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How have Asians experienced discrimination differently during COVID-19? The role of nativity

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Abstract

In this article, we consider differences in how native-born Asians and foreign-born Asians may have experienced rising anti-Asian attacks during the COVID-19 pandemic. We analyze Canadian data from a national survey (two waves conducted in April and December 2020) that includes a subsample of 464 Asians (native-born=178; foreign-born=286). Results from negative binomial regressions suggest that perception of anti-Asian racism is highly conditioned by nativity. Specifically, native-born Asians are significantly more likely than foreign-born Asians to report having encountered instances of acute discrimination during the pandemic. To explain the perceived discrimination gap, we test whether a stronger sense of cultural belonging and ethnic pride among native-born Asians contributes to their greater sensitivity to discrimination and thereby higher perceptions of discrimination. We measure sense of cultural belonging and ethnic pride using in-group trust (ethnic trust in Asian people). Although we do find native-born Asians show greater in-group trust, it does not seem to explain away the higher levels of discrimination perceived by native-born Asians.

Introduction

Since the onset of the COVID-19 pandemic, there has been a massive spike in anti-Asian hate crimes across the world. Canada is no exception. Across the country, between March 10, 2020 and February 28, 2021, the community-led “FIGHT COVID-19 RACISM” platform (<https://www.covidracism.ca/>), where individuals can voluntarily share their experiences of racism, recorded 1,150 instances of anti-Asian racism.¹ The number continues to grow. Official data show a similar trend. In British Columbia, for example, the Vancouver Police Department reported a 97 percent increase in the total number of hate crimes from 142 cases in 2019 to 280 cases in 2020. Anti-Asian hate crimes, however, increased by 717 percent (from only 12 cases in 2019 to 98 cases in 2020) (Vancouver Police Department 2020). These numbers may only reflect a small portion of actual anti-Asian attacks. Results from a June 2020 survey of Chinese Canadians (n>500) conducted by Angus Reid Institute (2021) found that, since the pandemic’s onset, more than 50 percent of Asians have been called names or insulted, 40 percent have been threatened or intimidated, and 30 percent have been frequently exposed to racist graffiti or messaging on social media. This skyrocketing anti-Asian racism is taking a toll on Asian Canadians, endangering their health, and impacting their well-being (e.g., Mamuji et al. 2020; Yu et al. 2020; Wu et al. 2020; 2021).

It is also the case that Asians may not experience anti-Asian racism to the same degree. Even during the same set of events, individuals may report varying experiences of unequal treatment. Therefore, how individuals perceive unequal treatment could reflect how they experience discrimination differently (Vang and Chang 2019). A small body of research focusing on immigrants has shown that perceptions of discrimination vary across immigrant groups and also differ between immigrants and native-born people (e.g., Yip et al. 2008; Ray and Preston 2009; Mossakowski et al. 2018). For example, Reitz and Banerjee (2007) find that immigrants from different generations often report different levels of discrimination in Canadian society. Most recently, analyzing data from the Understanding Coronavirus in America survey, Wu and colleagues (2021) show that native-born Asians (Asian Americans) reported encountering more instances of discrimination than their foreign-born counterparts (Asian immigrants) during the COVID-19 pandemic.

In this article, we investigate whether Asian Canadians (native-born Asians) and Asian immigrants (foreign-born Asians) may have fared differently in the face of rising racist attacks during the COVID-19 pandemic. We analyze data from a national survey (two waves conducted in April and December 2020) and find that native-born Asians are significantly more likely than foreign-born Asians to report having encountered instances of acute discrimination during the pandemic. We then consider whether a stronger sense of cultural belonging and ethnic pride among native-born Asians may help explain the gap in perceived discrimination between native-born and immigrant Asians. We

¹ The platform was created by several community organizations including the Chinese Canadian National Council Toronto Chapter, Project 1907, Vancouver Asian Film Festival and Chinese Canadian National Council for Social Justice to track and record instances of Anti-Asian racism during COVID-19.

measure ethnic pride and cultural belonging using ethnic trust in Asian people (see also Uslaner and Conley 2003). We do not find that native-born Asians' higher in-group belonging (ethnic trust in Asian people) explains the gap.

Why do native-born Asians perceive more discrimination than foreign-born Asians?

Discrimination describes the experience of a person being treated unfairly by virtue of that person's ascribed status such as gender, race, and ethnicity (Heckman 1998; Quillian 2006; Wilkes and Wu 2018). Discrimination is manifested in many forms. Some manifestations are subtle and ambiguous, while others are explicit and overt. However, any form of discrimination can be harmful and endanger the health and well-being of those who experience it. When an individual, for example, is routinely ignored, treated rudely or with less courtesy, and threatened or harassed, it creates stress and trauma, thereby worsening that person's physical and mental health (Harrell 2000; Meyer 2003; Carter 2007). This experience of discrimination has, in turn, been linked to racial and ethnic health disparities (Essed 1991; Williams and Mohammed 2009; Williams et al. 2019). During the COVID-19 pandemic, ethnic and racial minorities' higher encounters of everyday discrimination have put additional stress on them, which in turn exacerbates the existing racial and ethnic inequalities in health (Mamuji et al. 2020; Yu et al. 2020; Wu et al. 2020; 2021).

In Canada, discrimination is widespread. Prior to the pandemic, about 23 percent of Canadians reported having experienced discrimination (Godley 2018), a figure that increased to 30 percent during the outbreak (Wu et al. 2020). Still, not all Canadians perceive discrimination to the same degree. Several scholars have considered how immigrants may experience discrimination differently. In this line of research, scholars find that not only do immigrants from diverse backgrounds perceive discrimination to different degrees, but that there is also a gap between how the native-born and the foreign-born perceive discrimination even in the same context. For example, Reitz and Banerjee (2007) find that visible minority second-generation Canadians report higher instances of discrimination than their first-generation counterparts. In contrast, white immigrants report higher discrimination than their white native-born counterparts (ibid). Ray and Preston (2009) show that, regardless of the racial and ethnic group, native-born Canadians tend to report higher perceived racial discrimination than immigrants, which seems to confirm Reitz and Banerjee's (2007) findings about visible minorities but contradicts their conclusion regarding white Canadians. More recently, Vang and Chang (2019) used data from the 2013 Canadian Community Health Survey to investigate how immigrants in Canada experience everyday discrimination compared to native-born Canadians. They show that recent immigrants report fewer instances of discrimination than their native-born Canadian counterparts and that immigrants who have lived in Canada for a longer period tend to report more instances of discrimination than more recent immigrants (Vang and Chang 2019).

Thus far, three major theories have been proposed to explain differences in perceived discrimination. First is straight-line assimilation theory. This theory posits that longer residence in the host society will diminish the discrimination gap between immigrants and the native-born. Succinctly put, the straight-line assimilation framework expects that the assimilation process culminates in the closure of the discrimination gap between the native-born and the foreign-born (Gordon 1964; see also Vang and Chang 2019). While this might apply to white immigrants, for non-white immigrants in Canada, research has suggested that the longer they stay, the higher discrimination they perceive (Reitz and Banerjee 2007). The finding that the native-born perceive more discrimination than the foreign-born (e.g., Ray and Preston 2009) also represents a full rejection of this theory.

Second is the segmented assimilation theory. According to this view, immigrants of different sociodemographic backgrounds experience discrimination to various degrees in the host country since they often experience divergent assimilation pathways (Portes and Zhou 1993). In Canada, whites are the dominant group in terms of wealth and political power (Vang and Chang 2019). Thus, white immigrants can quickly become “white” Canadians and be fully accepted, whereas non-white immigrants are often seen as “perpetual foreigners” in Canada regardless of the duration of their stay, even after generations (non-white native-born individuals). In fact, Reitz and Banerjee (2007) have shown that race conditions how immigrants perceive discrimination in Canada, which seems to lend some support to this theory.

To gauge how people may experience discrimination differently, we rely on how people perceive discrimination. Indeed, if people perceive the same set of unfair treatment events to various degrees, this can tell how they may have experienced the unfair treatment differently. However, both the straight-line assimilation theory and the segmented assimilation thesis fail to differentiate between instances of actual and perceived discrimination (Vang and Chang 2019). A third alternative, a differential treatment to discrimination theory, suggests that some are more sensitive to instances of unequal treatment and thus more likely to attribute such treatment to discrimination (Vang and Chang 2019: 606-607; see also Yip et al. 2008; Mossakowski et al. 2018). In this view, a deep-seated racial or ethnic identity may exacerbate sensitivity to discrimination (Yip et al. 2008). Mossakowski et al. (2018:446) explain that native-born people may perceive more discrimination as a result of their generally “strong sense of cultural belonging or ethnic pride” or sense of affront at “unfair treatment”. Such feelings which stem from and are bolstered by group membership can, however, intensify experiences of discrimination and condition individuals to harmonize cues in the environment with their racial or ethnic identity (Mossakowski et al. 2018). Native-born individuals’ greater sensitivity to discrimination also comes from their higher expectations for membership in the receiving country, which are learned in the educational institutions early in life (Vang and Chang 2019: 606). Accordingly, greater sensitivity to discrimination and differential treatment to discrimination explain why native-born people perceive more discrimination than foreign-born people.

Taken together, while it is important to acknowledge that all Asian Canadians have greatly suffered from the spike in anti-Asian hate crimes during the COVID-19 pandemic, we do expect that some perceive racism more than others and therefore could suffer more. We consider how Asians from different ethnic categories perceive anti-Asian racism differently. In particular, we test whether native-born Asians perceive a higher degree of anti-Asian racism than their foreign-born counterparts. To explain this potential gap in perceived discrimination, we test the differential treatment to discrimination theory. Specifically, we consider whether native-born Canadians show more in-group pride and, as a result, are more sensitive to discrimination and perceive more discrimination than foreign-born individuals, leading to their higher perceptions of discrimination encounters.

Data and Methods

As part of an ongoing national study tracking social perceptions, behaviours, and decision-making (Kennedy et al. 2020), we conducted a series of surveys with Canadian respondents. In March 2020, using all national postal routes as a sampling frame, we conducted a stratified random sampling matching provincial, urban/rural, and metro area parameters to national statistics. Prospective respondents received bilingual postcards requesting their participation via a URL or QR code, with a survey platform hosted at Qualia Analytics. This initial contact (154,758 households) yielded a cleaned and validated set of 1,969 responses. In December 2020, we invited those households who had provided an email address to participate in a follow-up survey ($n = 624$). Concurrently, we also recruited a further 3,056 completed respondents through the Leger web survey panel, using a quota-based approach matching the Canadian public with respect to age, gender, province, and visible minority status. The sample sizes above reflect post-cleaning numbers, which involved using a combination of attention check, consistency check, and minimum response standard verification.

For this study, we focus on Asians only, including both those respondents in the mail sample (March) and web sample (December). We include respondents who self-identified as any of the following ethnic groups: Chinese, Korean, Japanese, Western Asian, Southern Asian, Southeast Asian, and Filipino. Listwise deletion based on our key variables yields a final analytical sample that includes a total of 464 respondents.

Measures

Our dependent variable is perception of discrimination encounters. We combine five questions that ask, in the past month, whether the respondent was treated with less courtesy, received poorer service, was threatened or harassed, was the subject of other people's fear, and was subjected to negative reactions from strangers in public spaces (Williams et al. 1997). Responses are coded as 0=I wasn't treated this way during this month, 1=At least a few times in the month, 2=At least once a week, and 3=At least once daily. We combine these items to create an index of perceived discrimination

encounters, ranging from 0 to 15. Higher scores indicate higher perceptions of discrimination encounters (see also Wu et al. 2020). Scholars have debated whether these items should be used to compare perceptions of discrimination across diverse racial/ethnic groups since they may not be able to capture the underlying construct of perceived discrimination equivalently (Kim et al. 2014; Bastos and Harnois 2020). In this study, we focus on Asians only and this may help minimize the problem of measurement equivalence.

The major predictor variables include nativity, ethnic background, and ethnic identity. To measure nativity, we separate between native-born Asians and foreign-born Asians based on the country where they were born, in Canada or outside. For our main analysis, we obtain 178 native-borns (38%) and 286 foreign-borns (62%). Still, Asians are not a monolithic group. In fact, because the COVID-19 outbreak started in Wuhan, China, the vast majority of the attacks have been directed against people of Chinese descent or people who look Chinese including people of Japanese or Korean descent. According to the first national report based on over 600 racist incidents and attacks collected via “FIGHT COVID-19 RACISM” platform across Canada, 83 percent of the incidents and attacks targeted East Asians.² Accordingly, Asians from different ethnic backgrounds likely have experienced anti-Asian racism at different levels in different times. To control this effect, we create an ethnic background variable. Specifically, we separate East Asian respondents who identified as Chinese, Korean, and Japanese from Western Asian, Southern Asian, Southeast Asian, or Filipino. While our data are limited in assessing Asians’ sense of cultural belonging or ethnic pride, we are able to use Asians’ trust in Asian people (in-group trust) as a measure to reflect how strong they identify with and trust in their in-group fellows (see also Uslaner and Conley 2003). The question item simply asks respondents “do you trust Asian people?”. Response categories include five levels from “1=not trust at all” to “5=a great deal of trust”. High scores mean more trust. Given our focus is on Asian respondents only, we define Asian trust in Asian people as ethnic trust among Asian Canadians.

In our analysis, we also control for several key demographics. Respondents’ level of education is measured in terms from 1=no school to 7=post-graduate level. Household income is measured on a 1-13 scale, with higher scores indicating high levels of household income. Gender is separated between male and female. Age is calculated in years, ranging from 12 to 86. Wave of survey helps to account for both timing and survey mode variation. Table 1 provides the descriptive statistics for our key variables in the analysis. Please note that in Table 1, the total number of observations for both native-born and foreign-born Asians varies across variables. In the regression analysis below, we employ listwise deletion, resulting in an analytical sample of 464.

2 Eliminate8hate. 2020. More Anti-Asian Racist Incidents Reported Per Capita in Canada than US According to First National Report (September 2020). Accessed on March 3, 2021 from: <https://www.eliminate8hate.org/blog/more-anti-asian-racist-incidents-reported-per-capita-in-canada-than-us-according-to-first-national-report>.

Table 1. Descriptive statistics for key variables in the analysis

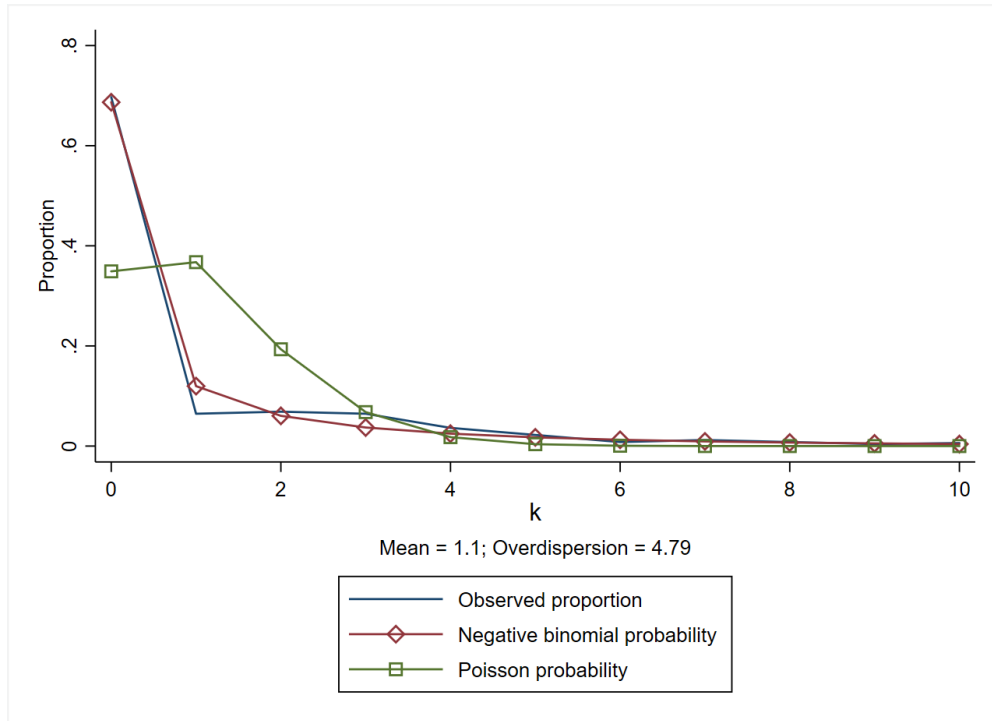
Variable	Native-born Asian			Foreign-born Asian			Min	Max
	Obs	Mean	Std. Dev.	Obs	Mean (%)	Std. Dev.		
Perceived discrimination encounters	188	1.44	2.62	307	0.82	1.79	0	15
Household income	262	8.60	4.20	430	8.36	3.98	0	13
Level of education	267	5.18	1.71	437	5.30	1.62	1	7
Age	268	55.58	15.13	445	48.04	15.99	12	86
Female	269	49%	NA	451	53%	NA	0	1
East Asian	271	61%	NA	454	43%	NA	0	1
Trust in Asian people	99	3.60	0.91	191	3.36	0.91	1	5
Survey wave (0=Mar, 1=Dec)	271	89%	NA	454	83%	NA	0	1

Methods

Our dependent variable captures whether respondents experienced discrimination during the last month across five items, with responses counted as 0=I wasn't treated this way during this month, 1=At least a few times in the month, 2=At least once a week, and 3=At least once daily. The composite scale of perceived discrimination (0-15) largely follows a Poisson distribution, so we consider it as a count response. Because the dependent variable is over-dispersed (variance [4.68] > mean [1.05]), we account for over-dispersion using the negative binomial specification for statistical estimations (Long 1997). Figure 1 graphs the observed proportions along with the Poisson and negative binomial probabilities for perceived discrimination. The negative binomial shape parameter, k , describes the shape of a negative binomial distribution. It confirms that the negative binomial probability curve fits the data better than the Poisson probability curve. Our additional analysis using the OLS regressions shows consistent results.

Findings

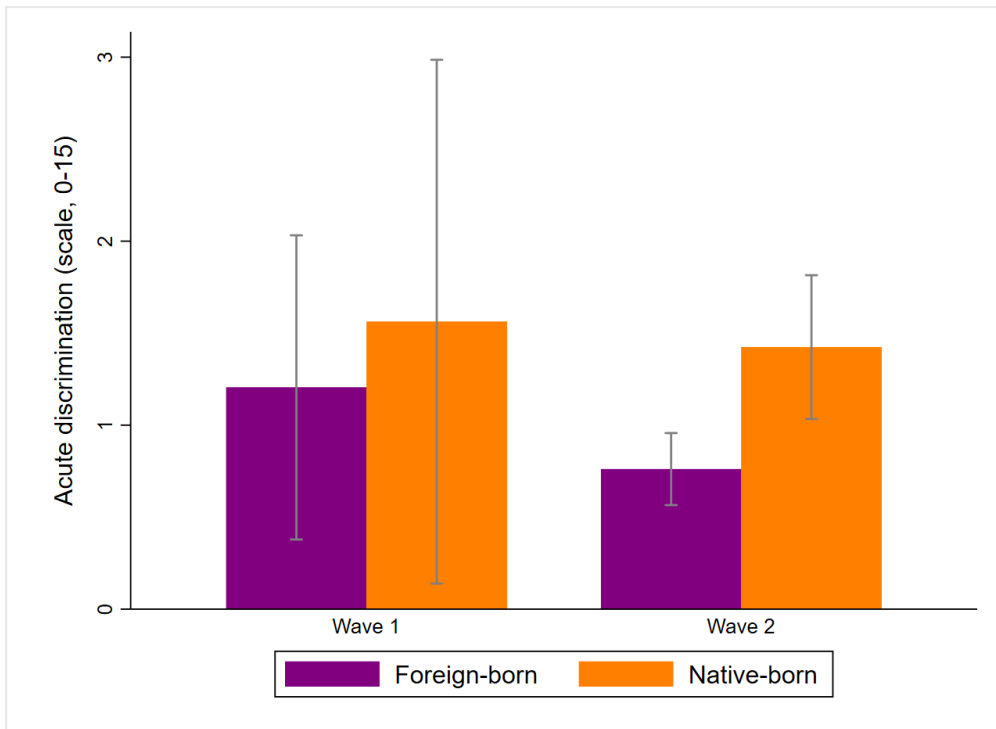
Figure 2 provides a descriptive visualization of the gap in perceived acute discrimination between foreign-born and native-born Asians across two waves of data. Overall, we see native-born Asians have reported more encounters of discrimination. More specifically, when comparing the encounters of acute discrimination on the 0-15 scale, we find that native-born Asians have an overall mean of 1.44 (95% CI, 1.06-1.81), while foreign-born Asians have an overall mean of 0.82 (95% CI, 0.62-1.02). The 0.61 gap is highly significant ($p=0.002$). Due to the existence of excess zeros, we also compare the probability of reporting at least some encounters of discrimination (1 or more on

Figure 1. Comparing the fit for Poisson versus negative binomial predictions

the 0-15 scale). The results show that while 27% of foreign-born Asians (native=0) reported some encounters of discrimination, this number is 36% for native-born Asians (native=1). The 9-percentage-point gap is also significant ($p=0.03$). These descriptive results suggest that native-born Asians tend to report higher encounters of acute discrimination during the COVID-19 pandemic (see also Table 1).

Next, we use negative binomial regressions to estimate the gap in perceived discrimination encounters between native-born and foreign-born Asians. Table 2 provides the results. The significant natural log of alpha (dispersion parameter) across all models indicates a significant selection of the negative binomial approach over a Poisson approach. Model (1) is a bivariate analysis between nativity and perceived discrimination encounters. It shows that the expected log count of perceived discrimination for native-born Asians is 0.626 higher than the expected log count for foreign-born Asians. The gap is statistically significant ($p<0.05$). Controlling for education, household income, age, and gender, as well as the wave of the survey, Model (2) shows that the expected log count of perceived discrimination for native-born Asians is still 0.428 higher than the expected log count for foreign-born Asians. The gap remains statistically significant ($p<0.1$). Furthermore, we also consider whether East Asians (e.g., Chinese, Korean, and Japanese) may perceive higher encounters of discrimination. Model (3) shows that there is no significant gap between East Asians and other Asians in perceived discrimination. In contrast, the negative coefficient indicates that, despite most racist attacks in news media having been directed against East Asians, they perceive a lower number of discrimination encounters than Asians from other ethnic categories such as

Figure 2. The gap in perceived discrimination encounters between the foreign-born and the native-born



South Asia and Southeast Asia. In fact, adding East Asian in the model, not only has the gap in perceived discrimination between native-born and foreign-born Asians become greater (0.548), but the effect also appears to be more significant ($p < 0.05$).

To explain the perceived discrimination gap, we consider whether native-born Asians have a stronger sense of cultural belonging or ethnic pride (e.g. in-group trust) and therefore are more sensitive to discrimination and perceive more discrimination than foreign-born Asians. Our final model considers whether higher ethnic trust in Asian people among native-born Asians may explain their higher perceived discrimination. We use data from wave 2 collected in December 2020 only because trust in Asian people was not asked in our first wave survey. When comparing trust in Asian people between native-born Asians and foreign-born Asians, we do find that overall, native-born Asians (3.60) show a slightly higher trust in Asian people than foreign-born Asians (mean=3.36), although the gap is insignificant. When including trust in Asian people, Model (4) shows no significant effect of trust in Asian people on perceived discrimination. However, the perception gap between the native-born and the foreign-born remains significant. In other words, higher ethnic trust in Asian people among native-born Asians does not seem to explain away their higher perceived discrimination and thereby the gap in perceived discrimination between the native-born and the foreign-born.

Table 2. Negative binomial models estimating the gap in perceived discrimination encounters between native-born and foreign-born Asians

	Model (1)	Model (2)	Model (3)	Model (4)
Nativity				
Asian (1=native-born, 0=foreign-born)	0.626** (2.84)	0.428+ (1.91)	0.548* (2.31)	0.937* (2.44)
Ethnicity				
East Asian (0=no, 1=yes)			-0.342 (-1.48)	-0.610+ (-1.71)
Ethnic identity				
Trust in Asian people (scale, 1-5)				-0.071 (-0.38)
Controls				
Household income (scale, 1-13)		-0.017 (-0.54)	-0.017 (-0.54)	-0.012 (-0.27)
Education (in degree, 1-7)		-0.101 (-1.40)	-0.110 (-1.53)	-0.071 (-0.69)
Age (in years, 16-86)		0.026** (3.08)	0.022** (2.58)	0.011 (0.88)
Female (0=no, 1=yes)		-0.506* (-2.33)	-0.460* (-2.11)	-0.547+ (-1.67)
Wave of survey (0=April, 1=December)		-0.729+ (-1.87)	-0.696+ (-1.80)	NA
Constant	-0.235+ (-1.67)	0.033 (0.06)	0.314 (0.53)	0.222 (0.18)
Dispersion parameter				
ln(alpha)	1.489*** (11.72)	1.389*** (10.66)	1.374*** (10.50)	1.162*** (5.40)
N	464	464	464	187
AIC	1178.8	1172.4	1172.2	481.6
BIC	1191.2	1205.5	1209.5	510.7
t statistics in parentheses				
+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001				

Conclusion

Canada is a nation of immigrants: more than one in five people in Canada are foreign-born. As a result, there is growing interest in understanding differences between the life experiences of native-born and foreign-born Canadians (e.g., Chen and Thorpe 2015; Man and Chou 2020; Wu and Wilkes 2017; Veenstra et al. 2020). In this study, we build on the specific literature that considers differences in how the native-born and the foreign-born experience and perceive discrimination (e.g., Yip et al. 2008; Ray and Preston 2009; Mossakowski et al. 2018; Vang and Chang 2019). Specifically, we considered how native-born Asians and foreign-born Asians may have experienced the spike in anti-Asian hate crimes during the COVID-19 pandemic differently. Understanding how individuals perceive discrimination differently helps us better understand how discrimination affects the health and well-being of those who experience it.

Our empirical analysis has several major findings. First, native-born Asians are significantly more likely than foreign-born Asians to report having encountered instances of acute discrimination during the COVID-19 pandemic. Previous work has shown mixed findings. Some have argued that compared to the native-born, foreign-born immigrants tend to perceive more discrimination (Chau et al. 2018; Wilkes and Wu 2018), but stronger evidence shows that the native-born minorities often perceive more discrimination than their foreign-born counterparts (Kuo 1995; Wu et al. 2021). For example, using data from a 2017 Pew Research Center survey, Gecewicz and Mohamed (2017) also find that native-born Muslims in the US are much more likely than their foreign-born counterparts to say there is a lot of discrimination against Muslims (91% vs. 65%). The native-born Muslims also tend to report higher personal encounters of discrimination than the foreign-born (61% vs. 39%). Our finding that native-born Asians perceive significantly more discrimination represents a full rejection to the straight-line assimilation theory that suggests longer residence in the host society will diminish the discrimination gap between immigrants and the native-born.

Second, we also find that although anti-Asian hate crimes have been mostly directed against East Asians in Canada, they perceive lower levels of discrimination compared to their counterparts from other ethnic origins such as Southeast Asian Canadians. In a way, this finding lends support to the segmented assimilation theory that how individuals perceive discrimination is associated with their diverse backgrounds. Finally, we find little support that native-borns' higher in-group belonging (ethnic trust in Asian people) can explain their higher levels of perceived discrimination. Future research may also consider collecting more data or using qualitative interviews to unpack the mechanisms underlying the gap in perceived discrimination between the native-born and the foreign-born. More research is also needed to understand how the nativity may affect immigrants and native populations' other life experiences during the COVID-19 pandemic such as economic lockdowns, loss of job, and the post-pandemic recovery, and how these differential experiences may exacerbate inequalities in health and well-being (Shen and Bartram 2021).

This study has several limitations. First, we measure how people experience discrimination indirectly using their perceived encounters of discrimination. We have argued that when members of the same racial or ethnic group perceive different levels of discrimination in the same context, this could indicate that they may experience discrimination differently. Further, our survey questions about perceived discrimination did not refer to discrimination based on race or ethnic identity only (or anti-Asian racism specifically), but to more general discrimination (e.g., because of such things as gender, race, age, or appearance). Therefore, readers should be cautious when interpreting our findings. Finally, we also note that ethnic trust in Asian people may not be the best indicator of Asian Canadians' sense of cultural belonging and ethnic pride. Hence, future research should develop better measures of perceived discrimination and sense of cultural belonging and ethnic pride.

References

- Bastos, João L., and Catherine E. Harnois. "Does the everyday discrimination scale generate meaningful cross-group estimates? A psychometric evaluation." *Social Science & Medicine* 265 (2020): 113321.
- Carter, Robert T. "Racism and psychological and emotional injury: Recognizing and assessing race-based traumatic stress." *The Counseling Psychologist* 35, no. 1 (2007): 13-105.
- Chau, Victoria, Janice V. Bowie, and Hee-Soon Juon. "The association of perceived discrimination and depressive symptoms among Chinese, Korean, and Vietnamese Americans." *Cultural Diversity and Ethnic Minority Psychology* 24, no. 3 (2018): 389.
- Chen, Xiaobei, and Sherry Xiaohan Thorpe. "Temporary families? The parent and grandparent sponsorship program and the neoliberal regime of immigration governance in Canada." *Migration, Mobility, & Displacement* 1, no. 1 (2015).
- Desmarais, Bruce A., and Jeffrey J. Harden. "Testing for zero inflation in count models: Bias correction for the Vuong test." *The Stata Journal* 13, no. 4 (2013): 810-835.
- Desmarais, Bruce A., and Jeffrey J. Harden. "Testing for zero inflation in count models: Bias correction for the Vuong test." *The Stata Journal* 13, no. 4 (2013): 810-835.
- Essed, Philomena. *Understanding everyday racism: An interdisciplinary theory*. Vol. 2. Sage, 1991.
- Finch, Brian Karl, Bohdan Kolody, and William A. Vega. "Perceived discrimination and depression among Mexican-origin adults in California." *Journal of Health and Social Behavior* (2000): 295-313.
- Fu, Qiang, Cary Wu, Heqing Liu, Zhilei Shi, and Jiabin Gu. "Live like mosquitoes: Hukou, rural-urban disparity, and depression." *Chinese Journal of Sociology* 4, no. 1 (2018): 56-78.

- Gecewicz, Claire and Besheer Mohamed. "American-born Muslims more likely than Muslim immigrants to see negatives in U.S. society." Pew Research Center. SEPTEMBER 26 (2017).
- Godley, Jenny. "Everyday Discrimination in Canada." *The Canadian Journal of Sociology/Cahiers canadiens de sociologie* 43, no. 2 (2018): 111-142.
- Gordon, Milton Myron. *Assimilation in American life: The role of race, religion, and national origins*. Oxford University Press on Demand, 1964.
- Harrell, Shelly P. "A multidimensional conceptualization of racism-related stress: Implications for the well-being of people of color." *American journal of Orthopsychiatry* 70, no. 1 (2000): 42-57.
- Heckman, James J. "Detecting discrimination." *Journal of Economic Perspectives* 12, no. 2 (1998): 101-116.
- Kennedy, E. B., Vikse, J., Chauhan, C., O'Doherty, K., Wu, C., Qian, Y., & Fafard, P. (2020). Canadian COVID-19 Social Impacts Survey. Rapid Summary of Results #1: Risk Perceptions, Trust, Impacts, and Responses (York University Disaster and Emergency Management Technical Report #004). <http://dx.doi.org/10.6084/m9.figshare.12121905>
- Kim, Giyeon, Martin Sellbom, and Katy-Lauren Ford. "Race/ethnicity and measurement equivalence of the Everyday Discrimination Scale." *Psychological Assessment* 26, no. 3 (2014): 892.
- Kuo, Wen H. "Coping with racial discrimination: The case of Asian Americans." *Ethnic and Racial Studies* 18, no. 1 (1995): 109-127.
- Long, J. Scott. *Regression models for categorical and limited dependent variables*. Vol. 7. Sage, 1997.
- Mamuji, Aaida A., Jack L. Rozdilsky, Charlotte T. Lee, Njoki Mwarumba, Martin Tubula, and Terri Chu. "Expanding the narrative on anti-Chinese stigma during COVID-19." Available from: https://www.yorku.ca/laps-sas/wp-content/uploads/sites/202/2020/11/EXPANDING-THE-NARRATIVE-ON-ANTI-CHINESE-STIGMA-DUR_Aaida-Mamuji.pdf.
- Man, Guida, and Elena Chou. "Transnational familial strategies, social reproduction, and migration: Chinese immigrant women professionals in Canada." *Journal of Family Studies* 26, no. 3 (2020): 345-361.
- Meyer, Ilan H. "Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence." *Psychological bulletin* 129, no. 5 (2003): 674.
- Mossakowski, Krysia N., Turro Wongkaren, Terrence D. Hill, and Robert Johnson. "Does ethnic identity buffer or intensify the stress of discrimination among the foreign born and US Born? Evidence from the Miami-Dade health survey." *Journal of Community Psychology* 47, no. 3 (2019): 445-461.

- Portes, Alejandro, and Min Zhou. "The new second generation: Segmented assimilation and its variants." *The annals of the American academy of political and social science* 530, no. 1 (1993): 74-96.
- Quillian, Lincoln. "New approaches to understanding racial prejudice and discrimination." *Annu. Rev. Sociol.* 32 (2006): 299-328.
- Ray, Brian, and Valerie Preston. "Geographies of discrimination: Variations in perceived discomfort and discrimination in Canada's gateway cities." *Journal of Immigrant & Refugee Studies* 7, no. 3 (2009): 228-249.
- Ray, Brian, and Valerie Preston. "Geographies of discrimination: Variations in perceived discomfort and discrimination in Canada's gateway cities." *Journal of Immigrant & Refugee Studies* 7, no. 3 (2009): 228-249.
- Reitz, Jeffrey G., and Rupa Banerjee. *Racial inequality, social cohesion and policy issues in Canada*. Canada: Institute for Research on Public Policy, 2007.
- Reitz, Jeffrey G., and Rupa Banerjee. *Racial inequality, social cohesion and policy issues in Canada*. Canada: Institute for Research on Public Policy, 2007.
- Shen, Jing, and David Bartram. "Fare differently, feel differently: mental well-being of UK-born and foreign-born working men during the COVID-19 pandemic." *European Societies* 23, no. sup1 (2021): S370-S383.
- Uslaner, Eric M., and Richard S. Conley. "Civic engagement and particularized trust: The ties that bind people to their ethnic communities." *American Politics Research* 31, no. 4 (2003): 331-360.
- Vancouver Police Department. 2020. Year-end 2020 Year-to-Date Key Performance Indicators Report. Accessed on March 3, 2021 from: <https://vancouver.ca/police/policeboard/agenda/2021/0218/5-1-2102P01-Year-end-2020-KPI-Report.pdf>.
- Vang, Zoua M., and Yvonne Chang. "Immigrants' experiences of everyday discrimination in Canada: Unpacking the contributions of assimilation, race, and early socialization." *International Migration Review* 53, no. 2 (2019): 602-631.
- Veenstra, Gerry, Maria Vas, and D. Kyle Sutherland. "Asian-White health inequalities in Canada: Intersections with immigration." *Journal of Immigrant and Minority Health* 22, no. 2 (2020): 300-306.
- Wilkes, Rima, and Cary Wu. "Immigration, discrimination, and trust: A simply complex relationship." *Frontiers in Sociology* 4 (2019): 32.
- Williams, D. R., Lawrence, J. A., & Davis, B. A. (2019). Racism and health: evidence and needed research. *Annual Review of Public Health*, 40, 105-125.
- Williams, David R., Harold W. Neighbors, and James S. Jackson. "Racial/ethnic discrimination and health: Findings from community studies." *American Journal of Public Health* 93, no. 2 (2003): 200-208.
- Williams, David R., Yan Yu, James S. Jackson, and Norman B. Anderson. "Racial differences in physical and mental health: Socio-economic status, stress and discrimination." *Journal of Health Psychology* 2, no.3 (1997): 335-351.

- Wu, Cary, and Rima Wilkes. "International students' post-graduation migration plans and the search for home." *Geoforum* 80 (2017): 123-132.
- Wu, Cary, Rima Wilkes, Yue Qian, and Eric B. Kennedy. "Acute Discrimination and East Asian-White Mental Health Gap during COVID-19 in Canada." Available at SSRN 3626460 (2020).
- Wu, Cary, Yue Qian, and Rima Wilkes. "Anti-Asian discrimination and the Asian-white mental health gap during COVID-19." *Ethnic and Racial Studies* 44, no. 5 (2021): 819-835.
- Yip, Tiffany, Gilbert C. Gee, and David T. Takeuchi. "Racial discrimination and psychological distress: the impact of ethnic identity and age among immigrant and United States-born Asian adults." *Developmental Psychology* 44, no. 3 (2008): 787.
- Yu, Alice, Sophia Prasad, Adebisi Akande, Andreea Murariu, Serena Yuan, Sylvia Kathirkamanathan, Myles Ma, and Sarah Ladha. "COVID-19 in Canada: A self-assessment and review of preparedness and response." *Journal of Global Health* 10, no. 2 (2020).

