

Lockdown, Edification, and Mental Health: COVID-19 Effects on International Students in China

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Abstract

In China, COVID-19 has created severe educational and psychological consequences among international students by the strict lockdown. In the current study, we aim to examine the connotation of the COVID-19 lockdown on the educational performance and psychological health of overseas students. For this purpose, data were collected from 921 foreign students across different universities in Wuhan. The data analysis was conducted using SPSS 26, and the multiple regression analysis was run to test the hypothesis. The results reveal that the Wuhan lockdown significantly affects the mental well-being and academic performance of international students. Institutional strategies and support mechanisms provided by the Chinese government and universities effectively mitigated the lockdown's negative impact on the psychological well-being and academic outcomes of students. These results imply how foreign scholars' academic activities and well-being relieved by providing assistance in the form of management, which has noteworthy implications for educational institutions worldwide. Educational institutions and policymakers can use these findings, with far-reaching implications for higher educational institutions globally.

Keywords: International Students, Educational Outcomes, Psychological Health, Coronavirus-19, Institutional Management Strategies

Introduction

Each year, millions of international students (IS) travel abroad to enhance their skills or to get a higher academic degree. International scholars are motivated to advance cross-cultural interaction mechanisms that support research, theories, and innovations. However, emotional and mental well-being are prerequisites for

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conducting research. Positive social relationships and the adoption of a healthy lifestyle are associated with the positive mental health and well-being of foreign learners and the prevention of self-harm and suicide (Fergusson & Woodward, 2002; Nadeem Parpio et al., 2025). Research productivity is adversely affected in an environment where individuals are surrounded by illness or exposed to viral conditions. For instance, the novel coronavirus spread quickly over the entire country and then globally. Over time, the pandemic outbreak evolved into an extreme public health crisis. It modelled the significant health and psychological challenges, particularly for young students who often take risks in their social environment, such as eating street food, dating and hanging out with friends (Wu et al., 2020). Prior studies have shown that universities are highly vulnerable to the rapid spread of contagious illnesses, including influenza, mumps, and conjunctivitis, leading to closure of living and learning environments on campus (Sobal & Loveland, 1982). Therefore, the health and well-being of international students in Chinese universities have developed as a critical concern for both government authorities and university administrations.

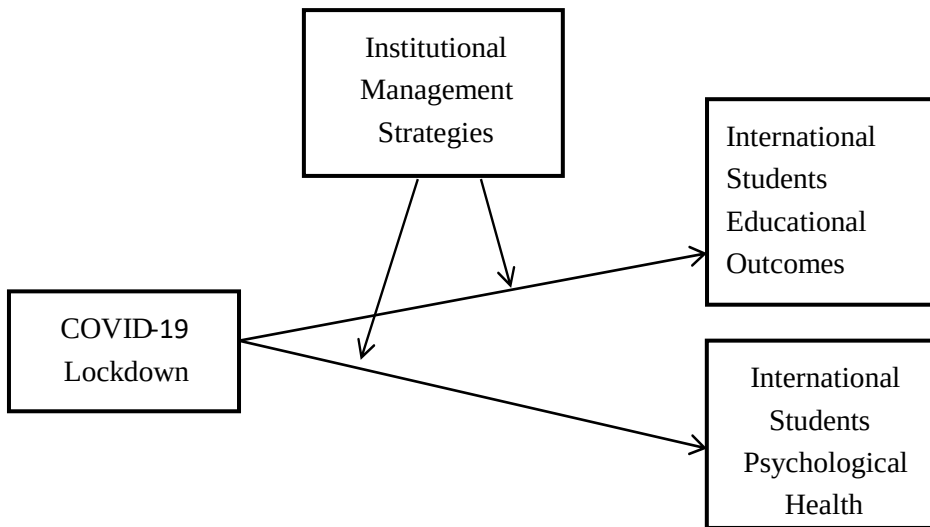
In response to the heightened risk of viral transmission, strict travel restrictions were imposed in Wuhan, suspending both public and private transportation, and limited daily activities. A full-scale lockdown was subsequently implemented across Chinese cities, including the closure of educational institutions, which confined students to their dormitories. While the global pandemic situation has largely normalized, China continues to maintain only partial relaxation of COVID-19 measures. Even though the outbreak occurred four years ago, relatively little research has been done on the lockdown and its impacts on international students' academic performance and psychological wellbeing. This significant absence in the present literature, this study tries to fill. Therefore, the primary goal of our research is to empirically investigate the COVID-19 lockdown (COVID-19 LD) as an important variable impacting IS PHY wellbeing. To figure out academic problems these IS are having during this period is our second goal. The third goal is to investigate the role of institutional management strategies and facilitation efforts provided to the overseas students during the lockdown period. It is an essential factor for enhancing students' psychological resilience, ensuring organizational continuity, and supporting effective learning outcomes. To achieve the study objective, data were collected from IS at 21 different universities in Wuhan. Is educational outcomes and psychological health were measured through a structured questionnaire. Moreover, their perception regarding universities and government support was also measured through institutional management strategies.

Conceptual Framework

In Figure 1, the conceptual model of the proposed study is presented. The framework presents the negative outcomes in both academic and psychological aspects during the COVID-19 LD in China. Specifically, the research model proposed that the main factor impacting IS learning outcomes and their psychological health is

the COVID-19 LD. Along with that in the mentioned framework it was also proposed that institutional management strategies moderate the impact of COVID-19 LD and IS academic outcomes. Moreover, the impact of COVID-19 LD on IS psychological health also has a moderating effect of institutional management strategies. This research model also proposed that with adequate institutional support, including mental health training and effective communication, institutes can possibly minimize the impact of negative emotional events.

Figure 1. *Conceptual Model*



Past studies have shown that during outbreak of MERS and SARS viruses, a high rate of patients with psychological problems was reported (Liu, et al., 2003). A similar pattern has evidently been found during the Covid-19 period, where IS were reported with deep stress, anxiety or nervous breakdown problem. It may also occur due to improper mental health training. Therefore, in the current research, we considered institutional management strategies as a moderating variable. As we proposed, these strategies not only mitigate the adverse effects of the COVID-19 LD, but also help to edify IS educational and mental well-being. Past studies also highlight the importance of effective administration of student mental well-being and better academic progress (Harding, et al., 2019; Xiang, et al., 2020).

Theoretical underpinning of the study

The theoretical basis of this research is grounded on the complementary theory: The Three Stage Crisis Management Theory (TSCM). TSCM explains the structural relationship between the COVID-19 LD, IS psychological health and their educational outcomes.

Based on the Three-Stage Crisis Management Theory (Coombs, 2007), this study conceptualizes the COVID-19 pandemic as a multidimensional crisis. The multidimensional approach was required to develop the strategic response in this regard. In the pre-crisis stage, initially, universities should conduct an effective risk assessment. With this practice, they can possibly identify the preventive measures. In the post-crisis stage, these educational institutes need to take prompt and corrective measures to cater to the situation. In the last or post-crisis stage, they should focus on revamping academic operations and highlighting the mental distress among students. The approach highlights that while the pandemic itself was an uncontrollable event, the way institutions responded to it, through timely, empathetic, and well-coordinated actions, played a decisive role in determining whether IS experienced constructive adaptation or detrimental consequences.

Overview of the COVID-19 Outbreak in Wuhan

Covid-19 cases were initially discovered at a seafood market in Wuhan, the central city of China, in December 2019 (Wei, 2020). The infection damaged the living styles of the people, covid-19 symptoms included fever, sore throat and persistent cough, spread quickly in China and then worldwide. It led the World Health Organization to declare it a public health emergency of international concern (Organization, 2020). COVID-19 was substantially more transmissible and caused global disruption than past coronavirus epidemics. While SARS was linked to civet cats and MERS to dromedary camels, the origin of SARS-CoV-2 remains under investigation, although zoonotic transmission is widely considered the most plausible source (Backer et al., 2020). Considering the severity of the situation, the government of China took stronger steps, such as social lockdowns, contact tracing, and quarantine protocols. These sudden but unavoidable interventions aimed to reduce viral transmission while reforming public health infrastructure (Liu et. al., 2021). **Wuhan**

Lockdown

In China, a disruptive lockdown was necessary to contain the pandemic. A lockdown is considered to be a public health measure to limit movement into and out of a specific area. IS in China consist of a highly diverse group with different backgrounds, languages, beliefs, social networks, and even dietary habits. The disruptive approach created diverse understandings about the outbreak because it coincided with Chinese New Year's holiday and semester holidays. Despite the threat of transmission of viruses, specifically a cross-border interaction, the Chinese government has implemented pandemic prevention initiatives such as isolation, selective closures, and isolation from society (McCloskey & Heymann, 2020; Wilder-Smith & Freedman, 2020). Wuhan went into full lockdown on January 23, 2020, in fulfillment of a larger four-step national strategy. The process entails (1) imposing isolation and quarantining as mutual obligations, (2) planning extensive testing initiatives, (3) conducting meticulous surveillance of contacts, and (4) assuring prompt intervention of verified infections (Peneluppi Jr & Bulla, 2022).

China's Foreign Minister Wang Yi, stated that substantial steps will be needed to slow down the nation-wide spread as well as prevention globally. Therefore, Chinese universities enforced strict rules on IS such as travelling, and social interaction. Lack of isolation or travelling restrictions could lead to a full lock-down for IS as well as increases the physiological stress among students (Tian, 2020). Extended lock-down destructively impacts on mental health and academic performance of IS as they are separated from their homes and culture (Brooks et al., 2020; Hasan, Bao, & Chiong, 2022).

Psychological Impacts of Lockdown on International Students

Considering the mental and emotional instability of IS, it is imperative to focus on numerous components affecting their psychological stability throughout an epidemic, such as the mental health of the local population, public health, the accessibility of societal facilities, and the intervention by medical specialists. The outbreak caused a unique circumstance, with substantial adverse impacts on people's mental health. The shutdown spanned approximately 100 to 105 days in Wuhan. Both international and domestic students were more likely to experience mental distress through this global crisis (Xiang et al., 2020). According to Halder, (2020) IS demonstrate similar issues in universities globally. Concern regarding academic success, distinct culture, struggling to travel to their homes, and loneliness enhanced psychological issues for IS in quarantine (Choi et al., 2021; Liu. L et al., 2022). Moreover, the emergence of physiological signs can cause anxiety and worry for transmission. Inadequate communication among native and IS exacerbated perceptions of loneliness while impeding the transmission of up-to-date knowledge (Halic, Greenberg, & Paulus, 2009). IS neglected to recognize the dangers of transmission and overlooked the virus's seriousness in 2012 influenza epidemics. They ignored isolation and hand sanitation, even though the symptoms of flu, due to time constraints for graduation. Most institutions successfully reduced the adverse effects by adopting psychological interventions, sustained ongoing interactions, and encouraged secure social interactions (Hasan et al., 2022). The United

States Centers for Disease Control and Prevention (Simon, 2022) estimated that 19% of adults had "long COVID-19," receiving persistent symptoms like exhaustion, depression, cardiovascular abnormalities, anxiety, and respiratory issues. Similarly, the Office for National Statistics (ONS) in the United Kingdom, stated that two million people were suffering from "long COVID," of that population, 1.5 million revealed that their disease symptoms significantly hindered their routine work (Murray, 2022). These threats to health emphasize the significance of constructing institutional services for IS psychological well-being. From this discussion, the following hypothesis emerges:

H1: *There is a significant impact of the COVID-19 lockdown on IS poor psychological health.*

Educational impacts on international students during the Wuhan lockdown

IS attitudes and ideas are greatly influenced by their institutional support system. Through the COVID-19 epidemic, abrupt lock-down, and halt of classes, it was difficult for students, teachers, parents and officials to manage educational operations adequately. These instabilities disrupted educational timelines, added an economic load and decreased interest in studying and research, however early closures of classes can be useful preventive approach for reducing the transmission of infectious diseases (Onyema et al., 2020). Educational institutions implemented new rules and regulations for IS, such as lectures, final exams and graduation protocols were moved online. Extensive dorm rules reduce language and cultural learning, caused substantial social and psychological impacts, and prevented in-person instruction from providing teaching learning benefits (Gaitanidis, 2020; Zhang et al., 2022). Similarly, it decreased the usage of campus facilities and halted travelling, which in turn led to intensified stress and mental exhaustion for IS (Wang, 2020). The sudden shift to remote instruction in China created additional barriers for IS. Past studies on online teaching during COVID-19 reported that, while digital instruction-maintained continuity, it did not fully substitute the pedagogical learning and practical course components, all of which can translate into learning losses and delayed progression (Wang, 2020).

Many IS lack in adequate exposure to the tools necessary for efficient online learning, which makes it challenging for them to optimize their academic potential. Their academic workload often required activities including assignments, group work, and discussion and producing research work (Onyema et al., 2020). In addition to that, the majority of IS rely on food provided by the university cafeteria or canteen, which was also closed during the pandemic.

H2: *There is a significant impact of the COVID-19 lockdown on the educational outcomes of ISIS.*

Institutional Management Strategies as Moderators of the Wuhan Lockdown

The novel COVID-19 enforced severe constraints on travel, socializing, and university related events, which adversely impacted IS. The IS were away from their families and peers, they attempted to retain local interaction despite being oblivious of the increased dangers connected with dormitory-related diseases that may increase the likelihood of epidemics (Wilson & Huttlinger, 2010). Therefore, these issues have raised the risks of anxiety, isolation, depression, and various other physiological problems; thus, specific management approaches, which include constructive interaction, availability of psychological treatment, and access to basic necessities, are crucial for managing both educational and mental well-being (Xiang et al., 2020). For instance, institutions' actions regarding closure, universities that provided systematic psychological wellbeing care and open interactions revealed substantially decreased student anxiety levels (Hamza et al., 2021).

In order to enhance medical facilities for IS, specialized units were built in Wuhan in just a few days. IS had to stay within their residences and moved to quarantine centers for disease screening if required. A typical period of incubation was fourteen consecutive days, whom not suffering illnesses were thought to be healthy (McCloskey & Heymann, 2020; Wilder-Smith & Freedman, 2020). Studies show that an unexpected turn toward distance learning under China's national "Suspending Classes Without Stopping Learning" strategy led to many issues, such as decreased interactions, restricted entry to functional classes, and challenges with coping to modern technologies (Awadasseid et al., 2020; Harding et al., 2019). Universities used adaptive managing approaches, like faculty training for online teaching, facilitating educational resources, and customized evaluation guidelines to maintain healthy academic environment (Ali et al., 2023; Dhawan, 2020). Educational institutions created dedicated volunteers with rescue plans and mobility control for prompt counselling and support to raise awareness and encourage safety precautions. Similarly, trustworthy COVID-19 knowledge was dispersed via news channels, WeChat and platforms endorsed by the competent authority (Wen & Tian, 2022). Although prior studies mainly addressed distance education in a global outbreak, this research emphasizes IS educational and psychological outcomes throughout the time of lockdown, as well as exploring how significantly the organizational support impacted outcomes. Youngsters tend to become less vulnerable to infectious diseases, elderly individuals, patients with chronic diseases, and those with weakened immune systems face heightened vulnerability (Yang et al., 2019). So, managerial methods could serve like a buffer of protection, mitigating the link among closure circumstances and IS educational and psychological settings. In conjunction with the evidence presented above, we proposed two hypotheses below:

H3: *Institutional management strategies significantly decrease the negative psychological effect of the COVID-19 lockdown on international students.*

H4: *Institutional management strategies significantly decrease the negative psychological effect of the COVID-19 lockdown on international students.*

Methodology

Materials and Methods:

Research Design and Eligible participants

The research design is the program to give the directions to the researchers for collecting, analyzing and interpreting the data predicted from the analyses. To analyze responses from fifteen IS group participants a self-administered questionnaire was sent to twenty-one universities in Wuhan China. The structured questionnaire was categorized into two sections, in descriptive style our aim to know some facts about IS in the current scenario, it may be included the educational background, ages, marital status, and ethnicity of the IS. Secondly, our cross-sectional survey, examine the empirical relationship among COVID-19 LD, IS psychological & educational outcomes and institutional management strategies. In this research study, eighteen (18) years and older IS were contacted to fill the surveys. The research-based on the

IS in the territory of the Wuhan city of China during the lockdown time period. Additionally, the social media sites such as Instagram, WeChat and-LinkedIn help us to contact IS throughout the breakdown. Initially, 1500 IS were contacted to fill our questionnaire but 921 IS completed the survey, resulting in a 61.4 percent response rate from IS.

Measurement Instruments

The study employed validated instruments, adapted where necessary to measure the key constructs. The impact of the COVID-19 LD on IS was assessed using an eight-item scale modified and used by (Harding et al., 2019; Wilder-Smith & Freedman, 2020), adapted to the Wuhan context, assessing the behaviours and attitudes of international students during the pandemic. Psychological outcome was assessed by the K10 measuring scale created by (Andrews & Slade, 2001; Halder, 2020). The K10 scale is a commonly used tool for identifying general psychological issues. The educational outputs were assessed via a modified Effects Scale (ES) established in earlier research (Ali et al., 2019; Sava, 2002; Technology, 2022), which included the following factors: focused learning, effective completion the research task, and prompt degree completion.

Finally, institutional management strategies implemented during the lockdown were assessed using an adapted questionnaire based on (Gasmi et al., 2020; Peneluppi Jr & Bulla). To measure the students' perception, a five-point Likert scale was used (1 = Always to 5 = Never, 1 = Strongly Agree to 5 = Strongly Disagree, or 1 = Not at All to 5 = A Lot), where score interpretation was aligned with the directionality of each variable (e.g., lower scores on the lockdown and psychological health scales reflected higher impact and greater distress, respectively, while higher scores on the management strategies scale indicated greater perceived effectiveness).

Results:

Descriptive Statistics

Below are the descriptive statistics of respondents. The demographic profile of IS reported in Table 1.

Table 1: The Demographic Profile of International IS

Category	Number of Participants	Percentage
Student's Gender		
Male	500	54.29%
Female	421	45.71%
Education		
Undergraduate	213	22.80%
Masters	414	43.97%
PhD	275	30.51%
Others	19	2.71%

Age in Years

18-25	370	45.71%
26-35	320	33.66%
36-45	180	19.33%
45 and above	12	1.30%
Ethnicity		
Asians	575	62.43%
Africans	250	27.14%
Europeans	56	6.08%
North Americans	21	2.28%
South Americans	19	2.06%

Construct Validity

In order to assess the measurement model, the Confirmatory Factor Analysis (CFA) was executed to check model validity and reliability. The internal reliability has been evaluated by Cronbach's alpha (α) and standardized factor loading (SFL). In order to evaluate both discriminant and convergent validity, we analyzed composite reliability (CR) and average variance extracted (AVE). Furthermore, we determine the average shared variance (ASV) and maximum shared variance (MSV) entries. Our Cronbach's alpha values range from 0.77 to 0.91, which is above the minimum threshold (0.07) value, signifying excellent internal reliability. Similarly, AVE & CR values exceeded 0.50 and 0.70 threshold respectively, indicating that the convergent validity is also significant (Anderson & Gerbing, 1988).

To investigate discriminant validity of the data, the square root of the average variance extracted for constructs was determined for comparison (diagonal elements in Table 3) with the inter-construct correlations (off-diagonal elements). Average variance extracted square root exceeded the corresponding correlations, showing signs of acceptable discriminant validity (Fornell & Larcker, 1981). Inclusively, our results show that the measurement model fulfilled the necessary standards of convergent validity, reliability, and discriminant validity for all four constructs. The conceptual model for this study comprises four variables. The model fit indices further supported the adequacy of the measurement model: $\chi^2 = 112.52$, $df = 43$, $\chi^2/df = 2.62$ (< 3), GFI = 0.986 (> 0.90), IFI = 0.978, CFI = 0.976, TLI = 0.982, and RMSEA = 0.041 (< 0.06). These indices collectively indicated that the model demonstrated a good fit to the data. Data were analyzed by using the statistical software (SPSS, version 27). We ran multiple regression analysis to identify the relationship between the hypothesized variables, at 0.05 significant levels.

Table 2: Confirmatory Factor Analysis

Item code	Factor loading	Mean/Standard deviation	Variables name
LD-1	0.89	3.47/1.30	COVID-19 Lockdown

LD-2	0.77	3.38/1.23	Cronbach's alpha 0.89
LD-3	0.94	4.01/1.25	
LD-4	0.92	3.99/1.12	
LD-5	0.93	3.50/1.39	
LD-6	0.84	3.89/1.21	
LD-7	0.6	3.10/1.09	
IMS-1	0.94	3.33/1.19	Institutional Management Strategies Cronbach's alpha 0.77
IMS-2	0.92	3.51/1.37	
IMS-3	0.81	3.29/1.20	
IMS-4	0.88	3.34/1.21	
IMS-5	0.73	3.32/1.15	
IMS-6	0.82	3.32/1.15	
IMS-7	0.87	3.40/1.10	
IMS-8	0.86	3.51/1.26	
IMS-9	0.79	3.33/1.20	
SPH-1	0.97	3.43/1.27	International Students' Psychological Health Cronbach's alpha 0.83
SPH-2	0.54	2.54/1.01	
SPH-3	0.93	3.34/1.21	
SPH-4	0.72	3.32/1.15	
SPH-5	0.87	3.44/1.19	
SPH-6	0.77	3.56/1.28	
SPH-7	0.79	3.34/1.24	
SPH-8	0.94	3.41/1.37	
SPH-9	0.78	3.76/1.11	
SPH-10	0.72	3.23/1.32	
SEO-1	0.78	3.48/1.16	International Student's Educational Outcomes Cronbach's alpha 0.91
SEO-2	0.77	3.30/1.24	
SEO-3	0.73	3.46/1.27	
SEO-4	0.7	3.30/1.21	
SEO-5	0.73	3.42/1.32	

Note: LD = COVID-19 Lockdown; IMS = Institutional Management Strategies; SPH = International Students' Psychological Health; SEO = International Students' educational outcome.

Table 3: Discriminant Validity

<u>Variables Name</u>	CR	AVE	ASV	MSV	LD	IMS	SPH	SEO
LD	0.82	0.57	0.22	0.20	0.79			
IMS	0.77	0.53	0.05	0.08	0.62	0.75		
SPH	0.88	0.65	0.13	0.22	0.58	0.54	0.77	
SEO	0.87	0.62	0.15	0.22	0.64	0.60	0.55	0.81

Table 4(a): Hypothesis Testing of Structural Paths

Structural Relationships	β-Value	t-Value	
H1: (LD→SPH)	0.28*	2.73	Supported
H2: (LD→SEO)	0.46*	4.64	Supported

Note: LD COVID-19 Lockdown IMS Institutional Management Strategies; SPH International Students Psychological Health; SEO International Students Educational outcome.

Hypothesis Testing:

In this study, the analysis first examined the direct impacts of the lockdown on psychological health, demonstrating a significant positive association ($\beta = 0.28$, $p < 0.001$). Indicating that stricter lockdown measures were linked to poorer psychological health. Similarly. The lockdown had a substantial adverse impact on educational outcomes ($\beta = 0.46$, $p < 0.001$) these findings imply that the COVID-19 LD substantially impaired both mental health and learning

Performance among international students. The main model demonstrated an acceptable fit to the data ($\chi^2 = 32.15$, $df = 13$, $\chi^2/df = 2.47$, GFI = 0.98, IFI = 0.99, CFI = 0.99, TLI = 0.99, RMSEA = 0.039), providing robust evidence supporting the first two research hypotheses (Table 3). The moderation analysis revealed that institutional management strategies significantly altered the strength of the relationship between the COVID-19 LD and IS' educational and psychological outcomes. For students in the low-strategy group, the relationship of the COVID-19 LD on students' psychological health was stronger ($\beta = 0.41$, $p < 0.001$), indicating higher vulnerability in the absence of adequate institutional support. In contrast, for the high-strategy group, the effect was notably weaker ($\beta = 0.19$, $p < 0.01$), suggesting that well-designed management strategies mitigated adverse psychological consequences. Similarly, educational outcomes were more negatively impacted under low management strategies ($\beta = 0.54$, $p < 0.001$) compared to high management strategies

($\beta = 0.29$, $p < 0.01$). Following the Gelman and Park (2009) recommended procedure, a tercile split was applied to classify participants into low-strategy ($n = 311$, $M = 2.20$) and high-strategy ($n = 483$, $M = 5.74$) groups, excluding cases that were near the median ($n = 127$). In order to examine the moderation effect, the combined dataset was categorized into different covariance matrices specifically for low (IMS=0) and high (IMS=1) institutional management strategies. After this step, moderated structural equation modeling (MSEM) was conducted, and it was confirmed that the differences in path coefficients between low- and high-strategy groups were statistically significant ($\Delta\chi^2 = 18.37$, $df = 4$, $p < 0.01$), thereby supporting the hypothesized moderating role of management strategies. The bootstrapping results (Table 4) demonstrated significant indirect effects of management strategies on both educational outcomes and psychological health. While the direct effects were non-significant, management strategies fully moderated the relationship between the COVID-19 LD and these outcomes. Specifically, the indirect effect on psychological health was stronger under high management support ($\beta = .18$, $SE = .041$, $p = .007$) compared to those for educational outcomes ($\beta = .054$, $SE = .020$). Overall, higher management support strengthened, whereas lower support weakened, the association between the lockdown and student well-being and learning. These results provide empirical support for H3 and H4. Collectively, these findings indicate that institutional interventions such as provision of protective equipment, food supplies, financial support, and counseling services effectively buffered the adverse impact of the COVID-19 LD, both on IS' educational outcomes and their psychological health. The mentioned path coefficients were significant. Moreover, the indicators of model fitness also suggested a good model fit.

Table 4 (b): MSEM Analysis Parameter Estimates their Significance

Parameter Model (A)	Moderation Effect		Estimate	Result
	Low (n=311)	High (n=483)		
Standardized Direct Effects				
(LD→IMS)	0.19	0.28	0.48*	H3 Supported
(IMS→SPH)	0.21	0.46	0.25*	
(LD→SEO)	-0.03	0.15		
Standardized Indirect Effects				
(LD→IMS→SEO)	0.08	0.17	0.12*	
Parameter Model (B)	Moderation Effect		Estimate	Result
	Low (n=311)	High (n=483)		
Standardized Direct Effects				

(LD→IMS)	0.48	0.67	0.57*	H4 Supported
(IMS→SPH)	0.20	0.52	0.37*	
(LD→SPH)	-0.24	0.06	-0.09*	
Standardized				
Indirect Effects				
(LD→IMS→SPH)	0.12	0.32	0.21*	

Note: LD =COVID-19 Lockdown; IMS =Institutional Management Strategies; SPH =Students Psychological Health; SEO=I Students Educational outcome.

Discussion and Conclusion:

This study found that the IS' mental health and academic achievements in Wuhan deteriorated significantly during the lockdown period. To keep them aware and involved, institutions disseminated COVID-19 updates by using brochures, web pages, and online announcements, highlighting preventive behaviors and the underlying psychological factors. Prior studies found that youngsters were more susceptible to physiological stress and infections rather than adults (Lesso et al., 2016). The results of our study revealed that the majority of the respondents were concerned with psychological obstacles, while thirty-three percent were concerned about educational issues. In general, psychological difficulties, such as increased stress, worry, depressive symptoms, and concerns about personal safety, became more common than educational problems. The finding is consistent with previous research indicating that IS are significantly vulnerable to infectious diseases in their host countries, for instance, a Pakistani scholar was reported to be impacted by polio in Melbourne, Australia (Carnie et al., 2009). Regarding the importance of educational outcomes, the analysis revealed that numerous IS were unable to concentrate on studies, thesis writing and research activities leading to anxiety and delaying the graduation period. The abrupt spread hampered routine educational and social occasions, physical classes, traveling and delayed entrance for new students. To reduce the consequences, Chinese universities connected IS with mentors, transmitted the assurance via WeChat, and offered online classes (Yun Zhang & Zhu, 2022; Zhu & Gu, 2024). Though these approaches maintained limited consistency, however lacked the essential role of teaching in person causing diminished motivation, lower studying, and lower grades. Our results are consistent with the recent study that online learning contributed to academic burnout and disrupted educational experiences among IS during pandemics (Hussain et al., 2022; Onyema et al., 2020). Together, the above results reveal the simultaneous impact of poorer psychological health and worsened educational outcomes of IS throughout the Wuhan lockdown, emphasizing the importance of strong support from institutions in times of emergency.

Our research results emphasize the vital role of institutional management techniques in reducing the detrimental impact of the coronavirus on IS. While institutional managerial policies and procedures did not impact directly, their moderating effect was apparent. IS who received extensive support from institutions, including basic necessities, counseling services, protective equipment and learning

facilitation, protecting IS from psychological and educational problems. Likewise, AET states that situational events and organizational responses impact people's emotional and behavioral consequences. The subsequent impact was especially strong for psychological health, indicating that mental and emotional stability were more vulnerable to institutional support than academic success. The findings comply with earlier research indicating the task of buffering of institutional support throughout the crisis time in China (Xiang et al., 2020; Wen & Tian, 2022) consequently, educational institutions should emphasize inclusive methods for crisis management for protecting IS mental health, which subsequently sustains their educational outcomes. The COVID-19 LD signified the severely stressful situation, even when institutions provided proactive support, students reported less psychological issues and less disruptions to their academic progress. This demonstrates that institutional management functioned as protective mechanisms and an affective moderator that influence emotional resilience and educational continuousness in IS (Kidger et al., 2012).

Conclusion

The COVID-19 LD in Wuhan, China, exerted unexpected pressure on IS psychological health, compelling institutes to follow protections such as hand hygiene, social separation and face masks for protection. Though these actions were critical in slowing down the spread of diseases, they also produced major issues for IS, who experienced school suspension and psychological distress. The current study found that complete shutdown has a negative impact on educational and psychological outcomes of IS in Wuhan. Many IS struggled to concentrate in learning, graduation deadlines and experienced worry and anxiety. On the other hand, the importance of institutional management approaches deployed by Chinese institutions and policymakers proved decisive. The availability of health sources, managerial guidance, lodging and dining services, economic support, and services for psychological counselling leads to alleviate the detrimental impacts of the lockdown. The proactive and collaborative strategies not only addressed IS current educational and physiological concerns, but also enhanced their institutional resilience, fostered productive educational circumstances, and developed coping abilities during the crisis in Wuhan. The investigation emphasizes the significance of effective crisis management and institutional support networks in universities, especially among IS. In the long run, educational institutions globally may use these findings to establish complete planning structure, to ensure higher education remains robust and inclusive.

Implications

These research findings have substantial implications for international office, policymakers, higher education stakeholders, such as IS social, cultural and economic constraints should be addressed properly by developing mental healthcare services centers, provision of basic resources and students support systems during crises time. Secondly, our research reveals that the institutional management approach mediates educational and psychological issues, so it should be adaptable and systematic.

Finally, the findings emphasize the importance of e-learning through training and subsidized internet. The synergy across international institutions and government sectors is critical for aligning psychological health initiatives with academic continuity globally.

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