointed out that "creativity is a first step in the innovation process" in their research. Thus, the concepts of innovation and creativity are differentiated in scope. Compared with creativity, the concept of IWB covers a wider range, and it includes not only the generation of new ideas, but also the implementation and promotion process of new ideas.

From the earlier studies, leadership style is an important situational factor in influencing individual-level changes in employees' work attitudes, psychology, and behavior [33,47,48]. Positive leadership styles, such as spiritual leadership, transformational leadership, and ethical leadership, can be effectively used to promote innovative behavior in employees [2,4,33,49]. Characteristics of spiritual leadership include integrity, honesty, altruism, and genuine concern for others [50,51], which are very similar to those of ethical leadership. Specifically, spiritual leaders value the meanings of their followers in their work and inspire them to go beyond the call of duty so that followers are more likely to generate new ideas and experiment with those ideas [51]. Ethical leaders build high-quality relationships with employees through open communication, which instills trust in the leader and gives them enough confidence to speak up at work [12]. Furthermore, ethical leaders do their best to provide employees with access to work-related knowledge and technical support and assign tasks that best suit their abilities so that they can get the best benefits at work [2,16]. As a result, employees feel respected and supported at work. That is, spiritual leadership focuses on the employees' spiritual needs [50], and ethical leadership is more concerned with the development of the personal moral and ethical behavior of subordinates [12]. In this study, we argue that the social exchange theory [27] can help to explain the effect of ethical leadership on employees' innovative work behavior.

According to social exchange theory, leaders and subordinates serve their interests through social exchange relationships [2]. Specifically, when followers are treated fairly and well in an organization by a leader they trust, they perceive that they are in a strong social exchange relationship with the leader and are likely to do their part to repay the organization in various ways [15]. Moreover, these ethical leaders' behaviors allow followers to feel respected and trusted as they identify organizational problems, find solutions, and come up with new and useful ideas [52]. That is, when employees feel respected and cared for by their leaders, they feel obligated to support their leaders with positive behavioral responses. In addition, ethical leaders always emphasize the impact of work and embed meaning into the job, thus employees will perceive more meaning in their work and be more willing to generate new ideas to give back to the organization to promote the achievement of organizational goals [24]. Therefore, we expect that when employees feel trust, respect, support, and concern from their leaders, on the basis of the principle of reciprocity, they will respond with positive behaviors, such as innovative behaviors. In support, Tu and Lu [24] have indicated that ethical leadership positively affects employees' innovative work behavior, and the individual's intrinsic motivation plays a mediating role in these two relationships. This is also confirmed by Wen et al. [2], who found in their research that ethical leadership directly and positively affects employees' innovative work

behavior, and organization-based self-esteem has a partial mediating relationship between the two constructs. In addition, Wang et al. [51] demonstrated a significant relationship between spiritual leadership and employees' innovative work behavior in a study among energy companies in Northern China. Based on the above discussion, we propose the following hypothesis:

Hypothesis 1 (H1). *Ethical leadership is positively related to employees' innovative work behavior.*

2.2. Psychological Safety as a Mediater

Psychological safety is the state of mind in which employees feel safe to "show and employ one's self without fear of negative consequences to self-image, status or career" (p. 708) [29]. Similarly, Edmondson and Lei [53] defined it as an employee's shared belief about whether it is safe to take interpersonal risks (express their ideas, questions, and concerns) in the workplace. It represents a safe environment characterized by a high level of interpersonal trust and a work atmosphere characterized by mutual respect, in which people can easily express their differences and come up with new ideas [54], without fear of being hurt, embarrassed, or criticized [55]. In other words, employees with a high level of psychological safety are likely to have less fear of being negatively impacted for taking risks when they present their opinions.

According to social learning theory, employees observe leaders in their work environment and learn and imitate their behavior [26]. Ethical leaders have a strong moral character and demonstrate qualities such as being responsible, caring, honest, and fair in their work. Such leadership behavior sets an example for followers. That is, followers, learn from what the leader says and does and apply these observed behaviors to their colleagues in the same way. As such, ethical leaders exhibit high standards of morality, ethics, and fairness, which will influence employees' attitudes and behaviors, thus creating an atmosphere of mutual respect and trust [19]. Edmondson [28] describes psychological safety as a psychological state characterized by mutual respect and interpersonal trust, in which individual employees feel comfortable and engage in interpersonal risk taking. Consequently, an employee is more likely to feel psychologically safe when he has trusting and supportive interpersonal relationships with his colleagues [29,30], and will vocalize and express new ideas boldly. The perception of a safe atmosphere, in turn, may encourage employees to engage in innovation. Therefore, drawing on social learning theory, this paper proposes that psychological safety may be a potential mediator of the relationship between ethical leadership and employee participation in innovation.

Specifically, a leader's behavior sets a remarkable example of how followers behave, and it is believed to be key to influencing followers' psychological safety because it plays an important role in directly influencing the perception of organizational members [55]. According to Edmondson, Kramer, and Cook's [55] research, there are three behaviors that leaders can particularly promote for the psychological safety of employees, such as by making themselves available and approachable, explicitly asking team members for their opinions and feedback, and modeling openness and fallibility. When ethical managers interact with their employees in an organization with honesty and openness, mutual respect and trust will be fostered both between the leader and followers and among the followers themselves [30,54]. Furthermore, ethical leaders show genuine concern for their employees, respect the interests of followers, and do their best to provide them with instrumental and emotional support [23]. To sum up, highly ethical leaders play a key role in building a relationship of respect and mutual trust among organizational members [23,56], and an organizational climate of mutual respect and trust will help improve employees' psychological safety [30]. In addition, ethical leaders are perceived to exhibit traits such as altruism, high ethical standards, honesty, and commitment, and employees feel more psychologically secure when sharing their new ideas in the organization [12,56]. Therefore, we expect ethical leadership to play an important role in promoting the psychological safety of employees.

Innovative behaviors carry high risks, and many studies have shown that employees are likely to refuse to participate because they are afraid of the negative impact of failure [1]. The concept of psychological safety is characterized by a climate of trust and mutual respect that reflects employees' confidence that they will not be punished for negative consequences [47]. In a climate of high psychological safety, members have strong positive feelings about the organization and have the confidence to accomplish organizational tasks to produce creative performance [52]. Similarly, when subordinates feel that the work environment is safe, they will experience a risk-taking belief at work that leads them to believe they can produce new outcomes [52]. Moreover, when subordinates feel psychologically safe, they are willing to take more interpersonal risks [57], will not be so afraid of bearing the consequences of failure, and actively propose new ideas and make innovations. In conclusion, employees with high levels of psychological safety feel safe in expressing their ideas and are willing to offer suggestions and new ideas [1], which promotes innovation. Contrary to this, those with low psychological safety were more defensive and felt insecure when engaging in risky tasks (such as innovative work behaviors) due to a lack of confidence [1]. Summarizing the arguments above, we consider followers' psychological safety as a mediator—the process by which ethical leadership influences innovation behavior. In other words, we propose that employees' perceptions of ethical leadership affect their psychological safety, which, in turn, leads to their positive behavior—in our research, innovative behavior. Based on the above discussion, we propose the following hypothesis:

Hypothesis 2 (H2). *Psychological safety mediates positively between ethical leadership and employees' innovative work behavior.*

2.3. Work Engagement as a Mediator

Work engagement is defined by Schaufeli and Bakker [31] as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (p. 295). Vigor refers to having a high level of energy, persistence, and mental resilience and a willingness to put in the effort for work; dedication refers to a sense of significance, enthusiasm, pride, and inspiration at work; and absorption refers to being engrossed and fully concentrated in work [31]. It reflects a positive mental state related to work [25], and is also conceptualized as the degree to which an employee is engaged in a job role in terms of physical, cognitive, and emotional energy [58]. Similarly, Christian, Garza, and Slaughter [59] define work engagement as a relatively long-lasting mental state that refers to the collective investment of personal energy into work experience or work performance. Work engagement stimulates employee motivation and positive emotions about the organization, so engaged employees are more engaged in the organization, more enthusiastic about their work, and more likely to focus on achieving their own and organizational goals [60]. In practice, work engagement has been shown to be associated with higher levels of employee performance, organizational citizenship behavior, and organizational commitment [61]. Therefore, it may be significantly associated with the innovative behavior of employees.

Although social exchange theory provides an important framework for explaining the impact of ethical leadership on employee innovation behavior, its internal mechanisms of influence need to be further explored. Reciprocal norms are the basis of social exchange theory, which suggests that people engage in and maintain exchange relationships with others under the expectation of receiving reciprocates [62]. However, since there is no way to guarantee that the social exchange will get the same return, the occurrence of the social exchange relationship requires trust between people [62]. As mentioned, ethical leaders are fair, honest, and highly trusted by their employees [11,15,56]. Moreover, ethical leaders also build the confidence of their followers in their abilities, increase follower engagement in decision making, and demonstrate more trust in followers [63]. Previous studies identified that managers' ethical leadership behaviors play a role in promoting work engagement through employee relationships built on trust [32]. Therefore, based on the social exchange

theory, we expect that when employees feel that their leaders are ethical and trustworthy, they will reciprocate their leaders with positive attitudes and behaviors. In other words, ethical leaders exhibit responsible, principled, fair, and trustworthy characteristics in their organizations, which will motivate employees to be actively engaged in their work.

Innovative behavior is a distinct and unique type of performance that engaged employees are more likely to exhibit [64] because the positive affective states associated with giving induce flexible thinking, which can help generate creative solutions and drive their implementation [37,65]. Furthermore, dedicated employees are willing to expend extra efforts to understand a problem from different perspectives and connect different sources of information [65]. Finally, because the act of innovating at work is inherently challenging, employees need a lot of effort to actually implement an innovative idea [66]. Engaged employees are characterized by a sense of significance, enthusiasm, motivation, pride, and challenge; are deeply focused on their work; typically demonstrate a high level of energy and mental resilience; and voluntarily put considerable effort into the work [67]. In the social exchange process, the norm of reciprocity explains that after receiving certain benefits from the leader, employees feel favored and return the favor by working harder [12]. Therefore, when employees are treated with fairness, care, and respect by their leaders, they are more engaged in their work and are more likely to exhibit innovative behavior when faced with complex tasks out of appreciation for such treatment. Thus, this study emphasizes the mediating role of work engagement in the influence of ethical leadership on employees' innovative behavior. Based on the above discussion, we propose the following hypothesis:

Hypothesis 3 (H3). *Work engagement mediates positively between ethical leadership and employees' innovative work behavior.*

From a learning and change perspective, psychological safety is primarily associated with several behavioral outcomes, most notably task performance, citizenship behaviors, creativity, learning behavior and information sharing [68], and voice behaviors [69]. At the individual level, several studies have established a strong positive link between psychological safety and employees' work attitudes, among them engagement, commitment, and satisfaction were the main outcomes [69]. Psychological safety is considered to be one of the important conditions for people to express themselves physically, cognitively, and emotionally, and engage in work [29,68,70]. When employees feel safe at work, they can be better engaged in their work without fear of negative consequences [70,71]. This is because a high level of psychological safety is interpreted by employees as an important socio-emotional benefit, which in turn makes them feel obligated to give back to the organization by increasing their level of work engagement [72]. Moreover, psychological safety can reduce the lack of vigor, which is a major component of work engagement [10]. Psychological safety has been described as a psychological state characterized by mutual respect and interpersonal trust, in which individuals feel comfortable and willing to engage in interpersonal adventures [28]. According to social exchange theory [27], people tend to reciprocate the valuable benefits they receive from others in equally positive ways, and we further argue that aspects based on perceived trust and respect make employees feel obligated to reciprocate the level of engagement they have in work. Therefore, this study investigates a link between psychological safety and work engagement when mediating ethical leadership and employees' innovative work behavior, and proposes the following hypothesis.

Hypothesis 4 (H4). *The positive relationship between ethical leadership and employees' innovative work behavior is serially mediated through psychological safety and work engagement.*

2.4. Openness to Experience as a Moderator

Du et al. [73] defined openness to experience as the degree to which a person is open-minded, curious, vividly imaginative, and creative thinking. Although ethical leaders can

induce employees to implement innovative behaviors by increasing employee work engagement, we argue that the strength of the influencing process between ethical leadership, work engagement, and innovative behaviors are different for each individual. Therefore, in this study, we considered employees' individual personality differences, with openness to experience as a moderator variable. Openness to experience is a dimension of the Big Five model of personality [74]; it involves being broad-minded, curious, imaginative, and responsive to unconventional perspectives [37]. Individuals with high openness proactively seek new information and knowledge [38] and can facilitate the development of ideas from different sources of knowledge [75]. Therefore, open individuals have confidence in their ideas and are less prone to authoritarian obedience and prejudice [37]. In contrast, less open individuals are conservative and lean toward traditional, rather than unique ideas [76]. In essence, individual personality traits of employees (openness to experience) can be significantly associated with innovative behavior.

Scholars have studied the relationship between employees' openness to experience and innovation and pointed out that openness to experience is related to innovation [74]. The research of Zhang, Xu, and Sun [38] and Xu et al. [39] proposes that employees with higher openness to experience are more likely to exhibit higher creativity. Similarly, Schilpzand, Herold, and Shalley [75] found that teams' composition on openness to experience plays an important role in determining team creativity. Existing literature also highlights the moderating effect of experience openness on innovative behavior. For example, in a study of teachers and students as the survey objects, it was found that students' openness to experience positively moderated the relationship between students' intrinsic motivation and student creative achievement in science activities [73]. However, the extent to which work engagement affects the effectiveness of employee innovation depends on individual differences, e.g., personality traits. Individuals will make efforts and behavioral changes to varying degrees when their positive emotional state during engagement collides with open and curious (high openness to experience) or traditional (low openness to experience) personalities. That is, in the creative process, employees who are engaged in their work can contribute to a greater degree to the generation and development of ideas when there is a higher level of openness to experience. In particular, openness to experience can expand employees' positive and negative emotional experiences, providing them with multiple ideas and perspectives for handling challenging tasks, thereby easily expanding employees' cognitive processes and creativity [37]. Meanwhile, work engagement is conceptualized as the degree to which an employee engages in a job role in terms of physical, cognitive, and emotional energy [58]. Therefore, openness to experience can serve as a moderator between work engagement and employees' innovative work behavior. Thus, we propose that when openness to experience is high, the cognitive and emotional energy employees put into work roles is enhanced, leading to more innovative work behaviors. Based on the above discussion, we propose the following hypothesis:

Hypothesis 5 (H5). *Employees' openness to experience positively moderates the relationship between work engagement and innovative work behavior, such that the relationship is stronger when employees' openness to experience is high than when it is low.*

In addition, based on the above discussion that work engagement mediates the relationship between ethical leadership and employees' innovation work behavior, we can argue that when the level of openness to experience is higher, ethical leadership has a stronger and significantly more positive effect on employees' innovative work behavior through work engagement. Therefore, our last hypothesis is:

Hypothesis 6 (H6). *Employees' openness to experience moderates the mediating effect of work engagement on the relationship between ethical leadership and employees' innovative work behavior.*

Figure 1 summarizes the proposed relationships.

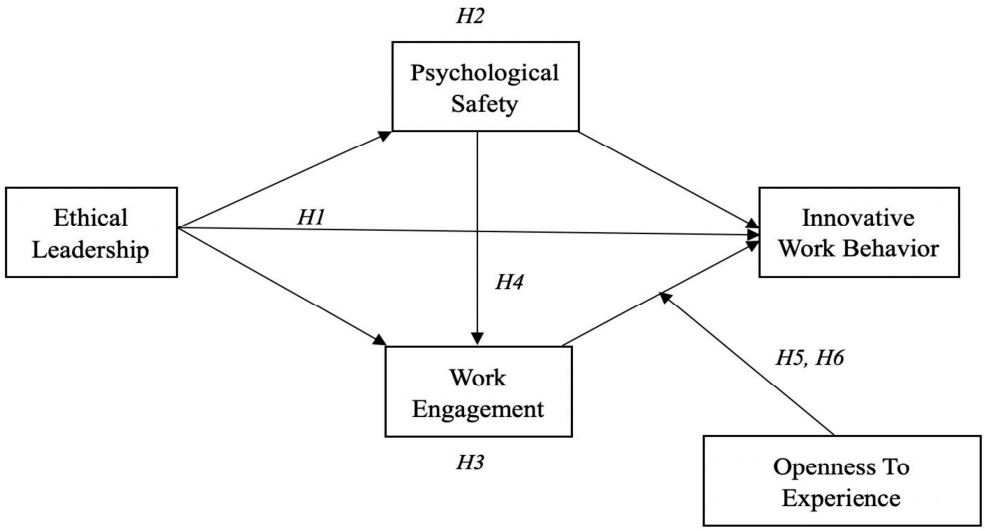


Figure 1. Research model.

3. Method

3.1. Sample and Procedure

To test the theoretical model, we contacted six service companies in Guangdong Province, China, for data collection because Guangdong is the most populous city in China and has a high concentration of employees in service industry enterprises. Of these companies, two are focused on banking, another two on finance, and the remaining two on hospitality. There are several reasons for choosing service companies for this study. First, these companies generally consider innovation to be a key factor in organizational viability and success and encourage employees to innovate in their services and reward them based on their innovative performance. Therefore, it seems reasonable to consider this sample as the most suitable to achieve our study objectives. Second, until now, innovation research has focused more on technological innovation in manufacturing organizations and IT organizations [1,33,56]. Although the importance of service organization innovation has been recognized by scholars and practitioners, innovation in service organizations in developing economies has not attracted much research attention from academia [9,10]. Third, to survive and grow in today's intense business competition, organizations need to constantly make innovations in their services [8]. Further, service organizations have played a crucial role in the flourishing of developing economies [9]. Thus, based on the reasons stated above, service companies were included in the sample to collect data. We conducted a questionnaire survey from April to May 2022.

Before the formal investigation began, our researchers contacted HR managers at each company to explain the purpose of the investigation. Respondents were selected for this study based on two criteria. The respondents were full-time employees of the company, and the human resource manager was asked to consider the diversity of the sample, such as gender, age, education level, etc., and to distribute the questionnaire randomly. HR managers agreed to assist us in collecting the data after approval from senior leadership, and a computer program randomly selected employees and their email addresses. We distributed and collected the sample through an online questionnaire. In order to reduce the common method deviation, we adopted multi-source collection at an interval of two weeks to collect sample data [77].

At the beginning of the questionnaire at Time 1, we explained the research process and purpose of this study. We promised that all completed questionnaire information is only used for academic research and is strictly confidential, and participants can terminate the survey at any time. In Time 1, participants completed a questionnaire on demographic variables (e.g., age, gender, education, and tenure), ethical leadership, and psychological safety scales. Each employee participating in the questionnaire at this stage was given

a unique ID number. Subsequently, participants were required to enter this unique ID number in the questionnaire when later participating in the Time 2 survey. Finally, the researchers matched the questionnaires collected during these two time periods.

A total of 487 questionnaires were collected in Time 1. After two weeks, the 487 participants were instructed to complete work engagement, openness to experience, and innovative behavior scales. At Time 2, 421 questionnaires were received, with a response rate of 86.44%. Finally, after excluding non-standard questionnaires (those with identical or incomplete scores throughout the survey), we used 394 valid paired data to test our hypotheses. Of the 394 participants, 200 (50.76%) were male, and 194 (49.24%) were female. The average age of the employees was 28.79 years, and the average working tenure was 3.48 years. For education, 62.18% of the samples had a bachelor's degree or above. The statistical package for social sciences (SPSS) 22.0, AMOS 22.0, and Hayes ' PROCESS macros were used to test the relationships of the hypotheses.

3.2. Measures

All variables in this study were measured using well-established English scales and were translated into Chinese through a translation-back translation procedure [78] to improve the accuracy of the questionnaire. Except for control variables, all items were measured using a 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree).

Ethical Leadership: Employees rated their ethical leaders according to the 10-item ethical leadership scale established by Brown and Treviño [40]. Specific items included the following: "My leader defines success not just by results but also the way that they are obtained." and "My leader has the best interests of employees in mind."

Work Engagement: Schaufeli, Bakker, and Salanova [79]'s nine-item Utrecht Work Engagement Scale (UWES) were used to measure employees' work engagement, which consists of vigor, absorption, and dedication. Sample items included in this scale were, "At my work, I feel bursting with energy (vigor)", "I am proud of the work that I do (dedication)", and "I get carried away when I am working (absorption)".

Psychological Safety: This study used the five-item scale for measuring psychological safety from Carmeli, Reiter-Palmon, and Ziv [80], which is based on Edmondson [28]'s work. Sample items include "No one in this organization would deliberately act in a way that undermines my effort." and "I am able to bring up problems and tough issues."

Openness to Experience: We measured openness to experience with the four items used in the study by Madrid et al. [37]. This is adapted from Donnellan et al. [81] and Goldberg et al. [82]. Participants were asked to rate how they described themselves on the following four items using a five-point Likert scale. Example items include: "get excited by new ideas" and "enjoy hearing new ideas".

Innovative Work Behavior: Innovative work behavior was measured with a scale of six items developed by Scott and Bruce [44]. Sample items from that scale include: "I Search out new technologies, processes, techniques, and/or product ideas." and "I promote and champion ideas to others." The survey questions are in the Supplementary Materials.

Control Variables: This study selected gender, age, education level, and work tenure as the control variables. Employee gender was coded as follows: 1 = male and 2 = female. Education level was coded as follows: 1 = senior high school or below, 2 = junior college, 3 = bachelor, and 4 = postgraduate or above. Employee age was coded as follows: 1 = under 25 years, 2 = 26–30 years, 3 = 31–40 years, 4 = 41–50 years, and 5 = over 51 years. Work tenure was coded as follows: 1 = less than 3 year, 2 = 3–5 years, 3 = 6–8 years, 4 = 9–11 years, and 5 = 12 years and above.

3.3. Statistical Analysis

As the sample employees in this study were nested in groups, both individual effects and between-group effects needed to be considered in the data analysis. Hofmann [83] suggested that having significant group differences in the dependent variable is a prerequi-

site for hierarchical linear model analysis. Therefore, before conducting the data analysis, we used HLM 6.02 software to test whether the sample needed to be analyzed at multiple levels, specifically using employee innovative work behavior as the dependent variable and constructing a null model without any independent variables. The calculation of HLM showed that the between-group variance (τ00) was 0.021, and the within-group variance (σ2) was 0.590. The ICC value was τ00/(τ00 + σ2) = 0.034. According to the judgment criteria suggested by Cohen [84], when the ICC value is less than 0.059, it represents that the outcome variable does not have a sufficient between-group variation to be suitable for multilevel analysis. Thus, synthesizing the results of the above analysis, this study applied the traditional regression analysis to test the research hypothesis.

We used SPSS 22.0 and AMOS 22.0 to analyze the data. First, SPSS 22.0 was used to test the reliability of variables and conduct descriptive statistics, correlation, and regression analysis. Second, AMOS 22.0 was used to conduct confirmatory factor analysis. Third, the PROCESS macro for SPSS version 3.1 was used to test mediation, moderation, and conditional process effects.

4. Results

4.1. Reliability and Validity Test

First of all, we tested the reliability and validity of the variables, and the results are shown in Table 1. The Cronbach's α coefficients for all variables are in the range of 0.858–0.928, which is higher than the recommended value of 0.70 [85]. Therefore, the research variables had good reliability. Additionally, we analyzed the validity of the scale. The average variance extracted for each variable was above the threshold of 0.5 [86], and the combined reliability was also greater than 0.6 [86]. Hence, all constructs were valid, as shown in Table 1.

Table 1. Reliability and validity tests of variables.

Constructs	Load Factor	Cronbach's α	AVE	CR
EL	0.637~0.844	0.928	0.537	0.930
PS	0.754~0.886	0.906	0.665	0.908
WE	0.688~0.847	0.919	0.561	0.920
IWB	0.781~0.819	0.911	0.633	0.912
OTE	0.679~0.816	0.858	0.605	0.859

Note: CR = combination reliability; AVE = average variance extracted; EL = ethical leadership; PS = psychological safety; WE = work engagement; OTE = openness to experience; IWB= innovative work behavior.

In addition, we used Harman's single-factor test to determine whether the study had common method variance [87]. One factor solution in the exploratory factor analysis showed that it explained only 34.29% (<50%) of the variance. Thus, the common method variance was not a serious problem in this study, and the results of the data analysis were within acceptable ranges.

4.2. Confirmatory Factor Analysis

In this study, we used confirmatory factor analysis to verify the factor structure and construct validity. We modeled five factors: ethical leadership, psychological safety, work engagement, employees' innovative work behavior, and openness to experience. As shown in Table 2, the theoretical five-factor model (EL, PS, WE, IWB, and OTE) had a better fit to the data ($\chi 2/df = 1.453$, RMSEA = 0.034, CFI = 0.972, TLI = 0.969, SRMR = 0.036) than any other alternative measurement models. Additionally, the one-factor model ($\chi 2/df = 8.689$, RMSEA = 0.140, CFI = 0.509, TLI = 0.478, SRMR = 0.131) also indicated that common method variance was not a major issue in our study.

Table 2. Confirmatory factor analysis results.

Model	χ2	df	χ2/df	RMSEA	CFI	TLI	SRMR
Five-factor	751.128	517	1.453	0.034	0.972	0.969	0.036
Four-factor	1731.504	521	3.323	0.077	0.853	0.842	0.086
Three-factor	3074.612	524	5.868	0.111	0.691	0.669	0.109
Two-factor	3937.079	526	7.485	0.128	0.587	0.560	0.120
One-factor	4579.087	527	8.689	0.140	0.509	0.478	0.131

Note: Five-factor: EL, PS, WE, OTE, IWB; Four-factor: EL+PS, WE, OTE, IWB; Three-factor: EL+PS+WE, OTE, IWB; Two-factor: EL+PS+WE+OTE, IWB; One-factor: EL+PS+WE+OTE+IWB.

4.3. Correlation Analysis

Table 3 presents the mean, standard deviations, and correlations among ethical leadership, psychological safety, work engagement, openness to experience, and employees' innovative work behavior. As shown in Table 3, ethical leadership was positively related to psychological safety (r = 0.461, $p < 0.001$), work engagement (r = 0.399, $p < 0.001$), and employees' innovative work behavior (r = 0.401, $p < 0.001$). Furthermore, psychological safety was positively related to work engagement (r = 0.481, $p < 0.001$) and employees' innovative work behavior (r = 0.494, $p < 0.001$). Work engagement was positively related to employees' innovative work behavior (r = 0.456, $p < 0.001$). Moreover, openness to experience was also positively related to employees' innovative work behavior (r = 0.252, $p < 0.001$).

Table 3. Means, standard deviations, and correlations among key variables.

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Gender	0.492	0.501	1.000								
2. Age	2.015	0.771	−0.066	1.000							
3. Education	2.713	0.670	−0.177 ***	0.437 ***	1.000						
4. Work tenure	1.761	0.761	−0.072	0.305 ***	0.300 ***	1.000					
5. EL	3.542	0.898	0.012	−0.007	0.043	−0.021	1.000				
6. PS	3.612	0.980	−0.050	0.061	0.236 ***	0.045	0.461 ***	1.000			
7. WE	3.767	0.749	−0.030	0.129 *	0.117 *	0.252 ***	0.399 ***	0.481 ***	1.000		
8. OTE	3.635	0.894	−0.077	0.017	−0.003	−0.068	0.114 *	0.189 ***	0.253 ***	1.000	
9. IWB	3.895	0.780	−0.042	−0.073	0.085	−0.020	0.401 ***	0.494 ***	0.456 ***	0.252 ***	1.000

Note: N = 394; * $p < 0.05$ *** $p < 0.001$.

4.4. Hypotheses Testing

Regression analysis was run in SPSS 22.0 to test our proposed hypotheses. As shown in Table 4, after controlling for employees' gender, age, education, and work tenure, ethical leadership was significantly and positively related to psychological safety (M1, β = 0.451, $p < 0.001$), work engagement (M2, β = 0.405, $p < 0.001$), and innovation work behavior (M4, β = 0.396, $p < 0.001$). Thus, H1 was supported.

To test the mediating effects of psychological safety and work engagement in ethical leadership and employees' innovative work behavior, we used Model 6 of the PROCESS macro for SPSS [88]. Baron and Kenny [89] argued that partial mediation exists when the direct effect of the independent variable on the dependent variable is reduced by the introduction of mediating variables. As shown in Table 4, psychological safety (M8, β = 0.393, $p < 0.001$) and work engagement (M6, β = 0.392, $p < 0.001$) were significantly and positively related to employees' innovative work behavior. Further, it is also found that the correlations between ethical leadership and employees' innovative work behavior in M5, M6, and M7 are still significant, although their coefficients are reduced. According to Preacher and Hayes [90], we again tested the mediation hypothesis. The results are shown in Table 5. The mediating effect of psychological safety (indirect effect = 0.128, SE = 0.026, 95% CI = [0.080, 0.181], excluding 0), and work engagement (indirect effect = 0.068, SE = 0.017, 95% CI = [0.039, 0.103], excluding 0) on the relationship between ethical leadership and employees' innovative work behavior

was statistically significant. In addition, psychological safety and work engagement also play a serial mediating role in the influence of ethical leadership and employees' innovative work behavior (indirect effect = 0.049, SE = 0.012, 95% CI = [0.029, 0.076], excluding 0). Therefore, H2, H3, and H4 were supported.

Table 4. Hierarchical regressions results.

Variables	PS	WE			IWB			
	M1	M2	M3	M4	M5	M6	M7	M8
Gender	−0.017	−0.014	−0.007	−0.035	−0.028	−0.029	−0.026	−0.017
Age	−0.036	0.057	0.071	−0.121 *	−0.107 *	−0.143 **	−0.127 **	−0.172 **
Education	0.231 ***	0.001	−0.087	0.119 *	0.028	0.119 *	0.053	0.134 **
Tenure	−0.005	0.242 ***	0.244 ***	−0.013	−0.011	−0.108 *	−0.081	−0.106 *
EL	0.451 ***	0.405 ***	0.235 ***	0.396 ***	0.219 ***	0.237 ***	0.150 **	
PS			0.377 ***		0.393 ***		0.283 ***	
WE						0.392 ***	0.290 ***	0.471 ***
OTE								0.122 **
WE × OTE								0.219 ***
R^2	0.261	0.230	0.336	0.180	0.294	0.298	0.349	0.315
F	27.380 ***	23.221 ***	32.568 ***	16.978	26.796 ***	27.374 ***	29.592 ***	25.329 ***
$\triangle R^2$	0.203	0.163	0.105	0.156	0.114	0.118	0.056	0.047
$\triangle F$	106.345 ***	82.373 ***	61.266 ***	73.723 ***	62.442 ***	65.290 ***	33.051 ***	26.644 ***

Note: N = 394; * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

Table 5. Test results of mediating chain effect (PROCESS model 6, 95% CI).

	Relationship	Effect	S.E.	Boot95%CI
Total Effect	EL → IWB	0.396	0.046	(0.305, 0.486)
Indirect Effect	EL → PS → IWB	0.128	0.026	(0.080, 0.181)
	EL → WE → IWB	0.068	0.017	(0.039, 0.103)
Direct Effect	EL → IWB	0.151	0.048	(0.056, 0.245)
Serial Mediating Effect	EL → PS → WE → IB	0.049	0.012	(0.029, 0.076)

Note: N = 394; Bootstrap sample size = 5000; CI = Confidence interval.

Model 1 of the PROCESS macro in SPSS [88] was used to test the moderating effect of openness to experience on the relationship between work engagement and employees' innovative work behavior. M8 shows that the interactive variable (work engagement × openness to experience) has a significantly positive effect on employees' innovative work behavior (M8, β = 0.219, $p < 0.001$), which indicated that openness to experience plays a significant effect between work engagement and employees' innovative work behavior (Table 4). To examine the nature of the interaction, we plotted the slope of ethical leadership on innovative behaviors according to employees' openness to experience (Figure 2). As shown in Figure 2, work engagement had a stronger positive relationship with employees' innovative work behavior when openness to experience was high. In other words, the effect of work engagement on employees' innovative work behavior differed between individuals who reported low (i.e., M − 1 SD) and high (i.e., M + 1 SD) levels of openness to experience (Figure 2). Openness to experience reinforced the effect of work engagement on employees' innovative work behavior. Therefore, hypothesis 5 was supported.

Finally, we tested the moderated mediation effect by using Model 87 of the PROCESS macro [88] in SPSS at 95% confidence intervals and 5000 bootstrap re-samples (Table 6). The results in Table 6 show that the indirect effect of ethical leadership on employees' innovative work behavior through work engagement was not significant at low levels of openness to experience (indirect effect = 0.018, SE = 0.015, 95% CI = [−0.011, 0.048]). However, it was significant at the mean level of openness to experience (indirect effect = 0.066, SE = 0.016, 95% CI = [0.037, 0.099]). In addition, indirect effects were more significant at high levels of openness to experience (indirect effect = 0.114, SE = 0.026, 95% CI = [0.066, 0.168]). None of

these confidence intervals include 0. In other words, the moderating effect of openness to experience on the mediating effect of work engagement on the relationship between ethical leadership and employees' innovative work behavior differed for individuals who reported low (i.e., M − 1 SD), average (i.e., mean), and high (i.e., M + 1 SD) levels of openness to experience. Thus, hypothesis 6 was supported.

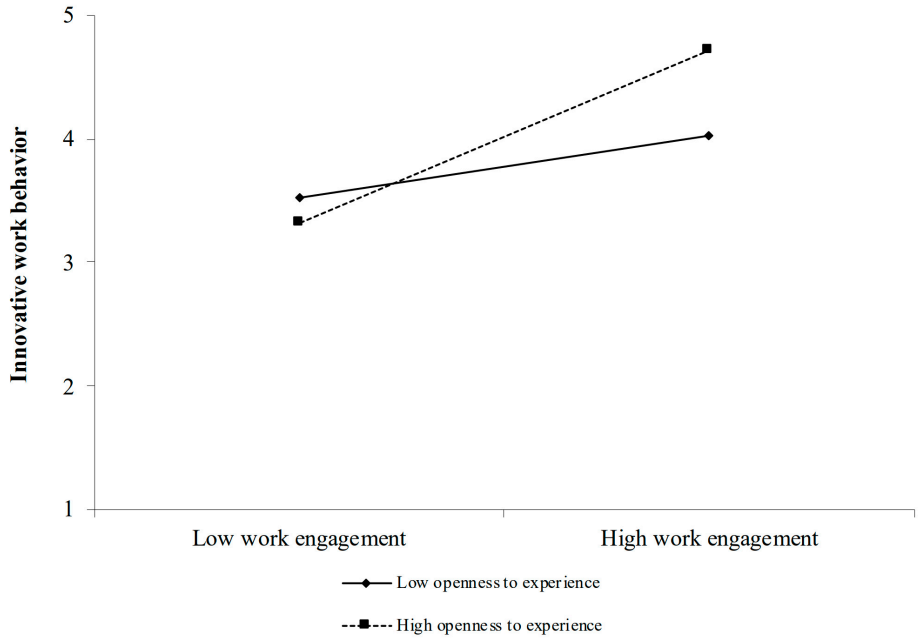


Figure 2. The moderating effect of openness to experience on the relationship between work engagement and innovative work behavior.

Table 6. The moderated mediation effect of openness to experience. (PROCESS model 87, 95% CI).

Relationship	Openness to Experience	Effect	BootSE	Boot LLCI	Boot ULCI
EL → WE → IWB	−1 SD	0.018	0.015	−0.011	0.048
	Mean	0.066	0.016	0.037	0.099
	+1 SD	0.114	0.026	0.066	0.168
	Difference	0.048	0.014	0.024	0.077

Note: N = 394; Bootstrap sample size = 5000; CI = Confidence interval.

5. Discussion

Although some studies have analyzed the relationship between ethical leadership and employee innovation work behavior [1,2,24], the current literature has not examined these two areas in sufficient depth, and the possible influence paths and boundary conditions that exist between them need to be further explored. Thus, to fill these gaps, this study explored the mechanisms and boundary conditions of the influence of ethical leadership on the innovative work behavior of employees in service industry enterprises, based on social exchange theory and social learning theory. Specifically, this research revealed psychological safety and work engagement as important influencing mechanisms in the relationship between ethical leadership and employees' innovative work behavior, and used openness to experience as a boundary condition to explain the relationship between work engagement and employees' innovative behavior, as well as the indirect (via work engagement) relationship between ethical leadership and employees' innovative work behavior. This expanded the literature on ethical leadership and employees' innovative work behaviors.

The results indicate that ethical leadership positively influences employees' innovative work behavior, implying that employees' innovative work behavior becomes more

active when leaders are ethical and moral. This result is also consistent with previous studies where the authors concluded that ethical leadership is important in promoting the innovative work behaviors of employees [2,3,91]. Through empirical analysis, this study also confirms the multiple mediating effects of psychological safety and work engagement. The results of the study indicated that psychological safety and work engagement partially mediated the relationship between ethical leadership and employees' innovative work behavior, respectively. In addition, psychological safety and work engagement also play serially mediating roles in the EL-EIWB relationship. As argued earlier, ethical leaders make ethically balanced decisions in their organizations, care, and show genuine concern for their employees, which helps promote interpersonal relationships of mutual respect and trust [12,56], shaping employees' psychological safety [1]. When employees feel psychologically safe in the organization, they will be more engaged in their work and show more vigor and concentration in their work [72], resulting in many beneficial ideas and behaviors that promote innovation. Finally, this study found that employees' openness to experience moderated the positive relationship between work engagement and innovative work behavior and that this relationship was stronger when openness to experience was higher. Similarly, the results also showed that openness to experience moderated the indirect relationship between ethical leadership and employees' innovative behavior (via work engagement), with the indirect relationship being stronger when openness to experience was higher. Based on these results, we provide theoretical and practical implications and present directions for the future, which are discussed below.

5.1. Theoretical Implications

This study has several theoretical implications for the literature. First, our research uses an ethical lens to examine the role of positive leadership behaviors in influencing employee innovation behaviors. Although there is a growing body of research on leadership's impact on creative outcomes and innovation, most studies have focused on leaders' effects on employee creativity, with limited research on their effects on innovative work behaviors [4,92]. In particular, the impact of ethical leadership on employee task performance and innovative behavior needs to be further explored [3]. In doing so, we responded to recent calls [2,3,91] to further explore the impact of ethical leadership on employees' innovative work behaviors. Thus, through an in-depth analysis of the relationship between ethical leadership and employees' innovative work behavior, our research provides clear empirical evidence for the causal relationship between the two and enriches theoretical research on innovative work behavior.

Second, this study explores the internal mechanism that exists between ethical leadership and employees' innovative work behaviors. Through empirical analysis, we found that psychological safety and work engagement play an important mediating role in the relationship between ethical leadership and employees' innovative work behavior. This empirical result contributes to the literature on the relationship between ethical leadership and employees' innovative work behavior [24,91,93]. Specifically, our research found that leaders can promote the development of individual employees' psychological safety by demonstrating ethical leadership behaviors, which ultimately lead to more innovative behaviors in employees [1]. Consistent with social learning theory [26], our findings indicate that ethical leaders influence employees' attitudes and behaviors through their qualities, which enrich followers' psychological safety and increase the likelihood that they will engage in innovative work behaviors. Moreover, ethical leaders tend to approach problems ethically. When their followers perceive that their leadership is ethical, followers will put more energy into their work [32,60,63,94], thereby promoting innovative work behavior. This result enriches the principle of reciprocity emphasized by social exchange theory [27], where ethical leaders facilitate the making of exchanges so that employees feel obliged to put in more effort in return for their work. In general, the results of the study show the positive role of ethical leadership in organizations; its impact on employees' innovative work behavior is exerted through psychological safety/work engagement and helps us to

better understand how and why ethical leadership can improve employees' work behavior. Our study responded to calls for further exploration of the mechanisms mediating ethical leadership and employees' innovative work behavior [2,93], and this contribution is timely.

Third, our study further validates the sequential mediating role of psychological safety and work engagement in the influencing mechanisms of ethical leadership and employees' innovative work behavior. This result is also consistent with previous studies where authors suggested that work engagement and psychological safety are necessary for task performance and innovative behavioral aspects [1,91,95]. In addition, our research demonstrates that psychological safety has a significant impact on promoting employee engagement. It is also a valuable addition to the existing ethical leadership literature. In particular, the results provide additional evidence for the importance of psychological safety in organizations. Previous studies have found the effect of psychological safety on other key variables, such as commitment, satisfaction, and voice behavior [19,68]. However, we found that it can also help increase work engagement, which is a key predictor of increased employee innovation work behavior. This provides a new explanation path to explain the influence of ethical leadership on employees' innovative work behavior and enriches the internal mechanism between them. These findings also suggest that more attention should be paid to the potential mediating role of psychological safety in promoting positive behavioral outcomes.

Lastly, there are relatively few studies on the boundary conditions between ethical leadership and employees' innovative work behavior. To our knowledge, no research to date has provided empirical evidence of individual personality trait openness to experience as a boundary condition for the relationship between work engagement and employee innovative work behavior, and the indirect (via work engagement) relationship between ethical leadership and employee innovative work behavior. We contributed to the literature on the link between ethical leadership and employees' innovative work behavior [24,91,93], demonstrating that openness to experience as an individual personality trait is a boundary condition for the relationship between ethical leadership and employees' innovative work behavior. Specifically, our results showed that employees' openness to experience promotes the formation of employees' innovative work behaviors. With a high openness to experience, work engagement has a greater influence on innovative work behavior. Moreover, we demonstrated an openness to experience also moderated the mediating effect of work engagement on the relationship between ethical leadership and employees' innovative work behavior. In particular, our study showed that the mediating effect of work engagement in the relationship between ethical leadership and innovative work behavior was stronger in a high level of openness to experience. Thus, this study broadens the boundary conditions for the impact of ethical leadership on employees' innovative work behavior and provides new perspectives on the role of openness to experience in organizing contexts.

5.2. Management Implications

In addition to the above theoretical implications, our research also has several important managerial implications for enterprises. First, the findings underscore the importance of ethical leadership in the impact of employees on innovative work behavior. Previous research has shown that employees' positive behaviors are influenced by leadership style. Our research supports the observation that ethical leadership can lead to employees who are less fearful of the consequences of failure and more engaged in innovative behavior. Managers should focus on ethical practices using actions to demonstrate character traits such as honesty, integrity, and altruism to motivate their followers to emulate these behaviors. Therefore, the more managers focus on ethical practices, the more positive actions employees will perform. Thus, enterprises should recognize the role that the moral qualities of leaders (e.g., honesty, integrity, and altruism) play in promoting positive employee behavior. For the development of the enterprise, one should pay attention to the selection process of managers and strengthen the ethical training of managers. Specifically, in ad-

dition to the requirements for working ability, enterprises also need to consider whether the person is moral and ethical when selecting a manager. Moreover, enterprises also need to provide appropriate training and education programs to improve supervisors' ethical awareness and leadership abilities.

Second, this study shows that ethical leadership indirectly affects employees' innovative work behavior through the mediating effect of psychological safety and work engagement. The higher the level of psychological safety or work engagement of employees in the enterprise, the more engaged they are in innovative work behaviors. Therefore, managers can cultivate employees' work engagement and psychological safety by listening to their opinions, caring for them, enhancing two-way communication, encouraging them to participate in decision-making work, and creating a fair working environment. In short, enterprises need to do their best to create a work environment where employees can feel comfortable presenting ideas and expressing opinions. This helps to stimulate employees' enthusiasm for work tasks and putting more energy into the work, which leads to more innovative work behaviors.

Third, although many researchers have examined leadership ethics, relatively little attention has been paid to leadership ethics from a developing country perspective. Chinese traditional culture values morality and ethics; the importance of ethical leadership in enterprises are constantly emphasized, and organizational members place great attention on the moral qualities of their leaders [3]. On the other hand, the ethical level of leadership is expected to optimize employee behavior and workplace outcomes in collective cultures compared to individualistic Western cultures [56]. This research was conducted in a Chinese cultural context where the impact of ethical leadership was more effective than in organizations with a Western background. This stems from Chinese tradition and is in line with the Chinese culture and mindset. Hence, this study provides a resource for organizations in a collectivist culture to better promote positive employee attitudes and behaviors, especially for service enterprises. Develop and nurture ethical leadership in managers, thus improving the innovative work behavior of employees and giving enterprises an edge over the competition

Fourth, the impact of work engagement on employees' innovative work behavior is stronger in employees with a high degree of openness to experience. Moreover, employees with a high degree of openness to experience have a stronger mediating role of work engagement in the relationship between ethical leadership and innovative work behavior. Therefore, for the sustainable innovation of enterprises, human resource managers should also consider selecting people with an openness to experience characteristics when conducting corporate recruitment. In addition, managers need to focus on employees with high openness to experience because employees with high openness to experience tend to embrace new changes and make the necessary sacrifices for the organization [74]. More importantly, individuals high on openness are actively motivated to seek out new information and knowledge [36], and can facilitate the development of ideas from different sources of knowledge [75]. In summary, these characteristics of employees with high openness to experience are important for promoting innovative behavior in the workplace.

Finally, hospitality, finance, and banking, as representatives of the service sector, are industries that interact more with customers. Therefore, the generation and implementation of new service models are essential for the sustainability of enterprises. The results of this research provide new ideas and perspectives for increasing employee innovation behavior in service industry enterprises. Furthermore, by testing our hypotheses in China, we provide additional empirical evidence from developing countries on the usefulness of ethical leadership in promoting employee psychology, work attitudes, and behaviors. Although the effectiveness of ethical leadership has been extensively researched in Western societies, such studies are relatively limited in emerging economies like China. However, our findings provide direct evidence for the prevalence and applicability of ethical leadership in Chinese organizations. These results have clear implications for service enterprises

and are likely to be transferred to other organizations. Thus, the findings of this study deepen our understanding of the effectiveness of ethical leadership across social cultures.

6. Research Limitations and Future Prospects

There are still some limitations of this study that should be considered in future research. First, data for all the variables in our study were collected from one source and self-reported, although we collected data in two phases, two weeks apart to avoid possible common method variance. However, the possibility that there may be common method variance that cannot be fully controlled still cannot be ruled out. Collecting data from multiple sources should be considered in future research to improve the accuracy of the conclusions. For example, employees' innovative work behaviors can be assessed by their immediate leaders. Moreover, considering that the data for this study are from a single service industry company, the data collected may be nested in nature and, therefore, the results may be biased. Thus, future researchers can perform multilevel analysis to validate the data. Second, Western societies are more individualistic, while traditional Chinese culture emphasizes ethical and moral collective values. Our sample comes from service industries in China, which may limit the generalizability of our results in a Western cultural context. Therefore, conducting cross-cultural research in other industries in different countries is an important topic to be explored in the future. Third, although our research provides a theoretical framework by examining how and when ethical leadership can be effective in promoting innovative work behaviors, there may be underlying mechanisms and boundary conditions that we have not considered. Future research still needs to explore other mediating and moderating factors in the relationship between ethical leadership and employees' innovative work behavior. Specifically, future researchers can explore the mediating variables between ethical leadership and employees' innovative work behavior from other psychological factors, such as psychological capital, psychological empowerment, and self-efficacy. In addition, organizational factors, such as organizational innovation climate and perceived organizational support, may be considered moderator variables in future research. Finally, although our study focused on the impact of ethical leadership on employee innovation work behavior, different leadership styles may have different outcomes. Future research might also compare ethical leadership with other leadership styles (e.g., transformational leadership and authentic leadership) to discover which leadership style is more effective in promoting innovative behavior in employees.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/su15043452/s1.

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Abbreviations

EL	ethical leadership
PS	psychological safety
WE	work engagement
OTE	openness to experience
IWB	innovative work behavior

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