

The Impact of the COVID-19 Pandemic on the Mental Health of Individually-Owned Businesses in China

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Abstract

Background: COVID-19 has emerged as a public health crisis with far-reaching implications, impacting not only physical well-being but also precipitating severe mental health challenges. Compared to other occupations, individually-owned businesses in China lack adequate external security measures. However, the mental health challenges they face during this epidemic have not been thoroughly examined. **Purpose:** This study aimed to examine the mental health of individually-owned businesses in China during the COVID-19 epidemic. **Methods:** Employing a qualitative research design, 26 individual businesses were selected for semi-structured interviews to investigate their mental health status amidst the pandemic. **Results:** The results indicated that individually-owned businesses reported experiencing a range of perceived psychological feelings such as helplessness, complaint, fear, and anxiety. Additionally, it was revealed that these businesses relied on social support that included physical, emotional, and informational support to alleviate the negative impact of the pandemic. Self-regulation was also identified as a useful strategy for coping with the challenges faced by these businesses. **Conclusion:** The mental health of individually-owned businesses in China needs to be concerned, and relevant psychological improvement intervention programs can be formulated from the perspective of social support and self-regulation.

Keywords

COVID-19 Pandemic, Mental Health, Individually-Owned Businesses, Social Support, Self-Regulation, Intervention

1. Introduction

Individually-owned businesses are defined under the civil code of the People's

Republic of China as “a natural person who operates an industrial or commercial business may register it, in accordance with the law, as an individual-run industrial and commercial household.” By the end of September 2022, there were 111 million registered individually-owned businesses in China, comprising two-thirds of all market entities and supporting approximately 300 million employments. The majority of these businesses are dispersed throughout the community and primarily engaged in retail, catering, and other resident services. These self-employed businessmen have been most severely impacted by the COVID-19 pandemic, with roughly 3.1 million brick-and-mortar stores in China closed in 2020 due to operational difficulties. In 2021, over 10 million stores have either closed down or been logged out, and 90 million commercial households are at risk of closing down. To contain the spread of COVID-19, local governments in China mainly adopted a “one-size-fits-all” approach prior to December 2022, mandating all types of businesses to cease operations. Millions of individually-owned businesses halted their production and operations. Therefore, this research focuses on the impact of the COVID-19 pandemic on the mental health of individually-owned businesses in China.

The COVID-19 pandemic has had a severely detrimental impact on the mental health of individuals worldwide (Bueno-Notivol et al., 2021). In China, 53.8% of the general public perceived a moderate to severe negative psychological impact during the COVID-19 outbreak (Wang et al., 2020). Similarly, a study of 1767 adults in southern Brazil revealed a significant increase in the prevalence of moderate-to-severe anxiety and depression symptoms by 7.4- and 6.6-fold, respectively (Feter et al., 2021). A cross-national study shows that the prevalence of depressive symptoms was more than three times higher during the pandemic than before the pandemic in the USA (Ettman et al., 2020). Banna et al. (2020) reported high prevalence rates of anxiety and depression symptoms, 33.7% and 57.9%, respectively, and 59.7% of individuals reported experiencing mild to intense stress in Bangladesh. In the Czech Republic, a cross-sectional survey discovered the rate of suicide tripled among adults during the COVID-19 pandemic (Winkler et al., 2020). Additionally, a study conducted in the USA showed that approximately 10% of adults started or increased substance use because of COVID-19, and 10.7% reported serious consideration of suicide (Czeisler et al., 2020). These findings highlight the significant negative impact of the pandemic on the mental health of the population worldwide.

Other studies have been conducted to investigate the mental health of various occupational groups in the context of the COVID-19 pandemic. Shen et al. (2021) assessed anxiety levels among 643 frontline nurses combating COVID-19 in Wuhan and identified that 33.4% experienced anxiety and insomnia. An online study ($N = 3881$) conducted in Guangdong, China, reported a 21.16% and 26.6% prevalence of depression and anxiety, respectively, among college students during the COVID-19 pandemic (Chang, Yuan, & Wang, 2020). Another survey-based study in China found that 40.72% of seafarers experienced depressive symptoms, while 9.07% experienced severe depression symptoms (Qin et al.,

2021). Furthermore, an online survey, also conducted in China, administered the PHQ-9 and PSS-10 measures and found that 56.9% of teachers experienced depression, while 96.1% experienced excessive stress (Zhou et al., 2021). Although previous research has primarily focused on the mental health of specific occupational groups (such as students, teachers, nurses, and seafarers), the mental health of individually-owned businesses during the COVID-19 pandemic remains understudied.

Compared to other occupational groups, individually-owned businesses possess unique characteristics that set them apart. In China, teachers benefit from the tenure system, providing them with job security even amid career uncertainties (Kukreti et al., 2021; Liu & Onwuegbuzie, 2012). Despite the potential danger of COVID-19 infection, healthcare workers are guaranteed wages (Wan, Lian, Ma, Cai, & Xianyu, 2022). Typically, individually-owned businesses are self-employed and managed by individuals, couples, or families, who independently organize their production and operations (Lei, 2020). These entities face significant financial risks, as business stagnation may lead to a substantial reduction or complete suspension of their income. Thus, unlike professionals with stable earnings such as healthcare workers and teachers, the mental health of individually-owned businesses warrants further investigation.

The present study utilizes a qualitative methodology involving a semi-structured interview to examine the mental health of individually-owned businesses during COVID-19. Data was collected from a sample of 26 participants between May 17th and August 2022, a period marked by rigorous pandemic prevention and control measures implemented by the Chinese government. The investigation primarily aims to address two key questions: 1) What are the primary psychological consequences of the COVID-19 pandemic on individually-owned businesses in China; and 2) How can coping resources be effectively leveraged to mitigate these negative effects?

2. Methods

2.1. Participants

The study involved the selection of individually-owned businesses from diverse industry sectors. Semi-structured interviews were conducted with a cohort of 26 participants who met the inclusion criteria. The inclusion criteria are as follows: be at least 18 years old, citizens of the People's Republic of China, speak Mandarin, subjects agreed to be interviewed and were informed of the purpose of the interview, have been engaged in production and operation for more than 5 months before the outbreak of the epidemic, no history of diagnosis of serious mental illness, and no psychiatric drugs at present. This study was in line with the World Medical Association Declaration of Helsinki. Prior to their participation in the study, written informed consent was obtained from all participants, following ethical approval from the Ethics Committee of [blinded] University. The demographic characteristics of the participants were presented in **Table 1**.

Table 1. The demographic information of participants.

Subject	Gender	Age	Years in business	Type of business	Industry Category
S1	Male	32	12	Fried-chicken restaurant	I Accommodation and catering
S2	Female	33	3	Flower shop	H Wholesale and retail
S3	Female	50	6	Lottery shop	R Culture, sports, and entertainment
S4	Female	53	7	Farm	A Agriculture, forestry, animal husbandry, and fishery
S5	Male	42	22	Barber Shop	O Resident services, repairs, and other services
S6	Female	45	4	Antique shop	H Wholesale and retail
S7	Male	30	More than 10	Barber Shop	O Resident services, repairs, and other services
S8	Male	50	4	Non-staple food store	H Wholesale and retail
S9	Female	50	2	Dessert shop	I Accommodation and catering
S10	Female	31	3	Clothing shop	H Wholesale and retail
S11	Male	59	8	Restaurant	I Accommodation and catering
S12	Female	28	4	B&B	I Accommodation and catering
S13	Female	52	5	Fast food restaurant	I Accommodation and catering
S14	Male	45	More than 10	Restaurant	I Accommodation and catering
S15	Female	43	6	Greengrocer	H Wholesale and retail
S16	Male	30	less than 1	Restaurant	I Accommodation and catering
S17	Female	27	1	Express station	F Transportation, storage, and postal services
S18	Female	27	2	Fruit shop	H Wholesale and retail
S19	Female	44	10	Beauty Salon	O Resident services, repairs, and other services
S20	Male	35	10	Barber Shop	O Resident services, repairs, and other services
S21	Male	35	8	Farm	A Agriculture, forestry, animal husbandry, and fishery
S22	Male	47	4	Restaurant	I Accommodation and catering
S23	Male	46	4	Restaurant	I Accommodation and catering
S24	Female	49	20	Hardware store	O Resident services, repairs, and other services
S25	Male	52	32	Water and electricity maintenance worker	O Resident services, repairs, and other services
S26	Female	45	10	B&B, Cold drink shop	I Accommodation and catering

2.2. Procedure

The researchers implemented an “online + offline” method to carry out semi-structured interviews with participants. The interviews were scheduled during the participants’ available time and exhibited a duration range of 30 to 50 minutes. All interview sessions were recorded with explicit consent from the participants and access to the recordings has been restricted for the exclusive purpose of subsequent text analysis.

Interview Setup. Before the formal interview, the researchers engaged in a preliminary discussion with multiple individually-owned businesses, which provided a broad direction for the construction of the interview framework. Then the researchers worked out the interview questions by focusing on the following

several aspects: 1) the business environment during the COVID-19 pandemic; 2) the changes in lifestyle before and after the pandemic; 3) the social support received during the pandemic, and 4) the future expectations of the business owners.

2.3. Data Analysis

All raw data are securely preserved in a central repository, which is allowed access only by the researchers with permission. To enable efficient data analysis, review, and authentication, numerical identifiers are ascribed to all data, comprising audio recordings and interview transcripts. The recorded transcriptions were performed by skilled research assistants, who utilized the NetEase External platform for transcribing interviews and undertook careful reviews of the texts to ensure their accuracy. The carefully edited and proofread transcripts were then imported into NVivo 11 Plus software, where they underwent further coding for subsequent analysis.

The present study is built on the six-stage thematic analysis model proposed by Braun and Clarke (2006) to analyze the interview transcripts. The coding process was supervised by the first author, while the second and third authors conducted an iterative discussion to identify conceptual categories in each transcript. Next, the second, third, and fourth authors randomly selected a sample of transcribed texts and engaged in line-by-line coding. They then reviewed each other's coding, discussed any discrepancies, and resolved them to ensure consistency. Thirdly, based on the number of nodes and their relationships, the second and third authors evaluated the original nodes and divided them into core and subclass genera. Fourth, the authors then described all core and subclass genera, connecting them to the initial nodes. Fifthly, the authors established and named the core class genera, carefully examining each one and discussing it in multiple workgroup sessions before reaching a consensus. Finally, the first author reviewed and validated the selected core genera and subgenera.

3. Results

The keywords were extracted and the word frequency was calculated to determine the primary focus. The frequency of the term is shown by the font size in **Figure 1**.

The top three keywords, COVID-19, business, and pressure, are observed in **Figure 1** and should be thoroughly investigated. Secondly, the large font size of words like life, rent, and government suggest that these terms should be paid attention to. Finally, the middle of the word cloud contains words like support, psychology, economy, and change, which also should be analyzed. However, based only on the interview text's high-frequency words is still unable to fully summarize the multidimensional division of the mental health of individually-owned businesses. Therefore, based on the coding findings, NVivo11 Plus was used to identify the connections between significant concepts.

Table 2. The core nodes, the subclass nodes, and the reference number for each subclass node.

Core node	Subclass node	Node reference number
Personal feelings	Helplessness	90
	Complaint	50
	Fear	20
	Anxiety	19
Social support	Physical support	49
	Emotional support	35
	Informational support	17
Self-regulation	Self-consolation	63
	Self-preference	28
	Expectations of the future	27
	Explorations of solutions	13

Table 3. The description of reference points of each subclass node for core node 1.

Core node	Subclass node	Description of reference points
Personal feelings	Helplessness	No manner is possible. The pandemic is a natural disaster.
		The current pandemic situation is evolving rapidly, and the business of the stores is not good.
		As a result, doing business this year has been challenging and not very profitable.
		The reason for poor business isn't poor cuisine, it's a lack of clients, and there aren't enough people on the streets.
	Complaint	There is no avoiding it because of the state of the economy.
		If you ask the government for the money, will they give it to you? Not at all.
		Rent reductions or exemptions would at least indicate that the government is humane, which it is not.
		Economic policies are pointless, and subsidies have no bearing on us, the average person.
Fear	I was in shock, panic, and fear of death, because of the fear of the virus spreading.	
	Due to the neighborhood, I was in and the pandemic's restrictions on freedom, I felt a little depressed.	
	Because it was unclear at that moment what the virus looked like, which was quite flustered.	
	When business is slow, I suffer from insomnia. Sometimes, that time at night, I'm unable to fall asleep.	
Anxiety	I become uneasy, sit in front of the store smoking, worry a lot, and even have these terrifying ideas when there aren't any customers there for a day.	
	Many gray hairs emerged in the early part of this year and were unable to be plucked out.	
	It's a lot of stress. I'm losing my hair now, and I have trouble falling asleep.	

Second, individually-owned businesses are confronted with a challenging operational conundrum. One of the most evident operational challenges encountered is the decline in client flow. According to S9, “Bad business is not the problem of bad food, it is because there are few customers, even the streets are too few people”. Individually-owned businesses must also deal with many types of economic strain at the same time, such as pressure from rising shop rent and storage costs. S10 (a clothes store owner) stated that it would be challenging to ensure the source of clothes once a large-scale pandemic broke out in the city of purchase. She is frustrated for a variety of reasons, one of which is “Difficulty in purchasing goods”.

Third, the pandemic caused the domestic economic environment to drift downward. The spread of COVID-19 in China increased the downward pressure on the Chinese economy since the first half of 2022. The market malaise has resulted in a number of industries due to unpredictable epidemiological conditions. The “Difficult opening”, according to S24, is due to “The atmosphere is such, there is no way”.

3.1.2. Subclass Node 2: Complaints

The nodes of complaints are second only to the nodes of helplessness, notably complaints about the government’s economic policies and complaints about the government’s pandemic prevention strategies. S7, S8, and S16 had strong negative feelings about the government’s economic policies, stating, “Will you talk to the government and he will give you money? It won’t” “If the government reduces or exempts the rent, at least it shows that the government is humanized, but it is not” “Economic policies are useless, subsidies have nothing to do with us, ordinary people”. The majority of the interviewees stated that the government only decreased the rent of government-owned storehouses, whereas private storehouses did not benefit from the rent reduction and relief policy. This implies that the national economic policy’s beneficiary is limited. Of course, some individually-owned businesses comprehend and support the government’s economic policies. For instance, S3 thinks that the country cannot provide for all independent contractors due to the overall economic crisis and that certain more challenging groups of independent contractors need the state’s relief help as a result.

3.1.3. Subclass Nodes 3 and 4: Fear & Anxiety

Fear is a prevalent symptom for the majority of individuals because fear isn’t only a reaction to the virus; it’s also a sign of worrying about their livelihood. Anxiety is caused by their powerless to control the situation. S7 remarked “It took approximately a week to get over (the hardest phase)” “Every day that the business is open, there is a cost” “When there are no consumers in the store for a day, I will get anxious and sit in front of the store smoking, thinking a lot, and even having panic thoughts”. Simultaneously, anxiety manifests itself in bodily symptoms, such as insomnia, hair loss, acne breakouts, and so on. Many individually-owned businesses (S5, S6, S23) stated “I sometimes can’t sleep at that

time of night” “Many gray hairs appeared in the early half of this year and could not be plucked out” “It’s quite stressful, and now my hair is falling out, and I can’t sleep”.

3.2. Core Node 2: Social Support

Seeking social support is a crucial strategy for individually-owned businesses to deal with challenges. According to the transcribed text, the reference number for subclass nodes “Physical support” is 49; “Emotional support” is 35; and “Information support” is 17 (See **Table 2**). The representative description of each subclass node is shown in **Table 4**.

3.2.1. Physical Support

Physical support primarily refers to the government’s refunding, decreasing, exempting, and deferring of taxes, fees, and rent, in order to provide physical support and aid to individually-owned businesses that have been severely impacted by the pandemic. S6 acknowledged that the one-month rent subsidy was very helpful to them because the rent was too exorbitant to operate the business. The government’s relief measures have already helped several privately held enterprises, which have seen a considerable reduction in their economic burden. For instance, S26’s B&B is supported by government policies, these policies for the number of B&B rooms to determine the number of economic subsidies, each room is subsidized for 800 yuan, the subsidy policy to a large extent relieves the financial pressure of individual entrepreneurs, encourages the confidence of individual entrepreneurs to start their own business.

Table 4. The description of reference points of each subclass node for core node 2.

Core node	Subclass node	Description of reference points
Social support	Physical support	This is an additional cost for the retailers. I’m hoping this can be free.
		Reduce our housing loans if the national policy can help a little.
		I’m hoping that the government would cut mortgage and vehicle loans and delay the delivery.
	Emotional support	It is hoped that the rent would be cut, which will explain why the house price has risen so much.
		When I’m feeling down, I’ll call my niece and daughter to cheer myself up.
		Her words will provide me with some motivation. After all, a person cannot help you if they are alone.
Informational support	Others, I don’t believe can motivate me. They don’t have any decent ideas. They sometimes make you want to give up. Sometimes parents and wives are not that helpful.	
	In general, I will discuss it with my spouse, or talk with my brother and younger brother. They will assist me.	

3.2.2. Emotional Support

The most kind of help for individually-owned businesses to deal with challenges is emotional support, which is mostly demonstrated by the support provided by family and close friends. Many individually-owned businesses reported that confiding in their parents, spouses, children, and friends and talking about the status of their business helps them feel better emotionally. S3 consults her spouse or her siblings before approaching her brothers and sisters about business issues. Additionally, she enjoys speaking on the phone with her niece and daughter. The majority of people process toward stability and feel more secure when they share their problems with others. Simultaneously, several individually-owned businesses (S1, S22, S23, S26) gain emotional support from colleagues and even strangers. For example, as volunteers fighting the pandemic, S1 and S26 might feel the sense of success that comes from strangers banding together to overcome adversity.

3.2.3. Informational Support

For individually-owned businesses dealing with suffering, informational help is a vital type of social support. According to the current findings, individually-owned businesses' informational assistance is mostly represented by affirmation, feedback, social comparison, suggestion, counsel, guidance, and other support techniques (Cutrona & Russell, 1990). It was shown that most individually-owned businesses will opt to exchange industry information with familiar acquaintances or peers. Specifically, they will seek informative assistance from their intimate partners first. In addition, the shared information resources focused on an industrial network of friends are an essential source of informative assistance for individually-owned businesses.

3.3. Core Node 3: Self-Regulation

When faced with natural catastrophes, humans use self-regulation in order to reduce pressure since they cannot change the existing environment (Ramaiya et al., 2022). According to the transcript analysis, it can be found that in the COVID-19 pandemic, individually-owned businesses often use four self-regulated strategies, including self-comfort, self-preference, looking forward to the future, and exploring solutions, to reduce pressure. The reference number for the four subclass nodes Self-consolation, Self-preference, Expectations of the future, and Explorations of solutions are 63, 28, 27, and 13, respectively (see Table 2). The representative description of each subclass node is shown in Table 5.

3.3.1. Subclass Node 1: Self-Consolation

First, one of the primary forms of self-consolation is to obtain comfort through comparison. S23 stated, "Later, I believed that the outbreak and the construction of additional businesses were unavoidable factors" "We are not the only ones, so we thought about it later". Instead of focusing just on what had occurred to themselves, they shifted their attention to what was happening to others. Se-

condly, they focus on the present moment and reject setting up too many plans for the future. S12 remarked, “If you have money today, think about today, and if the pandemic does not cease tomorrow, think about tomorrow, and don’t think about long-term things” “You will feel a lot of mental pressure if you focus too much on the long term”.

Table 5. The description of reference points of each subclass node for core node 3.

Core node	Subclass node	Description of reference points
	Self-consolation	Later on, I came to believe that both the pandemic and the opening of other stores were inevitable factors. We are not the only ones, so we thought about it later.
		Sell more if the business is excellent. If business is slow, sell fewer items. Then I felt relieved.
		If you have money to make today, you will focus on tomorrow and not on long-term issues if the pandemic is not contained. You will experience additional mental pressure if you consider long-term issues.
Self-regulation	Self-preference	How would you like to resolve it? That is a phrase alone. Allow nature to run its course, and the boat will arrive at the bridge straight. Just that.
		Even if the business is first slow, tedious, and uninteresting, there is a surge the next day since it is a pastime and you can accomplish twice as much with half the effort.
	Expectations of the future	We are unable to go out because of the pandemic. After that, I enjoyed doing stuff at home. I enjoyed grabbing clay and pinching it hard for my favorite items. If it looks decent, I will feel accomplished. If I experience pressure and depression, that will be better.
		We decided on a goal on our own. Today we made 5000 yuan, and tomorrow we made 5500 yuan, which is a new high. We’ll be glad about it and pay attention to it.
Explorations of solutions	The firm is now flourishing and improving. I’ll turn the studio into a hub of culture. I can begin teaching once the studio is larger.	
	The good news is that the pandemic in X City will soon be over, everything will be OK, and this city will recover far faster than other places.	
		My primary market is college students who have been banned because there is no way to sell food to the general public due to the virus.

3.3.2. The Other Three Subclass Nodes

Individually-owned can alleviate their stress by focusing on hobbies in their leisure time. Singing, painting, clay kneading, and other arts are popular hobbies. Fitness, walking, fishing, and other leisure activities also are usually used by them. The individually-owned business may also unwind by playing mobile games, watching TV dramas, watching videos, accompanying children, cleaning, and playing mahjong. S2 says, “Although business isn’t great at first... It’s frustrating and then it’s boring, but the following day it’s like a boost because it’s a hobby and you can get twice as much done with half the effort”.

Some of the individually-owned businesses anticipate the future and are favorable to a positive response to negative moods. Some of them have a crystal-clear corporate aim for the business. S22 turnover has a distinct stage aim, “We set a goal by ourselves” “We made 5000 yuan today, and 5500 yuan tomorrow, which is a new high” “We are glad to pay attention to it” “I also have a clear strategy for the future structure of the business”, S2 imagined, “I’ll turn the studio into a hub of culture” “I can begin teaching once the studio is larger”. Also, some of them had a positive outlook on the circumstances surrounding the prevention and management of pandemics; they thought that the pandemic would finally end and its effects on the economy would only be temporary. “Thankfully, the pandemic in X City will soon end, everything will be OK, and our city will recover much quicker than other locations”, remarked S2.

Individually-owned businesses seek solutions to problems by actively executing actions to remove practical obstacles. First, they use a self-reflection strategy. In addition to the impact of the pandemic, the deep reasons for the business issues are also the reason for the shop’s business not being as excellent as predicted. For example, S23 concluded that while the pandemic influence is significant, there are also gaps in the management of business challenges, which he ascribed to the problem of the decorating pattern, geographical location, and insufficient market research. Second, they increase the customers’ preference for consuming. Numerous favored measures, such as top-up systems, discount systems, clearance sale systems, and others, keep emerging and were used (S10, S22, S23). Thirdly, they look for a new delivery model to reduce costs. S1 said that because of the platform fees charged by those platforms, like Meituan and Ele.me, were too high for them to bear, merchants changed to the home-delivered model. Fourth, they use short video platforms for advertising. S19 stores work with a short video platform to attract customers by encouraging bloggers to test favored goods and improving customer flow through the “Internet celebrity” advertising approach.

4. Discussion

This study represents the first attempt to investigate the psychological impact of the COVID-19 pandemic on individually-owned businesses in China. The research employed a qualitative approach and analyzed interview transcripts from

a sample of 26 proprietors of such businesses. Specifically, the primary aim of this investigation is to determine the core psychological outcomes experienced by these businesses as a result of the pandemic. The results reveal that the predominant emotional states expressed by these businesses consist of feelings of helplessness, complaint, fear, and anxiety.

The individually-owned businesses have experienced multiple serious negative emotional experiences as a result of the COVID-19 pandemic. In line with this finding, the previous studies showed that individuals have reported fear of contracting COVID-19 (Tishkov, Butovskaya, & Stepanov, 2022), anxiety related to the unpredictable nature of the pandemic (Alipour et al., 2020), despair due to the inability to resume their business (Radfar, Ferreira, Sosa, & Filip, 2021), and mental health issues such as worry, anxiety, and depression as a result of prolonged home isolation (Sweeny et al., 2020). Mainly there are two possible reasons for such negative psychological experiences. First, the pandemic has significantly hindered China's economic growth. According to the National Bureau of Statistics of China (NBS), the sudden outbreak of the pandemic in early 2020 brought the country's economy to a halt, and despite a brief recovery in the first quarter of 2021, the overall economic situation remained sluggish. During the pandemic, economic confidence was undermined (He, Chang, Qing, & Lin, 2021), stores were closed temporarily (Li, Zhong, Zhang, & Hua, 2021), and consumer spending was lowered (Chen, Qian, & Wen, 2021), and the number of people in offline outlets was reduced (Baarsma & Groenewegen, 2021). Secondly, China has implemented a range of liberal monetary and expansionary fiscal policies to regulate and manage the pandemic since its outbreak (He et al., 2021). However, there are still gaps. An analysis found that there was minimal rental assistance available, despite the majority of the shops owned by individuals being rented, indicating that the national assistance policy only benefited a small number of beneficiaries. Additionally, some individually-owned businesses in China are dissatisfied with the government's pandemic-prevention strategies.

The second question of our study investigates how individually-owned businesses can effectively employ coping resources to alleviate the negative effects of their challenges. The study's results indicate that two coping strategies—social support and self-regulation—are effective for individually-owned businesses to manage their challenges. The findings indicate that social support has a positive impact on relieving the distress experienced by individually-owned businesses, which is consistent with the findings of Rui and Guo (2022) that social support has a positive impact on relieving the pressures of the general public during the COVID-19 pandemic. Effective social support has been shown to facilitate adaptation to pressure (Ozbay et al., 2007) and improve sleep quality (Xiao, Zhang, Kong, Li, & Yang, 2020). Specifically, individuals who reported high levels of social support exhibited a 52% lower probability of poor sleep quality when compared to those who reported low levels of social support (Grey et al., 2020). Meanwhile, social support was negatively associated with depression (Wang, Mann, Lloyd-Evans, Ma, & Johnson, 2018), with higher levels of social support

linked to a 63% lower probability of depressive symptoms (Grey et al., 2020). Furthermore, social support has been identified as a crucial coping resource for managing stress during disasters and is linked to mental health (Peirce et al., 2000). Therefore, it is considered a protective factor against mental health problems (Harandi, Taghinasab, & Nayeri, 2017). Individually-owned businesses can benefit from social support to alleviate anxiety and loneliness, as friends, partners, and family can provide informational and emotional support.

Self-regulation is also an important strategy for individually-owned businesses dealing with challenges. The findings of a non-pandemic study suggest that self-regulation plays a critical role in an individual's physical health, emotional and social development (Baumeister & Alquist, 2009), particularly when living conditions are beyond their control, and adaptation to new environments is necessary (Morosanova & Bondarenko, 2016). A recent study of 1634 Russian nationals found that individuals with higher levels of self-regulation were better able to adjust to unexpected conditions (Zinchenko, Morosanova, Kondratyuk, & Fomina, 2020), which is also consistent with these findings. During the ongoing pandemic, many individually-owned businesses were able to surmount several life and business hurdles through self-regulation.

As this study is the first research on the mental health of individually-owned businesses, it is essential to address certain limitations. First, the researchers utilized a snowball sampling technique, which resulted in a small sample size. Consequently, the findings may not be widely generalizable. Second, the standards of reference for anxiety, helplessness, fear, and stress levels among individuals may not always be the same, as the data was obtained from in-depth interviews with individually-owned businesses. Given that individual differences in expressing specific situations may exist, the credibility of the results may be weakened to some extent. Third, the study examines individually-owned businesses as a homogenous group, but individual differences may exist and may lead to new discoveries.

5. Conclusion

This study addresses a significant gap in the literature on the mental health of diverse occupational groups. The results reveal the effectiveness of social support and self-regulation strategies in managing psychological challenges, which is of great policy significance for the government to formulate measures to protect individually-owned businesses from future public health crises. Moreover, this research, as the pioneering empirical investigation of its kind on the mental health of individually-owned businesses in China during the COVID-19 pandemic, may furnish valuable information for practitioners, such as physicians and social workers, as well as for other researchers. In prospective studies, it is imperative to substantially increase the sample size and conduct in-depth analyses of pertinent individual variations, such as age differences, levels of anxiety perception, and related factors.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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