

Lived experiences of Asian Canadians encountering discrimination during the COVID-19 pandemic: a qualitative interview study

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Abstract

Background: Asian Canadians have experienced increased cases of racialized discrimination after the first emergence of SARS-CoV-2 in China. This study examined how the COVID-19 pandemic has affected Asian Canadians' sense of safety and belonging in their Canadian (i.e., geographical) communities.

Methods: We applied a qualitative description study design in which semistructured interviews were conducted from Mar. 23 to May 27, 2021. Purposive and snowball sampling methods were used to recruit Asian Canadians diverse in region, gender and age. Interviews were conducted through Zoom videoconference or telephone, and independent qualitative thematic analysis in duplicate was used to derive primary themes and subthemes.

Results: Thirty-two Asian Canadians (median age 35 [interquartile range 24–46] yr, 56% female, 44% East Asian) participated in the study. We identified 5 predominant themes associated with how the COVID-19 pandemic affected the participants' sense of security and belonging to their communities: relation between socioeconomic status (SES) and exposure to discrimination (i.e., how SES insulates or exposes individuals to increased discrimination); politics, media and the COVID-19 pandemic (i.e., the key role that politicians and media played in enabling spread of discrimination against and fear of Asian people); effect of discrimination on mental and social health (i.e., people's ability to interact and form meaningful relationships with others); coping with the impact of discrimination (i.e., the way people appraise and move forward in identity-threatening situations); and implications for sense of safety and sense of belonging (i.e., people feeling unable to safely use public spaces in person, including the need to remain alert in anticipation of harm, leading to distress and exhaustion).

Interpretation: During the COVID-19 pandemic, Asian Canadians in our study felt unsafe owing to the uncertain, unexpected and unpredictable nature of discrimination, but also felt a strong sense of belonging to Canadian society and felt well connected to their Asian Canadian communities. Future work should seek to explore the influence of social media on treatment of and attitudes toward Asian Canadians.

ARS-CoV-2, beginning in Wuhan, China, spread rapidly across countries, resulting in a global pandemic. Although many impacts of the COVID-19 pandemic worldwide are clear, including loss of life, decreased financial stability, and worsened physical and mental well-being, the full extent of the damage is unknown. The narrative that "others" from far-flung places are to blame for epidemics and pandemics is an example of a long-standing tradition of stigma. Globally, in the COVID-19 pandemic, there has been an increase in negative attitudes, prejudice and racism toward people of Asian descent, reinforcing long-standing systemic discrimination and negative stereotypes. 6,8,9

Racial discrimination is defined as unequal treatment of individuals or groups on the basis of their race or ethnicity.³ Racial discrimination is not the result only of private

prejudices held by individuals.¹⁰ It is also produced and reproduced by rules, laws and practices, sanctioned and often implemented by various levels of governments — embedded in cultural and societal norms as well as the economic system.¹¹ Confronting and combatting racial discrimination in Canada requires changing individual attitudes as well as dismantling the institutions and policies that underpin the Canadian racial hierarchy.¹²

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During the COVID-19 pandemic, anti-Asian discrimination and Asian-focused hate crimes have occurred, and Asian people have been subjected to verbal harassment, including racial slurs, and physical attacks. As Reported incidents have led to a heightened awareness of the broad marginalization of Asian populations, globally. The experience of discrimination and its long-term consequences varies in context, such as where the harassment occurs (e.g., health care system, community), the actors involved (e.g., employers, neighbours^{15,16}) and the people it targets.

A sense of belonging is associated with improved psychological and social functioning during health crises,¹⁷ as people's sense of self can be profoundly shaken when they are separated from groups to which they belong.¹⁸ A feeling of belonging can provide protection in the presence of depression and suicidal thoughts^{19,20} during social isolation from lockdown policies,²¹ which have been prominent during the COVID-19 pandemic. The objective of this study was to examine how the COVID-19 pandemic has affected Asian Canadians' sense of safety and belonging in their Canadian (i.e., geographical) communities.

Methods

We applied a qualitative description study design²² using semistructured interviews that were conducted from Mar. 23 to May 27, 2021. Intersectionality is the assertion that aspects of social identity (e.g., gender, race, class, sexuality) are interconnected and operate simultaneously to produce experiences of both privilege and marginalization.²³ For the current study we used intersectionality theory²⁴ as the underpinning framework to examine how the COVID-19 pandemic has affected Asian Canadians' sense of safety and belonging in their communities. The data were analyzed and interpreted using inductive thematic analysis²⁵ to closely examine the data and identify, analyze and interpret repeating patterns of meanings.²⁶ We followed the Consolidated Criteria for Reporting Qualitative Research in reporting this work.²⁷

Setting

This was a qualitative follow-up study to an online national cross-sectional survey of 2000 Canadian adults.²⁸ The survey explored self-reported public perceptions related to the COVID-19 pandemic, including beliefs (e.g., severity, concerns, health), knowledge (e.g., transmission, information sources) and behaviours (e.g., physical distancing), to understand perspectives in Canada and to inform future public health initiatives.²⁸ In addition to other demographic information that was collected, respondents were screened by age, sex at birth and provincially defined regions to ensure population representation based on 2016 Census data (https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/index-eng.cfm). Respondents to the primary study consented to be contacted for future research related to the COVID-19 pandemic.

Participants

We approached eligible participants by email and then conducted snowball sampling from those who consented to participate. Participants were eligible if they were English- or

French-speaking adults (≥ 18 yr) residing in Canada and self-identified their ethnic origins as East or South Asian on the primary study for this work,²⁸ were able to provide informed consent, and provided an email address (on the primary survey) to be contacted for research related to the COVID-19 pandemic. Participants were not aware of the researchers for this work.

We purposively sampled for diversity across participants based on age (18–34, 35–55, > 55 yr), sex at birth (female, male) and provincially defined regions (British Columbia, Alberta, Saskatchewan or Manitoba, Ontario, Quebec and Atlantic provinces). We conducted snowball sampling from the participants from the original study who agreed to participate in the current study. All individuals who agreed to participate were interviewed and were compensated with a \$50 gift card for their time.

Data collection

A semistructured interview guide was developed iteratively by our ethnically diverse research team, which included 3 Asian, 1 Black and 5 white researchers. The development of the guide was informed by existing literature on the topic of racial discrimination against Asian people during the COVID-19 pandemic^{13,29,30} and grounded in intersectionality theory.²⁴ It was pilot tested with 4 Asian Canadian participants (connected via but external to the research team) to ensure clarity of interview questions and relevance to our study objective (Appendix 1, available at www.cmajopen.ca/content/10/2/E539/suppl/DC1). Participants who pilot tested the interview guide received a \$50 gift card for their time. Minor refinement after pilot testing was to improve language and conversational flow.

Discussion topics in the interview guide included community and personal identity; the racism participants or those in their community had experienced since the onset of the COVID-19 pandemic, as well as the impacts of that racism; and how participants dealt with weathering racism. Participants' demographic information was collected by self-report at the end of each interview according to predefined categories in the United Nations *Demographic Yearbook*.³¹

Two female researchers (C.M.D.G.: white, nonimmigrant; and F.T.: BIPOC [Black, Indigenous and people of colour], immigrant to Canada with English as a second language) trained in qualitative methods conducted interviews via Zoom (without video) or telephone, based on participant preference. The 2 researchers introduced themselves as research assistants affiliated with a university; both researchers took field notes through the conduction of all interviews. Preliminary analysis showed that data saturation was achieved before analysis of the full data set; saturation was determined at the point when no new themes were identified.³²

Digitally recorded audio files were sent to a transcription company (www.rev.com) to produce verbatim transcripts. The textual data were reviewed, cleaned and deidentified by C.M.D.G. and F.T. before analysis. Participants were offered the opportunity to review their transcripts as a form of member checking; 3 participants accepted, of whom none identified inconsistencies in information.



Data analysis

Textual data were managed and analyzed by inductive thematic analysis²⁵ using NVIVO 12 (QSR International). Two researchers (C.M.D.G. and F.T.) independently reviewed and coded a small sample of transcripts (n = 3), then in duplicate using open coding. Initial codes were compared and discussed with a senior qualitative researcher (J.P.L.) to create a draft of the codebook. Two researchers (F.T. and A.D.) analyzed an additional 3 transcripts using both open and axial coding,³³ iteratively refining the codebook until all relevant ideas were included. Meetings were held (among C.M.D.G., F.T., A.D. and J.P.L.) after coding of every 3 transcripts for the duration of analysis to address new codes, consolidate ideas and rectify disagreements by consensus, thereby drawing on the combined insights of those "handling" the data closely (F.T. and A.D.) and members of the team (C.M.D.G. and J.P.L.) with a wider perspective of methodological and racial discrimination issues.

The complete data set was then coded in duplicate (F.T. and A.D.) with the finalized codebook. The careful use of memos (by C.M.D.G., F.T. and A.D.) during initial stages of analysis provided a visible "audit trail" as the analysis moved from "raw" data, through interpretation, to the production of findings. Although we had reached data saturation before completion of the analysis, we analyzed the transcripts of all participants to increase the diversity of our data set. The data from the pilot interviews were included in the final data set for analysis.

Ethics approval

The University of Calgary Conjoint Health Research Ethics Board (ID: REB20-0358) and Dalhousie University Health Science Research Ethics Board (ID: REB2020-5120) approved this study and permitted participants to provide oral consent in lieu of written consent.

Results

Of 63 eligible participants from the original study, 2 (3%) individuals were not interested in being interviewed on the topic, and 42 (67%) individuals did not respond to 2 contact attempts. A total of 19 (30%) individuals consented to participate. After snowball sampling, an additional 11 potentially eligible individuals reached out to participate. Of these, we interviewed 9; the remaining 2 did not respond to 2 contact attempts.

Thirty-two interviews (including 4 pilot interviews) were conducted, lasting a median of 21 (interquartile range [IQR] 7.75) minutes. Participants had a median age of 35 (IQR 24-46) years, most (56%) were female and 44% self-reported their ethnic identity as East Asian (followed by 31% South Asian, 16% Southeast Asian and 9% West Asian) (Table 1).

All participants in our study commented that they had experienced, indirectly through witnessing (n = 14, 44%) or directly through verbal or physical harassment (n = 18, 56%), discrimination during the COVID-19 pandemic in Canada.

Thematic data analysis resulted in development of 5 themes: relation between socioeconomic status (SES) and exposure to discrimination (i.e., how SES insulates or exposes

| Table 1: Demographic characteristics of participants | |
|--|-----------------------------------|
| Characteristic | No. (%) of participants* $n = 32$ |
| Age, yr, median (IQR) | 35 (24–46) |
| Sex, female | 18 (56) |
| Education,† $n = 28$ | |
| Less than high school | 0 (0) |
| High school | 0 (0) |
| College degree | 3 (11) |
| Bachelor's degree | 16 (57) |
| Postgraduate degree | 1 (4) |
| Master's degree | 8 (29) |
| Household size, median (IQR) | 3 (1–5) |
| Marital status | |
| Single | 18 (56) |
| Married | 10 (31) |
| Divorced | 1 (3) |
| Has children | 9 (28) |
| Children live with participant | 7 (78) |
| Province | |
| Alberta | 5 (16) |
| British Columbia | 6 (19) |
| Ontario | 18 (56) |
| Quebec | 2 (6) |
| Saskatchewan | 1 (3) |
| Ethnicity‡ | |
| East Asian | 14 (44) |
| Southeast Asian | 5 (16) |
| South Asian | 10 (31) |
| West Asian | 3 (9) |
| | |

Note: IQR = interquartile range.

*Unless indicated otherwise.

†Some participants chose not to disclose demographic information. ‡Ethnicity was self-reported and categorized using the United Nations Demographic Yearbook.31 Multiple ethnicities (e.g., "multiracial" or "mixed-race") were included under the region of the Asian component of their reported ethnicity.

individuals to increased discrimination); politics, media and the COVID-19 pandemic (i.e., the key role that politicians and media played in enabling spread of discrimination against and fear of Asian people); effect of discrimination on mental and social health (i.e., our ability to interact and form meaningful relationships with others); coping with the impact of discrimination (i.e., the way people appraise and move forward in identity-threatening situations); and implications for sense of safety and sense of belonging (i.e., feeling unable to safely use public spaces in person, including the need to remain alert in anticipation of harm, leading to distress and exhaustion).





Relation between SES and exposure to discrimination

The nature and extent of discrimination experienced by Asian Canadians was expressed by participants in relation to SES. (Although questions about SES were not explicitly included in the interview guide, most participants stated their self-determined SES voluntarily during the interviews.) Most participants noted that the discrimination experienced by Asian people of higher SES was more likely to be indirect. One participant commented on their relative immunity to discrimination against Asian Canadians based on their high-SES housing situation (Table 2, Q1). In contrast, some participants suggested that Asian Canadians of lower SES were perhaps more likely to experience direct discrimination (e.g., verbal or physical attacks, or harassment), possibly related to their need to maintain interactions in the community during the pandemic (e.g., through work in public-facing occupations). One participant of self-determined lower SES commented on their direct experiences with discrimination (Table 2, Q2).

Politics, media and the COVID-19 pandemic

All participants commented on the key role that politicians and media played in enabling spread of discrimination against and fear of Asian individuals. They described influential and prominent leaders choosing to spread misinformation and disinformation deliberately by blaming and inciting hatred toward Asian people. Participants described upsetting rhetoric such as "China virus" and "Kung flu" used by politicians and their supporters alike. With this rhetoric amplified by the media, some participants perceived that inflamed hate was weaponized to hurt people of Asian descent. Participants commented that politicians, especially in the United States, deliberately misled, triggered and emboldened their supporters to attack or harass Asian people (Table 2, Q3). All participants commented on mainstream media being a platform to spread blame or responsibility for the virus. Some participants experienced cyberbullying, which they found was based mostly on physical appearance or accent. One participant reflected on the effects of the rapid dissemination of misinformation across media platforms (Table 2, Q4).

| Table 2: Exemplar quotations by theme | | |
|--|---|--|
| Theme | Exemplar quotations | |
| Relation between socioeconomic status and exposure to discrimination | Q1: "I'm pretty immune from all of this. I don't live in one of those neighborhoods that has high density. I have my own house." — PAR8 Q2: "Would a higher income and graduate degree protect me against racism and discrimination? Maybe. Even though I experienced higher [socioeconomic] status here [in Canada] after immigrating I feel more socially isolated and depressed and never have I ever experienced this more than right now in the pandemic." — PAR13 | |
| Politics, media and the COVID-19 pandemic | Q3: "Trump saying that it's the China virus — it's obviously we cover so much US politics in Canada that I think it's influenced the crazy people in our country as well. Or it's resonated with them, I guess." — PAR16 Q4: "That seems to be a pretty common thread among people who believe conspiracy theories, or are unable to differentiate what is a news source from a reputable journalist or reporter or news agency versus Or being able to recognize what is just inflammatory commentary or just something they made up or skewed to achieve the outcomes of, say, I don't know, a racist organization or low-level white supremacist organizations just looking to recruit more members." — PAR30 | |
| Effects of discrimination on mental and social health | Q5: "This is not an American problem. Now, more than ever, we need to come together to raise awareness of the challenges faced by our communities, to confront the people who are psychologically abusing us — it's not okay." — PAR2 Q6: "I eat more when depressed, leading to weight gain, and lack of vitamin D due to staying indoors for too long, and then stress and anxiety that's just always present compared to before the pandemic. It's just that the mental impacts of it can be sometimes really overwhelming." — PAR12 Q7: "There is a certain kind of unsettling discomfort just knowing that people do blame such a large-scale, horrific pandemic on one community, and on people that look like me, or that look like my parents." — PAR15 | |
| Ways of coping with the impacts of discrimination | Q8: "Well, you just got to live your normal life. You still have to do your things. You got to do best you can, just make sure you practise all your safety measures, and like I said, it's no guarantee, but some things you can't avoid, you just got to do your best." — PAR10 Q9: "You know that anti-Asian racism is on the rise in Canada, and I know that now because of the pandemic this issue has come to light, but it's been going on for so long that I've lost my resiliency." — PAR30 | |
| Implications for sense of safety and belonging | Q10: "All of the Asian hate crimes are scary, in my opinion. I am less willing to do things alone and go out into neighborhoods by myself." — PAR4 Q11: "Working together and following the guidelines, I think that it's because we're proud to be Canadian. We try to support that just as much as we support our other cultural beliefs as well — it's a balance." — PAR19 | |



Effects of discrimination on mental and social health

Most participants described the effects of racism as immeasurable and the impact on their mental and social health (a person's ability to interact and form meaningful relationships with others) as devastating. The participants illustrated common perspectives while describing variability in their experiences, perceptions and evaluations of discrimination. One participant described their efforts to cope with the psychological impact of discrimination through resiliency, conveying the need for their community to stand against and resist systemic and structural racism collectively (Table 2, Q5).

The lived experiences and psychological and emotional impacts of discrimination among participants during the COVID-19 pandemic included depression, anxiety and persistent stress (Table 2, Q6). Participants discussed their worry about not knowing where a discriminatory attack may occur, or who might attack them and why. The burden of worry led to an additional layer of trauma and exhaustion from precautions for personal safety. One participant described feelings of disconcerted discomfort (Table 2, Q7).

Coping with the impacts of discrimination

Participants dealt with discrimination in different ways. Some coping mechanisms included relying on friends and family for support, ignoring social media and doing activities in groups. One participant's explanation of how they coped with the stress is shown in Table 2 (Q8). All participants highlighted the countless contextual factors (related to one's personal life) that are associated with personal experiences of discrimination against Asian Canadians and their ability to draw on resilience, before and within the COVID-19 pandemic. One participant reflected on their inability to cope, describing feelings of hopelessness (Table 2, Q9).

Implications for sense of safety and belonging

Some participants' sense of physical and psychological safety was greatly affected (i.e., diminished sense of safety). All participants expressed feeling a multitude of emotions simultaneously (e.g., anxious, scared, depressed, angry, outraged) that sometimes were in conflict in dealing with the trauma associated with discrimination during the pandemic. Consequently, participants felt unable to safely use public spaces in person for fear of discrimination. Most participants commented on the uncertainty (e.g., inability to predict who the perpetrator might be), unexpectedness (e.g., sudden attack, harassment or assault) and unpredictability (e.g., random behaviours of others or element of surprise) of discrimination that made it difficult to feel and keep safe. All participants described the need to remain alert in anticipation of harm, leading to distress and exhaustion (Table 2, Q10).

In contrast, some participants noted acts of discrimination as having a limited impact on their sense of belonging. These participants felt connected to and strongly identified with their Canadian and Asian cultures and communities. For example, in addition to their Asian heritage, participants noted that being Canadian was an integral part of their identity. Some participants believed that the discrimination had

not affected how they were perceived by the broader Canadian society. Strictly adhering to public prevention practices and guidelines, as part of the greater good, made participants feel they were a part of, and belonged to, the community (Table 2, Q11).

Interpretation

We conducted a qualitative descriptive study to examine discrimination against Asian Canadians during the COVID-19 pandemic, and the impact this had on individual and community sense of safety and belonging. Findings from our study suggest that Asian Canadians felt unsafe owing to the uncertain, unexpected and unpredictable nature of rising discrimination. The overwhelming feeling of unsafety among Asian Canadians was associated with self-reported anxiety, depression, stress, fear and panic. Our findings also suggest that, despite feeling scared during the pandemic, Asian Canadians felt a strong sense of belonging to Canadian society and felt well connected to their Asian Canadian communities. Research is needed to uncover whether Asian Canadians' sense of belonging, despite experiencing discrimination, is related to the model minority myth that has long dominated the racial framing and perceptions of Asian Canadians.³⁴

Our study suggests that during the COVID-19 pandemic, Asian Canadians experienced psychological distress in response to discrimination. These experiences reflect established vulnerabilities encountered by racialized minorities before the pandemic.⁸ In line with earlier research, we found that, although Canada prides itself on being a multicultural country, discrimination against Asian Canadians has been common during the pandemic, and Sinophobia during this time may not be simply because of the racialization of the virus (e.g., Chinese virus) but also a result of historical anti-Asian racism.³⁵

Previous research has found that racially stigmatized people experience a high rate of physical, psychological and social illnesses and impairments.³⁶ We found that the threat of discrimination contributed to participants' mental exhaustion and feelings of unsafety. These findings are mirrored in similar research in which participants described an intense fear for their lives and their loved ones during the pandemic in reaction to discrimination.⁸

Racism focuses on attacking an entire community³⁷ based on the biased belief that all members of a racial group share an important essence that makes them the same.³⁸ This may explain why participants in our study who did not directly experience discrimination felt affected by discrimination toward other Asian Canadians. In another study, Asian health care workers described contending with COVID-19-related racial microaggressions, and verbal and physical violence, feeling that their experiences had been mostly ignored, and struggling with challenging the harassment that they and their colleagues were facing while maintaining their dedication to patient care.³⁹ Further research should disentangle the differential impact of indirect discrimination from direct discrimination; normalizing the reporting of racial harassment, while





making reporting more accessible through a unified database that gathers details of anti-Asian attacks across Canada, is an important next step.

Understanding the socioeconomic spectrum and the relation between race and SES is important for addressing disparities among racial groups during periods of health crises.⁴⁰ Socioeconomic status is an important determinant of health outcomes.³⁶ Asian Canadians of lower SES encounter higher levels of physical attacks and harassment because they work in and engage in activities that require the use of public spaces, which makes it easier for others to target, identify, access and attack them.41,42 It is possible that Asian individuals with high and low SES might differ in their media consumption (social media compared with conventional media), which could explain the differential experiences with indirect discrimination.⁴³ Exposure to and consumption of media that portray socially stigmatized groups as a threat to society has increased racial prejudice and negatively influenced public attitudes. 44,45 Information disseminated by politicians and mainstream media also has been found to influence public behaviours.⁴³ Croucher and colleagues found that social media users who perceived information on social media to be accurate and fair were more likely to believe that Chinese Americans could pose realistic threats (e.g., threats to physical and material well-being) and symbolic threats (e.g., threats to morals, values and beliefs).⁶ Additionally, He and colleagues showed that the presence of anti-Asian hate speech on Twitter was more prevalent than counter-hate messages during the COVID-19 pandemic.⁴⁶ The information dissemination process affects emotions and behaviours that directly affect how public opinions are formed.⁴⁷ Future work should seek to explore the influence of social media on treatment of and attitudes toward Asian Canadians.⁴⁸

Limitations

This study needs to be considered in context of limitations. The transferability of lived experiences of Asian Canadians was potentially limited, as our sample comprised primarily highly educated, single Asian Canadians. These demographic characteristics suggest that our sample included mainly people with high SES. However, many participants compared and contrasted their experiences to the experiences of those in their communities or networks with lower SES (whether these experiences were witnessed or communicated), providing meaningful insight into diverse experiences of anti-Asian discrimination in Canada. As well, perspectives from children and youth were missed.

The participants for this work were recruited from an earlier, preliminary study;²⁸ considering our limited sample for ethnic groups of Asian Canadians, we were not able to meaningfully assess commonalities or differences that may exist among Asian Canadians of different ethnicities. Also, despite our best attempts to recruit participants from the Atlantic region of Canada, none of the eligible individuals from Atlantic Canada were interested in participating in an interview, and as such their perspectives were missed.

Although seeking certainty was not the objective of our approach, our study was unable to uncover the extent and

directional impact of social media on Asian Canadians fully, for example, whether the positive impact outweighed the negative impact, or vice versa, particularly with participants' sense of belonging. Future work should seek to conduct a nuanced analysis of data from a diverse sample of Asian Canadians.

We conducted interviews in English and French only, and perspectives from non-English- and non-French-speaking Asian Canadians were missed, which likely excludes experiences of new immigrants.

The 2 researchers who conducted the interviews noted their affiliation with a university as researchers, which may have imposed a status of privilege on the participants, as such careers often require graduate degrees. Relatedly, the lived experiences of researchers who analyzed the transcripts may have affected their interpretation of the data.

Conclusion

During the COVID-19 pandemic, Asian Canadian participants in our study felt unsafe owing to the uncertain, unexpected and unpredictable nature of discrimination. Participants in our study who did not directly experience discrimination felt affected by discrimination toward other Asian Canadians. Participants felt a strong sense of belonging to Canadian society and well connected to their Asian Canadian communities. Future work should seek to explore the influence of social media on treatment of and attitudes toward Asian Canadians, as the information dissemination process can affect emotions and behaviours that directly affect how public opinions are formed.

References

- Rzymski P, Nowicki M. COVID-19-related prejudice toward Asian medical students: a consequence of SARS-CoV-2 fears in Poland. J Infect Public Health 2020;13:873-6.
- Dhanani LY, Franz B. Unexpected public health consequences of the COVID-19 pandemic: a national survey examining anti-Asian attitudes in the USA. Int J Public Health 2020;65:747-54.
- Choi S, Hong JY, Kim YJ, et al. Predicting psychological distress amid the COVID-19 pandemic by machine learning: discrimination and coping mechanisms of Korean immigrants in the U.S. Int J Environ Res Public Health 2020; 17:6057.
- Gover AR, Harper SB, Langton L. Anti-Asian hate crime during the COVID-19 pandemic: exploring the reproduction of inequality. Am J Crim Justice 2020;45:647-67.
- Liu Y, Finch BK, Brenneke SG, et al. Perceived discrimination and mental distress amid the COVID-19 pandemic: evidence from the Understanding America Study. Am J Prev Med 2020;59:481-92.
- Croucher SM, Nguyen T, Rahmani D. Prejudice toward Asian Americans in the Covid-19 pandemic: the effects of social media use in the United States. Front Commun 2020;5:39. doi: 10.3389/fcomm.2020.00039.
- Vance MA. Conflicting views in narratives on HIV transmission via medical care. [JIAPAC]. J Int Assoc Provid AIDS Care 2019;18:2325958218821961. doi: 10.1177/2325958218821961.
- Hahm HC, Xavier Hall CD, Garcia KT, et al. Experiences of COVID-19-related anti-Asian discrimination and affective reactions in a multiple race sample of U.S. young adults. *BMC Public Health* 2021;21:1563.
 Lee S, Waters SF. Asians and Asian Americans' experiences of racial discrimi-
- Lee S, Waters SF. Asians and Asian Americans' experiences of racial discrimination during the COVID-19 pandemic: impacts on health outcomes and the buffering role of social support. Stigma Health 2021;6:70-8.
- Bailey ZD, Krieger N, Agenor M, et al. Structural racism and health inequities in the USA: evidence and interventions. *Lancet* 2017;389:1453-63.
- Gee GC, Ford CL. Structural racism and health inequities: old issues, new directions. Du Bois Rev 2011;8:115-32.
- Williams DR, Lawrence JA, Davis BA. Racism and health: evidence and needed research. Annu Rev Public Health 2019;40:105-25.
- 13. Chen JA, Zhang E, Liu CH. Potential impact of COVID-19-related racial discrimination on the health of Asian Americans. *Am J Public Health* 2020;110:1624-7.



- 14. Dionne KY, Turkmen FF. The politics of pandemic othering: putting COVID-19 in global and historical context. Int Organ 2020;74:E213-30.
- Darling-Hammond S, Michaels EK, Allen AM, et al. After "the China virus" went viral: racially charged coronavirus coverage and trends in bias against Asian Americans. Health Educ Behav 2020;47:870-9.
- Jenkins M, Houge Mackenzie S, Hodge K, et al. Physical activity and psychological well-being during the COVID-19 lockdown: relationships with motivational quality and nature contexts. Front Sports Act Living 202;3:637576. doi: 10.3389/fspor.2021.637576.
- Hagerty BM, Williams RA, Coyne JC, et al. Sense of belonging and indicators of social and psychological functioning. Arch Psychiatr Nurs 1996;10:235-44.

 Jetten J, Reicher SD, Haslam SA, et al. Together apart: the psychology of
- COVID-19. Thousand Oaks (CA): Sage Publications; 2020.
- McCallum C, McLaren S. Sense of belonging and depressive symptoms among GLB adolescents. 7 Homosex 2010;58:83-96.
- McLaren S, Challis C. Resilience among men farmers: the protective roles of social support and sense of belonging in the depression-suicidal ideation relation. Death Stud 2009;33:262-76.
- Fortgang RG, Wang SB, Millner AJ, et al. Increase in suicidal thinking during COVID-19. Clin Psychol Sci 2021;9:482-8.
- Colorafi KJ, Evans B. Qualitative descriptive methods in health science research. HERD 2016;9:16-25.
- Carbado DW, Crenshaw KW, Mays VM, et al. Intersectionality: mapping the movements of a theory. Du Bois Rev 2013;10:303-12.
- Atewologun D. Intersectionality theory and practice. Oxford (UK): Oxford University Press; 2018.
- Thomas DR. A general inductive approach for analyzing qualitative evaluation data. Am \mathcal{J} Eval 2006;27:237-46.
- Kiger ME, Varpio L. Thematic analysis of qualitative data: AMEE Guide No. 131. Med Teach 2020;42:846-54.
- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. Int J Qual Health Care 2007;19:349-57
- Parsons Leigh J, Fiest K, Brundin-Mather R, et al. A national cross-sectional survey of public perceptions of the COVID-19 pandemic: self-reported beliefs, knowledge, and behaviors. PLoS One 2020;15:e0241259.
- Wu C, Qian Y, Wilkes R. Anti-Asian discrimination and the Asian-white mental health gap during COVID-19. Ethn Racial Stud 2021;44:819-35
- Gao Q, Liu X. Stand against anti-Asian racial discrimination during COVID-
- 19: a call for action. Int Soc Work 2020;64:261-4.

 Demographic yearbook: 71st issue. New York: United Nations Department of Economic and Social Affairs; 2020.
- Saunders B, Sim J, Kingstone T, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. Qual Quant 2018;52:
- Kendall J. Axial coding and the grounded theory controversy. West J Nurs Res 1999;21:743-57
- Sakamoto A, Takei I, Woo H. The myth of the model minority myth. Sociol Spectr 2012;32:309-21.
- Lou NM, Noels KA, Kurl S, et al. Chinese Canadians' experiences of the dual pandemics of COVID-19 and racism: implications for identity, negative emotion, and anti-racism incident reporting. Can Psychol 2021 [advance online pub-
- lication]. doi: https://doi.org/10.1037/cap0000305. Williams DR, Mohammed SA, Leavell J, et al. Race, socioeconomic status, and health: complexities, ongoing challenges, and research opportunities. *Ann NY Acad Sci* 2010;1186:69-101.
- Karlsen S, Nazroo JY. Relation between racial discrimination, social class, and health among ethnic minority groups. *Am J Public Health* 2002;92:624-31.
- No S, Hong YY, Liao HY, et al. Lay theory of race affects and moderates Asian Americans' responses toward American culture. J Pers Soc Psychol 2008; 95:991-1004.
- Shang Z, Kim JY, Cheng SO. Discrimination experienced by Asian Canadian and Asian American health care workers during the COVID-19 pandemic: a qualitative study. CMAJ Open 2021;9:E998-1004.
- Williams DR, Priest N, Anderson NB. Understanding associations among race, socioeconomic status, and health: patterns and prospects. Health Psychol 2016;35:407-11.

- 41. Cheon YM, Ip PS, Yip T. Adolescent profiles of ethnicity/race and socioeconomic status: implications for sleep and the role of discrimination and ethnic/ racial identity. Adv Child Dev Behav 2019;57:195-233.
- Gee GC, Ro A, Shariff-Marco S, et al. Racial discrimination and health among Asian Americans: evidence, assessment, and directions for future research. Epidemiol Rev 2009;31:130-51.
- Yang CC, Tsai J-Y, Pan S. Discrimination and well-being among Asians/ Asian Americans during COVID-19: the role of social media. Cyberpsychol Behav Soc Netw 2020;23:865-70.
- Arendt F. Dose-dependent media priming effects of stereotypic newspaper
- articles on implicit and explicit stereotypes. *J Commun* 2013;63:830-51.

 Dasgupta N. Implicit attitudes and beliefs adapt to situations: a decade of research on the malleability of implicit prejudice, stereotypes, and the selfconcept. In: Devine P, Plant A, editors. Advances in experimental social psychology. Vol 47. San Diego: Elsevier Science Publishing; 2013:233-79.
- 46. He B, Ziems C, Soni S, et al. Racism is a virus: anti-Asian hate and counterspeech in social media during the COVID-19 crisis. Ithaca (NY): Cornell University; 2020 [COVID-19 e-print]. doi: https://doi.org/10.48550/arXiv 2005.12423.
- 47. Hu H, Mao H, Hu X, et al. Information dissemination of public health emergency on social networks and intelligent computation. Comput Intell Neurosci 2015:2015:181038
- Valkenburg PM, Peter J, Walther JB. Media effects: theory and research. Annu Rev Psychol 2016;67:315-38.

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