



COVID-19 and Well-Being of Non-local Students: Implications for International Higher Education Governance

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Abstract

Non-local students have been one of the worst affected groups during the COVID-19 pandemic. Many of them live in foreign countries/regions with limited social and economic support. This study examines the effects of the COVID-19 pandemic and its control measures on the well-being of non-local students globally. It also examines the effectiveness of university support for the well-being of non-local students. Data were derived from a global survey on *non-local students' knowledge, experiences, and well-being amidst the COVID-19 Pandemic*, which was conducted in April 2020 ($n = 583$). A significant proportion (42.6%) of the students had low well-being. We found that being worried about COVID-19 ($B = -0.206, p = 0.048$), perceived disruption of academic activities ($B = -0.155, p = 0.024$), perceived disruption of social activities ($B = -0.153, p = 0.044$), and feeling lonely ($B = -0.340, p = 0.000$) were negatively associated with the students' well-being. However, informational support from universities was positively associated with their well-being ($B = 0.225, p = 0.004$). These findings are discussed in the context of higher education governance and practical changes necessary to promote non-local students' well-being during and after the pandemic.

Keywords International students · Non-local students · COVID-19 · Well-being · University governance · New geopolitics

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Introduction

The COVID-19 pandemic and its control measures, such as international and internal travel restrictions and social and physical distancing measures, have substantially affected the international higher education sector (Nguyen and Balakrishnan, 2020). As the pandemic persists, concerns have been raised about students' physical mobility and its consequences for higher education internationalisation (Mok et al., 2021a, b). Other studies have also examined the impact of COVID-19 and its measures on the financial sustainability of higher education institutions in places where government support for universities is limited (Ahlburg, 2020). While these issues are critical to the sustainability of international higher education, an important consequence of the pandemic has been its effect on the well-being of one of its primary stakeholders: international students (hereafter, non-local students). This study focuses on subjective well-being - "people's evaluations of their lives, which can be judgments such as life satisfaction, evaluations based on feelings, including moods and emotions" (Diener and Chan, 2011, 2). The nature of these evaluations is affected by the circumstances in which people find themselves (Diener et al., 1985; Diener and Chan, 2011).

Learning in Unfamiliar Settings and Non-local Students' Well-Being During the COVID-19 Pandemic

Non-local students—those studying in countries/regions where they are neither citizens nor permanent residents—have emerged as one of the most vulnerable groups worldwide during the COVID-19 pandemic (Fakhar-e-Alam Kulyar et al., 2020; Dodd et al., 2021). The term "non-local students" is used in this study instead of "international students" (which primarily describes students studying in foreign countries) in order to concurrently capture the experiences and situations of students studying in places that are explicitly outside the borders of their home regions/countries in terms of social, cultural, economic, and most importantly, immigration arrangements and laws. A typical example is Hong Kong, where students from mainland China are classified as non-local students even though they are from the same country (Yu and Wright, 2017; University Grants Committee, 2021). Such a classification is not only a reflection of the origins of the students but also their experiences compared to local students. For instance, international (foreign) and other non-Hong Kong-based students (e.g. students from mainland China) face similar challenges in terms of adapting to the local academic, culture (including language) and social environments, as well as the effects of these challenges on their health and well-being (Yu et al., 2019; Bhowmik et al., 2018). Because of these challenges, students from mainland China in Hong Kong often feel as if they are in a "foreign country" (Yu and Zhang, 2016). Hence, "non-local students" is used as an umbrella term in this study to analyse the conditions of all students studying in foreign countries/regions.

Regardless of the term used to describe them, non-local students are often young and migrate to study without their families accompanying them. Pre-pandemic research shows that these students are often vulnerable to psychological distress due to low acculturation, lack of social support, loneliness, financial challenges, and academic challenges, all of which can have an impact on their well-being (Akhtar et al., 2015; Yu and Wright, 2017; Diener and Chan, 2011). The COVID-19 pandemic has in many ways aggravated these challenges, leaving non-local students in stressful situations relating to their immigration status, career, and academic prospects (Garbóczy et al., 2021; Gallagher et al., 2020; Dodd et al., 2021).

The stress process model offers insights into the relationship between the COVID-19 pandemic and the well-being of non-local students during the pandemic. The model offers three interlinked components to understand the well-being of people. It posits that human *outcomes* such as health and well-being are a function of the *stressors* in their lives and the resources (*i.e. moderators*) available to them to deal with such stressors (Cockerham, 2021; Pearlin, 1989). Stressors are conditions that can arouse the adaptive capacities of individuals in response to changes or conditions in their socio-physical environment (e.g.s. social status and quality of housing) (McLeod, 2012). Stressors to non-local students' well-being during the pandemic can originate from changes in academic activities and social lives due to the COVID-19 pandemic. Changes in the socio-physical environment brought along by the pandemic can disrupt personal plans, leading to doubts about one's self-worth and self-efficacy, which can be deleterious to one's health and well-being (McLeod, 2015; Diener and Chan, 2011). For instance, suspension of classes, closure of campuses, shift from in-person to online teaching, and the inability to engage in part-time employment have left non-local students in many places feeling alone, economically poor, and unhappy (Gallagher et al., 2020; Wilczewski et al., 2021). In some situations, non-local students, particularly those who remain in their study destinations, have reported mental health problems such as anxiety and depression due to the challenging situations they find themselves in (Lai et al., 2020; Dodd et al., 2021; Chakraborty, 2020).

Theoretical and empirical evidence shows that discrimination and loneliness among non-local students during the pandemic have partly been worsened by racism and misperception about COVID-19 preventive measures adopted in different places (Gallagher et al., 2020). Racism and discrimination against racial/ethnic minorities have intensified in many Western societies since the outbreak of the COVID-19 pandemic, particularly against people of Asian descent and others considered as "foreigners" and minority groups, including non-local students (Cho et al., 2021; Misra et al., 2020; Mok et al., 2021a, b). Perceived discrimination can occasionally lead the students to worry about their lives (e.g. insecurity about their physical safety, anxiety about their financial resources) and feeling isolated in their countries/regions of study (Gallagher et al., 2020).

However, the extent to which stressors affect one's well-being partly depends on the quantity and, perhaps more importantly, the quality of resources (*moderators*) available to them. According to the stress process model, factors such as social support, coping abilities, and sense of mastery can provide a platform for people to appreciate and better equip themselves to deal with perceived and existing stressors

(Pearlin, 1989). The stress process model also recognises the role of macro (e.g. policies) and meso (e.g. community norms and practices) level factors in determining the extent to which stress and related outcomes emerge (McLeod, 2012). In the case of non-local students, institutional support during the COVID-19 pandemic, such as universities providing information and instrumental support/services (e.g. free access to COVID-19 testing and face masks/shields, financial support, and accommodation), can help to alleviate the dire consequences of stressful situations (Durani, 2020; Feng et al., 2021). Some universities have initiated measures such as counselling, financial aid, and flexible learning schedules to support the well-being of non-local students (Dodd et al., 2021). Notwithstanding, there remains a shortfall in the support offered by universities to non-local students as researchers continue to advocate for better approaches to meet their needs (Firang, 2020). More evidence of the role of universities in promoting non-local students' well-being during the pandemic can spur innovative policies to support the students through re-invigorated governance systems. Moreover, there is little empirical evidence on the efficacy and consequences of existing university support services for non-local students' well-being during the pandemic.

This Study

This study aims to offer a global perspective on the correlates of the well-being of non-local students during the COVID-19 pandemic. The study is part of ongoing research exploring the consequences of the COVID-19 pandemic on students' well-being and the role of universities in dealing with such changes. Thus, the study aims to address these questions:

1. What are the effects of changes in academic and social activities during the COVID-19 pandemic on the well-being of non-local students?
2. To what extent does instrumental and informational support from universities affect the well-being of non-local students during the COVID-19 pandemic?
3. What are the policy implications of the characteristics and correlates of non-local students' well-being for international higher education governance?

These questions are necessary to investigate among non-local students because, according to the stress process model, the extent and how stressors influence health and well-being and the role of available moderators are sometimes predicated on the meaning that affected people ascribe to such stressors in the first place (McLeod, 2012). This is why "not all stressors matter" to the well-being of people (Cockersham, 2021, 175). The perception and meaning assigned to stressors are usually analysed in the context of prevailing conditions, including what is thought to be the origin of the distress, which helps to determine the intensity and impact of the stress (McLeod, 2012). For instance, evidence from mainland China shows that despite the challenges posed by the pandemic, trust in universities and their support (e.g. reliable information and monetary support) reduces mental health problems such as anxiety and depression among non-local students (Khan et al., 2021). Therefore, by

addressing the three questions raised above, this study can lend support to existing research by offering insightful perspectives on stressors that are potentially more important to the well-being of non-local students during the COVID-19 pandemic. Additionally, the research findings provide an important resource for universities aiming to support their non-local students more effectively. It is hypothesised that there will be a negative relationship between adverse perception of the pandemic's effects on the academic and social lives of non-local students and their well-being. However, informational and instrumental support from the universities will be positively associated with the well-being of non-local students.

Methodology

Study Design

The study is based on a survey of “international/non-local students’ knowledge, experiences, and well-being amidst the COVID-19 Pandemic” (Amoah and Mok, 2020). The survey involved cross-sectional data gathered among non-local students globally. It explored the well-being of non-local students and their knowledge of COVID-19 during the pandemic. It also included questions about the students’ sources of information about COVID-19, perceived risk of COVID-19, perceived loneliness, and overall health status. Additionally, the survey sought students’ views on the extent to which the pandemic has disrupted their academic and social lives. The survey was conducted by the School of Graduate Studies of Lingnan University in April/May 2020. Some descriptive results of this survey, which also indicate the contents of the questionnaire and initial reflections on the results, have been reported elsewhere (Amoah and Mok, 2020).

As the survey was conducted globally to collect responses from as many countries as possible, a combination of snowball and convenience sampling techniques (Bryman, 2012) was used to select participants for the study. However, a purposive sampling technique was added to the primary techniques to ensure that the right people answered the questionnaire. This criterion included; (1) a respondent must be a non-local tertiary student (i.e. as defined in this study) studying anywhere in the world, (2) the students could be in any place during the survey, and (3) any field of study was acceptable. The survey was conducted online using Qualtrics. Given the flexibility of online surveys, the global and regional partners of the School of Graduate Studies of Lingnan University were used as platforms to invite respondents. Mainly, these partners included university offices in charge of international/global education. The personal networks of the authors and other members of their affiliated units were also used to invite respondents. The survey received 583 valid responses. The respondents were located in 26 countries across six continents (see Table 1 and “Appendix” for details). As shown in Table 1, the respondents’ home regions (regions of origin) varied, including sub-Saharan Africa to North Africa, East Asia, South and East Asia, West Asia, and the Middle East, Oceania, Europe, North America, and South America. The Sub-committee on Research Ethics and

Table 1 Descriptive statistics of variables in the study

Variable	Frequency <i>n</i> = 583*	Percentage
Age		
Mean/SD	26.41/5.99	
Minimum–maximum ages	18–57	
Sex		
Male	267	45.8
Female	314	53.9
Marital status		
Married	109	18.7
Widowed	4	.7
Divorced	7	1.2
Separated	1	.2
Never married	458	78.6
Study mode/level		
Undergraduate	192	32.9
Taught postgraduate	203	34.8
Research postgraduate	188	32.2
Location during survey		
Home country/region	209	35.8
Country of study/region	357	61.2
A country other than my Home country or study country/region	17	2.9
Region of residence/study		
Europe	78	13.4
Sub-Saharan Africa	23	3.9
North America	22	3.8
South America	3	.5
Oceania	1	.2
East Asia	349	59.9
South(east) Asia	94	16.1
West Asia/Middle East	13	2.2
Region of origin		
Europe	106	18.2
Sub-Saharan Africa	97	16.6
North Africa	2	.3
North America	43	7.4
South America	16	2.7
Oceania	1	.2
East Asia	223	38.3
South(east) Asia	76	13.0
West Asia/Middle East	19	3.3
Field of study		
Social Sciences	156	26.8
Health sciences	43	7.4

Table 1 (continued)

Variable	Frequency <i>n</i> = 583*	Percentage
Engineering and technology	104	17.8
Arts	34	5.8
Humanities	42	7.2
Business	111	19.0
Physical sciences	14	2.4
Built environment	16	2.7
Source of funding		
Full scholarship	215	36.9
Partial scholarship	100	17.2
Self-financed	268	46.0
Worry about COVID-19		
Not worried at all	7	1.2
Not worried	35	6.0
Neutral	122	20.9
Worried	267	45.8
Very worried	151	25.9
Loneliness during COVID-19		
Strongly disagree	66	11.3
Disagree	120	20.6
Neither agree nor disagree	131	22.5
Agree	178	30.5
Strongly agree	85	14.6
Instrumental support from universities		
Strongly disagree	79	13.6
Disagree	101	17.3
Neither agree nor disagree	109	18.7
Agree	160	27.4
Strongly agree	68	11.7
Informational support from universities		
Strongly disagree	24	4.1
disagree	43	7.4
Neither agree nor disagree	50	8.6
Agree	236	40.5
Strongly agree	227	38.9
Perception of disruption of academic activities		
To an extremely small extent	5	.9
To a very small extent	18	3.1
To a small extent	38	6.5
To a moderate extent	102	17.5
To a large extent	113	19.4
To a very large extent	152	26.1
To an extremely large extent	155	26.6

Table 1 (continued)

Variable	Frequency <i>n</i> = 583*	Percentage
Perception of disruption of social activities		
To an extremely small extent	5	0.9
To a very small extent	11	1.9
To a small extent	29	5.0
To a moderate extent	75	12.9
To a large extent	138	23.7
To a very large extent	160	27.4
To an extremely large extent	165	28.3
Overall health status		
Poor	38	6.5
Fair	106	18.2
Good	212	36.4
Very good	139	23.8
Excellent	87	14.9
Well-being (life satisfaction)		
Extremely dissatisfied	32	5.5
Moderately dissatisfied	59	10.1
Slightly dissatisfied	75	12.9
Neither satisfied nor Dissatisfied	82	14.1
Slightly satisfied	118	20.2
Moderately satisfied	181	31.0
Extremely satisfied	36	6.2

*Some values may not add up to the total frequency due to missing responses

Safety of the Research Committee of Lingnan University approved the research protocol (EC076/1920).

Dependent Variable

Well-being was measured using a single-item question which asked respondents to rate: “how satisfied are you with your life now, all things considered?” The response options comprised a seven-point Likert scale, ranging from 1) extremely dissatisfied to 7) extremely satisfied. This scale was derived from the “satisfaction with life scale”, which has been extensively used to measure subjective well-being among different population groups globally (Diener et al., 1985). Questions in the original scale include: “In most ways, my life is close to my ideal”, “The conditions of my life are excellent”, and “So far, I have gotten the important things I want in life” (Diener et al., 1985, 72). The single item has been used in several other studies (van der Lippe, 2014).

Independent Variables

The survey explored several independent variables relating to the students' perceptions about the COVID-19 pandemic and its influence on their everyday lives. The variables included worriedness about COVID-19, which was measured on a five-point Likert scale ranging from "not very worried" to "very worried", and feelings of loneliness during the pandemic, which was measured on a five-point Likert scale ranging from "strongly disagree" to "strongly agree".

The study also measured the instrumental and informational support from universities separately by asking the following questions: I have received adequate information/instrumental support (e.g. financial assistance, travel support, meals/groceries) about COVID-19 from my university. The response options were measured on a five-point Likert scale: strongly disagree" to "strongly agree". The respondents were also asked to assess the extent to which they felt that the COVID-19 pandemic had disrupted their: a) academic activities and b) social activities. This was rated on a seven-point Likert scale; "extremely small extent" to "extremely large extent".

Covariates

The control variables included sociodemographic characteristics such as age (measured in years); sex (male, female, or other); and marital status (married, widowed, divorced, separated, and never married). The study also assessed the respondents' overall self-perceived health status (physical, social, and mental health), which was measured on a five-point Likert scale; poor to excellent; and their location at the time of the survey (home country, country of study, neither the home country/region nor the study country/region), the region where they studied, the region where they come from, and country where they studied. Moreover, factors relating to their educational characteristics such as study level (undergraduate, taught postgraduate, and research postgraduate), the field of study, and source/mode of funding (full scholarship, partial scholarship, and self-financed) were included. Further details about all the variables can be found in Table 1 and "Appendix".

Data Analysis

The data analysis was conducted in two parts. The first part included descriptive statistics, which provided an overview of the characteristics of the variables assessed in the study. These results are shown in Table 1. The second part comprised an ordinal logistic regression analysis to identify factors associated with the well-being of non-local students during the pandemic. However, the independent and control variables included in the regression model were primarily selected based on prior Spearman's rank correlation analyses, apart from age, sex, and location of respondents at the time of the survey. Research shows that the three variables are fundamental to non-local students' well-being during the pandemic (Feng et al., 2021; Lai et al., 2020; Dodd et al., 2021). The use of Spearman rank correlation to select control variables

was because the responses to the dependent variable were not normally distributed (Shapiro–Wilk, $B = 0.905$, $p < .000$). SPSS version 26 was used to analyse the data. The significance of all associations explored in the study were evaluated at $p < .05$.

Results

According to Table 1, the respondents were mostly females (53.9%), aged 26 years on average. The respondents comprised an almost equal proportion of students at undergraduate (32.9%), taught postgraduate (34.8%), and research postgraduate (32.2%) levels. At the time of the survey, most (61.2%) of the students were in their country/regions of study. Nearly half of them (46.0%) were self-funded students.

Their well-being was significantly low, with around 42.6% of the students dissatisfied (28.5%) or indifferent (14.1%) about the state of their lives. Most (71.7%) of the students expressed worry about COVID-19. Many of them (31.9%) agreed that they were lonely during the pandemic. They generally opined that the pandemic had significantly disrupted their normal academic activities (89.6%) and social life (92.3%). As shown in Table 1, 39.1% and 79.4% of respondents stated that they had received adequate instrumental and informational support from their universities, respectively. According to Table 2, being worried about COVID-19, perceived disruption of social life, disruption of academic activities, feeling lonely, and instrumental and informational support from universities were all correlated with well-being. Additionally, the home region (region of origin) and country/region of study correlated with their well-being.

It was also found that being worried about the COVID-19 disease ($B = -0.206$, $p = 0.048$), perceived disruption of academic activities ($B = -0.155$, $p = 0.024$), perceived disruption of social life ($B = -0.153$, $p = 0.044$), and feelings of loneliness ($B = -0.340$, $p = 0.000$) were shown to be negatively associated with well-being. However, according to Table 3, informational support from universities was positively associated with students' well-being ($B = 0.225$, $p = 0.004$).

Discussion

The COVID-19 pandemic has intensified the need for innovative policies to cater to the well-being of non-local students while sustaining the international higher education sector. This study sought to contribute to the formulation of such innovative policies towards the well-being of the primary stakeholders of international higher education, by offering critical insights into the correlates and potential moderators of their well-being during the pandemic under the framework of the stress process model. The study observed a significantly high incidence of low well-being among the students. In the following subsections, we explain the key findings relating to the state of the students' well-being and their implications for international higher education governance.

Table 2 Spearman's rank correlation analysis of variables in the study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Well-being	1																
2. Age	0.068	1															
3. Sex	0.018	-.156**	1														
4. Marital status	-0.054	-.618**	.099*	1													
5. Location during survey	0.052	.140**	-.090*	-0.046	1												
6. Field of study	-0.029	-.145**	0.066	.119**	0.041	1**											
7. Worry about COVID-19	-.207**	.175**	0.051	-.154**	0.015	-0.030	1										
8. Disruption of social life	-.292**	0.079	0.005	-.134**	-0.061	0.005	.380**	1									
9. Disruption of academic activities	-.286**	-.096*	0.023	0.016	-.218**	0.005	.275**	.464**	1								
10. Study level/mode?	0.065	.562**	-.247**	-.303**	0.023	-.163**	.118**	0.034	-.100*	1							
11. Source of funding	-0.047	-.389**	.186**	.230**	-.167**	.115**	-.127**	-0.054	.138**	-.525**	1						
12. Loneliness	-.295**	-0.004	-.084*	0.003	.140**	-0.004	.140**	.290**	.136**	-0.037	-0.078	1					
13. Health status	.387**	0.000	-0.055	-0.012	-0.093*	0.024	-.172**	-.194**	-.093*	0.017	-0.005	-.271**	1				
14. Country/Region of study	.133**	-0.059	-0.014	0.066	.166**	0.024	-.120**	-.129**	-.146**	-2.26**	-0.002	0.009	0.056	1			

Table 2 (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
15. Country/ region of origin	-.123**	-.068	.027	.082*	-.224**	-.049	.098*	-.006	.131**	.128**	.171**	-.075	.016	-.274**	1		
16. Informa- tion support from universi- ties	.183**	.138**	0.007	-0.049	0.013	0.064	0.009	-.084*	-.135*	.136**	-.129**	-0.022	.153**	0.026	-0.038	1	
17. Instru- mental support from universi- ties	.096*	0.046	0.019	-0.030	-0.041	0.034	-0.023	-.108*	-.103*	0.058	-.109*	-0.028	0.040	0.063	.011	.257**	1

**Correlation is significant at the 0.01 level (two-tailed), *Correlation is significant at the 0.05 level (two-tailed)

Table 3 Correlates of the well-being of non-local students during the COVID-19 pandemic by ordinal logistic regression

	Estimate	Std. error	Sig.	95% confidence interval	
				Lower bound	Upper bound
Perceived COVID-19 disruption of social life	- 0.153	.076	0.044	- 0.301	- 0.004
Perceived COVID-19 disruption of academic activities	- 0.155	.068	0.024	- 0.289	- 0.020
Feeling lonely	- 0.340	.073	0.000	- 0.484	- 0.197
Being worried about COVID-19	- 0.206	0.099	0.048	- 0.400	- 0.012
Instrumental support from university	0.042	0.065	0.520	- 0.086	0.170
Informational support from university	0.225	0.078	0.004	0.073	0.377
Age	0.014	0.016	0.368	- 0.017	0.046
Sex					
Male	- 0.270	0.167	0.106	- 0.597	0.058
Female (ref)					
Location during survey					
Home country	- 1.011	0.506	0.046	- 2.004	- 0.019
Country of study	- 0.800	0.491	0.104	- 1.763	0.163
Other country (ref)					
Overall health status	0.603	0.081	0.000	0.443	0.762
Region of origin					
Europe	1.183	0.486	0.015	0.230	2.136
Sub-Saharan Africa	1.042	0.493	0.035	0.075	2.009
North Africa	- 18.184	0.000	-	- 18.184	- 18.184
North America	1.513	0.548	0.006	0.439	2.587
South America	1.243	0.688	0.071	- 0.106	2.592
Oceania	1.379	1.859	0.458	- 2.265	5.023
East Asia	0.631	0.462	0.173	- 0.276	1.537
South(east) Asia	0.350	0.495	0.480	- 0.620	1.320
West Asia/Middle East (ref)					
<i>Nagelkerke R-square</i>	<i>0.313</i>				

Bold figures = $p < 0.05$

Managing Worriedness among Non-local Students

The study found that being worried about COVID-19 was associated with a low level of well-being. Several reasons can explain this finding aside from those already explored in this study (i.e. academic and social conditions). First, this finding is consistent with existing research during the pandemic, which indicates that being in a “foreign” place can make non-local students anxious and feel a greater risk of contracting COVID-19 in their study destinations (Lai et al., 2020; Feng et al., 2021). These students usually have little knowledge about the local health services

and welfare arrangements in their study countries/regions. Second, for non-local students who remained in the study countries/regions, a major source of worry relates to the safety of the families they left behind. Other findings from the survey on which is based showed that around 82.5% of the students were worried about their families (Amoah and Mok, 2020). Third, worriedness can emerge from a rise in racism and racially motivated hate crimes during the COVID-19 pandemic. A survey conducted by the Pew Research Centre found that 58% of Asian Americans and 45% of Black Americans have experienced racially induced discrimination and prejudice (Ruiz et al., 2020). COVID-19-related discrimination and prejudices have also been recorded in Asian contexts, including Hong Kong, Taiwan, and mainland China, where non-locals such as Africans have faced rejection and refused service at restaurants and other places due to their countries/region of origin (Xu et al., 2021; Castillo and Amoah, 2020). Many non-local students have faced such challenges (Gallagher et al., 2020). Fourth, the worriedness can be associated with a lack of material resources such as money and accommodation, which has become a source of stress for many non-local students during the pandemic (Dodd et al., 2021; Durani, 2020; Gallagher et al., 2020).

The above reasons certainly serve as sources of worry that negatively affect their well-being. Apparently, this is partly why some non-local students reportedly preferred to return to their home countries during the pandemic. These worries have resulted in mental health problems, such as anxiety among some non-local students, which portrays a sense of ill-being, as observed in this and other studies (Feng et al., 2021; Lai et al., 2020). Therefore, universities must develop strategies to tackle the sources of stress that cause worriedness among non-local students.

Considering the complicated nature of the sources of worry among non-local students, a multi-sectoral approach involving universities, social service agencies, and local security architecture will be required to assure the students' safety and material needs. For students experiencing or at risk of mental distress, proposals for existential and narrative therapies have been made to provide them with safe spaces to discuss their worries and receive needed counselling support (Feng et al., 2021). Universities can adopt similar measures. However, this would require a significant restructuring of current support services for some institutions. The question then becomes how far universities are willing and able to offer the requisite support to vulnerable non-local students. In cognisance of the limited resources to meet student needs, precepts of the stress process model can be adopted. Based on the model, a critical analysis of the students' perception and the meaning they attach to various sources of worry can be a starting point for interventions to promote their well-being by allocating more resources to the most concerning and meaningful stressors (McLeod, 2012).

Adopting Innovative Approaches to Address the Social Isolation of Non-local Students

Consistent with some existing research and hypotheses (Holmes et al., 2020; Nguyen and Balakrishnan, 2020; Lai et al., 2020; Wilczewski et al., 2021), there

was a negative relationship of feeling lonely and perceived disruption of social life during the pandemic with the well-being of non-local students. Quarantine arrangements and other social distancing measures have meant that non-local students who already report inadequate sources of social support even under “normal” circumstances were likely to face even worse conditions during the pandemic (Wilczewski et al., 2021). Some of these students have been unable to return to their home regions due to travel restrictions and financial difficulties, resulting in social isolation, especially during the closure of campuses (Gallagher et al., 2020). Another source of loneliness and limited social engagement for non-local students during the pandemic could be attributed to the geopolitical dimensions of the pandemic, which affect students’ choice of study destinations and perceptions of social integration (Mok et al., 2021a, b). The rivalry in world politics in the quest of countries to demonstrate superiority during the pandemic has also harmed the international higher education sector, as non-local students feel less connected to their study destinations due to perceived discrimination or prejudices, often because of political tensions between countries (e.g. US and China) (Marginson, 2020; Mok et al., 2021a, b; Welch, 2020). Limited social contact due to disruptions in social activities can lead to poor mental health status and a state of unhappiness because of social or physical isolation (Feng et al., 2021). Previous research shows that non-local students who remained in their country/region of study were more likely to have poor social support, be more stressed, and suffer from psychiatric problems (Lai et al., 2020).

Because of these challenges, scholars have argued that educational institutions should innovatively offer more social support for non-local students, even if only through online platforms, to enable students to generate mutual support (Feng et al., 2021). However, while recognising the limitations of online measures for a whole-person education that some universities aim to provide (Xiong et al. 2021a), innovative approaches are required to create multi-modal opportunities for non-local students to interact without compromising COVID-19 health and safety measures. Such innovative approaches must take cognisance of local and international opportunities to design effective measures to support students who are not studying in their home countries/regions to get over the social disruptions caused by the pandemic in a bid to promote their well-being.

Implementing Diverse Teaching and Learning Modes to Enrich Students’ Well-Being

It was found in this study that the disruption of “normal” academic activities because of the pandemic was associated with a negative perception of well-being among non-local students. Achievement of academic goals is a primary objective of non-local students and students in general. Therefore, changes in teaching and learning modes, and even suspension of classes at some points, are likely to produce distressful conditions for non-local students. Conditions such as difficulties renewing their visas, sustaining themselves financially in the wake of extended study periods, and other unforeseen changes to academic activities due to the pandemic are sources of stress (Gallagher et al., 2020). This is consistent with students’ experiences in Australia, where poor learning experiences was associated with low well-being (Dodd

et al., 2021). According to the stress process model, stressors that threaten personal goals (e.g. academic achievements), a sense of purpose in life, and opportunities to achieve set goals tend to lead to poor outcomes—i.e. poor well-being, in this study (McLeod, 2015; Pearlin, 1989; Cockerham, 2021).

While universities have made alternative arrangements for teaching and learning during the pandemic (e.g. moving classes to interactive online platforms) (Mok et al. 2021a), the finding in this study raises a question about the effectiveness of such measures and their implementation process, particularly concerning students' well-being. Indeed, extant research shows that while alternative arrangements such as online teaching can be helpful, extensive reliance on it “may not fully achieve the intended learning outcomes, thereby subsequently limiting the full potential of knowledge co-construction between instructors and learners” (Mok et al. 2021a, 14). Thus, while the new learning modes adopted may be appropriate, it is possible that their implementation processes have been weak, leading to dissatisfaction among the students. In the context of the stress process model, while such new learning modes could be touted as moderators of the academic stressors, the students' perception and value of such moderators were predictably low, as evidenced by their ill-being in this study. Perhaps it is in anticipation of poor learning experiences, along with other challenges, that has caused potential non-local students to be sceptical about their plans to study abroad during the pandemic, as reported in other studies (Mok et al., 2021a, b). This situation places universities in a challenging position of creating better conditions for teaching and learning, given that the COVID-19 pandemic is likely to be around in the foreseeable future. This is a daunting task because universities are already struggling to provide adequate support for students in general (Mok et al., 2021a, b; Ahlburg, 2020). Thus, meeting the specific needs of non-local students, some of whom live in very remote places relative to their study countries/regions, is even more challenging. For the present, it may be advisable for “university leaders and instructors to search for multiple course delivery modes” (Mok et al. 2021a, 1). Multiple delivery modes can include hybrid teaching and learning, in which students can opt to attend classes or supervision meetings in-person or online. Such an approach may require more resources (e.g. to ensure a conducive environment for students who opt to study in-person), but it is more likely to meet students' expectations and, in the end, improve their well-being.

Offering Informational Support to Enhance Students' Well-Being

This study also showed that informational support from universities was positively associated with non-local students' well-being. This is a particularly significant finding because a rise in “infodemic”—too much information about diseases found on digital platforms and in physical environments, some of which can be false or misleading (WHO, 2021)—has accompanied the COVID-19 pandemic (Kor et al., 2021). Infodemic can be injurious to students' health and well-being, even among students of high socio-economic status, who may be expected to possess better knowledge about health issues that concern them (Amoah et al., 2021). Therefore, our evidence suggests that by providing non-local students with information about

the characteristics of COVID-19, its prevention, and public regulations to fight the pandemic, universities can help to alleviate their potential fears about pandemic and limit their exposure to COVID-19 by improving their efficacy in disease prevention (for e.g. Amoah et al., 2021; Dadaczynski et al., 2021). In the context of the stress process model, informational support from the university can be considered an effective moderating factor in how potential misinformation about COVID-19 (i.e. a stressor) affects non-local students' well-being. In view of this finding, an important question is how universities can ensure that the accurate information they provide can promptly reach more non-local students and, more importantly, that the information is applied appropriately to improve their understanding of the disease. Existing evidence suggests that non-local students usually rely on social media as their primary source of information about COVID-19 (Amoah and Mok, 2020). This means that universities must gradually move away from predominantly relying on traditional mediums of information dissemination, such as emails, to engage these students using platforms that are likely to attract their attention during the pandemic. Such an approach will ensure that students receive accurate information on the pandemic. Accurate information can mitigate the effects of actual and potential stressors.

Policy Implications and Conclusions

There is no doubt that non-local students contribute substantially to the sustainability of higher education systems globally. Their contribution to cultural development, knowledge production, and innovation cannot be overstated. Therefore, promoting their well-being, especially in times of crisis, should be paramount within the global higher education sector. This study has examined the factors associated with non-local students' well-being during the COVID-19 pandemic. It was found that a significant proportion of the students had low well-being. Factors such as loneliness, worriedness about COVID-19, and perceived disruption of academic and social activities during the pandemic showed a negative association with the well-being of non-local students. However, provision of adequate information on COVID-19 by universities was positively associated with the students' well-being. Based on these findings and discussions above, the following reflections and policy recommendations are made:

- a. The findings in this study can serve as a starting point for more context-specific studies that investigate the cross-sectoral and multi-level perspectives of the well-being of non-local students to inform effective policies in the short term and the post-pandemic era.
- b. More innovative avenues must be devised to disseminate accurate information on the COVID-19 pandemic and its control measures to non-local students, particularly those who are not fluent in the predominant local languages and features of the health system of their study destinations. This requires universities to liaise effectively with appropriate public bodies in their localities/communities

- to supply non-local students with relevant information through their preferred platforms, as this can improve their well-being.
- c. The findings imply that non-local students must be supported to improve their social connectedness during the pandemic. Universities can offer workshops and other forms of training to enable students to connect to the local socio-cultural environment and local groups that work with and support non-local residents (e.g. ethnic minorities). Such an approach will offer students an opportunity to form new social networks within and outside of university environments, which will enable them to remain socially engaged during difficult times. These workshops can be delivered online or in hybrid mode. The workshops can also be an avenue to create awareness on available support services and encourage non-local students to seek help for challenges that are interfering with their well-being, even to the point of affecting their mental well-being. This is critical because many non-local students are afraid of being stigmatised if they seek help for suspected mental health problems (Ebert et al., 2019).
 - d. If nothing at all, the pandemic has created an opportunity for universities to rethink their teaching and learning approaches. This process must continue in the foreseeable future to unearth the best methods and practices to meet non-local students' expectations, especially during difficult times. It is anticipated that flexibility in academic service delivery (without compromising quality) will be essential to maintaining the well-being of non-local students going forward. However, implementing flexible academic conditions to promote students' well-being will require collaboration with other stakeholders, including immigration, social welfare, and health service departments, to ensure that such students can calmly adapt to new learning modes without undue distress caused by non-academic factors.

In conclusion, the causes of the factors associated with non-local students' well-being during the pandemic are mostly beyond individual control. Hence, governments and higher education institutions should critically review their existing policies/practices to offer social and academic environments that are more conducive to learning for non-local students. Higher education institutions must be more sensitive to changing student expectations when designing policies /measures to support student mobility; making sure that support systems are in place to promote cultural, socio-economic, and political inclusivity to alleviate potential social isolation and ensure the physical and psychological safety and well-being of non-local students.

Limitations of the Study

While this study has provided global perspectives on the well-being of non-local students during the COVID-19 pandemic, it is important to consider some limitations of the study. First, the study relied mainly on convenient and snowball sampling. Second, the sample size was limited to 583 respondents, the majority of whom were recruited in East Asia. For these two reasons, the findings are not representative of the experiences of non-local students worldwide and can only be used as a potential

indication of their actual situation. A more systemic approach to gathering representative data can help corroborate our findings.

Notwithstanding, considering the consistency of our findings with other research, we are confident that our study contributes significantly to the debates on non-local students' well-being during the pandemic. Third, all the variables in the study relied on a subjective measure. Therefore, it is likely that some responses may not accurately reflect the actual view or experience of respondents due to reasons of social desirability. Added to this is the fact that the data used in this study was generated through a cross-sectional survey. Consequently, causal inferences cannot be made from the findings and conclusions of this study.

Appendix: Countries of Locations of Responses

No.	Country/region	No of responses
1.	Germany	43
2.	Hong Kong	288
3.	Italy	16
4.	Japan	39
5.	Mainland China	56
6.	Singapore	2
7.	Taiwan	63
8.	UK	1
9.	USA	14
10.	The Philippines	3
11.	Austria	1
12.	Czech Republic	1
13.	France	4
14.	Mexico	4
15.	Lithuania	1
16.	Indonesia	2
17.	Japan	1
18.	Kazakhstan	1
19.	Macau	1
20.	Malaysia	4
21.	Netherlands	1
22.	Portugal	1
23.	Republic of Korea	11
24.	South Africa	1
25.	Switzerland	1
26.	Turkey	1

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Declarations

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