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Examining the link between empowering leadership and unethical pro-organizational behavior: the mediating role of role stress and the moderating role of instrumental ethical climate

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Abstract
The majority of research on the antecedents of unethical pro-organizational behavior (UPB) has mainly focused on negative ethics-related variables, while ignoring positive factors that may not be related to ethics but might affect employee UPB. In this research, based on social exchange theory, we hypothesized that empowering leadership would prompt employee UPB. We argue that, driven by self-interest and positive reciprocity, empowered employees may be more willing to engage in UPB when organizations encourage self-interest for more positive treatment. Study 1 supported these hypotheses, which implied that instrumental ethical climate strengthened the link between empowering leadership and UPB. Meanwhile, role theory notes that role factors are strongly correlated with employees role stress. Thus, based on the theoretical framework of Study 1, we introduced the mediator variable — role stress and examined whether role stress was the bridge between empowering leadership and employee UPB using Study 2. The results from Study 2 showed that empowering leadership could prompt employee UPB and that the relationship was mediated by role stress. In addition, the relationship between empowering leadership and UPB was moderated by instrumental ethical climate. Furthermore, we tested the moderated mediation model, yet it was not verified. Finally, we discussed both theoretical and practical implications.

Keywords Empowering leadership · Role stress · Instrumental ethical climate · Unethical pro-organizational behavior · Social exchange theory · Role theory

Introduction

The exponential growth of corporate scandals and employee wrongdoing at the start of the twenty-first century has made a great impact on the entire business world. For instance, on August 31, 2022, a century-old Japanese steel business revealed that there were issues with the quality inspection of steel pipes produced by its subsidiaries, which were utilized in the boilers of thermal power plants. According to the report, to avoid delaying the delivery, the manufacturing department would ask the quality inspection department to alter the pertinent data for falsification when the company discovered that the product data did not meet the criteria stipulated by the client. Such shocking event is pervasive, implying that many organizations and their employees are engaging in unethical behaviors for the sake of organizational interests. Meanwhile, it has also received burgeoning scholarly attention in the literature on unethical behaviors. In attempts to capture whether employees' behaviors were conducted for the sake of their organizations or for themselves, Umphress and his colleagues proposed unethical pro-organizational behavior (UPB) (Umphress et al., 2010). In their works, UPB refers to an action that is intended to benefit their organization or its members while potentially violating core societal norms, laws, or standards of proper conduct. It is similar to pro-social citizenship behaviors that can provide benefits to the organization, but it has a destructive effect on the long-term sustainability of the organization (e.g. Umphress & Bingham, 2011; Umphress et al., 2010) and potentially costs human capital, which reveal the dual nature of UPB. To date, the prevalent consensus is that the long-term damage caused by UPB for the organization seems more fatal than the immediate benefits brought by it

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for the organization (Umphress & Bingham, 2011). Thus, it is urgent to explore the factors that generate it.

Heretofore, extensive empirical studies have elucidated what drives employees to engage in UPB and how organizations can reduce its occurrence. A recent meta-analysis indicates that, for example, leadership style has gradually gained prominence in UPB research and practice as an important influencing factor of subordinate behaviors (Luan et al., 2023). And recent empirical research has shown a negative relationship between empowering leadership and employee behavior (e.g. Foulk et al., 2018). In addition, some scholars argued that empowering leadership can introduce the unintended negative effects on employees' behavior, such as UPB (Wang et al., 2022). More specifically, the study by Dennerlein and Kirkman reveals that empowering leadership indirectly affects UPB through moral disengagement, such that this indirect effect is positive when hindrance stressors are higher and negative when hindrance stressors are lower (Dennerlein & Kirkman, 2022). Thus, we have developed a great interest in whether empowering leadership will have a direct impact on UPB. To this end, we draw from social exchange theory (SET) and empowering leadership literature to support our expectation that empowering leadership can predict UPB. The core of SET is reciprocity, suggesting that when an individual does another party a favor, there is an expectation of some future return and trust is viewed as an identifying outcome of favorable social exchanges (Blau, 2017). Empowering leadership offers employees favorable treatments, such as trust, goal focus, self-confidence, development support and other favors. For this reason, employees will view UPB as a way to reciprocate these favors. In other words, empowering leadership facilitates UPB by eliciting employees' pro-organizational desires, which is consistent with the UPB's pro-social nature.

To this point, our focus has been on the fact that empowering leadership creates the potential for employee to view it as a positive treatment, which may then elicit subsequent behavioral consequences. However, SET further posits that social exchange occurs in the process of social interaction. There are two criteria for determining if social interaction is an exchange (Blau, 2017): one is that the ultimate goal of behavior can only be achieved through interaction with others, and the other is that the behavior must adopt measures that contribute to achieving these goals (Blau, 2017). In this sense, exchange should be based on specific relationships, and role theory can help us better understand how people interact with one another. Therefore, we introduce role stress and propose that empowering leadership has a positive indirect relationship with employees' UPB through role stress. Role stress refers to a stressful experience where individuals lack sufficient time, energy, and resources to fulfill their role expectations. Leaders who share power and provide employees with more autonomy in the decision-making process will increase employee workload and role ambiguity (Hao et al., 2018). According to Chonko, role factors, especially role conflict and role ambiguity, are strongly correlated with employees role stress (Lapidus et al., 1997). In addition, the cost of autonomy suggests that the more autonomy there is, the more likely it is to cause higher switching costs as well as more resources and stress for employees to engage. Existing research has shown that role stress can stimulate employees' protective mechanisms and generate strong pro-organizational motivation. Additionally, when employees are empowered, their stress may be alleviated through unethical behaviors that provide them with greater motivation and power. As a result, in order to relieve role stress and repay trust from their organizations, employees would develop stronger pro-organization motivation and do their best to contribute to the organization even at the cost of neglecting ethical factors.

Furthermore, we speculated that instrumental ethical climate could moderate the relationship between empowering leadership and employees' UPB. We also hypothesized that empowering leadership has a mediating effect on employees' UPB via role stress. Since social exchange theory contends that, there are three conditions that affect the social exchange process, including the social background in which the exchange occurs. Meanwhile, social exchange theory also argues that social exchange arises from attraction, which is generated by economic motivation. Instrumental ethical climate fosters higher economic motivation among empowered employees, thereby attracting them to engage in more social exchanges for their own benefits (i.e. UPB). Undoubtedly, the instrumental ethical climate has the potential to influence the process by which individuals reward positive treatment from their organization. In detail, we posited that empowered employees are more likely to engage in UPB and experience less role stress in environments with a high level of instrumental ethical climate.

Overall, our conceptual model proposed that empowering leadership influences employee UPB. To test this position, we conducted two complementary studies that respectively identify causality (Study 1) and demonstrate ecological validity (Study 2). In support of our theoretical account, our experimental study reveals that empowering leadership positively affects UPB and the instrumental ethical climate moderates the relationship. Replicating and extending these findings, a field survey corroborates with our results and further reveals an important mediator.

As such, this research makes several theoretical contributions. First, we investigated the antecedents of UPB unrelated to morality. The academic community is currently concerned about the impact of leadership style on UPB, and a large body of studies have proved that different leadership styles related to morality have varying implications on UPB. However, little attention has been paid to whether

empowering leadership unrelated to morality has moral risk and ultimately trigger UPB. Meanwhile, because empowering leadership elicits employees' pro-organizational desires, which is congruent with UPB's pro-social nature, there is a direct link between the two. Although prior research has shown that empowering leadership has a possible impact on UPB(e.g., Dennerlein & Kirkman, 2022), this impact is due to the combined impacts of hindrance stressors and moral disengagement, and the direct effect of empowering leadership on UPB has not been explored. Both of our studies aim to test a direct effect of empowering leadership on employees UPB from a positive motivational perspective. Thus, we contribute to a small but growing body of literature on the antecedent of UPB. Second, based on role theory, we choose role stress as a mediator of the relationship between empowering leadership and UPB rather than positive variables, such as psychological empowerment or self-efficacy, the purpose of which is to understand why organizational empowerment leads to UPB as opposed to positive outcomes as expected. Third, we investigate the moderating role of ethical climates in organizations by highlighting how instrumental ethical climate attenuate the impact of empowering leadership on undesirable outcomes and thus imply a fuller integration of positive motivational constructs (i.e., empowering leadership) with more negative ones (i.e., instrumental ethical climate) to propel empowering leadership research (Deci & Ryan, 1985). Finally, we design an experiment to test our hypotheses, which provides a reference for future experimental research about UPB. In short, we think that a deeper understanding of how empowering leadership influence employees UPB and what role stress and instrumental ethical climate play in this process can have great implications. Moreover, by providing practicing managers with the antecedent of UPB, our study might help practitioners to design management approaches that effectively inhibit UPB. Similarly, for researchers, our study might be helpful for the future research of the drivers of UPB.

Theory and hypotheses development

Social exchange theory and role theory

Social exchange theory provides a theoretical foundation to understand the antecedents of UPB. The core of SET is reciprocity, suggesting that when an individual does another party a favor, there is an expectation of some future return and trust is viewed as an identifying outcome of favorable social exchanges (Blau, 2017). Specifically, the employees may engage in pro-organizational behaviors as a reward when the organization provides support and resources for them. Meanwhile, SET also contends that, there are three conditions that affect the social exchange process: the characteristics and nature of the relationship between exchange partners during the period of exchange and development, the nature of social rewards and the costs incurred in providing them and the background of social exchange (Blau, 2017). In addition, there are two criteria for determining if social interaction is an exchange (Blau, 2017): one is that the ultimate goal of behavior can only be achieved through interaction with others, and the other is that the behavior must adopt measures that contribute to achieving these goals (Blau, 2017). In this sense, exchange should be based on specific relationships, and role theory can help us better understand how people interact with one another.

Role theory emphasizes that an individual playing a specific role needs to fulfill the expectations and requirements of others for the role they play. When these expectations and requirements exceed the scope that the individual can undertake, the individual is unable to effectively play his social role, which can also generate pressure (Lapidus et al., 1997). In short, role theory suggests that some role concepts can explain how role status affects individuals' attitudes and behaviors in daily life. For example, role conflict, role ambiguity, and role overload are the main sources of stress for individuals when playing a certain role.

Empowering leadership and unethical pro-organizational behavior

Empowering leadership is defined as the process of sharing power and allocating autonomy and responsibilities to followers, teams, or collectives through a specific set of leader behaviors that can enhance employees' internal motivation and facilitate their success (Cheong et al., 2019). Empowered employees have greater authority and responsibility for their work than those who work in more traditionally designed organizations; thus, they are more willing to engage in positive behaviors in workplace. Stated differently, empowering leadership can predict positive individual outcomes and is an effective leadership style for both employees and organizations. This is consistent with prior studies that implied the strength of empowering leadership due to its influence on employees to engage in organizational citizenship behaviors while improving team performance, job satisfaction, and so on (Li et al., 2017; Spreitzer et al., 1997). However, the same leader behaviors are effective for different people, so "one-size-fits-all-empowerment" may have opposite effects. Several scholars have proposed that empowering leadership may have detrimental consequences, such as weaker performance and increased employees' work-induced stress (Cheong et al., 2016; Cordery et al., 2010). Overall, the effect of empowering leadership appears to be complex and uncertain.

As mentioned already, previous research has argued that certain types of leadership behaviors may lead to UPB.

Given the substantial body of empirical research and theory, there are compelling reasons to expect a positive relationship between empowering leadership and UPB. First, reciprocity principle in social exchange theory assumes that when an individual does another party a favor, there is an expectation of some future return and trust is viewed as an identifying outcome of favorable social exchanges (Blau, 2017). Empowering supervisors give subordinates a strong sense of self-determination, trust, goal focus, self-confidence, and development support, all of which are inherent favors, thus, according to positive reciprocity principle in SET, employees would view UPB as a way to reciprocate the favorable treatment received from their supervisors and organizations (Wang et al., 2019). Apparently, empowered employees are more inclined to engage in UPB. Second, empowerment makes people feel less bound by organizational rules, which encourages more unethical behavior like cheating. Moreover, empowering leadership evokes a desire to assist an organization because empowerment increases people's perceived organizational support (Harris et al., 2014) and trust in supervisors (Hassan et al., 2019), and it causes employees to imitate leaders and be concerned about their organization's success. Accordingly, UPB is a likely an outcome of empowering leadership. Lastly, prior research and SET suggested that trust is the foundation of social exchange (Shore et al., 2006). Namely, trust makes exchange happen more smoothly. When leaders delegate power and responsibilities to their followers, the latter may feel trusted and respected by their leaders and organizations, prompting followers to reciprocate organizational support and care by engaging in extra-role behaviors regardless of how unethical they are (Schilpzand et al., 2018). To unfold, empowered employees generally give back to leaders or their organization by exhibiting organizational citizenship behavior (OCB), but they fail to take into account whether their behaviors are ethical at times. It shows that employees may regard UPB as OCB. We propose that empowering leadership can unintentionally increase employees' unethical pro-organizational behavior (UPB). Consequently, it is reasonable to assume:

Hypothesis 1. There is a positive relationship between empowering leadership and employee unethical pro-organizational behavior.

Role stress as a mediator of the relationship between empowering leadership and unethical pro-organizational behavior

Role stress refers to a stressful experience where individuals lack sufficient time, energy, and resources to fulfill their role expectations. Our model views stress as an intervening variable with antecedent causes and behavioral consequences (Lazarus et al., 1952). Specifically, empowering leadership should increase employees' role stress, which, in turn, should enhance their UPB. We would borrow the perspective of social exchange theory and role theory to explain our hypothesis theoretically.

First, social exchange occurs in the process of social interaction. Blau argued that there are two criteria for determining if social interaction is an exchange. One is that the ultimate goal of behavior can only be achieved through interaction with others, and the other is that the behavior must adopt measures that contribute to achieving these goals. In this sense, exchange should be based on specific relationships, and role theory can help us better understand how people interact with one another. Everyone plays a certain role in life and work, including descriptive norms and directive norms. Role conflict, ambiguity, and overload will occur when the common expectations of social group members' actual behaviors are not balanced with the common expectations of the due behaviors. Role theory states that role conflict, ambiguity, and overload are frequently viewed as precursors of role stress (Kahn et al., 1964). Delegating power to employees would increase their work burden and role ambiguity (Cheong et al., 2016). In particular, empowering leader behaviors focusing on high autonomy in decision making and on task delegation may increase task uncertainty, thereby resulting in role ambiguity. After all, humans are capable of adjusting their behaviors according to the expectations of others. Empowered employees are expected to engage in behaviors beyond their formal work roles, and they tend to act in a way that is approved by the organization by working harder and taking on more role behaviors unrelated to job, which eventually led to role overload and conflicts. Thus, compared to unempowered people, empowered people would perceive more role-related stress, which is an important psychological mechanism empowering leadership implemented to have employees engage in UPB.

Second, empowering leaders usually put more trust and expectation in their followers, because they believe their followers are capable of doing more work beyond their responsibilities. On the other hand, empowered employees who are trusted by their superiors and organizations would work hard to earn it. For instance, due to continuous changes in their own behaviors and mindsets matching the expectations from their superiors, employees' old working style would be passively changed, which, if continued, would lead to increasing discomfort and pressure (Summers et al., 1995). Finally, leaders would induce employees' more autonomous, responsive, and proactive behaviors at work by delegating power to them. While the concept of the cost of autonomy suggests that an individual with greater autonomy will engage with more interference and incur higher switching costs, this may also result in role overload and increased stress for individuals with greater autonomy (Langfred & Moye, 2004). Accordingly, increasing followers' autonomy

via empowering leadership may also increase followers' stress level. As noted, empowering leadership would possibly lead followers to experience role stress.

As previously stated, our model views stress as an intervening variable with antecedent causes and behavioral consequences, and we hypothesized that empowering leadership is one of the causes of role stress. The question became what kind of behavioral consequence would the role stress caused by empowering leadership lead to? UPB is a decision made independently by individuals and is inevitably influenced by their personal state. Individual interpretations of empowering leadership activate role stress and generate defensive behaviors, such as engaging in UPB, which helps both the organization and the individual. Past research has suggested that role stress causes employees to have a stronger pro-organizational motivation to defend their existing positions and other resources, to proactively improve performance in various ways, and to continually make the greatest possible contribution to the organization (Thau et al., 2015). Beyond this, empowered employees' role stress is generally caused by their perception of the organization's trust in them; thus, brought by pro-organizational motivation, role stress would become more compelling in this sense. Simultaneously, some scholars pointed out that stress plays a pivotal role in employees' decision-making on unethical behavior (Goldberg & Greenberg, 1994). Individuals under role stress do not have enough time to deliberate, and their thinking inclination is not intense. Subsequently, when they structure their own decisions and behaviors, they are prone to disregard ethical components and make a hasty decision. Consequently, we summarized that the role stress originated from empowering leadership would promote employees to implement certain pro-organizational but potentially unethical behaviors. In more detail, we predict the following:

Hypothesis 2. Employees' role stress mediates the relationship between empowering leadership and employee unethical pro-organizational behavior.

The moderating role of instrumental ethical climate

The moderating role of instrumental ethical climate on the empowering leadership-UPB relationship

In developing social exchange theory, Blau emphasized that there are three conditions that affect the process of social exchange, one of which is the social background in which exchange occurs. In terms of exchange within the organization, we believe that an important factor affecting this exchange process is the organizational climate. Since the 1950s, scholars have examined the antecedents and consequences of the work climates which have been unraveled that they can affect willingness and inclination to exchange of organizational members to a great degree. Conceptually, ethical climate, which is a subset of organizational work climates and is viewed as a shared perception of what is the appropriate behavior, can influence the decision-making and subsequent behavior for assessing ethical dilemmas (Martin & Cullen, 2006). Victor and Cullen propounded the ethical climate framework first, they focus on two theoretical dimensions and find the five climates types including instrumental, caring, independence, law and code, and rules which are identified and used universally (Victor & Cullen, 1987, 1988). Wherein the instrumental ethical climate is defined as an ethical climate that employees generally prioritize self-interest and make decisions based on personal interests, with little consideration given to whether their decisions will affect the interests of others (Victor & Cullen, 1988). Since Victor and Cullen proposed the ethical climate framework, organizational behavior, sociology, and applied psychology have all shown a great deal of interest in ethical climate research, which shows that ethical climates are relevant to a range of workplace outcomes. These outcomes may or may not be related to ethics. In relation to ethical outcomes, studies seem to obtain a consistent conclusion, namely that of the five climates types instrumental ethical climates are the least preferred for producing ethical outcomes (Simha & Cullen, 2012). In line with this opinion, the present study agrees that instrumental ethical climates can enhance the relationship between empowering leadership and employees' unethical pro-organizational behavior. Put simply, when instrumental ethical climates in an organization are high, empowered employees are more willing to engage in UPB compared to low-level instrumental ethical climates. Next, we develop arguments for our specific hypotheses.

First, although there are five ethical climate types, studies demonstrate that one ethical climate will ultimately dominate the primary standing in an organization (Martin & Cullen, 2006). Employees operating under instrumental climates tend to consider that their organizations encourage ethical decision-making from an egoistic perspective, and they believe that decisions are made that serve the organization's interests or benefit the individual, even though it may be at the harm of others (Wimbush & Shepard, 1994). As previously stated, empowering leadership predisposes employees to be willing to engage in UPB as a means of repaying the positive treatment from organizations and superiors, even disregarding ethical elements. Meanwhile, employees operating under instrumental climates focus more on internal stakeholder rather than external stakeholders and prefer to make ethical decisions from organizational or personal benefits. Apparently, empowered employees in high instrumental ethical climate have stronger pro-organizational motivation and are prone to engage in UPB. Second, social exchange theory contends that social exchange arises from attraction, and economic motivation is the condition for generating

social attraction. Instrumental ethical climate fosters higher economic motivation among empowered employees, thereby attracting them to engage in more social exchanges for benefits and their own purpose. Participating in UPB not only rewards positive treatment of the company, but also assists employees in gaining the organization's favor and receiving specific benefits (i.e., more empowerment, promotions or bonuses). Third, in organizations characterized by an egoistic orientation, self-interest is central to considering what behaviors are right. Therefore, employees will evaluate whether the behavior will benefit them when making behavioral decisions. This is consistent with the successful proposition in social exchange theory, namely, the more frequently an individual receives corresponding rewards for a certain behavior, the more likely he is to repeat the action. In practical terms, organizational empowerment not only stimulates employees' willingness to reciprocate in a high level of instrumental ethical climate, but also enables employees to obtain more rewards from the organization through feedback behaviors, such as more empowerment, in order to maximize their own interests. Accordingly, UPB, which promotes the organization to quickly obtain short-term benefits, is likely to become the first choice for employees to repay the organization. Lastly, as Graham and his colleagues pointed out, employee self-interest and organizational interests are often deeply intertwined (Graham et al., 2019). In Umphress's initial work about UPB, they point that employees engaging in UPB may think that the behavior beneficial to the organization may also be beneficial to themselves, namely, UPB is not divorced from the self-interested motives of unethical behavior (Umphress et al., 2010). In this sense, the self-interest motivation of a high level of instrumental ethical climate will also promote employees to engage in UPB.

When the instrumental ethical climate is low-level, employees are less likely to behave unethically because they are more concerned with the interests of outside stakeholders. Even if they want to do something to repay organizations for the positive treatment from, they may engage in organizational citizenship behavior as opposed to UPB. Taken together, we predict the following:

> **Hypothesis 3**. Instrumental ethical climate moderates the relationship between empowering leadership and unethical pro-organizational behavior such that the relationship is increasingly positive as instrumental ethical climate increases.

The moderating role of instrumental ethical climate on the first stage of the mediating model

As indicated earlier, the instrumental ethical climate offers clues about what is right in organizations for employees (Martin & Cullen, 2006). Employees are less concerned or even ignore the thoughts and sentiments of colleagues, superiors, and others when there is an emphasis on self-interest in a high instrumental ethical climate. In this situation, the gap between the common expectations of the actual behavior perceived by the empowered employees and the common expectation of the proper behavior is narrowed, and the possibility of role conflict, ambiguity or overload is reduced, resulting in less role stress. Furthermore, employees perceive that in instrumental ethical climates, the behaviors and outcomes which benefit organizations or individuals are taken-for-granted, thus, employees will experience less role stress when organizations or leaders manage them by delegating power (Cheong et al., 2016; Langfred & Moye, 2004). We expect this for the following reason. Normally, empowering leadership results in role stress and job tension for employees by the role conflict, ambiguity, overload and task uncertainty stemming from delegating power. However, the role stress will decrease when employees rarely view the trust, more autonomy and extra-role responsibility as a burden. By and large, in a high instrumental ethical climate, it is taken-for-granted to strive to make the greatest possible contribution to the organization and to hold more responsibility, whilst, from an egoistic perspective, employees may not actively engage in behaviors which cater to the higher expectations of superiors, even though they obtain more power and trust from superiors. As such, the discomfort and perception of role stress will decrease. By contrast, in a low instrumental ethical climate, employees may consider their own interests less and have lower needs for autonomy and power, thus, empowering leadership is viewed as a stressor which exacerbates employees' role stress. In sum, we predict the following:

> **Hypothesis 4a**. Instrumental ethical climate moderates the relationship between empowering leadership and role stress such that the relationship is increasingly positive as instrumental ethical climate decreases.

The moderating role of instrumental ethical climate on the indirect effect of the mediating model

Hypothesis 2 deduces from the preceding discussion that role stress has a mediating effect between empowering leadership and unethical pro-organizational behavior. The current study, which integrates Hypothesis 2 and Hypothesis 4a, proposes a moderated mediation model in which the instrumental ethical climate moderates the indirect effect of empowering leadership on unethical pro-organizational behavior via role stress. In detail, employees in a low instrumental ethical climate possess lower egoistic motivation and lower needs for autonomy and power, at the same time, empowering leadership is viewed as a stressor which exacerbates employees' role stress. Role stress will

boost pro-organizational motivation and promote employees to engage in UPB for protecting their existing resources. Inversely, a high instrumental ethical climate allows employees to receive the organizational trust and work autonomy stemming from empowering leadership unashamedly, and the possibility of role conflict, ambiguity or overload is reduced, resulting in less role stress. Low role stress minimizes the possibility of empowered employees modifying their own behavior based on the norms or expectations of others, and they are less ready to put in extra effort and engage in more extra-role behaviors, namely, they will make fewer UPB. Thus:

Hypothesis 4b. Instrumental ethical climate moderates the indirect effect of empowering leadership on UPB through role stress, such that the indirect effect is weaker when instrumental ethical climate is high (vs. low).

Overview of studies

To put our theoretical model to the test, we conducted two complementary methodologies. Before testing a full model with both moderation and mediation, we used an online scenario-based experiment to preliminarily, Study1, validate the causal relationship between empowered leadership and UPB, setting the solid groundwork for the full model and increasing the internal validity of the research findings. In addition, the experimental method allowed us to test the hypothesized moderating effect of instrumental ethical climate. In Study 2, we used a self-report field study to test our entire model. The second study replicated the findings from Study 1 and tested our proposed mechanism of role stress. The findings of Study 2 supplement those of Study 1 by giving evidence of ecological validity and a comprehensive evaluation of the predicted model. The theoretical model is depicted in Fig. 1.

Study 1: method

Participants and design

Before recruiting participants, we first estimated the sample size. Our experimental plan adopted a two factor four level design, using G * power to budget the sample size. We selected Effect size f = 0.4, α = 0.05, Power(1-β err prob) = 0.8, and calculated Total sample size = 73 (Faul et al., 2007). Thus, we invited 134 in-service MBA students from a university in Shanxi Province, which exceeded the planned sample size. These students had rich practical work experience so that their perception and judgment of the relevant factors and their significance presented in the experiment were assumed to be more accurate (Castilla & Benard, 2010), and the choices made in the face of moral quandaries about whether to engage in UPB should also be highly consistent with the reality. Filter through the completed questionnaire, we obtained a final sample size of 132 participants (67.4% female). The experiment employed a 2 (empowering leadership: low vs. high) × 2 (instrumental ethical climate: low vs. high) between-subjects design with random assignment to one of the four conditions and kept the balance of each condition in terms of gender and number of participants (Ns ranged from 32 to 34).

Experimental procedure and materials

We designed some scenarios for participants to imagine (see Appendix A for our storyline and manipulations). These scenarios were developed depending on the related experiment materials suggested by prior scholars, items of scales and theories (Thau et al., 2015; Tobias & Kirkman, 2022). First, we asked participants to imagine that they were a senior manager who had worked three years in the R&D Department of a company that offered online educational tools and apps that were growing rapidly. Then they were asked to imagine a scenario where they would report to the Head of R&D named "Mike" who had been the division head for several years in this company. We provided participants with information about an app that their team recently developed. Detailed information about the app follows. The app allowed users to learn a language faster and more effectively and had the potential to become the flagship product of the company. We told them that "they were selected to compete and to show case the app's effectiveness during the final selection round at a very competitive contest held for promising, fast growing companies." Specifically, we instructed participants that they would "compete in a contest (i.e., a word group task) later in the study that would serve as a demonstration

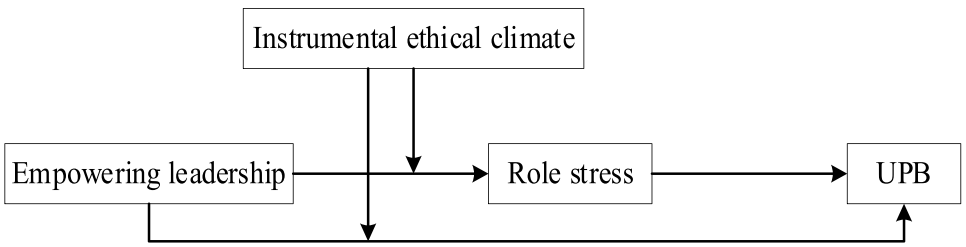

Fig. 1 Theoretical model. Note: UPB = unethical pro-organizational behavior

of their app's performance." And if they won this contest, their company would receive a $1 million cash from a group of investors; and no punishment required if they lost(i.e., our pro-organization manipulation). We informed them that they would "represent Achieve Innovation and compete against its competitors (in the form of other participants in this study) to demonstrate their new app's performance." We also reminded them that "winning this contest was the final hurdle to get Achieve Innovation the much-needed $1 million cash injection and would therefore greatly benefit the company." We then told participants Mike's empowering leadership style over the years (i.e., our empowering leadership manipulation). We also provided participants with information about their daily work environment, which was characterized by having an instrumental ethical climate that is either strong or weak (i.e., our instrumental ethical climate manipulation). Participants were asked to answer questions related to our manipulation check measures. Participants' demographic information was also collected.

Manipulations

We strived to ensure that other factors under various operating conditions were as similar as possible (e.g., tone, length).

Empowering leadership

To create these manipulations, we used a ten-item scale measure, which was previously proposed by Ahearne et al. (Ahearne et al., 2005) and others (Dennerlein & Kirkman, 2022). We informed participants hypothetically, that they and their colleagues agreed that Mike was always (or never) a highly empowering leader. We also gave them examples that best described Mike's leadership behaviors over the years, such as "When making decisions, Mike frequently (or never] asked for your suggestions."

Instrumental ethical climate

In designing these manipulations, we built on Victor and Cullen's (Victor & Cullen, 1987) measure. We informed participants who were in high condition that, as a senior manager in the R&D Department at their company, their daily work environment was best described as follows: Employees in this company are egotists who consider their own gains and losses before making decisions. For participants in low condition, we described their work environment as: employees in this company possess strong empathy and always consider the benefit of external stakeholders rather than themselves.

Measures

After reading the descriptions, participants were asked to answer the questions related to two manipulated variables, UPB and control variables. The response scale for all items ranged from 1 = Strongly Disagree to 6 = Strongly Agree.

UPB

We referred to Thau et al. 's practice(Thau et al., 2015) to operationalize UPB as an act of cheating for the benefit of the organization in a task which had been successfully used in some online studies (Chui et al., 2021; Tobias & Kirkman, 2022). Some slight moderations were made to fit the Chinese context. In our cover story, we depicted the tasks that participants needed to complete, and we told participants clearly that: (a) they represented their organization and (b) winning the competition would clearly benefit the company rather than themselves because it would help their company receiving a much-needed cash injection (i.e., we described their performance as having direct pro-organizational implications). Before they got to the task page, participants were told that they had two minutes to work on the tasks before self-reporting their performance (i.e., we emphasized that due to the way the survey was designed, we were not able to know their performance and did not recheck their answers) (Lu et al., 2017). We also told all participants that they had to distinguish word groups more than two others to win the competition, and 6 Chinese word groups are correct at least, unbeknownst to the participants, only one word group is correct. Participants saw 10 Chinese word groups and were asked to distinguish them. After two minutes, the page auto-advanced, and we asked them to report the specific quantity and the topic number they distinguished(i.e., to enter a number between 0 and 10).

Social desirability

We used Reynolds's 13-item scale by asking participants what they would probably think or feel in reality (Reynolds, 1982). An example item is "I never intentionally said anything that hurt someone's feelings."

Manipulation check measures

We asked participants to report their agreement with presented statements that described manipulated variables to ensure that they understood our information about manipulated variables correctly. We used a 10-item scale (Cronbach's $\alpha = 0.98$) to measure empowering leadership (Ahearne et al., 2005) and a 6-item scale (Cronbach's $\alpha = 0.92$) adapted from Victor and Cullen as our instrumental ethical climate and manipulation check measures (Victor

& Cullen, 1987). And we added one item to measure a pro-organizational benefit.

Study 1: results

Manipulation check results

The present study first tested whether the control and manipulation of independent variables was successful. T-test results for the manipulation of empowering leadership revealed that participants' perception of empowering leadership was significantly higher in high empowering leadership than in low empowering leadership ($M_{high} = 5.29$, $M_{low} = 1.75$, t (130) = 27.55, $p < 0.001$, 95% CI: [3.285, 3.793]); For the manipulation of instrumental ethical climate, t-test results showed that participants' perception for instrumental ethical climate was significantly higher than that for low instrumental ethical climate ($M_{high} = 4.64$, $M_{low} = 1.82$, t (130) = 14.76, $p < 0.001$, 95% CI: [2.445, 3.202]). These results confirmed that participants' perceptions for empowering leadership and instrumental ethical climate were coincident with the experimental treatments which participants have received, thus, the manipulations were effective. In addition, 89.4% participants agreed with the pro-organization of the task, which showed that the measure to UPB was reasonable.

Table 1 ANOVA of empowering leadership and instrumental ethical climate on UPB(Study 1)

	SS	df	MS	F
EL	17.64	1	17.64	4.62*
IEC	7.07	1	7.07	1.85
EL X IEC	45.76	1	45.76	11.98**
SE	489.01	128	3.82	–

EL empowering leadership; *IEC* instrumental ethical climate

Hypotheses testing

To test the effect of empowering leadership and the interaction between empowering leadership and instrumental ethical climate on UPB (hypothesis 1 and hypothesis 3), we conducted an ANOVA test and the fictitious regression of participants' likelihood of engaging in UPB in the scenario. The results are summarized in Table 1 as well as Table 2 and graphically presented in Fig. 1. The ANOVA revealed a main effect of empowering leadership on UPB($M_{high} = 4.97$, $M_{low} = 4.24$, F (1, 128) = 4.62, $p < 0.05$). The regression results showed that empowering leadership was positively related to UPB (b = 0.73, $p < 0.05$, Model 1, 95% CI: [0.020, 1.430]), which supported Hypothesis 1. The ANOVA test also revealed that the empowering leadership x instrumental ethical climate interaction had an significant effect on UPB (F (1, 128) = 11.98, $p < 0.01$). The regression results showed that the interaction was positively related to UPB (b = 2.35, $p < 0.01$, Model 2, 95% CI: [0.990, 3.710]), which supported Hypothesis 3. As shown in Fig. 2, when the instrumental ethical climate was high, participants in high empowering leadership reported being more likely (M = 5.79, SD = 1.76) to engage in UPB than those in low empowering leadership (M = 3.88, SD = 1.98), t(64) = 4.14, $p < 0.001$. However, when the instrumental ethical climate was low, no such difference emerged ($M_{high} = 4.15$, SD = 2.02 vs. $M_{low} = 4.59$, SD = 2.05), t(64) = -0.89, ns.

Table 2 Regression results (Study 1)

Variable	UPB									
	Model 1					Model 2				
	b	SE	p	LLCI	ULCI	b	SE	p	LLCI	ULCI
Intercept	2.92*	1.17	0.014	0.61	5.23	3.35**	1.14	0.004	1.10	5.60
Age	0.39	0.35	0.266	−0.30	1.09	0.37	0.34	0.29	−0.31	1.04
Gender	0.33	0.38	0.393	−0.43	1.08	0.27	0.37	0.46	−0.45	1.00
MCSD	−0.02	0.06	0.722	−0.14	0.10	−0.01	0.06	0.93	−0.12	0.11
EL[a]	0.73*	0.36	0.044	0.02	1.43	−0.45	0.49	0.36	−1.41	0.51
IEC[b]						−0.78	0.49	0.12	−1.75	0.20
ELX IEC						2.35**	0.49	0.001	0.99	3.71
R^2	0.048					0.139				

$N = 132$. *EL* empowering leadership; *IEC* instrumental ethical climate; *MCSD* Marlowe-Crowne Social Desirability; *UPB* unethical pro-organization behavior. Dependent variable is the number of phrases misreported. *LLCI* 95% confidence interval lower limit; *ULCI* 95% confidence interval upper limit

a Coded 1 for high and 0 for low empowerment leadership. b Coded 1 for high and 0 for low instrumental ethical climate

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

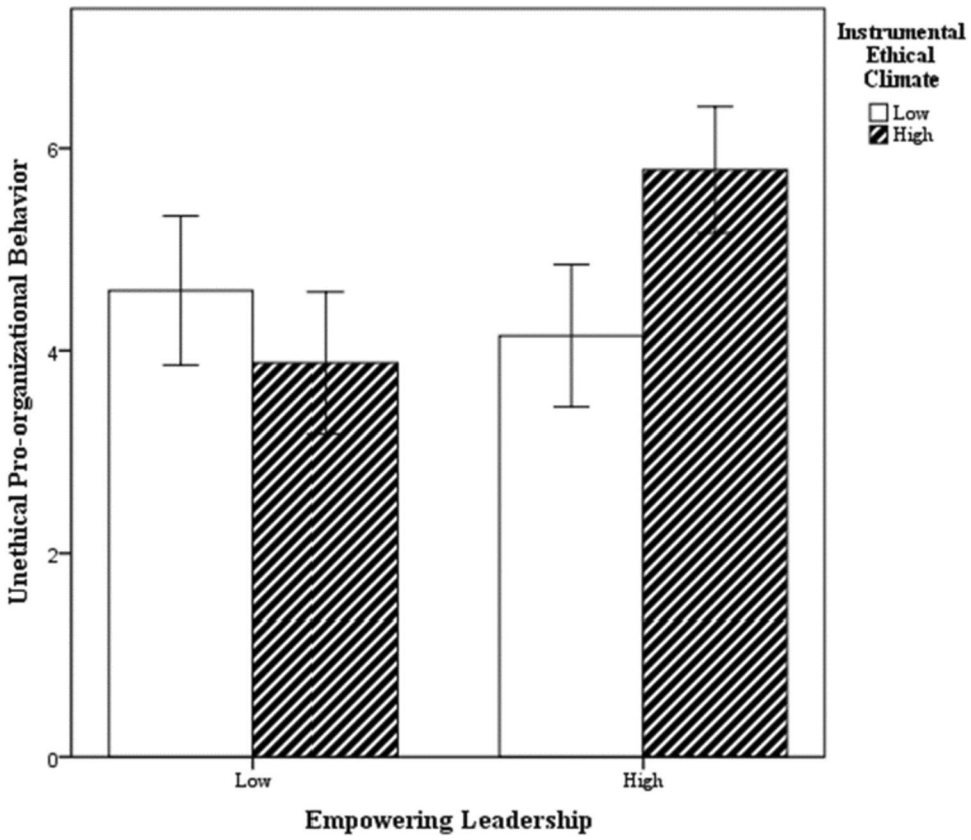

Fig. 2 Interaction between empowering leadership and instrumental ethical climate on unethical pro-organizational behavior(Study 1)

Study 1: discussion

The findings of Study 1 provided initial support for Hypothesis 1 and Hypothesis 3. In particular, the results of Study 1 showed that empowering leadership was significantly and positively associated with UPB. Support was also found for the role of instrumental ethical climate in moderating this relationship. This supported Hypothesis 3, which points out that the relationship between the two would be stronger when instrumental ethical climate is high. Altogether, these results suggest a strong link between empowering leadership and UPB and provide data support for us to further validate the complete model.

Study 2: method

Sample and procedure

This study was designed as an online survey of employees employed by various organizations in China, including real estate, media, and communication. All participants were full-time working adults who volunteered to participant in our survey. Questionnaires were distributed electronically. All participants were informed that their answers were confidential. Our data collection was divided into three stages, with time interval between each stage being two weeks (Chen et al., 2020). At Time 1, participants reported demographic information and their leaders' empowering leadership. At Time 2, participants completed measures of role stress. At Time 3, participants reported their own UPB. Using a random sampling formula, we calculated the sample size n with a 95% confidence interval and an error rate of no more than 5% (n = 384.16). We distributed 500 questionnaires at each stage and obtained 385 valid questionnaires after matching the questionnaire numbers. In total, 385 respondents completed the questionnaire and met all quality standards, representing an 77.00% response rate. Among these respondents, 51.90% were females and the mean age was 30.30 years. On average, participants had been working for their organization for 4.09 years. Bachelor's degree or above accounts for 65.50%.

Measures

The questionnaires were translated from English into Chinese following a back-translation procedure. In order to reduce the interference of social desirability on the research results, the questionnaire was filled out anonymously and frequently. For all of the scales in the current study, the participants rated each item using a five-point Likert scale ranging from 1(strongly disagree) to 5 (strongly agree).

Empowering leadership was assessed using the Ahearne et al.'s (Ahearne et al., 2005) 10-item scale (Cronbach's α = 0.92). An example item is "My manager makes many decisions together with me."

Role stress was measured using the five-item measure developed by Peterson et al. (Peterson et al., 1995) (Cronbach's α = 0.87). An example item is "The amount of work I have to do interferes with the quality I want to maintain."

Unethical pro-organizational behavior was measured using the six-item measure (Cronbach's α = 0.83) developed and validated by Umphress et al (Umphress et al., 2010). An example item is "If needed, I would conceal information from the public that could be damaging to my organization."

Instrumental ethical climate was assessed using Victor and Cullen's (Victor & Cullen, 1987) instrumental ethical climate six-item scale (Cronbach's α = 0.91). An example item is "In our company, employees' self-interest is paramount."

In addition, according to previous research, we also controlled for some organizational and demographic characteristics which may influence unethical pro-organizational behavior, namely gender (1 = male, 2 = female), age(in years) (Kish-Gephart et al., 2010), education(1 = Junior college or below, 2 = undergraduate, 3 = postgraduate or above) and job tenure (in years) (Pennino, 2002).

Analytical strategies

Because the reasons that we considered all constructs at the individual level and that the data came from participants' self-reporting, we used multiple regression analysis to test Hypotheses 1, 2 and 3. We tested Hypothesis 2 using Mplus 8.0 again. Finally, we used Hayes' (2013) PROCESS macro (Model 15) for SPSS to examine our moderated mediation model (Hypotheses 4a and 4b). Before creating the interaction term, the predictors were mean-centered to reduce multicollinearity.

Study 2: results

Table 3 reported the descriptive statistics and correlations of all independent, control, and dependent variables measured in study 2. As predicted, EL was positively associated with UPB (r = 0.62, $p < 0.001$), role stress (r = 0.21, $p < 0.001$) and IEC (r = -0.42, $p < 0.001$). In addition, role stress also showed a significant correlation with UPB (r = 0.22, $p < 0.001$) and IEC (r = 0.23, $p < 0.001$). These results provided initial support for Hypothesis 1 and Hypothesis 2.

Confirmatory factor analyses and common method biases

Given the high correlation among study variables, it is critical to demonstrate that these variables were distinct. Thus, we conducted a series of confirmatory factor analyses (CFAs) using Amos 24.0 to establish discriminant validity among the multi-item variables that were self-rated by employees within this study. The goodness-of-fit of a four-factor model that included all of the employee-rated variables (EL, UPB, role stress and IEC) was acceptable ($\chi^2 = 558.27$, $df = 318$, SRMR = 0.04, RMSEA = 0.04, IFI = 0.96,CFI = 0.96, TLI = 0.95, AGFI = 0.90) and the standardized factor loading of each item on the corresponding factor was 0.719 ~ 0.851 (see Table 4). In all cases, the goodness-of-fit four-factor model were significantly better than other models, which suggested adequate discriminant validity among study variables.

Due to the single source of the survey data, the present research may have the common method biases. Accordingly, we follow the recommendations from Podsakoff et.al to test the common method biases of the current study using the Harman's single-factor test. The results showed that the explanation amount of the first factor separated by exploratory factor analysis without rotation was 31.26%, which implied that the common method biases did not significantly affect the results of this study.

Table 3 Descriptive statistics and correlations for Study 2 variables(Study 2)

Variables	Mean	SD	1	2	3	4	5	6	7
1. Gender	1.52	0.50							
2. Age	30.37	4.21	−0.04						
3. Education	1.70	0.56	−0.04	0.15**					
4. Tenure	4.09	2.02	−0.08	0.64***	0.20***				
5. EL	3.33	0.87	0.11*	−0.03	−0.08	−0.09			
6、Role Stress	3.97	0.75	−0.05	−0.07	−0.06	−0.06	0.21***		
7. IEC	3.54	0.90	−0.12*	0.08	0.10	0.07	−0.42***	0.23***	
8. UPB	3.67	0.70	−0.01	0.05	0.03	0.02	0.62***	0.22***	0.06

EL empowering leadership; *IEC* instrumental ethical climate; *UPB* unethical pro-organization behavior

* $p < .05$. ** $p < .01$. *** $p < .001$ (2-tailed)

Table 4 Factor loading of observed variables in confirmatory factor analysis

Variables	Items	Factor loading
EL	My boss helps me understand how my objectives and goals relate to that of the Company	0.788
	My boss will help me realize the importance of my work to the overall situation	0.761
	My boss makes many decisions together with me	0.781
	If the decision may have an impact on me, my boss will inquire about my thoughts in advance	0.784
	My boss will help me understand how to integrate my work into the overall situation	0.719
	My boss believes that I can handle complex tasks	0.787
	Even if I make mistakes, my boss will still believe that I can make progress and improve	0.786
	My boss allows me to do things in my way	0.722
	My boss will keep the rules and regulations as simple as possible, so that my work can be completed more efficiently	0.796
	My boss allows me to quickly make decisions that meet customer needs	0.766
Role Stress	There is a need to reduce some parts of my role	0.814
	I feel overburdened in my role	0.808
	I have been given too much responsibility	0.785
	My work load is too heavy	0.849
	The amount of work I have to do interferes with the quality I want to maintain	0.851
IEC	In our company, employees prioritize their own interests over everything else	0.847
	In our company, the personal ethics and value judgments of employees are not taken seriously	0.824
	My company hopes that employees will do anything for the benefit of the organization regardless of the consequences	0.832
	In our company, employees only care about the interests of the organization and ignore everything else	0.816
	Our company believes that only things that harm the interests of the unit are illegal	0.819
	Our company's decision-making is mainly based on its contribution to profits	0.826
UPB	If it would help my organization, I would misrepresent the truth to make my organization look good	0.774
	If it would help my organization, I would exaggerate the truth about my company's products or services to customers and clients	0.716
	If my organization needed me to, I would give a good recommendation on behalf of an incompetent employee in the hope that the person will become another organization's problem instead of my own	0.722
	If it would benefit my organization, I would withhold negative information about my company or its products from customers and clients	0.730
	If my organization needed me to, I would withhold issuing a refund to a customer or client accidentally overcharged	0.724
	If needed, I would conceal information from the public that could be damaging to my organization	0.761

EL empowering leadership; *IEC* instrumental ethical climate; *UPB* Unethical Pro-organizational Behavior

Hypotheses testing

As shown in Table 5, the results supported our predictions. We found that empowering leadership was significantly and positively related to UPB (B = 0.44, SE = 0.03, $p < 0.001$, Model 3, Table 5, 95% CI: [0.397,0.494]), thus, Hypothesis 1 was supported. Hypothesis 2 predicted that role stress would mediate the relationship between empowering leadership and UPB. In support of Hypothesis 2, we found that empowering leadership was significantly and positively related to role stress (B = 0.17, SE = 0.04, $p < 0.001$, Model 1, Table 5, 95% CI: [0.091,0.240]) and role stress was significantly and positively related to UPB (B = 0.16, SE = 0.04, $p < 0.001$, Model 5, Table 5, 95% CI: [0.094,0.231]), and the coefficient of empowering leadership was significant but decreasing (B = 0.43, SE = 0.03, $p < 0.001$, Model 6, Table 5, 95% CI: [0.371,0.483]). The coefficient of role stress was also significant (B = 0.07, SE = 0.03, $p < 0.05$, Model 6, Table 5, 95% CI: [0.013,0.124]) when we entered both empowering leadership and role stress. Furthermore, the estimates and bias-corrected bootstrapped 95% CI was [0.006,0.057]. Thus, Hypothesis 2 was supported.

Hypothesis 3 predicted that instrumental ethical climate would amplify the positive relationship between empowering leadership and UPB. The result showed that the interaction of empowering leadership and instrumental ethical climate was positively and significantly related to UPB (B = 0.14, SE = 0.03, $p < 0.001$, Model 4, Table 5) with the bias-corrected bootstrapped 95% CI being 0.165 and 0.357. Furthermore, we conducted a simple slope analysis (see Fig. 3).

Table 5 Results of regression analyses (study 2)

	Role stress		UPB				
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	4.52***	4.77***	3.46***	3.62***	3.21***	3.41***	3.57***
Gender	−0.12	−0.08	−0.10	−0.04	0.01	−0.09	−0.04
Age	−0.01	−0.02	0.01	0.01	0.01	0.01	0.01
Education	−0.04	−0.08	0.08	0.07	0.06	0.09	0.07
Tenure	0.01	0.01	0.02	0.02	−0.01	0.02	0.01
EL	0.17***	0.27***	0.44***	0.53***		0.43***	0.53***
Role Stress					0.16***	0.07*	0.01
IEC		0.29***		0.23***			0.23***
EL x IEC		−0.11***		0.14***			0.13***
Role Stress x IEC							0.04
R^2	0.056	0.205	0.406	0.550	0.060	0.416	0.553

$N = 385$. *EL* empowering leadership; *IEC* instrumental ethical climate

*$p < .05$, **$p < .01$, ***$p < .001$, two-tailed tests

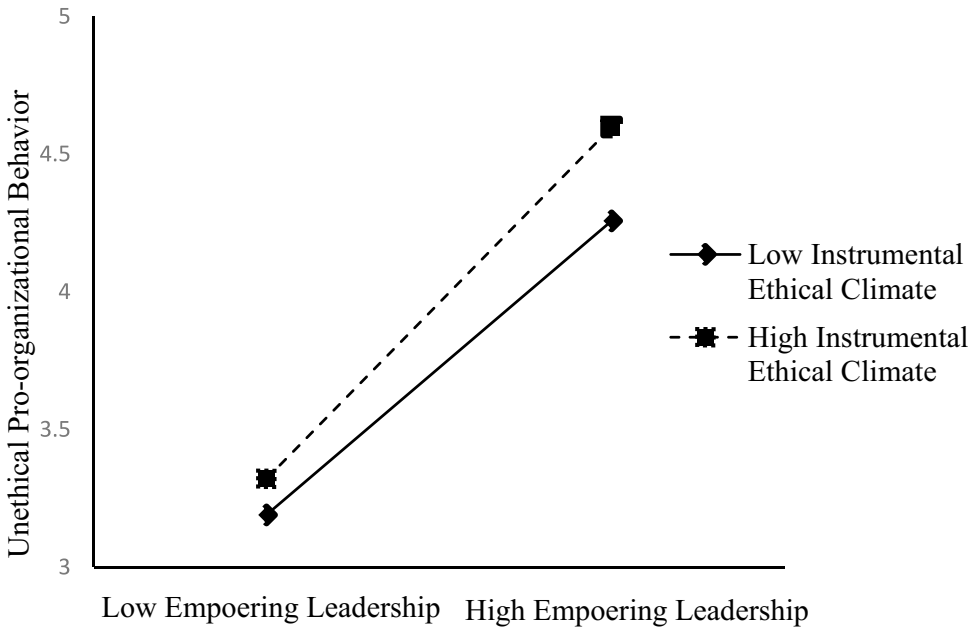

Fig. 3 Interaction between empowering leadership and instrumental ethical climate on UPB (study 2). Low/High = M ± 1SD

As expected, the positive relationship between empowering leadership and UPB was stronger when instrumental ethical climate was high compared to when it was low (i.e., 1 SD above the mean; B = 0.67, S.E. = 0.04, $p < 0.001$, 95% CI: [0.818,1.078]) (i.e., 1 SD below the mean; B = 0.39, S.E. = 0.04, $p < 0.001$, 95% CI: [0.441,0.663]). Hypothesis 3 thus was supported.

Hypothesis 4a predicted that instrumental ethical climate would moderate the positive relationship between empowering leadership and role stress. The result showed that the interaction of empowering leadership and instrumental ethical climate was negatively and significantly related to role stress (B = -0.11, SE = 0.03, $p < 0.001$, Model 2, Table 5) with the bias-corrected bootstrapped 95% CI being -0.294 and -0.128. Furthermore, we conducted a simple slope analysis (see Fig. 4). As shown in Fig. 4, the positive relationship between empowering leadership and role stress was weaker when instrumental ethical climate was high compared to when it was low (i.e., 1 SD above the mean; B = 0.15, S.E. = 0.05, $p < 0.01$, 95% CI: [0.062, 0.259]) (i.e., 1 SD below the mean; B = 0.47, S.E. = 0.06, $p < 0.001$, 95% CI: [0.448, 0.718]). Hypothesis 4a thus was supported.

In addition, we conducted the conditional indirect effects estimates (Edwards & Lambert, 2007) to test whether instrumental ethical climate could moderate the direct effect and the indirect effect of mediating model. The results showed that the indirect relationship between empowering leadership and UPB through role stress was not significantly weaker when

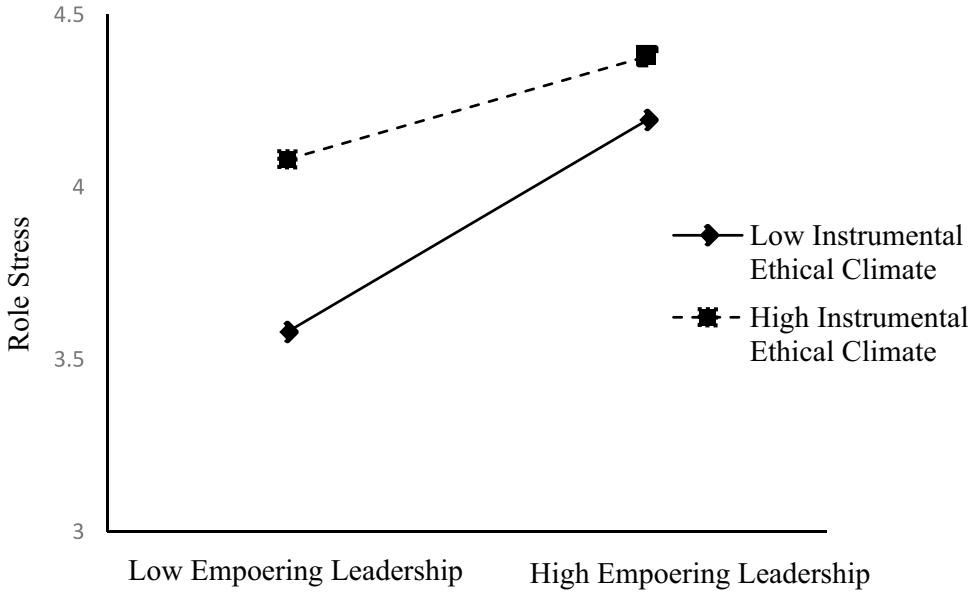

Fig. 4 Interaction between empowering leadership and instrumental ethical climate on role stress (study 2). Low/High = M ± 1SD

instrumental ethical climate was high (indirect effect = -0.06, 95% CI: [-0.25, 0.01]) compared to when it was low (indirect effect = −0.01, 95% CI: [−0.06, 0.01]). The difference between these two effects was not significant (difference index = 0.05, 95% CI: [-0.02,0.07]). Hypothesis 4b thus was not supported. The possible reasons for this result are: (1) the sample size is insufficient, and the survey focus is too narrow; (2) in our model, we assumed that in the context of a high instrumental ethical climate, empowered employees' role stress would decrease and the UPB would increase, which could result in a phenomenon where the two effects canceled out when verifying the moderated mediation model.

Study 2: discussion

The purpose of study 2 was to further test a complete model with both mediation and moderation based on study 1. The results of Study 2 provided a constructive replication of our findings in Study 1. We found that role stress could mediate the relationship between empowering leadership and UPB and that the first stage and direct effect of mediating model were moderated by instrumental ethical climate. Unfortunately, the moderated mediation effect was not tested in our research. Notwithstanding, Study 2 was important, because it bolstered the external validity of our results and had complementary advantages with Study 1.

General discussion

Drawing upon SET, role theory and the behavioral ethics literature, we examined the relationship between leader behaviors and employee behaviors and investigated the role played by role stress and instrumental ethical climate. We first conducted an experimental study. In this study, we found that the positive relationship between empowering leadership and employee UPB and the relationship was moderated by instrumental ethical climate. We then conducted a field study to constructively replicate our findings from Study 1 and to introduce role stress as a mediator. Overall, our studies revealed that empowering leadership was positively related to employee UPB, the relationship of which was mediated by role stress. We also found that the first stage and direct effect of the mediating model were moderated by instrumental ethical climate.

Theoretical implications

Our study makes several theoretical contributions. As mentioned from the beginning, previous UPB research focused primarily on the morality-related antecedents (e.g., Cheng et al., 2019), implicitly assuming that unethical motives are the major source of employee UPB. As part of the emerging literature on leadership and its impact, however, the findings of this research indicates that empowering leadership can also be an important motivator of UPB. We relied on the basic logic of social exchange theory to examine how empowering leadership predicts employee UPB by conducting a field study and an experiment study. The results of our research are in line with the findings presented in longitudinal research on the relationship between empowering leadership and UPB. In doing so, we replicate the findings in Dennerlein's (Dennerlein and Kirkman, 2022) research, thus confirming the important link between such common leadership and UPB.

At the same time, this study also reveals the key psychological mechanism through which empowering leadership relates UPB. As stated earlier, although empowering leadership has already been empirically related to UPB, we find the role of role stress as an underlying mediator. Confirming the mediating process is important, as it helps to explain the seemingly contradictory phenomenon of well-meaning intentions leading to UPB. Our study indicates that empowering subordinates to a certain extent can be a double-edged sword. In other words, empowering leadership may result in negative outcomes via negative mediators. Moreover, this research adds to the growing body of literature on the antecedents of role stress. Our findings also lend support to the research of Lazarus et al. (1952), who proposed that role stress is an important intervening variable between organizational factors and negative behaviors of employees.

In addition, this research contributes to the research field of organizational climate. We find that the instrumental ethical climate moderates the indirect relationship between empowering leadership and UPB as well as the first stage of the mediating process. Simha and Cullen (2012) suggested that "ethical climates are a subset of these organizational work climates and also have a strong influence on several organizational outcomes, and egoistic climates (i.e., instrumental) are associated with a whole host of negative outcomes". The current research complements and extends previous work (e.g., Simha & Cullen, 2012) by conducting a field study and an experiment study, focusing on how this process in our model interacts with the instrumental ethical climate. The finding indicates that empowered employees in a high instrumental ethical climate have stronger pro-organizational motivation and are prone to engage in UPB. Additionally, driven by egoistic motivation, employees experience less stress under the empowerment in organizations.

A significant and novel contribution to UPB research is the use of multiple-study research. Specifically, we conducted an experiment to examine the relationship between empowering leadership and UPB, theorizing about various designs about UPB in the experimental method for the first time. In our perspective, using experimental methods to investigate the impact of empowering leadership on employee UPB, not only addresses previous gaps in UPB research and strengthens the causal relationship between empowering leadership and UPB, but also serves as a reference for future experimental research on UPB, thus enriches and extends the theory of UPB.

Our final contribution lies in extending the application of SET in UPB research. SET has been proposed for over half a century, but extant research has predominantly utilized the reciprocity of SET, with few studies exploring the conditions and influencing factors of social exchange within SET. Our research comprehensively utilizes SET from multiple perspectives to introduce variables (i.e., empowering leadership, role stress and instrumental ethical climate) and theoretical hypotheses. This approach broadens the scope of SET, injecting opportunities for future exploration of new variables using SET.

Managerial implications

Several managerial implications for practicing managers can arise from the current research. First, we found that high empowering leadership may promote employees to engage in UPB, which might inform leaders that empowering leadership does not always lead to positive work outcomes, and that "one-size-fits-all-empowerment" can cause negative outcomes. Thus, before managers decide whether to implement empowerment as well as the degree of empowerment, managers must seriously consider organizational factors and working characteristics in order to make an appropriate decision to avoid employees' UPB resulted from excessive motivation to repay organization. Second, we suggest that organizations which plan to delegate power to employees should improve and perfect their stress management system and train leaders to manage employee stress and negative emotions. According to our findings, the autonomous and role ambiguity from empowerment may cause employees to feel more stressed, which leads to unethical behavior. Hence, relieving the stress of employees and avoiding negative outcomes is the most important goal, which requires empowering leaders to improve their stress management skills. Finally, managers must pay closer attention to the organizational ethical climate before using empowering leadership. When the instrumental ethical climate in organizations is strong, managers firstly need to curb self-interest and take measures to cultivate employees' sense of morality, such as encouraging employees to consider the interests of external stakeholders or conducting ethics training. In doing so, managers can prevent empowered employees from engaging in UPB for pro-organization or self-interest motives.

Limitations and future research directions

Our research is not without limitations. First, although there were five types of ethical climate, we only examined one of them. We did not rule out effects of other climate, but our experiment did control for them. We hope that the future empirical research would include other types of ethical climates. We focus on instrumental ethical climate guided by Ethical Climate Theory(ECT) (Victor & Cullen, 1988), which points out that instrumental ethical climate is prone to cause unethical behaviors. However, research should examine the effect of other ethical climates on the relationship between empowering leadership and employee UPB. In the future, one possibility is that research controls for other

ethical climates to confirm whether empowering leadership has an effect on UPB.

Second, although our study used experimental methods and multi-stage questionnaire surveys to explore the causal and correlation relationships between various variables, we did not test for a complete model that includes role stress in the experimental study. This is primarily because we regarded experimental methods as not mature enough in organizational behavior research. We assumed role stress to be a psychological sensation induced by long-term impacts, which may make it difficult for participants to generate matching role stress in the short-term stimuli of the experimental scenario. This could potentially lead to erroneous experimental findings. In addition, in Study 1, our scenario design may have certain problems. Although we designed and implemented vignettes relying on recommendations (Aguinis & Bradley, 2014) and best practices (Thau et al., 2015), the concerns that the scenario was perceived as unrelated to real-life situations still remained. Future research can improve the application of the experimental method in organizational behavior research by fully considering what kind of situational stimuli can make the subjects have more real psychological feelings and improving the external effectiveness of the experimental method.

Third, the distinction between the motivation of pro-organizational and the motivation of pro-self in the experimental design section needs further strengthening. In this experiment, we only emphasized the pro-organizational motivation of behavior in both contexts that lack more specific variable control. Future research should fully consider experimental research design to exclude the pro-self element.

Finally, our model assumed that the instrumental ethical climate moderated the indirect effect of empowering leadership on UPB through role stress. Unfortunately, this hypothesis was not validated in Study 2. Possible reasons for this result include the sample size and the conflicts between various effects. Future research should consider expanding the sample size, exploring more industries, or adopting multiple methods to verify the moderated mediation effect.

Conclusion

Using two studies which included an experiment and a field study, we examined when and how empowering leadership affected employee UPB. The current research reveals that empowering leadership is prone to promote employees to engage in UPB, and employees perceive role stress after being empowered, which further prompts UPB. Furthermore, from conditions that affected the social exchange process, we identified instrumental ethical climate as a moderator that enhanced the positive effect of empowering leadership on employee UPB and mitigated the positive effect of empowering leadership on role stress. Our results potentially opened up new research avenues and extended knowledge on the antecedents of UPB. Furthermore, our research provided pertinent implications for practice that can help companies to manage the downside of empowering leadership and to reduce employee UPB.

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Data availability The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Code availability All authors make sure that all data and materials as well as software application or custom code support their published claims and comply with field standards.

Declarations

Financial interests Suchuan Zhang and Huiying He declare that they have no financial interests.

Non-financial interests None.

Ethical approval statement This article does not contain any studies with animals performed by any any of the authors.

Competing interest Suchuan Zhang and Huiying He declare that they have no conflict of interest.

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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