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# Effect of organizational ethical self-interest climate on unethical accounting behaviour with two different motivations in China: the moderating effect of Confucian ShiZhong Thinking

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Organizational Ethical Self-Interest Climate (OESIC), a type of Organizational Ethical Climate (OEC) that exists widely in various organizations, plays an important role in unethical behaviours. Unfortunately, there is still little in-depth research on the effect of OESIC on Unethical Accounting Behaviour (UAB) and its related mechanism. This paper aims to explore the impact of OESIC on UAB with two different motivations i.e., Unethical Pro-Self Accounting Behaviour (UPSAB) and Unethical Pro-Organizational Accounting Behaviour (UPOAB). In addition, this paper studies the moderating effect of Confucian ShiZhong Thinking (CSZ Thinking), a typical characteristic of the Chinese people. In this paper, questionnaire data from 258 Chinese accountants at different professional levels were collected. A regression model was used to analyse and test the collected data. The results indicate that OESIC is positively correlated with UAB, and the effect of OESIC on UPSAB is more significant than the effect on UPOAB. CSZ Thinking weakens the positive impact of OESIC on UPSAB and UPOAB. This paper expands the research scope of OESIC into the accounting field and the Chinese context, which is helpful to better understand the relationship among OESIC, UAB and Confucian ShiZhong Thinking. This paper can enlighten organizational managers to consider the role of informal management control systems in restraining UAB and to pay attention to the two types of UAB with different motivations, especially UPOAB.

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## Introduction

With the gradual increase of studies on psychology and organizational behaviour in ethical research, scholars are paying more attention to unethical behaviour (Umphress et al. 2010), counterproductive work behaviour (Ng et al. 2016; Braun et al. 2018) and corruption issues (Lindgreen, 2004, Liu, 2016). Unethical behaviour is a common organizational phenomenon that has many detrimental consequences for the long-term development of organizations (Aguilera and Vadera, 2008; El-Helaly et al. 2020). In the previous literature, the antecedents of unethical behaviour were mainly studied from formal systems at the organizational level (Cheng et al. 2014; Lin et al. 2018; Asaoka, 2020). An increasing number of scholars have focused on the influence of the Organizational Ethical Climate (OEC), an informal organizational system, on unethical behaviour (Birtch and Chiang, 2014; Zaal et al. 2019).

Due to the significance and particularity of accounting work, the adverse consequences of unethical behaviour may be further amplified in the accounting field (Domino et al. 2015; Gunz and Thorne, 2019). Unethical Accounting Behaviour (UAB) refers to unethical behaviour in the accounting context that violates the widely accepted code of accounting professional ethics. Prior studies have mainly studied the impact of formal management control systems on UAB, such as accounting information systems (AIS) (Al-Hattami and Kabra, 2022; Al-Hattami, 2022), corporate governance (Al-ahdal et al. 2021; Almaqtari et al. 2022) and accounting principles (Hashed and Almaqtari, 2021). In addition to formal management control systems, the effect of soft constraints of informal systems (such as OEC) on UAB cannot be ignored (Viana et al. 2022).

Organizational Ethical Climate theory, developed by Victor and Cullen (1987, 1988), has become an essential theory of organizational ethics research. By using the Ethical Climate Questionnaire (ECQ), Victor and Cullen (1987) found that as a specific type of OEC, the organizational ethical self-interest climate (OESIC) is the most representative and widely occurring type in various organizations. OESIC has typical characteristics of self-interest ethical decision-making, which emphasizes maximizing individual interests as the decision-making goal and not hesitating to cause damage to the interests of others (Victor and Cullen, 1988). Although many studies have explored the impact of OESIC on unethical behaviour in the general context (Wang and Hsieh, 2013; Gorsira et al. 2018; Joe et al. 2018; De Hoogh et al. 2021), despite increasing research on unethical behaviour in the general business context (Medioli et al. 2022), there is still little in-depth research on the impact of OESIC on unethical behaviour in the accounting context and its related mechanism (Rogošić and Perica, 2023). Therefore, we focus on the effect of OESIC on UAB in this study.

Previous research on OEC and unethical behaviour has considered the significance of individual characteristics (Kish-Gephart et al. 2010; Treviño et al. 2014). Since OEC reflects the beliefs of organizational members regarding "what constitutes right behaviour" (Martin and Cullen, 2006), these beliefs may vary with different members. The interaction of individual values and the ethical climate has an important impact on unethical decisions and behaviours (Ko et al. 2019; Vem et al. 2022; Kuenzi et al. 2020). Therefore, in the study of OESIC and UAB, the interaction of individual characteristics cannot be ignored. Recent studies show that cultural background is a significant aspect of individual differences (Sarkar and Huang, 2012; Hou et al. 2023). Individuals with different cultural backgrounds may have different perceptions of OEC that further affect their moral judgement and (un)ethical behaviour. Since our main focus is UAB in China, the particular cultural context of China needs to be considered. Confucian culture has profoundly influenced Chinese people for

thousands of years (Xiong and Wei, 2020; Chen et al. 2021). Korea, Japan and some Southeast Asian countries have also been influenced by Confucian culture to some extent (Dollinger, 1988; McDonald, 2012; Kim and Hamilton-Hart, 2022). Confucianism emphasizes ethics and morality for human edification (Zhu, 2015) and can influence people's perception of the ethical climate. Existing research also shows that Confucianism significantly impacts business ethics and employee behaviour (Wang et al. 2018; Chen et al. 2020). Therefore, our study is primarily based on the particular context of Confucian culture and considers the moderating effect of individual characteristics in Confucianism on the relationship between OESIC and UAB.

This paper makes contributions to the prior literature in the following two aspects. First, this paper initially subdivides UAB into two different types according to their motivations. It is generally believed that employees usually engage in UAB with a self-interest motivation (Hillebrandt et al. 2022). In fact, in addition to the self-interest motivation of accountants to commit UAB (i.e., pro-self UAB, UPSAB), it is entirely possible for them to perform unethical behaviour for the interests of the organization and its members (i.e., pro-organizational UAB, UPOAB). Unlike UPSAB, employees who perform UPOAB usually believe they have more ethical purposes; therefore, the more ethical pressure they perceive, the more likely they are to engage in UPOAB (Tian and Peterson, 2016). They do not exclude themselves from benefiting while maintaining the organization's interests. Furthermore, this actual benefit motivates employees to carry out UPOAB. Compared with UPSAB, UPOAB may be more common in organizations, a phenomenon that has been overlooked in previous studies. Therefore, by dividing UAB into two categories according to different motivations (i.e., UPOAB and UPSAB) we can better theoretically understand what factors affect UAB and how to restrain it in practice. Second, this paper initially focuses on the effect of Confucian ShiZhong Thinking (CSZ Thinking), a typical individual characteristic in Confucianism, on UAB. Confucian ShiZhong Thinking (ShiZhong means timely correction and the golden mean) is the unity of the Zhonghe (i.e., the middle and harmonious in the Chinese context) worldview and the Zhongyong (i.e., the golden mean) methodology. Therefore, CSZ Thinking reflects the harmony and balance represented by the doctrine of Confucian culture (Fan, 2021; Gao et al. 2022). CSZ Thinking profoundly influences individual employees' ethical decisions and behaviours in Chinese enterprises. Therefore, based on Chinese Confucian culture, this paper further investigates the moderating effect of CSZ Thinking, which has unfortunately been neglected in previous studies on UAB.

In summary, this paper focuses on the three research questions. First, as a specific organizational ethical climate, we examine whether OESIC has a particular impact on UAB with two different motivations (i.e., UPSAB and UPOAB). Second, considering that there are two different motivations for UAB, we consider whether the effects of OESIC on UPOAB and UPSAB are different. Third, based on the Confucian cultural context, we examine whether CSZ Thinking can moderate the effect of OESIC on the two types of UAB. This paper expands the literature on the interaction of individual characteristics and organizational ethical climate on unethical decisions and behaviours. Our results will help managers further understand the influence of OEC on employees' ethical behaviour and the role of individual ethical characteristics in the accounting context. Therefore, this study also provides a new perspective for restraining UAB and other ethical behaviours.

The remainder of the paper is structured as follows. Section "Literature review" reviews the relevant literature. Section

“Theory and Hypothesis Development” presents the theoretical basis and develops the research hypothesis. Section “Method” introduces the research methodology. Section “Result” describes the findings of this paper. Section “Discussion” discusses the theoretical and practical implications, limitations and directions for future research. The final section presents the research conclusions.

### Literature review

To summarize existing research and identify the research gap, this paper investigates the literature on OESIC and its adverse consequences, different types of UAB, and the relationship between UAB and CSZ Thinking in the context of Confucian culture. Finally, this paper provides a brief discussion of the related previous literature.

**Organizational ethical self-interest climate and its adverse consequences.** OEC refers to organizational members’ perception of the organization’s internal ethical policies, practices, and procedures. It is a cognitive schema or constructive representation of organizational members about the judgement criteria of the organization for ethical issues and how to deal with ethical issues (Victor and Cullen, 1987). This cognition affects the attitude, judgement, motivation and behaviour of organization members towards ethical issues. It can ultimately affect the ethical behaviour of organization members and even the whole organization. OEC is a relatively broad concept, and there may be different types of ethical climates within an organization (Martin and Cullen, 2006; Vryonides et al. 2018; Malički et al. 2019). Different OECs have specific impacts on organizations (Dinc and Huric, 2017), and their effects are different (Wang and Hsieh, 2013; Liu et al. 2022). Using the Ethical Climate Questionnaire (ECQ), a large-scale investigation found that the organizational ethical self-interest climate (OESIC) exists in various organizations worldwide (Victor and Cullen, 1987). Martin and Cullen (2006) conducted a meta-analysis of the relevant literature and found that OESIC promotes a variety of adverse organizational consequences. For example, Joe et al. (2018) found that OESIC is directly related to employees’ turnover intention. With high OESIC, leaders may be more likely to demonstrate negative leadership behaviours, such as abusive supervision (De Hoogh et al. 2021). Additionally, OESIC negatively impacts payment discipline (Salamon and Mesko, 2016) and may lead to corrupt behaviour (Gorsira et al. 2018).

**Two types of unethical accounting behaviour with different motivations.** Unethical accounting behaviour refers to behaviour that violates the widely accepted code of accounting professional ethics. Previous studies on UAB were often limited to specific organizations (such as accounting firms) or adopted the perspective of formal accounting systems, such as accounting information systems (Al-Hattami et al. 2021; Al-Hattami et al. 2022) and accounting standards (Almaqtari et al. 2020). These studies mainly analysed the relationship between the unethical behaviour of accountants and other factors (Johnson et al. 2016; Taylor and Curtis, 2018). However, UAB exists not only among accounting firms but also among many kinds of organizations (Hunt et al. 2022). Moreover, UAB often involves profit manipulation and earnings management, which brings great harm to organizations (Buchholz et al. 2020). Therefore, it is necessary to conduct an in-depth study on unethical behaviour in the accounting field to provide a better reference for restraining unethical behaviour in accounting.

Umphress et al. (2010) proposed the concept of unethical pro-organizational behaviour, and scholars have increasingly

subdivided unethical behaviour into unethical pro-organizational behaviour and unethical pro-self behaviour (Thau et al. 2015). Many accounting scandals show that the accounting field is the hardest-hit area of unethical behaviour. Similarly, there are two types of UAB with different motivations: unethical pro-self accounting behaviour (UPSAB) and unethical pro-organizational accounting behaviour (UPOAB). UPSAB refers to UAB that accounting staff engage in only for their self-interest. For example, in the Enron accounting scandal, some executives promoted their self-interest by whitewashing accounting profits and manipulating stock prices, and auditors and other gatekeepers failed to detect and prevent these unethical behaviours (Alzola, 2017). Previous studies have mainly focused on UPSAB because this type of UAB is performed by accounting staff based on their own interests. In this process, they do not hesitate to sacrifice the interests of others and even the organization, which may bring about serious consequences. However, as mentioned above, the more common UAB in organizations may be UPOAB, which is often overlooked by managers of organizations and even academia because of the legitimacy of motivation and the concealment of behaviour. UPOAB refers to UAB that accounting staff engage in to safeguard the interests of the organization and its members. For example, in the Xerox scandal, some accountants recognized revenue in advance to achieve the company’s profit target (Kish-Gephart et al. 2010). Although UPOAB mainly focuses on organizational interests, it does not exclude the benefit to individuals while pursuing the interests of the organization (Umphress et al. 2010). Both types of UAB have the potential to cause damage to the organization. Their motivations are different, and their mechanisms of influence may also be different, so it is necessary to distinguish them.

**Unethical accounting behaviour and confucian ShiZhong thinking in the Chinese context.** With the rapid growth of China’s economy, accounting fraud and other scandals have occurred frequently, so academics have noticed and studied UAB in China. Early studies in the Chinese context focused on the relationship between OEC, organizational commitment and professional conflicts of accountants (Shafer, 2009) and further expanded to the ethical judgement and unethical behaviour of organizational members (Shafer et al. 2016), while the representative UAB was earnings management (Tian and Peterson, 2016). Subsequent studies have expanded this field and examined it from a broader perspective, such as greenwashing (Li et al. 2022) and decoupling behaviour (Zhao et al. 2022).

With the deepening of related research, many scholars have begun to consider the role of the particular Chinese context and traditional culture and to explore the impact of cultural traditions in the Chinese context on employee behaviour (Viengkham et al. 2018) and organizational performance (Subramanian et al. 2019). Confucianism is a significant part of traditional Chinese culture and still has profound practical relevance in today’s society (Lam, 2003). It not only has a lasting impact on individual behaviour (Xiong and Wei, 2020) but also plays an essential role in all aspects of the organization as an informal system (Du, 2016; Kang et al. 2017; Jebran et al. 2019; Tang et al. 2021). Confucianism has been passed down and developed over thousands of years and has a very rich connotation, so different aspects of Confucian culture may also have different impacts on organizations (Chen and Chung, 1994). Therefore, an increasing number of studies have begun to focus on the specific virtues and qualities of Confucian culture, their role in ethics within organizations and the ethical behaviour of organizational members (Wang et al. 2018; Chen et al. 2020; Kong et al. 2022). Zhongyong (the golden mean) is considered to be the core

of Confucianism and has been studied widely and deeply as the way for Chinese people to conduct their daily lives. The core of Zhongyong is ShiZhong Thinking, which means timely correction and the golden mean. Synthesizing the concepts of "Shi (timely)" and "Zhong (the middle)" is a typical characteristic of Chinese philosophy, which emphasizes the flexible and appropriate handling of problems according to the situation. Therefore, Confucian ShiZhong Thinking is a fundamental way of thinking that profoundly impacts Chinese ethical behaviours.

**A brief discussion on the related previous literature.** As a critical informal institution, OEC has an impact on the behaviour of organizational members as well as on the development of the organization, and different OECs may exist within organizations (Martin and Cullen, 2006). Previous studies have shown that OESIC, an instrumental ethical climate guided by self-interest, exists in all types of organizations and usually results in undesirable consequences for the organization (Joe et al. 2018; Gorsira et al. 2018). However, there is a lack of empirical research on whether OESIC has an impact on unethical behaviour in specific professional fields, such as accounting. Similarly, previous studies on UAB have mainly focused on employees' self-interest orientation (i.e., UPSAB in this paper) and have ignored UAB by employees with organizational and member orientation (i.e., UPOAB in this paper). In addition, scholars have taken into account the particularity of the Chinese context (Shafer et al. 2016) and studied UAB in China from the perspective of traditional culture. However, there is a lack of studies exploring the impact of OESIC on UAB with different motivations from the specific perspective of Confucianism (i.e., CSZ Thinking in this paper).

## Theory and hypothesis development

**Effect of organizational ethical self-interest climate on unethical accounting behaviour.** According to Social Cognition Theory, people are regarded as active agents whose cognition is affected by individual personality, subject, and environment. Kish-gephart et al. (2010) conducted a meta-analysis on the sources of unethical decisions and found that bad apples (individual personality), bad cases (moral issues) and bad barrels (organizational environment) are regarded as three sources of unethical behaviour. Individuals continuously compare their behavioural self-assessment with their perceived OEC, which then affects individual behaviour. Therefore, individuals' behaviour will change with their perception of OEC. Previous studies also show that OEC significantly impacts employees' counter-productive work behaviour, deviant behaviour, and ethical behaviour (Zoghbi-Manrique-de-Lara and Guerra-Baez, 2016; Wang and Hsieh, 2013). Therefore, OEC affects employees' decision-making and intentional behaviour in the face of ethical dilemmas. As an unethical behaviour committed by employees in the accounting context, UAB is bound to be influenced by OESIC, which is a type of OEC dominated by self-interest.

According to the Theory of Planned Behaviour, Subjective Norms are one of the critical factors that affect behaviour. Subjective norms refer to an individual's perceived social pressure when deciding whether to perform a particular behaviour and reflect the influence of essential others or groups on individual behaviour decisions (Murphy and Dacin, 2011; Knauder and Koschmieder, 2019). In OESIC, most members of an organization make decisions based on the maximization of self-interest regardless of the interests of others (Victor and Cullen, 1988). This means that OESIC provides a "subjective norm" for organization members. According to social cognition theory, members of the organization will continuously evaluate their

behaviours and match them to their perceived OEC. When perceived organizational ethics is based on the principle of self-interest, it will strengthen the motivation of organizational members to engage in self-interested behaviour. Therefore, in the accounting context, when accounting staff perceive the formation of OESIC, they are more likely to perform one type of UAB that is beneficial to their self-interest (i.e., UPSAB), such as false expense reimbursement and false performance reporting.

Moral Disengagement Theory proposes that individuals rationalize their excuses to reduce negative feelings about improper behaviours. As two types of excuses to "rationalize" UAB, the diffusing responsibility and displacing responsibility are intended to displace the responsibility of UAB to others (Ruiz-Palomino and Martinez-Cañas, 2011). For example, "everyone does so" is a typical example of diffusing responsibility, and "someone forces me to do so" is a typical example of displacing responsibility. According to social learning theory, people learn or imitate behaviours by observing the behaviour of others around them. Therefore, OESIC makes some excuses, such as "everybody does it", more plausible. OESIC also inspires accountants to implement another type of UAB that is beneficial to themselves and their organization (i.e., UPOAB). For example, when the company's performance fails to meet the expectations of external investors, the accounting staff may also carry out UPOAB because the interests of the organization and their own interests are not separable. Their interests can be guaranteed when they help the organization achieve its performance goals. Therefore, we propose the following research hypothesis:

Hypothesis 1: OESIC can promote accountants' UAB (including UPSAB and UPOAB).

Is there a difference between the effects of OESIC on UPSAB and UPOAB? Based on the Theory of Planned Behaviour, OESIC advocates only the maximization of self-interest in the decision-making process. In an organization with OESIC, the subjective norms perceived by individuals are also self-interest oriented. This self-interested subjective norm reinforces the intentions of employees so that employees give priority to themselves and calculate how to maximize their own interests when making behaviour decisions. Therefore, in an organization with OESIC, accounting staff are more likely to perform UPSAB than UPOAB.

However, Moral Disengagement Theory holds that people may rationalize their unethical behaviours by diffusing responsibility and displacing responsibility, so they can alleviate or even eliminate their feelings of guilt and remorse. When accounting staff engage in UPSAB, it is difficult for them to find a reasonable excuse to justify their actions morally. Therefore, when they engage in relevant behaviours, they may consider the adverse consequences and the punishment when the behaviours are revealed, so they may reduce the occurrence of UPSAB. However, when they conduct UPOAB, they may consider such behaviour justified or even necessary for the sake of the organization's interests and engage in this behaviour more frequently. OESIC, which is characterized by self-interest, makes employees further rationalize this behaviour by "diffusing responsibility" (i.e., "everyone does it, so it does not matter if I do it"). This may make the promotion of UPOAB by OESIC may be more significant. Therefore, we propose the following two competitive research hypotheses:

Hypothesis 2a: The effect of OESIC on UPSAB is more significant than that on UPOAB.

Hypothesis 2b: The effect of OESIC on UPOAB is more significant than that on UPSAB.

**Moderating effect of confucian ShiZhong thinking.** The thoughts and behaviours of Chinese people are deeply influenced by Confucian culture. Existing research shows that Chinese

Confucianism, as an essential part of traditional Chinese culture, plays a positive role in organizational management and business ethics (Liu and Stening, 2016; Yuan et al. 2022). Confucius, the founder of Confucianism, said the Confucian gentleman conforms to Zhongyong (the golden mean) and abides by ShiZhong and moderation. ShiZhong refers to timely correction and the golden mean. CSZ Thinking emphasizes constant transformation and changes over time. With the guidance of CSZ Thinking, people can take the initiative to digest different ethical standards and oppose the rigid understanding of ethical standards divorced from specific situations. CSZ Thinking emphasizes that Confucian gentlemen should act at the right time and constantly understand the changing ethical situation through their cultivation and efforts. Therefore, this research selects CSZ Thinking as the moderating variable that can reflect the individual differences of accounting staff.

Avoiding uncertainty is common for organization members in the face of the unknown and often results in a need for predictability (formal and informal ethics and norms within an organization). OEC reflects the dominant mode of thinking and behaviour within an organization, which guides the behaviours of organizational members. In other words, OEC acts as an informal and referable behaviour requirement and meets the need for predictability in ethical decision-making. On the one hand, individuals with a high degree of CSZ Thinking insist that ethical principles can be adjusted according to the actual situation. They have less need for predictability and are more tolerant of environmental uncertainty, so OEC is less binding on them. On the other hand, individuals with a low degree of CSZ Thinking emphasize the stability of ethical decision-making principles and refuse uncertainty. They have a greater need for predictability and are more likely to act in a way that is recognized by the organization, so they are more susceptible to OEC dominated by self-interest. Therefore, individuals with a low degree of CSZ Thinking will be impacted more substantially by OESIC when they make ethical decisions.

In the accounting context, accountants with a high degree of CSZ Thinking can tolerate the uncertainty of ethical principles and the possible results caused by this uncertainty even if employees' behaviour is inconsistent with the ethical principles emphasized by OEC. In other words, accountants with a high degree of CSZ Thinking are less controlled by formal and informal ethical regulations such as an OESIC. Therefore, for

accountants with a high degree of CSZ Thinking, OESIC has relatively little impact on their UAB. Conversely, accountants with a low degree of CSZ Thinking regulate their behaviour according to ethical standards and the legal system; they avoid changing their ethical judgement in different situations and maintain stability. Keeping individual behaviour consistent with the direction guided by OEC reduces uncertainty. Accountants with a low degree of CSZ Thinking prefer to abide by formal and informal ethical regulations. OEC reflects employees' perception of ethical judgement standards. Therefore, it can provide ethical regulations for accountants with low CSZ Thinking to avoid uncertainty and predictability. Thus, OEC significantly impacts the UAB of accountants with a low degree of CSZ Thinking. Ruiz-Palomino and Martinez-Cañas (2011) explored the role of organizational ethical norms and procedures on employees' ethical intentions. Their results showed that with increased flexibility to change ethical judgements, the promotion effect of the organizational ethical code on ethical intention decreases. Consequently, we propose the following assumption:

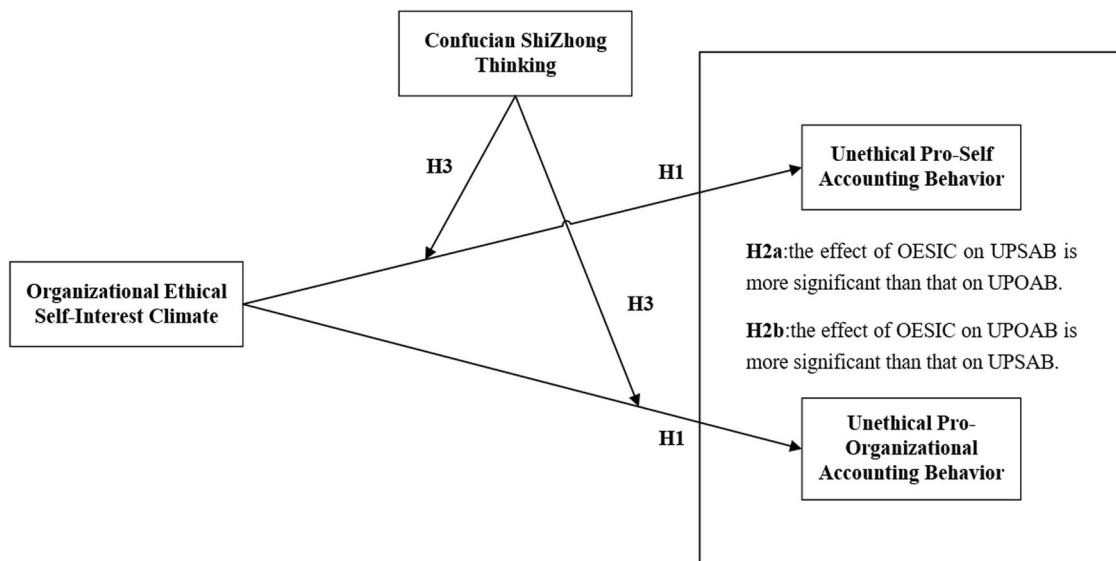
Hypothesis 3: The promotion effect of OESIC on UAB will be more substantial for accountants with a high degree of ShiZhong Thinking than for those with a low degree of ShiZhong Thinking.

This paper explores the influence of OESIC on the two types of UAB with different motivations and the moderating effect of CSZ Thinking, a unique ethical value in China, as shown in Fig. 1.

**Method**

**Sample and procedure.** This paper used a questionnaire survey to simulate UAB contexts such as false reimbursement of personal expenses and smoothing profits through earnings management to explore the mechanism by which OESIC affects UAB. Due to the sensitivity of ethical issues, situational simulation is widely used. Although UAB is the result of many circumstances and personal factors, the primary role and function of accountants in UAB are critical. Therefore, our research object is defined as the accountants of Chinese enterprises. In this paper, we take accountants at different job levels as the survey object and do not limit the sample to accountants at the management level.

In this study, a questionnaire was distributed online through the accounting alumni network of a university in China. This study used the convenience sampling method to collect the target sample. Therefore, the sample was nonprobabilistic. The researchers first



**Fig. 1** Theoretical model.

**Table 1 Descriptive statistics.**

| Characteristics        |                          | Number of samples | Proportion |
|------------------------|--------------------------|-------------------|------------|
| Gender                 | Male                     | 94                | 36.4%      |
|                        | Female                   | 164               | 63.6%      |
| Length of service      | Less than 1 year         | 10                | 3.88%      |
|                        | 1-3 years                | 60                | 23.26%     |
|                        | 4-5 years                | 95                | 36.82%     |
|                        | 6-7 years                | 43                | 16.67%     |
|                        | 8-10 years               | 21                | 8.14%      |
|                        | 11-15 years              | 15                | 5.81%      |
|                        | 16-20 years              | 8                 | 3.10%      |
| Educational background | More than 20 years       | 6                 | 2.33%      |
|                        | Junior college and below | 6                 | 2.33%      |
|                        | Bachelor's degree        | 147               | 56.98%     |
|                        | Master's degree          | 103               | 39.92%     |
|                        | Doctoral degree          | 2                 | 0.78%      |
| Accounting Position    | Basic employer           | 103               | 39.92%     |
|                        | First-line manager       | 102               | 39.53%     |
|                        | Department manager       | 49                | 18.99%     |
|                        | General manager          | 4                 | 1.55%      |

communicated with the head of the university to obtain consent and then contacted eligible respondents through the university's accounting alumni network and sent the online questionnaire to the consenting collaborators via email. The respondents were engaged in accounting-related work after graduation, distributed across China and held different job levels within their respective organizations. Therefore, the sample selection in this study was representative.

A total of 304 questionnaires were collected, and 258 valid questionnaires were finally retained. Forty-six questionnaires were excluded due to duplication and partial completion based on the methods of Mizani et al. (2022) and Horsey et al. (2023). Duplicate questionnaires were identified by the duplicate case detection function of the software. When there were two questionnaires with the same answers to all questions, they were considered duplicate questionnaires, and one of them was randomly removed. Since personal information questions, including gender and educational background, were not set as compulsory question items, some questionnaires with incomplete answers to these personal information questions were identified as partially filled questionnaires. Because this study addressed sensitive ethical issues, the respondents may have concealed their true thoughts and not answered honestly due to social desirability or other reasons (Latan et al. 2017; Cheng et al. 2019). Therefore, all respondents' participation in the questionnaire was consensual, anonymous, and voluntary. Written informed consent could not be received from each respondent because of the anonymous questionnaire.

As shown in Table 1, 63.6% of the respondents were women, and most had bachelor's degrees or above (97.67%). Basic employers and first-line managers were the main respondents. Therefore, in terms of descriptive statistics, the demographic characteristics of the respondents were diverse and representative.

**Measurement.**

- (1) Organizational Ethical Self-Interest Climate (OESIC): This paper used the Ethical Climate Questionnaire (ECQ) developed by Victor and Cullen (1988) to measure OESIC. The ECQ has good stability, reliability, and validity in different cultures and countries.

- (2) Confucian ShiZhong Thinking (CSZ Thinking): CSZ Thinking refers to a flexible response to problems according to different situations, manifested in the active digestion of ethics in different environments. We referred to relevant items of the Ethics Position Questionnaire (EPQ) developed by Forsyth (1980), such as "there are no ethical principles that are so important that they should be a part of any code of ethics" and "what is ethical varies from one situation and society to another".
- (3) Unethical Accounting Behaviour (UAB): This paper referred to the practices of Weber and Gerde (2011) to establish moral problem situations related to UAB. According to the most typical UAB problem in accounting practice, this paper designed two accounting contexts: context 1 about the false reimbursement of personal expenses and context 2 about smoothing profits by improperly setting aside extensive inventory depreciation provisions. Context 1 was used to measure UPSAB, and context 2 was used to measure UPOAB. A seven-point Likert scale was used in the above scales to assess each of these variables (1 = strongly disagree; 7 = strongly agree).
- (4) Control Variables: Demographic variables are essential factors that affect individuals' engagement in UAB. Therefore, gender, length of service, educational background, and position were included in the control variables.

**Regression Model.** To test Hypothesis 1 and Hypothesis 2, we developed the following regression Models (1) - (3)

$$UPSAB = \alpha_1 + \beta_1 OESIC + controls + \varepsilon_1 \tag{1}$$

$$UPOAB = \alpha_2 + \beta_2 OESIC + controls + \varepsilon_2 \tag{2}$$

$$Di\_UAB = \alpha_3 + \beta_3 OESIC + controls + \varepsilon_3 \tag{3}$$

In Model (1) and Model (2), OESIC is the independent variable, and two types of UAB (UPOAB and UPSAB) are the dependent variable. In Model (3), the independent variable is the nonstandard score of OESIC, and the dependent variable is the difference between UPOAB and UPSAB predictions (Di\_UAB).  $\alpha_1$ ,  $\alpha_2$  and  $\alpha_3$  are the intercept terms. Controls are a series of control variables, and  $\varepsilon_1$ ,  $\varepsilon_2$  and  $\varepsilon_3$  are the residual terms. The focus is on the value and significance of coefficients  $\beta_1$ ,  $\beta_2$  and  $\beta_3$ .

To test Hypothesis 3, we establish regression Models (4) and (5).

$$UPSAB = \alpha_4 + \gamma_1 OESIC * CSZ + \beta_4 OESIC + \delta_1 CSZ + controls + \varepsilon_4 \tag{4}$$

$$UPOAB = \alpha_5 + \gamma_2 OESIC * CSZ + \beta_5 OESIC + \delta_2 CSZ + controls + \varepsilon_5 \tag{5}$$

where the dependent variables are two types of UAB, CSZ is the moderating variable, and the other variables are explained in the same way as in Models (1) - (3). The focus is on the value and significance of the cross-term coefficients  $\gamma_1$  and  $\gamma_2$ .

**Result**

**Validity and reliability.** This paper used a single data source to measure four variables (OESIC, CSZ Thinking, UPOAB and UPSAB), so we had to consider possible common method variance (CMV) (Podsakoff et al. 2012). We adopted several ways to ensure that CMV did not exist. First, we used anonymity to increase the objectivity and reliability of the questionnaire. Second, in the process of statistical analysis, we used Harman's single-factor test and PLS-SEM to evaluate the total collinearity.

**Table 2 Reliability and validity of the study variables.**

| Constructs   | Item | Factor Loading | AVE   | CR    | CA    | KMO   | % of variance |
|--------------|------|----------------|-------|-------|-------|-------|---------------|
| OESIC        | 1    | 0.861          | 0.793 | 0.920 | 0.882 | 0.735 | 16.37%        |
|              | 2    | 0.914          |       |       |       |       |               |
|              | 3    | 0.895          |       |       |       |       |               |
| CSZ Thinking | 1    | 0.161          | 0.466 | 0.890 | 0.849 | 0.818 | 27.86%        |
|              | 2    | 0.674          |       |       |       |       |               |
|              | 3    | 0.810          |       |       |       |       |               |
|              | 4    | 0.762          |       |       |       |       |               |
|              | 5    | 0.806          |       |       |       |       |               |
|              | 6    | 0.656          |       |       |       |       |               |
|              | 7    | 0.656          |       |       |       |       |               |
|              | 8    | 0.565          |       |       |       |       |               |
|              | 9    | 0.714          |       |       |       |       |               |
|              | 10   | 0.774          |       |       |       |       |               |
| UPOAB        | 1    |                |       |       |       |       | 14.09%        |
| UPSAB        | 1    |                |       |       |       |       | 11.62%        |
| Cumulative%  |      |                |       |       | 0.787 | 0.767 | 69.94%        |

CR construct reliability, CA Cronbach's alpha, AVE average variance extracted, KMO Kaiser–Meyer–Olkin.

**Table 3 Descriptive statistics, correlations, and reliabilities.**

| Variables       | Mean | SD   | 1               | 2      | 3        | 4 |
|-----------------|------|------|-----------------|--------|----------|---|
| 1. OESIC        | 4.77 | 1.13 | 1               |        |          |   |
| 2. CSZ Thinking | 4.74 | 0.83 | 0.017           | 1      |          |   |
| 3. UPSAB        | 3.79 | 1.70 | <b>0.263***</b> | 0.088  | 1        |   |
| 4. UPOAB        | 4.07 | 1.80 | <b>0.157**</b>  | 0.106* | 0.664*** | 1 |

The T value is in parentheses. \* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ . Bold is used to highlight these statistical values.

Table 2 shows the single-factor results for all constructs. The highest percentage of variance was 27.86% (CSZ Thinking) followed by OESIC (16.37%), UPOAB (14.09%) and UPSAB (11.62%) and the total variance was 69.94%, indicating that there was no CMV in the data. Similarly, the complete collinearity test conducted by alternating testing of the dependent variable model did not find a VIF value > 3.3, indicating that CMV was not detected in the data (Kock, 2017). Table 2 also shows that all variables meet the necessary values for internal consistency (Cronbach's  $\alpha > 0.70$ ) and construction reliability ( $CR > 0.60$ ), which were higher than the cut-off values (Hair et al. 2010). Although the AVE of CSZ Thinking was below the critical value of 0.5, some literature suggests that even if the AVE is between 0.4–0.5, if composite reliability is higher than 0.6, the convergent validity of the construct is still adequate (Fornell and Larcker, 1981; Lam, 2012). All these results indicate that the scale design in this paper passed the reliability and validity tests and that there was no possible CMV.

**Descriptive statistics.** As shown in Table 3, the OESIC score was higher than 4, indicating that employees clearly perceived the ethical climate within the organization. This finding is consistent with previous study results on Chinese culture. Employees in Chinese enterprises are more likely to perceive that others in the organization take self-interest as the standard of ethical judgement and implementation (Cheng and Wang, 2015). The mean value of CSZ Thinking was also higher than 4 and the standard deviation was low, which indicates that Chinese accountants are deeply affected by CSZ Thinking. They are likely to change flexibly and tolerate the uncertainty of ethical rules when making ethical judgements (Forsyth et al. 2008; Robertson et al. 2008). OESIC is significantly positively correlated with the two types of UAB.

**5.3 Hypothesis Tests.** Hypothesis 1 predicts that OESIC promotes both types of UAB. As shown in Table 4, OESIC significantly promotes both UPSAB ( $\beta_1 = 0.356$ ,  $t = 4.154$ ,  $p < 0.001$ , two-tailed) and UPOAB ( $\beta_2 = 0.242$ ,  $t = 2.474$ ,  $p < 0.05$ , two-tailed), which means our Hypothesis 1 is supported. On the one hand, when accountants feel that a decision is mainly based on individual interests in an organization, they will tend to perform UPSAB that is beneficial to themselves by learning and imitating, such as reporting false budget data and false performance. On the other hand, accountants may be more likely to conduct UPOAB in OESIC due to the consideration of bundling their interests with the interests of the organization. For example, actions that benefit the organization, such as withholding income in advance, can also affect employees' salaries and bonuses. In addition, the statistical results show that male accountants are more likely to engage in UAB than female accountants, which may be related to males' greater willingness to take risks.

Our Hypothesis 2 predicts that the effects of OESIC on the two types of UAB are significantly different. To test Hypothesis 2, according to the method proposed by Li et al. (2013), we first calculated the unstandardized score of OESIC. Then, the score was used to conduct a regression analysis on UPSAB to derive the predicted value of UPSAB. Next, the difference between the questionnaire score of the UPOAB and the predicted value of the UPSAB was used as the new dependent variable to conduct a regression analysis. Model 3 of Table 4 shows a significant effect of the unstandardized OESIC on the new dependent variable ( $\beta_3 = -0.243$ ,  $p = 0.013$ ), which indicates that OESIC promotes UPSAB more than UPOAB. Therefore, Hypothesis 2a is supported.

Our Hypothesis 3 predicts that the promotion effect of OESIC on UAB will be more substantial for accountants with a high degree of CSZ Thinking than for those with a low degree of CSZ Thinking. The result of Model 4 in Table 5 indicates that the regression coefficients of the interaction of OESIC and CSZ Thinking (OESIC\*CSZ Thinking) are significant at the 1% level ( $\gamma_1 = -0.372$ ,  $t = -3.806$ ,  $p < 0.001$ , two-tailed). Similarly, as shown in Model 5 in Table 5, the regression coefficients of the interaction of OESIC and CSZ Thinking (OESIC\*CSZ Thinking) are significant at the 1% level ( $\gamma_2 = -0.291$ ,  $t = -2.586$ ,  $p = 0.01$ , two-tailed). These findings clearly show that CSZ Thinking has a significant negative moderating effect in the relationship between OESIC and two types of UAB (UPSAB and UPOAB), which means that our Hypothesis 3 is supported. In addition, OESIC is a significant stimulus of UAB ( $\beta_4 = 2.211$ ,  $t = 4.471$ ,  $p < 0.001$ , two-

**Table 4 Results of the Effect of OESIC on UAB.**

| Variables              | Model 1<br>The dependent variable is<br>UPSAB | Model 2<br>The dependent variable is<br>UPOAB | Model 3<br>The dependent variable is the<br>difference between UPOAB and UPSAB<br>predictions |
|------------------------|---|---|---|
| OESIC                  | <b>0.356***</b> (4.154)                       | <b>0.242**</b> (2.474)                        | <b>-0.243**</b> (-2.4890)   |
| Gender                 | 0.954*** (4.519)                              | 0.730*** (3.040)                              | -0.567** (-2.367)   |
| Length of service      | 0.029 (0.356)                                 | 0.009 (0.096)                                 | -0.030 (-0.330)   |
| Educational background | 0.810*** (4.498)                              | 0.103 (0.502)                                 | -0.998*** (-4.874)  |
| Position               | 0.034 (0.214)                                 | 0.058 (0.320)                                 | 0.012 (0.066)   |
| Adj R <sup>2</sup>     | 0.172   | 0.065   | 0.105   |
| F                      | 11.691***                                     | 3.527***                                      | 7.060***  |

The T value is in parentheses. \**p* < 0.1, \*\**p* < 0.05, \*\*\**p* < 0.01. Bold is used to highlight these statistical values.

**Table 5 Results of moderation effects.**

| Variables              | Model 4<br>The dependent variable is<br>UPSAB | Model 5<br>The dependent variable is<br>UPOAB |
|------------------------|---|---|
| OESIC                  | <b>2.211*** (4.471)</b>                       | <b>1.692*** (2.971)</b>                       |
| CSZ Thinking           | <b>1.840*** (3.949)</b>                       | <b>1.560*** (2.907)</b>                       |
| OESIC*CSZ Thinking     | <b>-0.372*** (-3.806)</b>                     | <b>-0.291*** (-2.586)</b>                     |
| Gender                 | 0.938*** (4.561)                              | 0.710*** (2.997)                              |
| Length of service      | 0.033 (0.411)                                 | 0.008 (0.084)                                 |
| Educational background | 0.848*** (4.807)                              | 0.118 (0.581)                                 |
| Position               | 0.081 (0.520)                                 | 0.102 (0.565)                                 |
| R <sup>2</sup>         | 0.215   | 0.099   |
| F                      | 11.031***                                     | 3.932***                                      |

The T value is in parentheses. \**p* < 0.1, \*\**p* < 0.05, \*\*\**p* < 0.01. Bold is used to highlight these statistical values.

tailed in Model 4 and  $\beta_5 = 1.692$ ,  $t = 2.971$ ,  $p < 0.001$ , two-tailed in Model 5), which supports Hypothesis 1.

We describe this interaction graphically in Fig. 2, which plots the conditional effect of OESIC at various values of CSZ Thinking (low, average, and high levels) by using the estimated coefficients from the model. As Fig. 2 shows, among accountants with low and average CSZ thinking, the relationship between OESIC and UAB (including UPSAB and UPOAB) is significantly positive. Among accountants with high CSZ Thinking, the relationship between OESIC and UAB (including UPSAB and UPOAB) is not significantly positive. The slopes of the plotted lines are positive and appear to flatten as the level of CSZ Thinking increases.

We probe this interaction by utilizing the Johnson–Neyman technique (Bauer, Curran 2004; Hayes and Matthes, 2009). This technique can mathematically derive the "regions of significance" for the conditional effect of the moderator, which means the value within the range of the moderator in which the association between the dependent variable and independent variable is significantly different from zero. Figure 3 shows the conditional effect (the solid line) of OESIC on UAB (including UPSAB and UPOAB) across the distribution of CSZ Thinking as well as the upper and lower bounds of a 90% confidence interval (the dashed lines) for the conditional effect. As shown in Fig. 3, when CSZ Thinking is less than 5.508, the effect of OESIC on UPSAB is significantly negative at the 10% level. Similarly, when CSZ is less than 5.242, the effect of OESIC on UPOAB is significantly negative at the 10% level.

As shown in Fig. 4, based on the above empirical results, this paper finds evidence to support H1. OESIC significantly

promotes both UPSAB and UPOAB ( $\beta_1 = 0.356$ ,  $t = 4.154$ ,  $p < 0.01$  in Model 1 and  $\beta_2 = 0.242$ ,  $t = 2.474$ ,  $p < 0.05$  in Model 2). Likewise, the findings of this paper also support H2a. OESIC promotes UPSAB more than UPOAB ( $\beta_3 = -0.243$ ,  $t = -2.4890$ ,  $p < 0.05$  in Model 3). In addition, the result of the hypothesis test supports H3, i.e., CSZ Thinking has a significant negative moderating effect on the relationship between OESIC and the two types of UAB ( $\gamma_1 = -0.372$ ,  $t = -3.806$ ,  $p < 0.01$  in Model 4 and  $\gamma_2 = -0.291$ ,  $t = -2.586$ ,  $p = 0.01$  in Model 5).

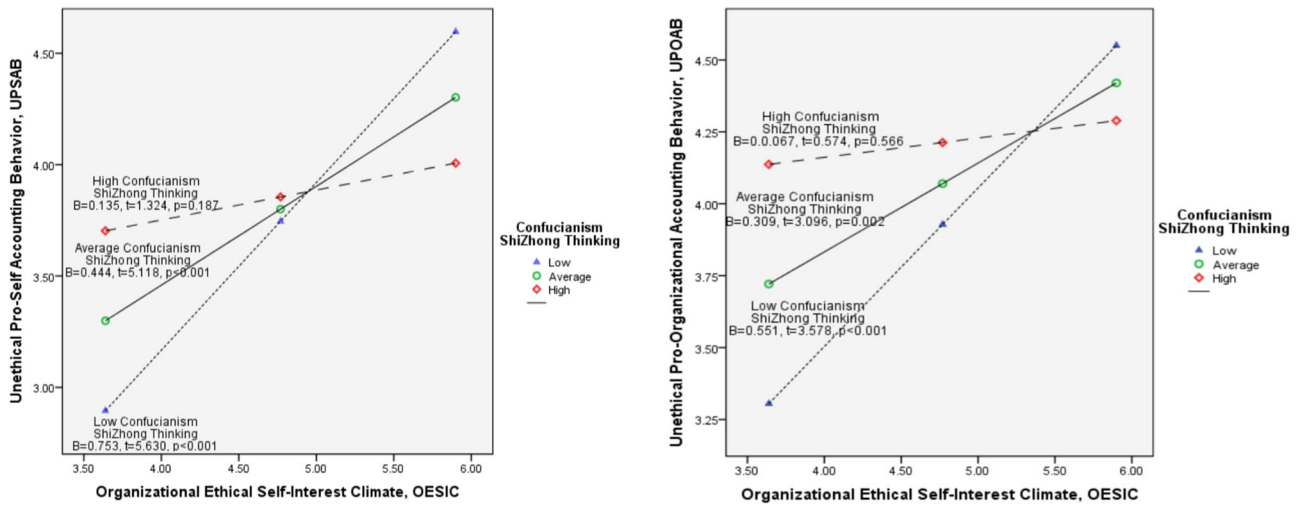
**Discussion**

Exploring the relationship between OEC and unethical behaviour has always been the focus of the study of organizational behaviour (Liu et al. 2019; Kuenzi et al. 2020). Unlike the previous literature that only studied UAB with self-interest motivation, this paper initially studied the effect of OESIC on both UAB with self-interest motivation and UAB with pro-organizational motivation (i.e., UPSAB and UPOAB). The results indicate that OESIC is positively correlated with UAB, while the effect of OESIC on UPSAB is more significant than that on UPOAB. In addition, we did not neglect the influence of individual factors of organization members on OEC perception and unethical behaviour (Cheng and Ho, 2019; Bush et al. 2017). Therefore, this paper further investigated the moderating effect of CSZ Thinking, which expands the literature on the interaction of individual characteristics and OEC on unethical decisions and behaviours. The results indicate that CSZ Thinking weakens the promoting effect of OESIC on UAB.

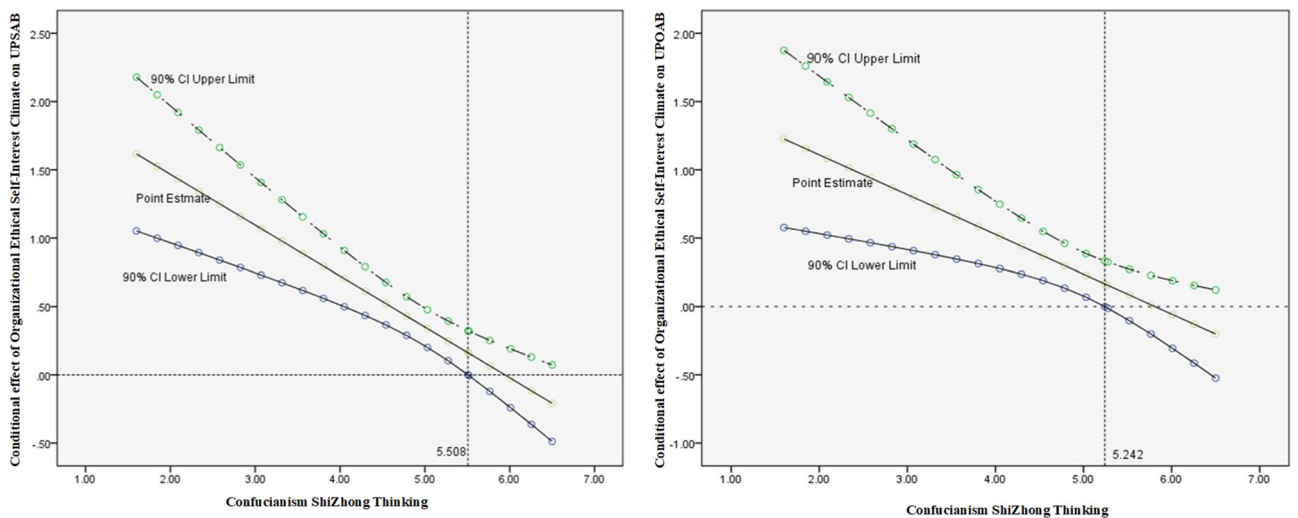
Our findings validate previous research on OEC and unethical behaviour and extend it to the field of accounting. Specifically, as a typical instrumental organizational ethical climate, OESIC emphasizes self-interest and encourages employees to view their relationships with the organization and others from an egoistic perspective, so they are more likely to perform unethical behaviours (Joe et al. 2018; Gorsira et al. 2018), even in the field of accounting (Tian and Peterson, 2016; Viana et al. 2022).

As with unethical behaviour in general contexts, previous research on UAB has focused on its self-interested motives (UPSAB). Since both OESIC and UPSAB are self-interest oriented, employees can quickly perceive and identify with egoistic norms according to social cognitive theory. By learning and reinforcing these norms, they are more likely to engage in UPSAB. How does OESIC affect UPOAB, which has a pro-organizational focus? First, employees' interests are often closely intertwined with organizational goals. Employees benefit both themselves and the organization when they perform UPOAB (Graham et al. 2020). Second, based on the theory of moral disengagement, OESIC rationalizes employees' behaviours after committing unethical behaviour, which can alleviate their guilt

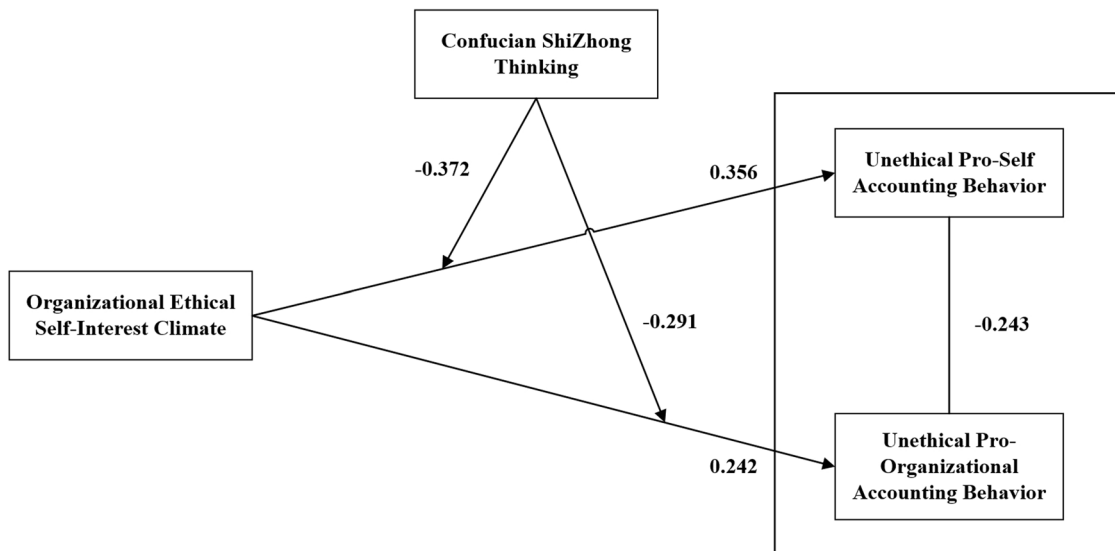




**Fig. 2** Plot of the predicted value of UAB (including UPSAB and UPOAB) influenced by OESIC at low, average, and high levels of CSZ Thinking. Average, low, and high degrees of CSZ Thinking are defined according to the mean, mean + 1.0 standard deviation, and mean -1.0 standard deviation of CSZ Thinking.



**Fig. 3** Johnson-Neyman regions of significance for the conditional effect of OESIC on UAB (including UPSAB and UPOAB) at values of CSZ Thinking.



**Fig. 4** Hypothesis test results.

for engaging in misconduct (Umphress and Bingham, 2011; Lian et al., 2020).

Many studies have shown that individual differences can interact with the ethical climate to influence unethical behaviour (Kish-Gephart et al. 2010; Treviño et al. 2014). Based on CSZ Thinking in the context of Confucianism, this paper supports the above conclusions. That is, good individual characteristics can reduce the incidence of unethical behaviour (Slaughter et al. 2020). Therefore, the role of individual characteristics in different cultural contexts could be further considered in future research on unethical behaviour.

**Theoretical implications.** First, this paper expands research on the impact of OESIC and discusses the impact of OESIC on UAB. This paper provides an innovation for social cognitive theory by suggesting that individuals learn by observing the behaviour of others, and the organizational environment can influence individual behaviour. The perception of OEC has a strong influence on the behaviour of employees (Gronewold et al. 2013). Incorrect OEC affects the willingness of organizational members to report errors (Andiola et al. 2020). This paper also provides new evidence that indicates that when the organizational climate is perceived as OESIC, accountants in an organization are more likely to implement UAB.

Second, this paper deepens our understanding of UAB by further dividing UAB into UPSAB with self-interest motivation and UPOAB with pro-organizational motivation, although previous literature only studied UAB with self-interest motivation. Due to the different motivations of the two types of UAB, the impacts of OESIC on the two types of UAB are also different. UPSAB is mainly based on self-interest, which is consistent with OESIC. Therefore, OESIC has a more direct impact on UPSAB. OESIC also has an indirect influence on UPOAB because of "moral disengagement" and "collusive silence" (Yao et al. 2021; Lian et al. 2022), so the effect of OESIC on UPSAB is more significant than that on UPOAB.

Third, this paper has theoretical value due to its discussion of the influence of individual CSZ Thinking on OEC and employee behaviour in the Chinese context. Chinese people have been deeply influenced by Confucian culture for thousands of years (Hu et al. 2021), and CSZ Thinking is an important embodiment of Confucian culture. Therefore, the ethical behaviour of organizational members is affected not only by organizational climate factors but also by individual factors (Treviño et al., 2014). This paper shows that the CSZ Thinking of individuals has a moderating effect on OESIC, and this effect further influences the accounting behaviour of employees.

**Practical implications.** First, regulators and enterprise management can restrain UAB by accountants using informal management control systems (especially OEC) in addition to formal management control systems. Organizational members' perception and internalization of the ethical climate environment is the key to the role of organizational culture. For example, in a literature review of organizational ethical climate antecedents and outcomes, Newman et al. (2017) found that prior research focused on the impact of individual employees' perceptions of ethical climate on work outcomes. Enterprise management should also consider the construction of a cultural system in an informal system and improve employees' recognition and satisfaction with the organization through more support and encouragement of ethical accounting behaviour (Ning and Zhaoyi, 2017).

Second, this study indicates that OESIC and CSZ Thinking have a substitutive relationship. The conclusion of this paper is

consistent with previous research that employees' personality plays an important role in the relationship between organizational climate and employees' behaviour (Ahmad et al. 2018). In a specific organizational climate, there is also a significant relationship between positive personality characteristics and employee behaviour (Liu et al. 2016). This paper suggests that managers of Chinese enterprises should pay attention to the relatively high CSZ Thinking characteristics of employees and meet the flexible and accessible needs of employees when cultivating OEC.

Third, this study can help enterprise management realize the different motivations of UAB. In the process of curbing UAB, enterprise management needs to pay attention to UPOAB, which is ostensibly "for the public". This kind of UAB is often hidden due to its "pro-organizational" characteristics, which often paralyze management to indulge and encourage it. This may further affect employees' psychological experience and exacerbate the creation of more adverse behaviours (Yang et al. 2021). Therefore, management needs to identify this kind of UAB. Whether the starting point is good or bad, management should resolutely curb or punish this UAB.

**Limitations and directions for future research.** First, although "Unethical Pro-Organizational Behaviour" has been widely studied, "Unethical Pro-Organizational Accounting Behaviour, (UPOAB)" in the accounting context has not received sufficient attention. Although this paper explores the impact of OESIC on both UPSAB and UPOAB, there is still room for research on UPOAB and UPSAB. In addition to OESIC, other factors within the organization affect UPOAB and UPSAB. Future research could further explore issues such as leadership's exemplary role in ethical behaviour and the influence of internal control systems (such as reporting systems) on employees' UPOAB and UPSAB.

Second, although this paper studies the influence of OESIC on UAB and the moderating effect of CSZ Thinking, it does not study the mediating mechanism. Therefore, future research can further explore the mediating mechanism of the ethical climate on UAB (such as the moral disengagement mechanism) and the boundary conditions of the effect of the ethical climate on the two types of UAB. In addition, because OESIC is a long-term and stable organizational climate, its influence on the members of an organization is extensive and far-reaching. Therefore, future studies are not necessarily limited to the impact of OESIC on employees' accounting behaviour but can be further expanded to explore the impact of OESIC on other organizational fields (Lu et al. 2019).

Third, the sample data of this paper are based on Chinese accountants. Moreover, the moderating variable of this paper, CSZ Thinking, is based on Chinese Confucianism. Although this paper has some value for the management of accounting ethical behaviour in China and other countries deeply affected by Confucian culture, it is necessary to investigate whether this paper's conclusions apply to other cultural contexts, such as the Anglo-American cultural background. There are many differences between Eastern ethics based on Confucian culture and Western ethics that result in different impacts on organizational management and business practices (He and Xu, 2022; Zhu et al. 2022; Vaszkun et al. 2022). Therefore, future research can be based on different regional and cultural backgrounds to explore the universality and differences.

## Conclusion

Although previous literature only studied UAB with self-interest motivation, this paper initially studied the effect of OESIC on both UAB with self-interest motivation and UAB with pro-organizational motivation (i.e., UPSAB and UPOAB). Furthermore, it investigated

the moderating effect of CSZ Thinking, a typical characteristic of the Chinese people. The results indicate that OESIC is positively correlated with UAB, while the effect of OESIC on UPSAB is more significant than that on UPOAB, and CSZ Thinking weakens the promoting effect of OESIC on UAB. The findings of this study provide a new perspective for management to effectively restrain UAB by reducing accountants' perception of OESIC and fostering their CSZ Thinking. Although this paper focuses on Chinese culture and Chinese accounting issues, its conclusion has some value for other countries influenced by Confucian culture.

### Data availability

The datasets generated during and/or analysed during the current study are available in the Dataverse repository: <https://doi.org/10.7910/DV/N/4JSRP>.

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## Author contributions

DD: Conceptualization, Theory Building, Methodology, Writing-Original Draft, Review. CY: Conceptualization, Writing-Original Draft & Editing. FW: Conceptualization, Theory Building, Methodology, Writing-Review. YG: Conceptualization, Writing-Original Draft. HL and CW: Conceptualization, Theory Building, Methodology. All authors have read and agreed to the published version of the manuscript.

## Competing interests

The authors declare no competing interests.

## Ethics approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. The study was approved by the Institutional Review Board of Nanjing Forestry University in December 2021 (NO. 20211201).

## Informed consent

All participants were informed about the aim and scope of the study as well as the ways the data would be used. The respondents' participation was completely consensual, anonymous, and voluntary. Informed consent was obtained from all individual participants included in the study before they participated in the survey.

## Additional information

**Supplementary information** The online version contains supplementary material available at <https://doi.org/10.1057/s41599-023-01995-2>.

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