DID ONLINE EDUCATION EXACERBATE CONTRACT CHEATING DURING COVID19 IN CHINA? EVIDENCE FROM SINA WEIBO

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ABSTRACT

Aim/Purpose	The purpose of this study is to explore the correlation between contract cheating and online education in China, which has become a major concern due to the extensive promotion of online education worldwide amid the COVID-19 pandemic.
Background	Contract cheating, also known as academic ghostwriting, refers to the act of students outsourcing academic assignments to third parties, who complete the work on their behalf. With the development of online education, the incidence of contract cheating is rising progressively. Whilst numerous scholars have conducted extensive research on the causes, prevention, and handling of contract cheating, the issue persists and needs further localized understanding.
Methodology	This study employs a mixed-methods approach. First, textual data on Sina Weibo, a popular Chinese social media platform, is collected and analyzed using VOSviewer and NVivo12 software. Field observation methods are also utilized for theme analysis and sentiment analysis. Second, the theoretical framework of organizational theory is applied to explain the impact of different modes of online education implementation on contract cheating. Finally, based on the findings, possible solutions to mitigate contract cheating are proposed.

Contribution	This study contributes to the literature by providing a theoretical framework to explain the relationship between online education and contract cheating in China. The study's findings highlight the importance of the mode of online education implementation when addressing contract cheating.
Findings	This study finds that online education does exacerbate contract cheating in China, and the extent of this phenomenon varies depending on the mode of online education implementation. This study also identifies the lack of academic integrity education and supervision as a major factor contributing to contract cheating.
Recommendations for Practitioners	Reducing the costs of educational organizations in combating cheating through institutional arrangements, such as establishing effective channels of communication between teachers and schools and controlling teachers' workload outside of their primary responsibilities, can help curb contract cheating.
Recommendations for Researchers	Both history and reality have demonstrated that possible solutions cannot rely solely on new technologies or single institutional arrangements. Contract cheating is essentially an unethical means of competing for scarce resources, and as long as resources remain scarce, this phenomenon will persist.
Impact on Society	As a social phenomenon, contract cheating cannot be completely eradicated through top-down policy enforcement.
Future Research	The stringent enforcement against contract cheating also involves the education regulatory and judicial departments, and their relationship is worthy of future research.
Keywords	contract cheating, online education, textual analysis, organizational approach, field observation

INTRODUCTION

There are several forms of academic dishonesty that can occur in learning environments, including contract cheating, plagiarism, cheating on exams, fabrication, ghostwriting, collusion, multiple submissions, and unauthorized assistance. Comparing the various forms of academic dishonesty across different countries is an intriguing topic (Ahsan et al., 2021). Nonetheless, this article focuses primarily on examining the prevalence and implications of contract cheating within the academic landscape of China.

Contract cheating, also known as academic ghostwriting, refers to the act of students outsourcing academic assignments to third parties, who complete the work on their behalf (Clarke & Lancaster, 2013). With the development of online education, the incidence of contract cheating is rising progressively (Lancaster, 2019). Numerous scholars have conducted extensive research on the causes, prevention, and handling of contract cheating (Amigud, 2019; Amigud & Dawson, 2020; Awdry & Newton, 2019; Karasavvidis, 2010; Medway et al., 2018; Newton, 2018). For instance, to prevent contract cheating, some scholars suggest strengthening students' academic integrity education, adopting technological means for detection, increasing the uniqueness of assignments, and establishing strict management systems (Newton & Lang, 2016).

Contract cheating in ancient China was also known as "qiangti," which was first mentioned in historical records about the imperial examination system during the Tang Dynasty. The Chinese imperial examination system, or keju, was a highly esteemed system of selecting officials based on merit rather than on social status or connections. However, with such high stakes involved in passing the exams, it was not uncommon for candidates to engage in cheating practices. The government also issued se-

vere punishments for those caught cheating, such as exile or execution. Despite these efforts, contract cheating continued to be a persistent problem throughout the history of the imperial examination system. The system was abolished in 1905 but contract cheating has continued to exist in modern times.

The modern Chinese national movement and state-building have transformed several features and contents of *the hybrid universalist imperial system* of the 19th century into *the organizational structure of the ethnic group and state* (Hui & Huters, 2006). Organizational structure is a crucial factor that influences organizational behavior. Whether it is the promotion of online education or the crackdown on contract cheating in China, these efforts take place within *the framework of the Chinese educational organization* (see the Appendix for an explanation of these italicized terms). Therefore, examining the relationship between contract cheating and online education from an organizational perspective would be an intriguing endeavor.

The contribution of this study lies in the combination of big data analysis from Sina Weibo and field observations to investigate the changes in contract cheating within the organizational structure of education in China during the COVID-19 pandemic. By exploring the mechanism through which online education influences contract cheating, the study sheds light on the organizational logic behind contract cheating, providing new insights for the prevention and control of such behavior.

The rest of the paper is organized as follows. In the following section, the literature will be reviewed. Then, the authors will present the research question and methodology. After the methodology section, we will discuss the results. Finally, we will outline the research contributions and limitations.

LITERATURE REVIEW

Currently, one of the most serious threats to academic integrity is posed by contract cheating (Foltýnek & Kralikova, 2018). By outsourcing academic work to a third party, students commit contract cheating and violate academic integrity (Stoesz & Los, 2019). Studies have shown that contract cheating is a widespread problem across different educational levels and disciplines. A survey conducted by Clarke and Lancaster (2013) found that one in seven students had paid someone else to complete an assignment for them. Similarly, a study by Newton and Lang (2016) found that 15.7% of surveyed students had engaged in contract cheating, and 7.9% had done so in the past year. Contract cheating has also been reported in postgraduate and professional programs, such as law and medicine (Bretag, 2018).

With the rise of online education during the COVID-19 pandemic, there have been concerns about the potential increase in contract cheating (Tremayne & Curtis, 2020; Yorke et al., 2020). Research has shown that contract cheating is more prevalent in online courses than in face-to-face courses (Lancaster, 2020). The anonymity and convenience of online courses may make it easier for students to engage in contract cheating. In addition, online courses often rely on objective assessments, such as multiple-choice exams, which can be more easily outsourced to third-party providers. A study by Newton and Lang (2016) found that contract cheating increased by 15.7% during the pandemic. Also, the study found that the use of online proctoring tools did not deter contract cheating (Rowland et al., 2018).

Several factors have been identified as contributing to contract cheating in online education. One factor is the lack of face-to-face interaction between students and instructors. This can lead to a lack of personal accountability and increased anonymity, which may make it easier for students to engage in contract cheating (Harper et al., 2019).

Another factor is the pressure that students may feel to perform well in online courses. With the increase in online education during the COVID-19 pandemic, there has been a significant increase in the number of students taking online courses. This may create a competitive environment in which

students feel pressure to perform well, even if it means engaging in contract cheating (Clarke & Lancaster, 2013; Lancaster & Clarke, 2016).

Several strategies have been proposed to prevent contract cheating in online education. One strategy is to design assessments that are difficult to outsource to third-party providers. For example, assessments that require higher-order thinking skills, such as critical thinking and problem-solving, may be more difficult to outsource (Harper et al., 2019).

Another strategy is to use technology to detect contract cheating. Online proctoring tools, plagiarism detection software, and machine learning algorithms are examples of technologies that can be used to detect contract cheating (Newton & Lang, 2016). However, it is important to note that these technologies are not foolproof and may have limitations.

The existing research on the relationship between contract cheating and online education during COVID-19 provides some important insights, but there are also limitations that should be considered. Most of the research is conducted on students in Australia, the USA, the UK, and Czechia, but there is no research conducted in this area in China.

Most of the research conducted in this area is based on surveys and interviews with limited sample size. This may limit the generalizability of the findings and make it difficult to draw firm conclusions about the prevalence of contract cheating in online education.

The dominant methodology in this field is empirical studies and theory-based research is scarce.

RESEARCH QUESTION

With the outbreak of the COVID-19 pandemic, many schools in China have been forced to adopt online education. The study aims to answer this research question:

> What are the contributing factors to contracting cheating in tertiary education in China?
> - Has online education made contract cheating more prevalent in China?
> - What lessons can we draw from the legacy of the imperial examination system in China to address contract cheating?

METHODOLOGY

Organizational theory is a field of study within management and sociology that focuses on understanding and explaining how organizations function, operate, and interact with their internal and external environments. This theory encompasses various theoretical perspectives, frameworks, and concepts that aim to analyze and interpret the behavior, structure, and dynamics of organizations. This theory helps to explain the complexities of organizations and provides frameworks for understanding organizational behavior, effectiveness, and performance. This theory is relevant across various sectors, including business, government, non-profit organizations, and educational institutions. Exploring the state and society within the framework of organizational theory helps us understand the role that educational institutions play as social organizations.

The operation process of a country, its ability and method to solve problems, the choice of coping with crises, and the relationship between the state and society, are all based on a series of institutional arrangements. These stable institutional arrangements shape the ways and methods of problem-solving, induce corresponding micro-behaviors, and largely determine the trajectory, choices, and consequences of national governance (Zhou, 2022). This description is also very appropriate for understanding the phenomenon of contract cheating during the COVID-19 pandemic in China.

Organizational theory can facilitate people's comprehension of the phenomenon of contract cheating, but it necessitates substantial support from big data. Sina Weibo data from 2019-2022 is used to analyze the intrinsic connections and mechanisms behind online education and contract cheating

from micro to macro perspectives. Effective measures to solve contract cheating are sought from organizational theory.

DATA COLLECTION

With a self-built web program, the authors commenced their search using the following key terms: "online education," "online learning," "contract cheating," and "exam cheating." Sina Weibo posts from the year 2019 to 2022 with the above terms present in their title and content were selected. We obtained 58,194 Weibo posts about contract cheating and 11,8824 Weibo posts about online education.

DATA PROCESSING

To process the collected data, the authors employed Python programming for data cleansing. After that, the redundant and insufficient data was eliminated. To perform text analysis, we used Python and LDA algorithms. While Python is a powerful language for text analysis, it does have some weaknesses. Text analysis can be intensive computationally, and Python may not always be the fastest option for large datasets. While LDA is a popular and effective algorithm for topic modeling, it has its limitations, such as difficulty handling short texts and a tendency to generate similar or overlapping topics. Despite the existence of numerous LDA enhancement algorithms, for quantitative research on social issues, it is desirable to employ consistent standards as much as possible. This constitutes a limitation of Python, but a strength of NVivo and VOSviewer. So, the authors employed NVivo for sentiment analysis. Before conducting the sentiment analysis, we imported the contract cheating data into the stop word library and consolidated synonyms. We then performed word segmentation to divide each post into several keywords. Finally, we employed VOSviewer to perform topic analysis. The ultimate outcome is the co-occurrence network of keywords for each year which assists in identifying the themes and emotions implied in the posts.

RESULTS

The groupings of the keywords in 2019 led to three clusters, which are graphically presented in a network diagram (Figure 1). The themes within each cluster can be regarded as fundamental aspects of contract cheating.
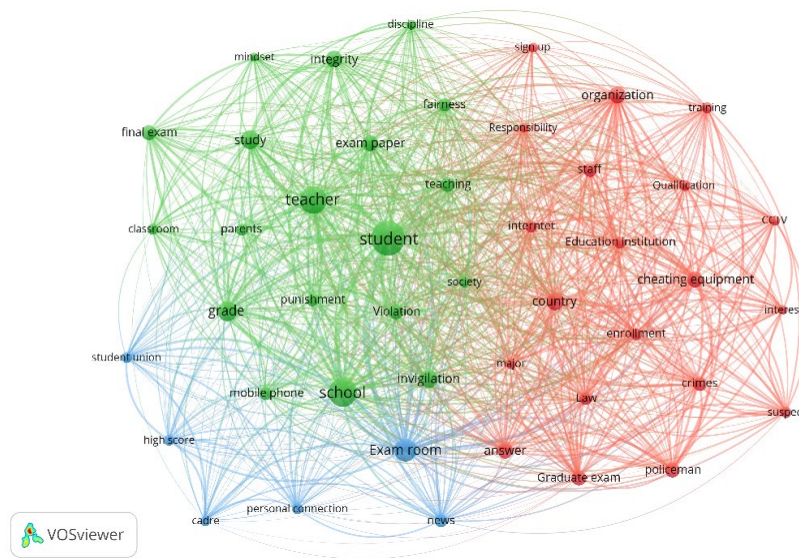

Figure 1. Co-occurrence Network of contract cheating in 2019

In a textual co-occurrence network, each node represents a keyword, and the connections between nodes represent the relationships between keywords: larger nodes indicate higher frequencies of the corresponding keywords, while thicker connections indicate higher frequencies of co-occurrence between two keywords. The highest co-occurrence frequency of "school," "teacher," "student," and other key terms are evident (Figure 1), suggesting a significant avenue for research potentially.

The cross-year variations in the co-occurrence frequency of keywords in co-occurrence networks may contain rich information. For instance, the relative increase in the co-occurrence frequency of "Cheating equipment" and other keywords in 2020 (Figure 2) compared to 2019 may be due to the outbreak of the COVID-19 pandemic, which led to the implementation of online education and exams in many Chinese schools. This resulted in increased public attention to contract cheating, indicating the spreading of contract cheating to a broader range. With the easing of the pandemic in 2021 (Figure 3), the frequency decreased relative to 2020, while it significantly increased again with the resurgence of the pandemic in 2022. In contrast, the co-occurrence frequency of "Fairness" with other keywords remained relatively stable across the years, indicating that fairness is a persistent concern of the public.

The evolutionary trajectory of the overall structure of co-occurrence networks may also contain rich research value. Although there were some differences in the co-occurrence networks between 2019 and 2022 (Figure 4), the three major themes, namely educational implementing agencies (green nodes), educational supervisory departments (blue nodes), and judicial departments (red nodes), were clearly distinguished. (The yellow nodes in the Figure 3 represent keywords that could not be classified into any specific cluster.) The co-occurrence frequency of most keywords within each cluster evolved. However, within the educational implementing agencies cluster, the keywords "schools," "teachers," and "students" remained the most important and stable, indicating that the public is not only concerned with contract cheating but also highly attentive to these themes. The relationships among schools, teachers, and students should be the starting point for researching contract cheating.
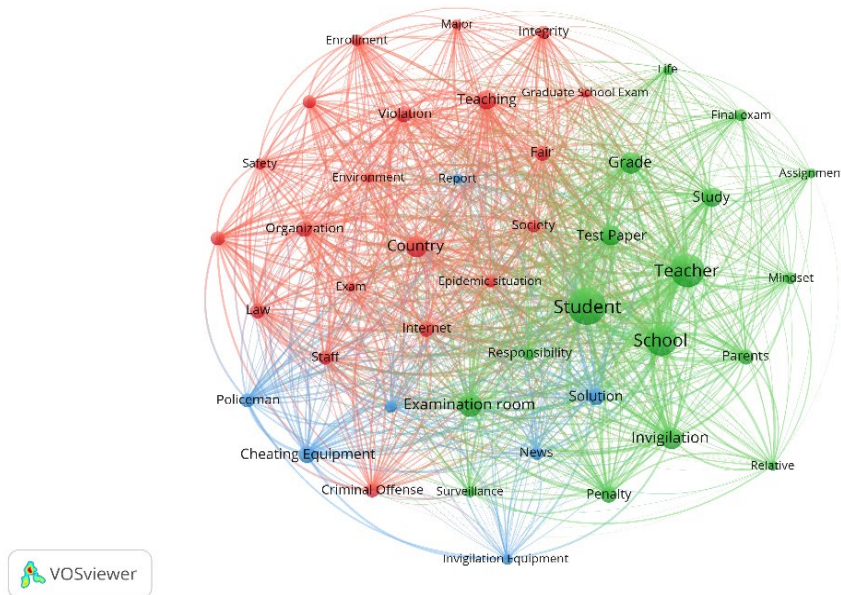

Figure 2. Co-occurrence Network of contract cheating in 2020

Figure 3. Co-occurrence Network of contract cheating in 2021

An organization is a system composed of interdependent parts that interact and engage in feedback mechanisms. The overall performance of an organization depends on the coordination and interaction among its individual parts (Zhou, 2022). We could conceptualize a co-occurrence network as an abstract organization. The relationships among important nodes in the co-occurrence network reflect the reality of the education field in China (Figure 4).

Figure 4. Co-occurrence Network of contract cheating in 2022

The Ministry of Education of China is the highest administrative body in the field of education, followed by the provincial education departments, municipal education bureaus, and county education bureaus. All levels and types of schools receive technical guidance and relevant instructions from the higher-level education administrative bodies, but their financial budgets are controlled by other government agencies. Teachers carry out teaching activities under the management and instructions of schools, but their staffing and promotion are controlled by other government agencies, and their income and professional titles are influenced by student and societal evaluations. This structure results in teachers facing conflicting demands from multiple directions, leading to conflicts between multiple goals.

The ambiguity of assessment methods and standards for teachers has always been a prominent characteristic of the education field, which is even more pronounced in the context of online education. For instance, the phenomenon of low student participation in the online education process could be attributed to various factors such as teacher responsibility or competency issues, lack of on-site supervision or psychological support for students, or technical malfunctions of network equipment. The multiple interpretative possibilities determined by people's interests or past experiences reflect the ambiguity of information, which in turn makes it difficult for monitoring and incentive measures designed to address the information asymmetry between schools and teachers to fully take effect. This implies that teachers possess more knowledge and technical processing capabilities than schools, and therefore gain certain advantages in negotiations concerning assessment standards, workload, and responsibility sharing. The technically stronger online education mode amplifies this advantage.

THE SELECTION BETWEEN REGULAR AND MOBILIZATION PATTERNS

In the process of implementing online education, schools choose between two modes: mobilization mode and regular mode. Mobilization mode was chosen during the outbreak of the COVID-19 pandemic, while the regular mode is chosen before and after the outbreak subsides (Figure 5). In regular mode, online education is implemented through the established daily teaching rules and procedures, and the pressure on teachers is normal. In mobilization mode, the school promotes online education through high-pressure measures, injecting a large amount of attention and resources, including strict supervision mechanisms, intensive audits and inspections, and corresponding increased punitive measures, to convey higher credibility commitments or threat messages.
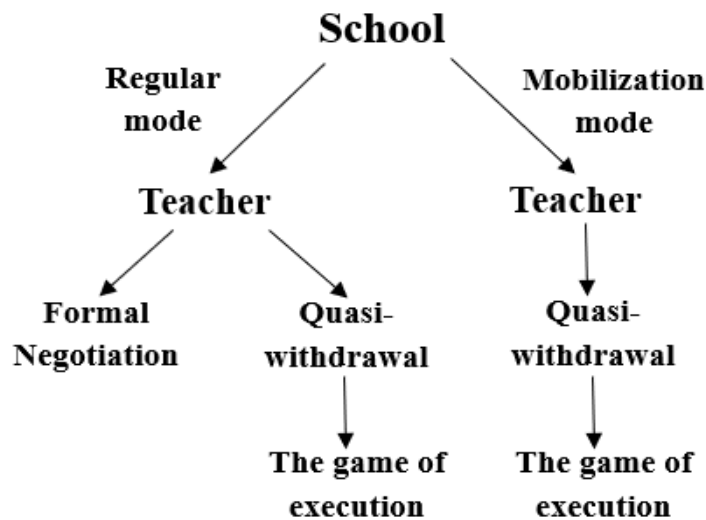

Figure 5. The game theory model of implementation patterns for online education

There is a rich organizational significance behind these two implementation modes. From the perspective of organizational analysis, in the regular mode, the implementation of work is established on daily procedures and corresponding organizational expectations, and members within the organization are in a loosely connected state, which leaves more space for negotiation processes between superior and subordinate departments. In contrast, the mobilization mode implies a high degree of top-down pressure, so that members within the organization are closely connected and efficient. However, the initiation and maintenance of the mobilization mode require injecting many resources (such as attention, extra resources, frequent checks, and interruptions or interference in other aspects of task deployment), which is costly and difficult to sustain in the long term. Therefore, the regular mode is the norm for organizational operation.

In response to the severe outbreak of COVID-19 in 2020 and 2022, online teaching mode was mandated at all levels of schools in China to control the spread of the pandemic. Schools and teachers devoted substantial resources to promoting online education and reported various data at high frequencies, yet insufficient investment was made in student supervision and interactive engagement. This has resulted in an upsurge of contract cheating among students, as indicated by the change in emotional proportion towards such behavior. Based on the observations of the authors, there appears to be a positive correlation between the severity of contract cheating and the intensity of negative emotions that the public harbors toward it. However, the incidence of contract cheating among students was mitigated in 2019 before the pandemic outbreak, and in 2021 when the pandemic was alleviated (Figure 6).
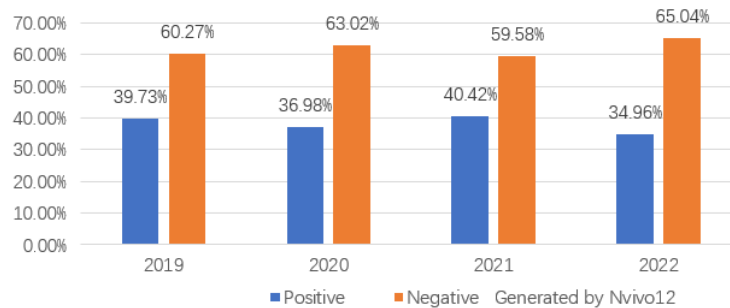

Figure 6. Changes in emotional inclination toward contract cheating from 2019-2022

THE TEACHER'S RESPONSE: TWO COPING STRATEGIES AND CORRESPONDING NEGOTIATION GAMES

In the hierarchical organizational structure, lower-level departments (the teacher) can engage in formal organizational procedures to negotiate with higher-level departments (the school) on issues related to online education, by presenting explanations, requests, or other types of solicitations to the school. The school will then provide feedback on these top-down requests through formal communication channels, and this type of interaction is referred to as "formal negotiation." Negotiations usually revolve around the evaluation standards of the implementation effectiveness of online education, sharing of responsibilities, and other related topics. The effectiveness of online education implementation typically also includes the handling of contract cheating.

The above-mentioned formal negotiation game is a common communication method between superior and subordinate departments in various types of hierarchical organizations. In general market negotiation games, either party can choose to withdraw from the negotiation. The party with the option to withdraw has a way out in case the negotiation fails, thus possessing stronger negotiation capabilities. However, the authors note that internal negotiation games within schools occur under the conditions of formal authoritative structures and bilateral monopolies, and neither party can choose to withdraw. This is especially true for teachers, who cannot refuse top-down command deployment

and cannot choose to withdraw from the interaction with the school independently. Nevertheless, teachers have the option of "quasi-withdrawal." Quasi-withdrawal refers to a situation in which the agent is forced to accept the superior's command but withdraws covertly by means of non-cooperation in the subsequent execution process.

In the specific process of promoting online education, if schools choose to implement the regular pattern, teachers may be able to protect their own interests through formal negotiations. However, if schools choose to implement the mobilization pattern, teachers cannot resist, rebel, or negotiate through formal procedures openly, but must adopt informal and subtle resistance methods. The changes in the emotional proportion toward online education from 2019 to 2022 reflect this proposition (Figure 7).
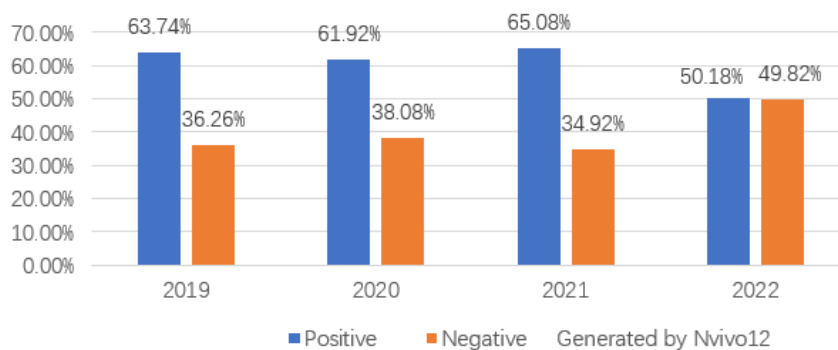

Figure 7. Changes in emotional inclination towards online education from 2019-2022

When the COVID-19 epidemic did not break out in 2019, the proportion of positive emotions toward online education among the public was 63.74%. This proportion decreased to 61.92% in 2020 due to the outbreak of the epidemic, possibly because some teachers adopted a "quasi withdrawal" strategy towards online education under a mobilization pattern. The change in this proportion in 2021, when the epidemic was under control, and in 2022 when the epidemic worsened, also followed the same pattern.

DISCUSSION

The purpose of selecting different implementation modes in schools is to send signals to teachers regarding the level of credibility commitment or threat intensity. The reasons for making specific choices may be internal or may come from external environments or crises. Undoubtedly, the selection of online education modes in various levels of schools in China during the COVID-19 pandemic originated from external factors. This section discusses the conditions under which teachers choose different coping strategies once a particular implementation mode has been selected by the school. Although some literature suggests that online education provides convenience for teachers in certain aspects, it also brings some new problems to their teaching activities. Through the analysis of the data on the relevant topics of online education and contract cheating on Sina Weibo from 2019 to 2022, the main problems can be summarized as follows:

- *The education of students with physiological or psychological disorders:* In face-to-face teaching, teachers can detect physiological or psychological abnormalities in students quickly and address them through immediate face-to-face communication. However, in online teaching, identifying such anomalies and implementing solutions is more challenging for teachers, who have fewer options and higher costs for addressing such issues.

- *The educational issue for students with inadequate Internet connectivity:* For students lacking necessary internet equipment and residing in areas with poor network coverage, certain technological

measures can alleviate the difficulties posed by these challenges. For instance, students in areas with weak Internet signals may opt for recorded lectures instead of live-streamed ones, although this could potentially result in a diminished educational experience and provoke complaints from both students and parents.

- *Education on cybersecurity and ethics:* The impact of open access to online content on education has long been a hotly debated issue of societal concern. This impact has been amplified in the context of online education, leading to cybersecurity and ethical issues. Teachers at the forefront of education are forced to dedicate a significant amount of time and energy to address these issues, in addition to their professional teaching duties, and must be prepared to provide psychological support to students and parents who may be affected by the pandemic.

- *The advancement of cheating methods:* Through data analysis, it has been found that "cheating tools" and "cheating devices" are the main keywords in relevant topics on Sina Weibo over the years. With the advancement of technology in contract cheating, it has become increasingly difficult to detect contract cheating by traditional means, especially in online education and its associated online assessment. This presents new challenges for teachers.

As can be seen from the above, online education puts higher demands on the learning and adaptability of teachers. To adapt to the new environment, teachers must quickly master numerous new skills and continuously update them, which increases the human cost of teachers greatly. Therefore, it is reasonable for teachers to have a sense of resistance toward online education.

When schools choose to implement online education in a regular mode, teachers can express their demands to the school and negotiate with the school on the execution details, standards, and resources required for online education. However, when schools choose to implement online education in a mobilization mode, it means that the school is implementing a higher intensity of credibility threat and creating a political environment with great pressure through a large-scale top-down campaign. In this situation, the space and flexibility for negotiation between teachers and the school are small. In a highly mobilized state, the risk of severe punishment for teachers who adopt behavior contrary to the school's is increased sharply. Therefore, the best strategy for teachers is to "quasi-withdraw" and carefully protect themselves in an unfavorable and high-pressure environment. This coping strategy postpones the interaction between schools and teachers in the process of executing games. Based on the analysis above, compared with the regular mode, teachers have less room for formal negotiations with schools on issues related to online education in the mobilization mode significantly. "Quasi-withdrawal" is the best response strategy for teachers. As the implementers of online education, teachers may leverage the asymmetry and ambiguity of information to gain more benefits in the game of implementation with schools. This has been demonstrated in the process of assessing teachers' performance in online education by schools prominently.

During the COVID-19 pandemic, despite various pressures, schools in China have achieved the normalization of assessing the process of online education, often with more detailed assessments than those for offline teaching. The game between schools as the assessors and teachers as the assessee is the main organizational process of assessment, which mainly involves information control and counter-control. Here, information refers to various assessment indicators in the process of online education, such as student online rates, average online duration, and frequency of online interactions between teachers and students. This information has asymmetric and ambiguous features. Asymmetry refers to the fact that teachers have more information than schools, while ambiguity refers to the fact that the same information can have multiple interpretations. Therefore, even if there are clear measurement standards for online education assessment indicators, the asymmetry and ambiguity of information may still hinder the collection of accurate information for the purpose of assessment. The purpose of school assessment is to collect accurate information about the operation of online education, while teachers may control and use the information for their own benefit strategically.

During the assessment process, schools have the authority to determine when and how to conduct assessments, which appears to be effective on the surface. For example, inspectors can enter web classrooms at irregular intervals to assess the effectiveness of teachers' classroom teaching, and a ranking system can be introduced to facilitate mutual assessment and competition among teachers. This should ensure the effective implementation of assessments in online education. However, the reality may not be so perfect.

Based on the authors' field observations, when faced with unsatisfactory data on student online attendance rates and duration, teachers may attribute it to technical malfunctions or student mishandling of network equipment. These factors are often difficult to verify afterward due to technical reasons or the high cost of verification. While schools assess teachers, they also must undergo assessments from higher education authorities. Furthermore, those responsible for assessing teachers are themselves subject to assessment, which restricts the operation of the school's assessment power.

In summary, while the mobilization pattern of operation allowed schools to implement online education quickly, it comes at a high cost. Even with substantial investments in resources, teachers may not necessarily comply fully with the school's requirements and may instead adopt a "quasi-withdrawal" strategy to carry out online teaching according to their own interests and intentions, potentially leading to relaxed supervision of contract cheating. From this perspective, the mobilization mode of operation cannot be the primary way for schools to promote online education. The fact that Chinese education authorities emphasized immediately that schools should not mandate comprehensive online teaching after the end of the COVID-19 pandemic in December 2022 indicates this point.

CONCLUSIONS

For over a thousand years, the rulers of ancient China have employed various methods to combat contract cheating, using top-down policies. However, this social phenomenon persists to this day. Like other policies in this ancient empire, the anti-cheating measures are executed by individuals within the organization, which inevitably involves a game of interests among different stakeholders within the empire. This game leads to deviations in the effectiveness and goals of policy implementation. Organizational theory can help in understanding the underlying logic of contract cheating for it can explore the formal and informal structures within an organization. In the context of educational institutions, understanding the hierarchical structure can shed light on the power dynamics that might influence contract cheating.

The main contribution of this study is that, based on the authors' field observations, the logic of contract cheating remains relevant in modern social networks and educational environments. Specifically, different implementation modes of online education have altered the costs and corresponding behaviors of teachers, resulting in various impacts on the prevalence of contract cheating. Therefore, as a social phenomenon, contract cheating cannot be completely eradicated through top-down policy enforcement. Both history and reality have demonstrated that possible solutions cannot rely solely on new technologies or single institutional arrangements. Contract cheating is essentially an unethical means of competing for scarce resources, and as long as resources remain scarce, this phenomenon will persist. However, reducing the costs of educational organizations in combating cheating through institutional arrangements, such as establishing effective channels of communication between teachers and schools and controlling teachers' workload outside of their primary responsibilities, can help curb contract cheating.

The main limitation of this study is that, due to length constraints, it mainly focuses on the game relationship between schools and teachers within the Chinese education implementation organization, and insufficiently explores the game relationship between teachers and students. The crackdown on cheating also involves the education regulatory and judicial departments; the relationship between these two departments regarding contract cheating is worthy of future research.

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APPENDIX – EXPLANATION OF TERMS

The hybrid universalist imperial system

In this system, the empire pursues a universalist ideology or set of values and seeks to impose it on other regions or ethnic groups. However, this system also incorporates other forms of governance and management to accommodate the characteristics of different regions and cultures.

The organizational structure of the ethnic group and state

This refers to the arrangement and functioning of interethnic relations, power distribution, political institutions, legal systems, and other aspects within a multiethnic country.

The framework of the Chinese educational organization

The Ministry of Education of China is the highest administrative body in the field of education, followed by the provincial education departments, municipal education bureaus, and county education bureaus. All levels and types of schools receive technical guidance and relevant instructions from the higher-level education administrative bodies, but their financial budgets are controlled by other government agencies.

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