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Stress experiences among older Chinese immigrants in Canada during the COVID-19 pandemic: A qualitative study

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Abstract

This study investigates the stress experiences and coping strategies among older Chinese immigrants in Canada during the COVID-19 pandemic. Data was collected through focus group interviews and analyzed using the Transactional Model of Stress and Coping (TMSC). The results showed that participants (N=25; 14 female, 11 male; age 65 and above) faced three main sources of stress during the pandemic: personal life disruption (e.g., hindered family reunions and financial pressure), emotional distress (e.g., fear, uncertainty, and distress), and structural obstacles (e.g., travel restrictions and anti-Chinese discrimination). In addition, participants reported generally three types of coping styles: cognitive coping (e.g., maintaining a positive mindset and redefining risks), behavioural coping (e.g., adhering to the pandemic prevention regulations and maintaining daily activities), and social coping (e.g., participating in online social activities and establishing mutual assistance networks). The results call for culturally sensitive policies and measures in future public health crises to address the specific stressors and coping resources of older immigrants.

Introduction

The COVID-19 pandemic has had a profound impact on the emotional experiences and psychological wellbeing of people across the globe¹. Past research suggested that mental health symptoms, such as depression, distress, anxiety, loneliness, and stress, increased drastically during the pandemic². Recent studies indicated that psychological burdens have persisted in the post-pandemic period^{3,4}. As social beings, humans tend to seek social support from social networks, such as family, friends, and broad community or other social organizations, but these social connections and resources became limited and strained during the pandemic due to the lockdown and social distancing measures⁵. As a result, the level of loneliness and social isolation increased during the pandemic particularly among older adults⁶⁻⁸. For example, life satisfaction declined following the pandemic, particularly among Asian immigrants in Canada⁹. The impacts are particularly concerning for older Chinese immigrants, given cultural, language and service access barriers they experience in Canada¹⁰.

The Transactional Model of Stress and Coping (TMSC)

The Transactional Model of Stress and Coping (TMSC)¹¹ is a nuanced framework that is used to address the complexity in divergent stress experiences of the pandemic. While other frameworks, such as Hobfoll's Conservation of Resources Theory¹²

and Pearlin's Stress Process Model¹³, emphasize resource loss or relatively fixed stress–outcome pathways, TMSC is more compatible with our focus on the dynamic and culturally embedded coping processes of older Chinese immigrants. This theory conceptualizes stress not as a direct consequence of external events but as a dynamic interplay between individuals and their environments¹⁴. The core of the framework is the imbalance between an individual's perception of internal or external threats and their perceived capacity to mobilize resources, which collectively defines stress¹⁴⁻¹⁶. Cognitive appraisals and their resultant coping strategies serve as mediators between stressors and stress-related outcomes¹⁷. The TMSC proposes two appraisal processes that unfold in two stages¹⁸. The primary appraisal involves evaluating whether an event, internal or external, threatens or enhances personal well-being, safety, or growth¹⁹. The subsequent secondary appraisal focuses on assessing available resources, including physical (e.g., health status), social (e.g., social support networks), psychological (e.g., emotional resilience), and material resources (e.g., financial stability), to manage or cope with stress. This process informs the selection of coping strategies, such as seeking pandemic-related information, maintaining social connections, or engaging in mental health services, to mitigate the impacts of stressors. These adaptive strategies reflect a “goodness of fit” principle, whereby individuals modulate emotional responses and adjust their engagement with stressors in accordance with contextual demands²⁰.

Furthermore, this model has a capacity to explain dynamic shifts in coping strategies, such as alternation between problem- and emotion-focused approaches, during prolonged stress exposure. However, this remains underexplored, highlighting a critical gap in literature.

Primary Appraisal: Pandemic Stress Perception

The COVID-19 pandemic posed multifaceted threats to older adults worldwide. Prior research has indicated that this demographic was at a higher health risk, being more vulnerable to severe illness and mortality²¹⁻²³. Furthermore, lockdown measures substantially curtailed older adults' interactions with family, friends, and the community, resulting in heightened social isolation and loneliness, and elevated mental health issues, such as psychological distress, anxiety, and depression²⁴. Lockdown policies obstructed older adults from receiving formal and informal support during the epidemic²⁵. Additionally, the disruption of healthcare services and the transition to telemedicine presented extra challenges for many older adults, particularly for those with chronic health conditions that require regular medical care²⁶.

Immigrants faced tremendous challenges during the pandemic, such as barriers in language and healthcare

service access, mental health issues, and discrimination²⁷⁻³⁰. Studies have shown that many immigrants had difficulty accessing health care in a timely manner during the pandemic due to lack of health insurance, concerns about identity, or distrust of the public health system³¹. In addition, the economic pressures, social isolation, and uncertainty associated with the pandemic increased mental health problems among immigrants³². Language barriers also restricted their ability to obtain accurate information about the epidemic or understand the guidelines³³. At the same time, some immigrant groups also experienced racial discrimination, which further enhanced their marginalization during the pandemic^{8,34}.

Older Chinese immigrants in Canada encountered lots of challenges during the pandemic. Their mental health and life satisfaction continued to decline over the course of the pandemic, primarily due to loneliness and lack of social support^{35,36}. With a collectivist cultural background, older Chinese immigrants often depend on social networks within ethnic communities for social support³⁷. Thus, the lockdowns during the pandemic increased their sense of isolation and loneliness. More importantly, the anti-Asian discrimination and xenophobia associated with the pandemic created considerable psychological stress²¹. Reports of racism and hate crimes against Canadian Asian communities surged during the pandemic, resulting in many older Chinese immigrants to develop a sense of fear of going to public places and reluctance to seek external support³⁵.

Secondary Appraisal: Coping Strategies during the Pandemic

Older adults used diverse, context-sensitive, and risk-tailored coping strategies during the pandemic. Some commonly reported coping strategies included modifying routines, outdoor exercising, following public health guidelines, adjusting attitudes, and maintaining social connections^{38,39}. Specific to Chinese immigrants, multi-layered and diverse coping strategies were employed across individuals, households, and community levels, including wearing masks despite public resistance, creating home decontamination zones, stockpiling essentials to minimize outings, and shifting exercise routines indoors^{40,41}. Collectivism, filial piety, and past experiences with SARS all possibly contributed to the proactive adoption of these protective behaviours⁴².

Older Chinese immigrants showed a higher adaptability during the pandemic, as they generally employed more coping strategies than younger adults³⁶. Specifically, behaviour and social coping mechanisms played a vital role in maintaining well-being³⁵⁻³⁷. Due to their collective cultural values and language barriers, older Chinese immigrants relied on informal social networks for groceries, information, and emotional support³⁷, with

perceived support from friends being especially important for their psychological well-being³⁵. In addition, older Chinese immigrants coped with anti-Asian discrimination and pandemic-related stress through disengagement or avoidance strategies due to personal and societal/environmental factors⁴³.

Taken together, past research showed that the pandemic had significant psychological impacts on older Chinese immigrants who faced multifaceted challenges^{35,37}. However, previous studies have largely relied on quantitative surveys to assess psychological distress and identify associated risk factors, such as discrimination, financial insecurity, and access to healthcare services among Chinese immigrants and older Chinese immigrants during the COVID-19 pandemic^{10,37,44-46}.

Aim of the Study

In this context and informed by the TMSC framework, the current qualitative study sheds light on the lived experiences of older Chinese immigrants related to stress/challenge appraisal and coping strategies during the pandemic. The study adopts a structured focus-group interview method to address two research questions: 1) How do older Chinese immigrants in Canada perceive and appraise stress related to the COVID-19 pandemic? 2) How do they cope with the pandemic-related stress?

Methods

The study was approved by the Toronto Metropolitan University's ethics board [REB 2022-393] and followed the Consolidated Criteria For Reporting Qualitative Research (COREQ) guideline and checklist for qualitative study⁴⁷.

Participants

Participants were recruited from the sample of a previous online study that examined the predictive effects of external resources (e.g., perceived social support) and internal strengths (e.g., resilience and coping) on the psychological wellbeing of older Chinese immigrants in Canada³⁵. At the end of that study, participants were invited to register for follow-up interviews through a built-in registration form. Eligible participants met the following inclusion criteria: self-identified as Chinese immigrants (e.g., Canadian citizens, permanent residents, tourists or visitors); aged 65 years and above; have lived or plan to live in Canada for at least 6 months; and can read and write Chinese fluently. We then contacted the registered and eligible participants, explained the purpose of the focus group interview, and collected their informed consent and confirmed a group meeting schedule. Each participant received a Walmart or Amazon digital gift card of 25 CAD as an incentive after the interview. All interviews were conducted in Mandarin virtually via Zoom with a small group of 5-6 participants. Each session took approximately

Table 1: Participant Characteristics (N=25)

		Percentage
Gender	Female	56%
	Male	44%
Age	65-74	56%
	75 and above	44%
Marital status	Married	80%
	Single (including widowed)	20%
Education	Secondary and below	20%
	Post-secondary or higher	80%
Length in Canada	0-5 years	2%
	6-15 years	56%
	15 years and above	36%

1 hour. The interviews were recorded and transcribed afterwards. Participation was entirely voluntary. For confidentiality purposes, each participant was randomly assigned a unique participant ID. A total of five groups were run, with a total of 25 participants, from April to July 2023.

Most participants reported being married (80%) and with high-level education (80% reported the completion of post-secondary education or higher). The length of stay in Canada varied greatly, ranging from less than 5 years to over 15 years. Table 1 displays their demographic characteristics.

Data Collection

The interview guide included 11 questions. The first six questions examined the stress appraisal/perception related to the pandemic impacts on personal life [e.g., How does the pandemic impact your personal life (or future life)?], emotional experiences (e.g., What are your general emotional responses to the pandemic? What do you worry most about the pandemic?), and discrimination (e.g., Have you personally experienced anti-Chinese discrimination during the pandemic? How does this impact you?). The remaining five questions intended to capture coping strategies and resources [e.g., How did you (help others to) cope with the negative emotions during the pandemic? How effective were they? Have you used any community or other mental health support/services? How do you feel about them?]. At the end of the interview, participants completed a short survey built in Qualtrics about their age, gender, marital status and retirement/employment status.

Data Analyses

All the interviews were independently transcribed verbatim by two research assistants (RAs) and imported to NVivo 12 for coding. Thematic analysis was applied to the data⁴⁶. Specifically, we followed the 6-stage thematic analysis approach proposed by Braun and Clarke⁴⁸. In the first stage, the leading RA and the supervisor reviewed all transcripts and generated some initial memos. In the second stage, a preliminary code book was created in light

of the two research questions, based on the initial memos generated in the first stage. The codebook was informed by the TMSC theoretical framework and contained two sections: the threats and challenges posed by the pandemic (i.e., stress appraisal) and coping strategies. The parent codes include “problems: personal challenges; structure barriers”, “emotional experiences”, “behavioural coping”, “cognitive coping”, “social coping”, “gaps in resources and access barriers”, and “available resources”. In the third stage, three team members independently coded all transcripts using the same codebook. Weekly project meetings were held to ensure coding consistency. At these meetings, each member reviewed their own coding, and the team engaged in a discussion of coding discrepancies. Each transcript of text was cross-checked to confirm that the same codes had been applied consistently across coders. Discrepancies were discussed and resolved through consensus. In the fourth stage, the team refined the codebook by merging overlapping codes and removing infrequent or redundant codes. The fifth stage involved clearly defining and labeling each theme and subtheme to ensure conceptual clarity. Finally, in the sixth stage, we synthesized the results and drew general conclusions by identifying key patterns related to how older Chinese immigrants appraised stress and utilized coping strategies during the COVID-19 pandemic.

Following the CASP checklist⁴⁹, the data collection and analysis were conducted by research team members who did not know any of the participants personally prior to the interview. However, they were from the same ethnocultural backgrounds and spoke the same language (Mandarin) as the participants. The similarity in ethnocultural position allows us to better grasp the nuances of participants’ responses in the analysis.

Results

Guided by the TMSC model, the results are presented as primary and secondary appraisals (Figure 1).

Primary Appraisal: Challenges and Threats

Primary appraisals of pandemic-related stressors refer to the perception of threats/challenges posed by the pandemic from both internal and external sources. The interview responses revealed some commonly reported challenges, including personal challenges (e.g., family life disruption, financial condition), emotional experiences (e.g., fear, worry, uncertainty, and resilience), and structural barriers (e.g., travel restrictions, and racial discrimination).

Personal Challenges

The pandemic and associated public health measures greatly disrupted the personal and family life of older Chinese immigrants in Canada. Coming from a family-oriented collectivistic cultural background, participants

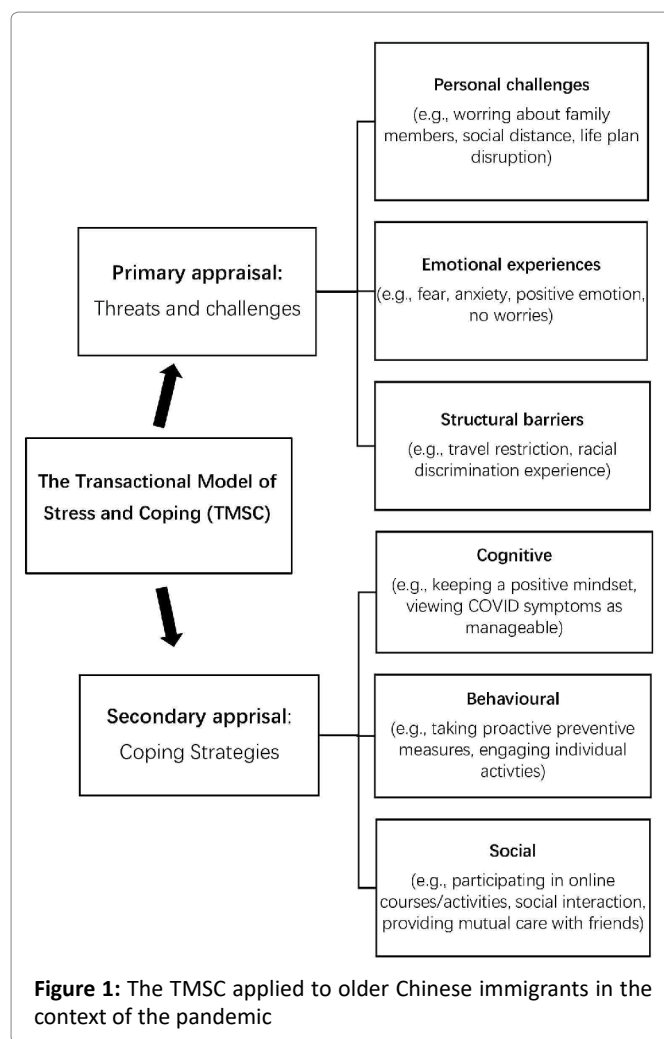


Figure 1: The TMSC applied to older Chinese immigrants in the context of the pandemic

reported a strong concern for the wellbeing of their children and/or grandchildren. A few participants in the sample expressed their concerns about their grandchildren’s health. For example, one participant reported, “*What I worry about most is the grandchildren’s health and their future well-being*”. In addition to the distress over children’s infection and health condition, participants also reported worrying about the potential long-term health effects of COVID-19 infection and associated impacts on their future life.

The second most frequently reported personal challenge was the perceived threat of social distancing and lockdown restrictions on social gatherings, which was viewed as a barrier to seeing or visiting their children or grandchildren. While the collectivist cultures value close connections and bonding with families and friends, the pandemic made it impossible to maintain such social connection and relationships. For example, one participant reported, “*There is no one to communicate with, so most of the time, there was no need to say a single word a day. If no one calls, I’m depressed and in a bad mood.*”

Another personal challenge was the life plan disruption, as identified by those who were still working or studying. For example, the transition to work at home at the beginning of the pandemic might lead to loss of jobs and unemployment over time. This added to the financial stress for those who had no regular income but still had to bear the rising living cost. The financial stress continued in the post-pandemic era, particularly when government-provided financial subsidies were withdrawn.

Emotional Experiences

The pandemic resulted in a wide range of emotional experiences among older Chinese immigrants. The most dominantly reported emotions included fear, uncertainty, and general distress. Nevertheless, participants also reported resilience, such as optimism, gratitude, and acceptance. Overall, participants reported profound distress combined with resilience and adaptation during the pandemic.

Fear was one of the most prominent emotional experiences, primarily about contracting COVID-19, as being reported by half of the participants. For example, one participant highlighted the perceived risk of infection in the following manner, *"Given our age, there is a certain level of fear (about contraction of the COVID virus)"*. Participants also expressed concerns about the long-term health and psychological consequences of COVID-19, especially for those who have pre-existing health conditions. Additionally, one third of the participants reported other factors not directly related to the virus contraction per se (e.g., an overall atmosphere of anxiety, the source of the virus, the pandemic in other regions).

Uncertainty is another frequently reported negative emotional experience, particularly as it relates to the sudden onset and prolonged nature of the pandemic. This was reported as a major source of anxiety for over half of the participants. The feeling of uncertainty over the transmissibility, potential lethality, and mutations of the COVID-19 virus made the situation difficult to manage and predict. Participants reported that the repeated disruptions left them feeling disoriented and uncertain about whether their life would ever be back to normal. Participants reported other negative feelings of distress, such as depression, anger, humiliation, and shame. Depression was often mixed with a sense of hopelessness, lack of motivation, disappointment, and pessimism. Anger was not only about the virus but also about the withdrawal of government subsidies. For example, one participant spoke about having no chance of receiving the subsidy due to her disrupted continuing education opportunity. Humiliation and shame were largely rooted in the widespread coverage and news reports of the "Wuhan virus", which subjected older Chinese immigrants to different levels of discrimination and low self-esteem.

On the other hand, participants also demonstrated a strong sense of resilience, as over half of the participants expressed positive emotional experiences, such as optimism, gratitude, and acceptance. For example, one participant expressed optimism in the following manner, *"Difficulties will pass, and life can still be beautiful. That's my personal belief"*. Optimism was often associated with a gratitude for the resources and support provided by the government and community organizations, which further demonstrated a strong sense of trust in the government. As one participant noted, *"Since the start of the pandemic, I've been grateful for the Canadian government's consideration and support for us"*. Community organizations also played a crucial role in mitigating negative emotions by organizing online activities or virtual meetings to offer a new way to stay socially connected. Interestingly, over half of the participants reported an absence of worry about the pandemic and a sense of confidence towards the public health measures/policies and personal health situations, and an acceptance of life's uncertainties and arrangements. Taken together, these positive emotional experiences demonstrate resilience which enabled older Chinese immigrants to cope with pandemic-related challenges.

Structure Barriers

At the structural level, the frequently reported challenges include travel restrictions and discrimination. The challenge of travel restrictions was reflected both locally and internationally. Participants reported that they were restrained by the mandated policies of staying at home and also expressed a fear towards going outside or interacting with others. Regularly engaged activities before the pandemic, such as going out, in-person socialization, group event participation and grocery shopping became a source of anxiety. As one participant shared, *"After the pandemic started, I didn't even dare to step outside. I didn't buy groceries or go anywhere"*. The fear of going out lasted even to the later stage of the pandemic (early 2023, when restrictions were lifted), particularly in relation to gathering in crowded places. For international travel, one third of the participants reported that the pandemic hindered (them) from visiting family in China and this was a serious concern. As one participant shared, *"It's been several years since I've been able to go back. Even if I want to, I just can't"*. This challenge was primarily driven by multiple factors, such as flight price/restrictions, policy restrictions such as social distance mandates, and lengthy quarantine mandates in both China and Canada (ranging from two weeks to a month).

Furthermore, over half of the participants reported experiences or exposure to anti-Chinese racial discrimination during the pandemic. This discrimination was elicited and perpetuated by news framing COVID-19 as the "Wuhan virus". Participants recounted feelings

about being viewed or treated differently because they were Chinese. For example, previously friendly Canadian neighbors became distant and avoided interaction, *“Every time I go out now, it feels like the Western neighbors in our community are no longer as proactive in greeting me as they used to be. Before, they would greet me warmly, and I would respond enthusiastically”*. In addition, some participants reported encountering discrimination indirectly through exposure to related news or others’ personal experiences, *“I remember that it was reported on the news at that time that a Chinese man went to the Metro Hall supermarket wearing a mask, and they did not let him go in. I think this is also a form of discrimination; this is what I understand”*. Some participants expressed their concerns of safety and security over the news stories about declining business in Chinatown restaurants and incidents of physical attacks on Chinese individuals.

Secondary Appraisal: Coping Strategies

According to the TMSC, secondary appraisals involve strategies and resources used or requested to cope with pandemic related stress. Three general types of coping strategies emerged from the data: cognitive coping strategies (e.g., a positive mindset, reframing risks, and perceiving purpose of life), behavioural coping strategies (e.g., proactive health measures, daily routines, and skill-building activities), and social coping strategies (e.g., virtual socializations, mutual aid, and community engagement). Together, these adaptive strategies highlight how older adults balanced pragmatism and optimism to mitigate the pandemic’s psychological toll.

Cognitive Coping

Maintaining a positive mindset was reported as a crucial coping strategy. In this sample, one third of the participants noted that although the pandemic brought numerous restrictions and uncertainties, they learned to adopt a more optimistic approach to life by adjusting their perspective to maintain a positive mindset. One participant stated, *“Try to broaden your perspective, by making some changes in your mood or psychological thoughts. Then you can relieve your stress, and you won’t be trapped in it (passive thoughts/emotions)”*. The positive mindset and self-talk practice played a key role in alleviating anxiety and instilling a sense of hope and motivation in their daily life. In addition, six participants reported that they managed fear and anxiety by reframing COVID-19 and its symptoms in a positive light. For instance, one participant reported, *“If we get infected, we just take some medicine and recover quickly (2 to 3 days). Over time, I came to realize that COVID-19 isn’t that frightening, and I gradually relaxed mentally”*. By doing so, they were able to maintain a sense of control over the situation and foster a more hopeful outlook. Furthermore, a few participants indicated that they tried to maintain

a sense of value and purpose through activities such as volunteerism and participation in community activities. For example, one participant reported, *“My future plan is to become a volunteer once the pandemic stabilizes. I still want to contribute to society in some way. After all, I believe we need to find a sense of purpose and meaning in life”*.

Behaviour Coping

Taking proactive preventive measures was found to be a most frequently reported behaviour coping strategy. Around half of the participants reported a strict adherence to public health measures, such as wearing masks, washing hands frequently, and limiting outdoor activities. For example, one participant noted, *“When going out, we maintained a 2-meter distance, wore masks, and washed hands frequently. Over the past three years, I’ve become very conscious about protecting myself”*. Additionally, some participants reported that they tried to access information from reliable and trusted government authorities and followed expert recommendations and public health guidelines strictly to strengthen their defense system. For example, one participant reported getting vaccinated when experts recommended booster shots or flu vaccinations.

Participants also reported some other behavioural coping strategies, such as engaging in individual activities and maintaining a structured daily routine. For instance, one participant reported how physical exercise helped them relax, *“Since staying home during the pandemic, I’ve maintained a routine of exercising in the nearby park every day. I’ve also learned and practiced Qigong, which has helped alleviate some negative emotions and improved my physical and mental health”*. In addition, some participants took advantage of the lockdown time to participate in various online courses or activities, ranging from fitness exercises, singing, and dancing to English language learning. One participant shared, *“this community offers six classes every week, so there’s something to attend every day. It makes me very happy to participate daily”*. Besides, a quarter of the participants also shared the importance of staying busy to divert their attention from negative thoughts related to the pandemic. As one participant shared, *“There are so many classes, such as music, drawing, computers, and how to use a phone. You can learn something every day, so you keep thinking and there’s no time to feel depressed or in a bad mood.”*

Social Coping

Online courses not only provided a channel for behavioural engagement but also offered opportunities for virtual socialization during the pandemic. Sixteen participants reported that, due to the cancellation of in-person activities, they actively engaged in various online courses organized by their communities to stay socially

connected. For example, one participant shared, *"During the pandemic, although we couldn't gather in person, we participated in community activities through Zoom. We exchanged ideas with each other online"*. For participants who were unable to meet family and friends face-to-face, online courses became an essential replacement to combat loneliness and sustain social ties. Furthermore, participants maintained connections with family and friends through video or phone calls. Such virtual interactions became crucial for emotional and social support during the pandemic.

Additionally, some participants built a mutual-aid social network to stay connected with others during the pandemic. One participant elaborated, *"I believe you shouldn't just stay isolated at home. You need to go out, meet friends, communicate more with others, and participate in community activities"*. Participants also demonstrated a strong sense of mutual care. Nine participants noted that they have engaged or witnessed mutual support among older adults during the pandemic. One participant described kindness among friends, *"In such tense and difficult times, we cared for each other. For example, if I forgot to bring hand sanitizer, someone would share theirs. We'd sanitize our hands before eating outdoors, which felt reassuring."* These small yet meaningful acts not only strengthened friendships but also provided warm social support. Participants also highlighted community solidarity. Such as, when some seniors in the community were unable to buy groceries, the neighbors purchased and delivered supplies. Some senior houses also provided door-to-door vaccination services. Such voluntary mutual aid acts became a vital source of social support for older Chinese immigrants navigating the challenges of the pandemic.

Discussion

This study, based on the TMSC framework¹¹, explored the stress perception and coping styles of older Chinese immigrants in Canada during the COVID-19 pandemic through focus group interviews. The results revealed that older Chinese immigrants experienced personal, emotional, and structural challenges (i.e., the primary stress appraisal) and used diverse (e.g., cognitive, behavioural, and social) coping strategies to confront pandemic-elicited challenges (i.e., the secondary appraisal).

Primary Appraisal: Stress Experience

The study shows that older Chinese immigrants perceived three main types of challenges during the primary appraisal stage: personal life disruptions, emotional uncertainties, as well as structural barriers, such as travel restrictions and racial discrimination. First, in terms of personal challenges, consistent with the existing literature^{21,22}, older adults reported prominent health concerns about themselves and their family members (especially the younger generations).

This concern not only reflects the value of family responsibility and interdependency in Chinese collectivist culture³⁷, but also their strong feelings about the restricted/reduced intergenerational family connections during the pandemic²⁴. Compared with Western cultures that value individuality and independence, older Chinese immigrants, from collectivist cultures, show a strong emotional response to the disruption of family connection. Second, in terms of emotional experience, consistent with previous research^{7,50}, the findings showed a prevalence of fear and uncertainty. However, divergent from the existing literature, the current study also revealed a strong sense of optimism and acceptance. This may be related to the traditional beliefs in Chinese culture about patience and compliance with fate⁴². Finally, in terms of structural challenges, travel restrictions and racial discrimination emerged as top concerns. It is notable that despite increased incidents of hostility and hate towards Asians in Canada⁸, the perception of discrimination, including direct experiences and indirect perception from media reports, was minimal among our study participants. Nevertheless, the indirect perception of discrimination may contribute to a sense of threat among participants. Media reports of anti-Asian incidents may have created a heightened state of vigilance and emotional distress, even in the absence of direct victimization. Thus, the impacts of discrimination are likely mediated not solely by direct living experience but also by the surrounding sociocultural context. However, participants did not report significant difficulties in accessing healthcare services or reliable pandemic-related information, despite their immigrant status and limited English proficiency³¹. On the contrary, participants expressed their appreciation and were grateful to have access to various resources and widely available government/community support.

Secondary Appraisal: Coping Strategies

Consistent with previous work^{28,36}, the current study identified three main types of coping strategies for secondary appraisal: cognitive coping, behavioural coping, and social coping. Older Chinese immigrants used cognitive coping strategies by maintaining a positive attitude, redefining the risk of the pandemic, and seeking meaning in life. These strategies have also been reported in previous work by Fuller et al.³⁹ and Yang et al.³⁶. Furthermore, some older Chinese immigrants associated resilience with contributions to the community and expressed a willingness to participate in community volunteer activities after the pandemic. This tendency to consolidate personal value through collective community actions reflects social responsibility highlighted in Chinese culture. For behavioural coping, participants generally adopted protective behaviours by strictly following public health guidelines, such as wearing masks, reducing going out, and actively getting vaccinated. These strategies have also been reported in previous

work^{40,41}. Additionally, they adopted personal behaviours, such as outdoor activities, exercise, and keeping themselves busy. These behavioural coping strategies are commonly reported by older adults^{38,39}. For social coping, virtual socialization has become an important way to alleviate loneliness. Consistent with our previous work on Chinese immigrants³⁶, participants reported that they maintained social connections by participating in online community activities and educational courses and engaging themselves in remote interaction and communication. It should be noted that participants in our study are highly educated with sufficient digital literacy and skills for them to engage in virtual social activities. Thus, the results might not be generalized to those with minimal education or digital skills. It is particularly worth noting that the spirit of mutual assistance (e.g., sharing prevention supplies and assisting in purchasing materials) is frequently mentioned in the study. This small-scale mutual assistance could foster community cohesion and has not been commonly reported in studies with populations of other cultural backgrounds.

Going beyond our recent publication on a structured review with Chinese immigrants³⁶, the current study zoomed in to focus specifically on older adults in this vulnerable population. Taken together, the current study extended previous work^{36,37} and identified age-relevant and culture-specific stress experiences and coping strategies among older Chinese immigrants. The results reported a prevalent concern for family members' health, disruption of family connection, and restricted travel activities. Despite their fear and uncertainty towards the pandemic, they reported a minimal experience or perception of racial discrimination, and they also expressed a strong sense of appreciation and positive attitudes towards government/community resources and support. Their coping strategies also highlight a sense of community-oriented "social responsibility" and voluntary interpersonal mutual support and assistance in the Chinese community. The results highlight the importance of community cohesion and interpersonal reciprocity which is central to Chinese culture and greatly inform how older Chinese immigrants experience and cope with the emotional burdens exerted by the pandemic.

Limitations and Future Directions

This study has several limitations. First, the sample is composed of individuals with higher levels of education, frequent social participation, considerable digital literacy and skills, and good health conditions. This may have shaped our finding of positive attitudes towards community/government support and using virtual social engagement/connection and other adaptive coping strategies. The results might not apply to those with a lower socio-economic status, and those being socially isolated

or unlikely to access digital technology. Future studies could include participants from different educational and social economic backgrounds. Second, the study adopted a cross-sectional design based on a one-time interview without tracking the long-term psychological adaptation path. According to the TMS theory, stress assessment and coping is a continuous process and might differ over time (for example, during the initial lockdown, peak or reopen periods of the pandemic). Future research can use adopt a longitudinal design to track changes in individuals' stress experiences and coping behaviours across time points to gain a deep understanding of the "continuous appraisal" implied in the TMS in real life.

Lastly, the self-report data collected in a group interview format might be subjective to recall and social desirability biases. Some participants may overestimate their positive emotions or downplay their negative ones out of social expectation or desirability. In addition, some older adults may have difficulties in oral communication or memory issues which might affect the accuracy and completeness of their responses. Future studies can use diary report methods or quantitative psychological measurements (e.g., stress scales, coping strategy questionnaires) to enhance the multi-dimensionality and objectivity of the data.

Conclusion and Implications

The COVID-19 pandemic was a public health crisis that increased the vulnerability of immigrant populations to personal, emotional, and structural disparities. Older Chinese immigrants, despite their remarkable resilience through active and adaptive coping and community-based mutual support, still need systematic support to maintain their emotional wellbeing in such crisis situations. The results provide empirical support for the application and adaptation of TMS theory¹⁴ to a non-Western collectivist cultural context. The findings suggest that stress appraisal is not only grounded in personal needs/context but also shaped by cultural norms. Specifically, older Chinese immigrants' stress experiences and coping are consistent with their collectivist culture, with a reflection of their family/social responsibility and community cohesion obligations. Thus, when applying the TMS framework to this population, it might be beneficial to integrate "social responsibility" as an additional dimension. This would enhance the model's capacity to account for relational and community-based stress experiences and coping, salient in collectivist cultures.

The result of the current study calls on policymakers and community workers to build more inclusive crisis response systems to address the unique challenges and needs of senior immigrant populations and promote social equity in Canada. First, future policy and measures should holistically address multiple interwoven stressors

experienced by older immigrants. Focusing on pandemic control while neglecting the possibly associated racial stigmatization and information isolation may intensify the fear and marginalization of the older Chinese immigrants and thus weaken their willingness and ability to seek support. For example, while implementing strict lockdown policies, public health measures also need to recognize and accommodate the need and positive benefits of family connection and activities, the sense of social responsibility, and community-oriented mutual support in older Chinese immigrant communities. These culture-specific elements could be effectively integrated in future public health pandemic or epidemic measures.

Second, intervention strategies targeting older Chinese immigrants can be optimized by integrating culturally embedded resources. For example, through close collaborations with immigrant communities, health professionals could develop and promote age-friendly group activities, linguistically accessible psychological support services, and online courses to keep older adults socially engaged and connected. Furthermore, policymakers may dedicate their resources and effort to build “culturally sensitive communities”. Different stakeholders, including local community and non-profit organizations, should be mobilized to foster family/community cohesion through various programs, such as telephone mutual aid, family/neighborhood watch, community mutual support and voluntary material/resource/information distribution to most effectively and efficiently support older Chinese immigrants in Canada.

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Authors Contributions

Dr. Lixia Yang played a leading role in the design and operation of this study and manuscript preparation. Ziyu Su led the participation recruitment, data collection, data analysis, and manuscript preparation. Haoran Dong and Xindi Wang participated in the literature search, update, and drafting of the manuscript. Dr. Lu Wang contributed to grant application, analysis, and manuscript development and reviewing. Dr. Sepali Guruge critically reviewed and edited the manuscript.

Conflict of Interest

We have no conflicts of interest to disclose.

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Ethical Approval and Informed Consent

The study received the Ethics Approval from the Toronto Metropolitan University [REB 2022-393]. Informed consent was obtained from all participants before their participation.

Data Availability

Data not available for sharing due to privacy restrictions.

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