Flexible resources and experiences of racism among a multi-ethnic adolescent population in Aotearoa, New Zealand: an intersectional analysis of health and socioeconomic inequities using survey data

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Summary

Background As societies become increasingly diverse, understanding the complex nature of racism for multiple ethnic, social, and economic identities of minority youth is required. Here we explore the experience of racism between and among privileged majority adolescent groups and targeted minority (Indigenous and ethnic) adolescents in New Zealand. Using the concept of structural and embodiment flexible resources, which act as risk and protective factors, we examine the social and health effects on minority youth.

Methods In this intersectional analysis, we use self-reported data from the Youth2000 survey series administered in 2001, 2007, 2012, and 2019 to large, representative samples of students from mainstream state and private schools in the Auckland, Tai Tokerau, and Waikato regions of New Zealand. Students were in school years 9–13 and mostly aged 13–17 years. Ethnic or migrant group, income level of country of origin, and migrant generation were used as measures of structural resources and perceived ethnicity as a measure of embodiment resource. Racism and its effects were measured as socioeconomic inequities (household, neighbourhood, and school-level deprivation); interpersonal discrimination (unfair treatment, bullying, and safety); and health inequities (forgone health care, symptoms of depression, and attempted suicide). We used generalised linear models to explore variations in economic, interpersonal, and health outcomes for Indigenous and migrant youth, adjusting for mediating effects of household deprivation and measures of flexible resources (migration generation, income level of country of origin, and perceived ethnicity).

Findings We collected data from a total of 20 410 adolescents from the four survey waves between 2001 and 2019. Participants had a median age of 15 years (IQR 14–16). Socioeconomic, interpersonal, and health inequities varied with access to flexible resources among Māori and racialised migrant youth. Māori and racialised migrants from low-income and middle-income countries in particular experienced high levels of socioeconomic inequities. Racialised migrant youth experienced persistent socioeconomic inequities extending over three generations, especially Pasifika migrant adolescents. Minorities perceived as White experienced less discrimination and had more advantages than visibly racialised groups. Regression models showed that embodiment resources, and to a lesser extent structural resources, mediated, but did not eliminate ethnic disparities in socioeconomic status and interpersonal discrimination; these resources did not strongly mediate ethnic disparities in health. Trend analyses indicate consistency in these patterns with ethnicity-based inequities persisting or increasing over time.

Interpretation Indigenous and ethnic minority experiences of racism are heterogeneous. Structural flexible resources (wealth) and, more substantially, embodiment flexible resources (perceived Whiteness) mitigate individual experiences of racism. In multi-ethnic western societies, anti-racist interventions and policies must address both structural deprivation and associated intergenerational mobility and colourism (ie, implicit and explicit bias against non-White youth).

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Introduction

On March 15, 2019, a White supremacist killed worshippers at two mosques in Christchurch, New Zealand; a painful reminder of deeply rooted racism prevalent in society. Racism is not new to New Zealand. Indigenous Māori were colonised by White European settlers in the 18th century and deprived of their land, resources, and authority to self-determination, despite signing Te Tiriti o Waitangi—a treaty with the English Crown that some Māori chiefs signed in 1840 that gave the Queen of England complete government over New Zealand; allowed Māori to maintain sovereignty over their lands, villages, properties, and treasures; and bestowed Māori with the same rights and privileges as British subjects. Since the 1980s, changes to

Research in context

Evidence before this study

We reviewed scholarship on racism, intersectionality, and health. Research on racism typically focuses on the asymmetrical and linear relationships between privileged–targeted groups and majority–minority groups, highlighting the contribution of racism to negative health effects such as chains of risk and weathering. There are limitations of a linear causative approach when applied to migrant populations in multi-ethnic societies. Young migrants are increasingly identifying with multiple identities and are becoming increasingly socially mobile and adaptive to dominant cultural settings; these are factors that enhance positive health outcomes. At the same time, young migrants have ongoing experiences of racism. These contradictions call for a new non-linear approach to investigate diversity of identities and associated racism experiences. Although flexible resources as protective factors that mitigate inequity is an established concept in the literature, it has not been applied to the context of intersectionality and identity characterised in minority youth.

Added value of this study

Our study investigates heterogeneity among minority young people and how their multiple social identities give them differential access to flexible resources. We extend the concept of flexible resources into two types: structural resources (ethnic or migrant group, income level of country of origin, and generational status), or resources that affect access to determinants of health and embodiment resources that are based on societal attitudes to perceived Whiteness. We examine the effects of the flexible resources on the health of ethnic minority adolescents in New Zealand. Our analysis shows that there are significant variations in discrimination among ethnic minority youth based on the flexible resources they have access to.

Implications of all the available evidence

Racism is not a singular phenomenon and not all minorities experience it equally. Although racism is a fundamental cause of health inequities, the linkages between the two are complex. Flexible resources provide a better understanding of the mechanisms of racism for adolescents who have multiple ethnic, social, and economic identities. An intersectional lens helps to better develop targeted interventions for young people experiencing racism and to address broader system-level bias and discrimination.

immigration law brought increased numbers of migrants from Asia, Africa, the Middle East, and Latin America to New Zealand. In 2018, more than a quarter (1 268 933 [27·0%] of 4 699 755 people) of New Zealand's population were born overseas, up from 698 628 (18·7%) of 3 737 280 people in 2001.[1] New Zealand Europeans and other Europeans (hereafter referred to collectively as Pākehā) were still the largest ethnic group, comprising 70% of the population; followed by Māori (16%); Asian (15%); Pasifika (8%); and Middle Eastern, Latin American, and African (MELAA) ethnic groups (1·5%) in 2018. New Zealand's migrant populations (ie, non-Pākehā and non-Indigenous Māori) are a heterogeneous group; there is considerable diversity in their countries of origin, socioeconomic status, length of time lived in New Zealand, and visa and citizenship status.

The ongoing effect of colonisation is evident in contemporary structures and policies, systematically disadvantaging not only Indigenous Māori, but each wave of non-White migrants who are making New Zealand their home. There is a robust body of work on racism among Indigenous Māori[2,3] and Pasifika communities;[4,5] in contrast, other ethnic minority groups are relatively under-researched, despite evidence of Asians and migrants facing high degrees of racial discrimination.[6–8] Experiences of racism are particularly understudied in the context of ethnic minority youth who comprise around 20% of New Zealand's total youth population, many of whom have multiple identities or markers of social difference, such as being first-generation or second-generation migrants, of belonging to diverse cultures and socioeconomic groups, and being visibly different. Existing research points to high rates of discrimination, bullying, and psychological distress among migrant youth overall.[2,9–11] However, the heterogeneity among ethnic minority youth means that young people experience inequality and discrimination differently.[9] It is this diversity of experiences of racism and the underlying societal structures that our study seeks to understand.

The term racism is predominantly understood to be the inequitable relationship between a privileged group (in New Zealand, usually White, European, or Pākehā people) and, what is referred to as, a targeted group (typically, in New Zealand, these are Indigenous Māori and people of colour; namely, those of Pasifika, Asian, and MELAA ethnicity). Racism encompasses marginalisation and oppression at an individual, institutional, and societal level enabled through historical legacies and systems.[12]

One school of thought on the effects of racism on health argues that lower access to structural resources among targeted groups than among privileged groups results in poorer health outcomes for targeted groups than privileged groups.[13–18] Researchers have also shown that race is a fundamental cause of health inequity, independent of socioeconomic status; an indication of the pervasiveness of structural racism.[13]

In contrast, intersectionality researchers argue that racism does not affect all members in the targeted or minority groups equally.[9,19] Individuals in these groups

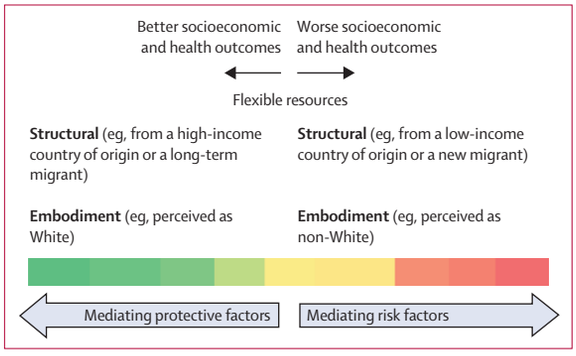

Figure 1: **A conceptual model of flexible (structural and embodiment) resources and inequalities**

have differential access to resources such as income, position, networks, and relationships. These are flexible resources that can be used in different ways in different situations, giving minorities a range of choices, opportunities, and vulnerabilities.[13] Although flexible resources do not erase racism, they could act as protective factors. For example, members from a minority group who are wealthier have better outcomes than those from poorer backgrounds.[20,21] Additionally, studies on colourism have shown that perceived Whiteness among minority group members improves health and social outcomes.[22,23]

In this study, we develop these conceptual arguments into an intersectional framework that explores the effects of differential flexible resources on racism. An intersectional analysis that examines racism effects between privileged and targeted groups as well as between and among targeted groups[24] is particularly relevant in the context of multi-ethnic societies like New Zealand. Adapting the work of a 2015 study, we propose two kinds of flexible resources.[13] First, we consider structural resources, such as employment, education, and income. For migrant populations, structural resources can also include country of origin (whether this is a high-income or low-income country); migration generational status (recent migrants or second or later generation); and ethnicity (of racialised or non-racialised origin). Second, we consider embodiment resources, which refers to the discrimination arising from visible racialisation or perceived Whiteness. Figure 1 represents the spectrum along which members of privileged and targeted groups might be located depending on their particular sets of structural and embodiment resources.

The overall aim of this study is to examine the effect of flexible resources (structural and embodiment) on the experience of racism between and among privileged and targeted groups in New Zealand. The analysis was guided by four specific questions: does access to structural resources mediate the effects on socioeconomic and health outcomes for minority groups? Do embodiment resources or perceived Whiteness of individuals from minority groups mediate experiences of discrimination and health outcomes? In what way do structural or embodiment resources differ in their effect on migrant experiences of racism and health outcomes? Is racism, as seen through the Youth2000 study waves, increasing in New Zealand?

Methods

Data sources and definitions

In this intersectional analysis, we use study data from the Youth2000 survey series that collects information on a wide range of things that contribute to young people's health and wellbeing. The surveys were administered in 2001, 2007, 2012, and 2019 to representative samples of New Zealand secondary school students (in school years 9–13 and mostly aged 13–17 years). Each survey was approved by the University of Auckland Human Participants Ethics Committee (reference numbers 1999/014 [2001], 2005/414 [2007], 2011/206 [2012], and 023450 [2019]). Detailed methods of these anonymous, comprehensive, cross-sectional adolescent health surveys are available elsewhere.[25–27] Briefly, the surveys used two-stage cluster sampling, using simple random sampling at each stage. Computer-generated random numbers were used to select schools from a list of all mainstream state and private secondary schools (including Māori-language immersion schools, but excluding specialist and alternative education schools, which were surveyed separately) with more than 50 students, and then to randomly select students from the roll in each participating school. Youth2000 survey series 2019 (Youth19), which was the primary analysis in this paper, was done in the Auckland, Tai Tokerau, and Waikato regions of New Zealand, which account for approximately 47% of New Zealand's high school population and are the most ethnically diverse areas in New Zealand.[28] In 2019, we additionally stratified the school sample by the three educational regions, selecting 50% of eligible schools from each region. In 2001, 2007, and 2012 (from which data were used for trend analysis, together with Youth19), schools throughout New Zealand were sampled, but in this analysis, only data from Auckland, Tai Tokerau, and Waikato regions are used to make the data comparable. Sample sizes for the secondary analyses in this study were defined by data available from the original surveys, which were large surveys designed to generate nationally and regionally representative prevalence estimates of a range of health indicators, including estimates by ethnic group. These prevalence estimates will be presented as percentages and 95% CIs. Written informed consent was obtained from the principals or Boards of Trustees of participating schools. Parents or caregivers of participating students were informed about the study and had the opportunity to withdraw their child from participation. Students provided informed consent on hand-held computers before beginning the computer-based survey.

We considered the following measures for the two facets of flexible resources as these were the most closely aligned with our purpose within the

Youth2000 survey series: ethnic or migrant group, income of country of origin (based on World Bank classifications), and migration generation (either first generation or second generation; structural); and perceived ethnicity (embodiment; appendix p 1).

Outcome measures

A range of outcome measures from those available within the surveys were selected across each indicator of flexible resource,[21,29] based on key outcomes from previous Youth2000 publications. A description of the

See Online for appendix

	2001 (n=3470)	2007 (n=4596)	2012 (n=4623)	2019 (n=7721)
Sex				
Male	1486 (42·8%)	2496/4591 (54·4%)	2138/4622 (46·3%)	3478/7633 (45·6%)
Female	1984 (57·2%)	2095/4591 (45·6%)	2484/4622 (53·7%)	4155/7633 (54·4%)
Age, years				
≤13	751/3461 (21·7%)	967/4591 (21·1%)	1049/4618 (22·7%)	1386 (18·2%)
14	827/3461 (23·9%)	1016/4591 (22·1%)	971/4618 (21·0%)	1720 (22·6%)
15	801/3461 (23·1%)	980/4591 (21·4%)	956/4618 (20·7%)	1680 (22·0%)
16	619/3461 (17·9%)	905/4591 (19·7%)	877/4618 (19·0%)	1455 (19·1%)
≥17	463/3461 (13·4%)	723/4591 (15·8%)	765/4618 (16·6%)	1392 (18·2%)
Neighbourhood deprivation band				
Least deprived	..	1632/4595 (35·5%)	1260/4512 (27·9%)	2110/6888 (30·6%)
Middle	..	1656/4595 (36·0%)	1598/4512 (35·4%)	2809/6888 (40·9%)
Most deprived	..	1307/4595 (28·4%)	1654/4512 (36·7%)	1969/6888 (28·5%)
Ethnic or migrant group				
Pākehā (non-racialised, non-migrants)	1212 (34·9%)	1582 (34·4%)	1514 (32·8%)	2562 (33·2%)
Non-racialised migrants	193 (5·6%)	322 (7·0%)	243 (5·3%)	508 (6·6%)
Racialised non-migrants	537 (15·5%)	790 (17·2%)	1037 (22·4%)	1774 (23·0%)
Racialised migrants	758 (21·8%)	1184 (25·8%)	1068 (23·1%)	1469 (19·0%)
Māori	770 (22·2%)	718 (15·6%)	761 (16·5%)	1408 (18·2%)
Country of origin grouped by income level				
Pākehā	1212 (34·9%)	1581 (34·4%)	1514 (32·8%)	2562 (33·2%)
Non-racialised migrants born in high-income European and North American countries and Australia	155 (4·5%)	289 (6·3%)	220 (4·8%)	429 (5·6%)
Racialised migrants born in high-income European and North American countries and Australia	61 (1·8%)	94 (2·1%)	79 (1·7%)	161 (2·1%)
Racialised migrants born in upper-middle-income and high-income Asian countries	199 (5·7%)	380 (8·3%)	285 (6·2%)	380 (4.9%)
Racialised migrants born in middle-income and high-income Middle East or Latin America countries	27 (0·8%)	50 (1·1%)	35 (0·8%)	71 (0·9%)
Racialised migrants born in low-income and lower-middle-income Asian countries	138 (4·0%)	174 (3·8%)	154 (3·3%)	407 (5·3%)
Racialised migrants born in low-income and middle-income African countries	48 (1·4%)	131 (2·9%)	94 (2·0%)	57 (0·7%)
Other	162 (4·7%)	244 (5·3%)	201 (4·4%)	266 (2.7%)
Racialised non-migrants	537 (15·5%)	790 (17·2%)	1037 (22·4%)	1774 (23.0%)
Racialised migrants born in middle-income Pacific countries	161 (4·6%)	145 (3·2%)	243 (5·3%)	206 (2·7%)
Māori	770 (22·2%)	718 (15·6%)	761 (16·5%)	1390 (18·2%)
Migrant generation				
Third-or-more-generation non-racialised migrant (Pākehā)	1016 (29·3%)	1353 (29·4%)	1279 (27·7%)	1658 (21·5%)
Second-generation non-racialised migrant	196 (5·7%)	229 (5·0%)	235 (5·1%)	904 (11·7%)
First-generation non-racialised migrant	193 (5·6%)	322 (7·0%)	243 (5·3%)	508 (6·6%)
Third-or-more-generation racialised migrant*	107 (3.1%)	110 (2·4%)	85 (1·8%)	105 (1·4%)
Second-generation racialised migrant*	139 (4·0%)	214 (4·7%)	330 (7·1%)	1267 (16·4%)
First-generation racialised migrant*	563 (16·2%)	983 (21·4%)	763 (16·5%)	1251 (16·2%)
Third-or-more-generation Pasifika migrant	71 (2·1%)	148 (3·2%)	203 (4·4%)	169 (2·2%)
Second-generation Pasifika migrant	283 (8·2%)	355 (7·7%)	467 (10·1%)	558 (7·2%)
First-generation Pasifika migrant	195 (5·6%)	201 (4·4%)	305 (6·6%)	218 (2·8%)
Māori	707 (20·4%)	681 (14·8%)	713 (15·4%)	1083 (14·0%)

(Table 1 continues on next page)

	2001 (n=3470)	2007 (n=4596)	2012 (n=4623)	2019 (n=7721)
(Continued from previous page)				
Perceived ethnicity				
Pākehā and non-racialised migrants perceived as White	..	..	..	2860 (37·0%)
Racialised migrants and Māori perceived as White	..	..	..	936 (12·1%)
Perceived as Latin American	..	..	..	87 (1·1%)
Perceived as East Asian	..	..	..	1146 (14·8%)
Perceived as South Asian	..	..	..	499 (6·5%)
Perceived as Pasifika	..	..	..	927 (12.0%)
Perceived as Middle Eastern	..	..	..	96 (1·2%)
Perceived as African	..	..	..	85 (1·1%)
Perceived as other ethnicity	..	..	..	282 (3·7%)
Perceived as Māori	..	..	..	803 (10·4%)

Non-racialised people were those who migrated from Europe, North America, and Australia and were not of Asian, MELAA, or Pasifika ethnicities. Racialised people are those with origins in Asia, Pacific, Middle East, Latin America, or Africa. *Excluding Pasifika. MELAA=Middle Eastern, Latin American, and African.

Table 1: **Participant demographic characteristics**

For the **directed acyclic graph** see dagitty.net/mjUyDDU

survey questions and measures used is in the appendix (p 2). In summary, the measures included: economic measures (household deprivation, neighbourhood deprivation, and school decile); interpersonal racism (experiences of unfair treatment and being bullied and perception of safety); and indicators of health (forgone health care [an indicator of health disparities among ethnic minority populations], cost as a barrier to health care, symptoms of depression, and attempted suicide).

The study did not use direct measures of structural inequality such as parental income, or students' educational achievements, as this was a self-reported survey, and students are often unaware of their parental income, and educational benchmarks differ by school. Indicators of educational achievements, such as grades, were also not collected as these could potentially be misused to stigmatise, often racialised, communities.

Analysis

All analyses were adjusted for inverse probability weights, which were calculated for each student as: (total number of schools ÷ schools that participated) × (total number of eligible students in the student's school ÷ students from that school that participated) to account for unequal probability of selection, survey design, and clustering by school, using the svy command in Stata. Generalised linear models (with log link and Poisson distribution) were used to explore variations in economic, interpersonal, and health outcomes for Indigenous and migrant youth, adjusting for mediating effects of household deprivation and measures of flexible resources (migration generation, income level of country of origin, and perceived ethnicity). Our mediation analysis used a deliberately simple exploratory approach to establish proof-of-concept.[30] Adjustments for age and sex were explored but were not included because they did not fit our causal framework and did not affect the models. Our directed acyclic graph is published on DAGitty. Results are expressed as risk ratios with 95% CIs. Analyses were done using Stata version 17.0.

Role of the funding source

The funder of the study had no role in study design, data collection, data analysis, data interpretation, writing of the report, or in the decision to submit for publication.

Results

We collected data from a total of 20 410 adolescents from the four survey waves between 2001 and 2019 (table 1). Missing data for all outcome variables ranged from 0 to 833 (10·8%) of 7721 in 2019 (appendix p 2). There were slightly more female participants than males in all waves except 2007, and fewer adolescents in the oldest age group (aged 17 years and older) in 2001 than in the other three survey waves. The median age of participants was 15 years (IQR 14–16). The proportion of adolescents who identified with only the majority ethnicity, Pākehā, has decreased slightly over time, from 34·9% (1212/3470) of the student population in 2001 to 33·2% (2562/7721) in 2019. The proportions of first-generation migrants with different ethnic backgrounds have remained constant, or changed only slightly over time, with first-generation non-racialised migrants increasing from 193 (5·6%) of 3470 adolescents in 2001 to 508 (6·6%) of 7721 adolescents in 2019. The proportion of first-generation racialised

Figure 2: **Prevalence of socioeconomic, health-care, and mental health outcomes by structural resources (ethnic or migrant group, socioeconomic status of country of origin, and migration generation)**

Prevalence estimates are based on percentages and 95% CIs. 95% CIs are presented in brackets. Racialised migrants or racialised non-migrants are those with origins in Asia, Pacific, Middle East, Latin America, or Africa. *Number of years residing in New Zealand only presented for first-generation migrants. †Excluding Pasifika.

By ethnic or migrant group	Household deprivation							Neighbourhood deprivation	Low school decile	Health-care access		Health outcomes	
	Any worry about money	Worry about money for food	Worry about money for electricity	Worry about money for rent	Worry about money for transport	No bedroom	Moved home ≥2 times			Forgone health care	Forgone health care due to cost	Symptoms of depression	Attempted suicide
Pākehā (non-racialised, non-migrant)	10·5 (8·6–12·8)	7·9 (6·2–10·0)	1·5 (1·1–2·2)	4·0 (3·3–4·7)	3·4 (2·5–4·6)	4·5 (3·7–5·5)	4·0 (3·2–5·0)	12·5 (8·4–18·2)	4·7 (1·9–11·2)	29·3 (26·9–31·8)	8·9 (7·0–11·1)	22·4 (19·5–25·6)	3·5 (2·8–4·4)
Non-racialised migrants	11·8 (8·6–16·1)	7·8 (5·3–11·2)	1·8 (0·9–3·7)	5·5 (3·7–8·2)	2·5 (1·3–4·9)	6·1 (3·8–9·6)	7·9 (5·5–11·2)	10·2 (6·3–16·2)	4·2 (1·4–12·3)	28·2 (24·5–32·1)	12·0 (9·0–15·9)	23·5 (18·8–29·0)	3·5 (1·4–8·1)
Racialised non-migrants	21·5 (17·6–26·1)	17·4 (13·7–22·0)	7·4 (4·7–11·5)	9·5 (7·3–12·1)	7·9 (5·3–11·6)	9·5 (7·6–12·0)	6·6 (4·9–8·8)	39·4 (27·4–52·8)	28·3 (12·5–52·0)	31·8 (28·5–35·2)	10·5 (8·8–12·5)	25·3 (21·7–29·2)	7·4 (5·4–10·0)
Racialised migrants	20·5 (16·3–25·6)	16·3 (12·6–20·7)	4·7 (2·9–7·4)	7·7 (6·1–9·6)	6·7 (4·6–9·6)	11·1 (8·9–13·8)	8·6 (7·3–10·2)	35·8 (24·7–48·7)	23·0 (10·3–43·8)	34·8 (31·2–38·6)	16·0 (14·1–18·1)	27·6 (24·6–30·8)	7·0 (5·1–9·4)
Māori	26·1 (21·7–31·1)	20·8 (16·7–25·6)	6·2 (4·3–9·0)	10·7 (8·3–13·7)	10·6 (7·6–14·8)	13·8 (10·3–18·4)	13·8 (11·3–16·9)	48·5 (37·5–59·5)	36·6 (20·9–55·9)	38·3 (34·7–42·0)	12·6 (10·1–15·5)	31·4 (27·2–35·9)	12·7 (9·5–16·8)
Country of origin grouped by income level													
Pākehā	10·5 (8·6–12·8)	7·9 (6·2–10·0)	1·5 (1·1–2·2)	4·0 (3·3–4·7)	3·4 (2·5–4·6)	4·5 (3·7–5·5)	4·0 (3·2–5·0)	12·5 (8·4–18·2)	4·7 (1·9–11·2)	29·3 (26·9–31·8)	8·9 (7·0–11·1)	22·4 (19·5–25·6)	3·5 (2·8–4·4)
Non-racialised migrants born in high-income European and North American countries, and Australia	11·3 (7·9–15·7)	7·1 (4·2–11·7)	1·2 (0·5–2·7)	5·3 (3·4–8·1)	2·0 (0·9–4·2)	4·6 (2·7–7·9)	9·0 (6·1–13·0)	8·6 (5·1–14·3)	2·4 (0·6–9·4)	28·7 (24·3–33·5)	12·2 (8·7–16·7)	24·5 (19·7–30·1)	2·7 (1·3–5·7)
Racialised migrants born in high-income European and North American countries, and Australia	17·1 (12·5–22·9)	9·6 (6·3–14·5)	2·6 (0·8–8·1)	8·1 (4·4–14·4)	8·1 (4·1–15·3)	8·5 (4·0–17·4)	10·8 (7·4–15·4)	24·7 (13·1–41·6)	19·9 (8·2–40·7)	28·9 (21·7–37·3)	14·3 (9·7–20·6)	29·6 (21·2–39·7)	9·3 (5·4–15·7)
Racialised migrants born in upper-middle-income and high-income Asian countries	10·4 (7·7–13·8)	7·7 (5·2–11·3)	2·4 (1·0–5·4)	4·5 (2·5–7·9)	1·7 (0·7–4·1)	5·8 (3·5–9·4)	6·8 (5·0–9·1)	19·9 (11·0–33·3)	4·1 (1·2–13·1)	32·1 (26·2–38·6)	17·2 (12·9–22·6)	22·2 (17·6–27·5)	3·9 (2·5–6·1)
Racialised migrants born in middle-income and high-income Middle Eastern or Latin American countries	18·2 (8·4–35·3)	15·5 (6·0–34·7)	2·3 (0·5–9·1)	1·5 (0·2–9·7)	4·3 (0·6–24·1)	6·7 (2·6–16·0)	14·9 (7·2–28·5)	26·7 (13·1–46·6)	13·5 (3·7–38·9)	26·6 (18·8–36·2)	6·6 (2·8–14·9)	25·0 (14·6–39·4)	7·2 (3·0–16·6)
Racialised migrants born in low-income and middle-income Asian countries	21·2 (16·8–26·4)	16·4 (12·4–21·3)	4·5 (2·6–7·8)	10·0 (7·0–14·0)	5·6 (3·8–8·1)	12·5 (9·2–16·7)	6·2 (4·2–9·1)	34·2 (24·1–45·9)	16·1 (6·4–35·0)	35·0 (31·0–39·4)	17·1 (14·3–20·3)	31·2 (26·6–36·1)	5·9 (3·7–9·4)
Racialised migrants born in low-income and middle-income African countries	27·3 (15·5–43·4)	24·7 (13·3–41·1)	4·3 (0·9–18·1)	4·1 (0·9–17·0)	6·9 (1·9–22·2)	7·9 (3·2–18·1)	2·4 (0·3–16·5)	29·4 (12·6–54·7)	7·7 (1·8–28·1)	42·2 (24·9–61·7)	11·6 (6·8–19·2)	31·3 (19·6–45·9)	1·2 (0·1–8·7)
Other	23·0 (17·3–30·0)	19·7 (14·2–26·5)	7·0 (4·0–11·8)	8·7 (4·8–15·2)	7·9 (4·1–14·8)	15·4 (10·2–22·6)	9·8 (6·6–14·3)	40·1 (27·6–53·9)	26·7 (13·7–45·5)	39·0 (31·1–47·5)	16·9 (12·2–22·9)	24·9 (19·6–31·0)	8·6 (4·2–16·8)
Racialised non-migrants	21·5 (17·6–26·0)	17·4 (13·7–21·9)	7·4 (4·7–11·4)	9·5 (7·4–12·1)	7·9 (5·2–11·6)	9·5 (7·6–11·9)	6·6 (4·9–8·7)	39·3 (27·3–52·7)	28·2 (12·5–51·9)	31·8 (28·6–35·2)	10·5 (8·8–12·5)	25·3 (21·7–29·2)	7·4 (5·4–10·0)
Racialised migrants born in middle-income Pacific countries	33·3 (26·0–41·6)	27·7 (20·5–36·2)	9·1 (4·6–17·3)	10·7 (7·0–16·1)	15·8 (11·6–21·0)	17·8 (13·4–23·2)	11·1 (7·3–16·6)	66·7 (52·0–78·7)	70·0 (41·7–88·4)	36·3 (25·4–48·9)	14·0 (8·4–22·4)	28·1 (21·5–35·9)	13·2 (9·2–18·5)
Māori	26·1 (21·7–31·1)	20·8 (16·7–25·6)	6·2 (4·3–9·0)	10·7 (8·3–13·7)	10·6 (7·6–14·8)	13·8 (10·3–18·4)	13·8 (11·3–16·9)	48·5 (37·5–59·5)	36·6 (20·9–55·9)	38·3 (34·7–42·0)	12·6 (10·1–15·5)	31·4 (27·2–35·9)	12·7 (9·5–16·8)
By migrant generation, and number of years residing in New Zealand*													
Third-or-more-generation non-racialised migrant (Pākehā)	10·2 (8·1–12·8)	7·8 (5·8–10·3)	1·6 (1·1–2·3)	4·1 (3·2–5·2)	3·4 (2·5–4·6)	4·1 (3·2–5·3)	3·4 (2·5–4·5)	12·9 (8·5–19·2)	4·7 (1·8–11·5)	29·1 (26·0–32·3)	8·6 (6·6–11·1)	21·9 (18·1–26·2)	3·3 (2·6–4·2)
Second-generation non-racialised migrant	11·1 (8·7–14·0)	8·1 (6·0–11·0)	1·4 (0·6–3·1)	3·7 (2·6–5·2)	3·5 (2·2–5·3)	5·1 (3·7–7·0)	5·2 (3·8–7·1)	11·7 (7·6–17·7)	4·7 (1·9–11·1)	29·7 (27·0–32·5)	9·3 (6·8–12·5)	23·4 (20·6–26·4)	3·9 (2·7–5·7)
First-generation non-racialised migrant, ≥10 years	11·3 (8·0–15·7)	8·0 (5·5–11·5)	1·9 (0·9–4·1)	4·8 (2·7–8·6)	2·5 (1·3–4·8)	5·4 (3·1–9·2)	5·1 (3·0–8·6)	9·6 (5·5–16·2)	3·9 (1·2–11·4)	26·7 (22·9–30·9)	12·2 (8·7–16·8)	22·8 (16·1–31·3)	3·8 (1·1–12·2)
First generation non-racialised migrant, 5–9 years	12·6 (5·7–25·8)	4·2 (1·2–14·2)	1·2 (0·2–8·8)	9·8 (3·0–27·6)	1·8 (0·2–13·0)	6·4 (1·6–21·8)	5·5 (1·7–16·1)	11·7 (4·5–27·0)	5·0 (1·4–16·6)	30·2 (21·5–40·6)	12·2 (4·7–28·1)	27·8 (16·8–42·3)	3·0 (0·7–12·4)
First-generation non-racialised migrant, <5 years	12·8 (6·4–24·0)	10·0 (4·3–21·4)	2·1 (0·5–7·7)	4·4 (1·7–10·6)	3·2 (0·8–11·8)	8·1 (4·0–15·8)	19·0 (10·6–31·8)	10·8 (5·1–21·3)	4·7 (0·6–28·6)	31·1 (23·0–40·5)	11·3 (6·2–19·6)	22·6 (14·1–34·2)	2·7 (0·9–7·9)
Third-or-more-generation racialised migrant†	14·6 (9·0–22·6)	12·1 (6·7–20·9)	3·4 (0·8–13·0)	4·5 (1·7–11·4)	3·5 (0·9–13·1)	9·9 (4·1–21·7)	13·7 (6·4–26·9)	16·7 (8·5–30·2)	9·5 (2·5–29·7)	26·4 (19·4–34·8)	7·8 (4·3–13·8)	19·1 (12·5–28·1)	6·7 (2·9–14·5)
Second-generation racialised migrant†	16·6 (13·9–19·8)	13·2 (10·6–16·5)	3·0 (1·9–4·8)	6·5 (5·2–8·1)	4·7 (3·3–6·7)	8·6 (6·7–11·0)	6·0 (4·6–7·8)	29·3 (20·4–40·2)	15·9 (6·7–33·2)	32·1 (29·2–35·1)	11·1 (9·2–13·5)	27·9 (23·6–32·6)	6·2 (4·3–8·8)
First-generation racialised migrant, ≥10 years*	17·2 (13·7–21·4)	13·2 (10·2–16·8)	3·0 (1·6–5·7)	7·3 (5·1–10·4)	5·6 (3·4–9·1)	9·6 (7·0–12·8)	7·0 (4·5–10·6)	31·1 (21·4–42·9)	16·6 (7·0–34·4)	34·8 (30·3–39·6)	12·5 (9·8–15·8)	25·7 (21·0–31·1)	6·0 (3·7–9·4)
First-generation racialised migrant, 5–9 years†	20·8 (15·3–27·7)	15·6 (10·1–23·5)	4·0 (2·1–7·5)	7·3 (4·4–11·8)	4·1 (1·9–8·6)	8·3 (5·0–13·5)	4·9 (2·6–9·2)	29·7 (19·6–42·3)	11·8 (4·4–28·1)	32·5 (26·9–38·7)	13·6 (9·4–19·2)	30·8 (24·6–37·8)	6·3 (4·3–9·3)
First-generation racialised migrant, <5 years†	15·2 (10·1–22·3)	13·1 (8·8–19·1)	4·2 (1·9–8·7)	5·6 (3·4–8·9)	5·3 (2·8–9·6)	10·0 (7·1–13·9)	9·9 (7·6–13·0)	26·4 (18·2–36·7)	13·2 (5·2–29·9)	32·3 (28·1–36·9)	19·2 (15·0–24·2)	25·4 (20·9–30·5)	4·2 (2·8–6·4)
Third-or-more-generation Pasifika migrant	31·7 (23·9–40·7)	24·7 (18·3–32·4)	11·8 (7·3–18·6)	15·2 (9·8–22·7)	12·0 (6·7–20·4)	10·6 (7·2–15·2)	8·1 (4·8–13·4)	46·9 (30·7–63·8)	44·1 (21·1–69·9)	30·1 (20·5–41·7)	12·9 (7·0–22·7)	22·5 (16·3–30·1)	7·6 (4·4–12·7)
Second-generation Pasifika migrant	33·7 (28·9–38·8)	28·2 (23·6–33·4)	15·3 (11·5–20·0)	16·0 (12·8–19·9)	15·6 (11·8–20·4)	14·0 (11·4–17·1)	9·1 (6·6–12·4)	66·3 (54·1–76·7)	56·2 (31·0–78·5)	36·0 (31·5–40·7)	10·0 (6·7–14·7)	25·6 (18·8–33·9)	12·6 (9·6–16·5)
First-generation Pasifika migrant, ≥10 years	34·2 (27·7–41·3)	28·2 (21·6–36·0)	7·7 (3·9–14·4)	12·4 (7·1–20·8)	12·1 (7·1–19·8)	19·1 (13·4–26·6)	8·5 (4·7–14·7)	68·1 (53·2–80·0)	60·7 (34·3–82·1)	42·1 (32·6–52·3)	19·2 (12·9–27·6)	21·4 (13·3–32·7)	10·2 (4·9–20·0)
First-generation Pasifika migrant, 5–9 years	32·4 (21·1–46·2)	22·2 (11·6–38·2)	5·0 (1·2–19·3)	12·2 (5·7–24·1)	16·8 (7·9–32·4)	19·5 (11·4–31·3)	11·8 (4·1–29·3)	81·2 (58·3–93·1)	72·9 (40·5–91·4)	39·6 (24·0–57·6)	11·8 (4·7–26·7)	44·5 (27·4–63·1)	27·9 (15·5–44·9)
First-generation Pasifika migrant, <5 years	50·0 (29·1–71·0)	39·7 (24·8–56·8)	20·6 (6·2–50·5)	16·6 (9·2–27·9)	22·0 (11·4–38·3)	20·3 (10·5–35·5)	27·6 (16·0–43·1)	73·3 (54·4–86·4)	80·1 (53·2–93·4)	48·2 (35·8–60·8)	28·6 (20·0–39·2)	44·5 (30·3–59·6)	17·8 (6·3–41·0)
Māori	25·1 (20·5–30·3)	19·6 (15·2–24·9)	6·2 (4·0–9·6)	10·3 (7·9–13·2)	10·4 (7·1–15·0)	13·2 (9·1–18·9)	14·2 (11·0–18·1)	48·6 (38·0–59·3)	36·7 (20·8–56·3)	37·8 (34·1–41·7)	12·5 (9·6–16·0)	30·4 (26·1–35·1)	12·5 (9·4–16·5)

Lowest prevalence — Highest prevalence

migrants (ie, migrants from Asia, Pacific, Middle East, Latin America, and Africa) remained at close to 16% over the time period (563 [16·2%] of 3470 adolescents in 2001 and 1251 [16·2%] of 7721 adolescents in 2019). The proportion of first-generation Pasifika migrants decreased from 195 (5·7%) of 3470 adolescents to 218 (2·8%) of 7721 adolescents. However, the proportions of second-generation migrants have increased more than first-generation migrants, with second-generation non-racialised migrants making up 196 (5·6%) of 3470 adolescents in 2001 and 904 (11·7%) of 7721 adolescents in 2019, and second-generation racialised migrants increasing from 139 (4·0%) of 3470 adolescents to 1267 (16·4%) of 7721 adolescents over the same period. There were no substantial changes in countries of origin.

Flexible resources and socioeconomic outcomes

Structural resources

Prevalence data for the three structural resource indicators are shown in figure 2. Socioeconomic outcomes varied according to structural resource measures, with minority ethnicities and migrants from low-income and middle-income countries (LMICs) more likely to experience inequities than Pākehā and migrants from high-income countries. Racialised migrants and Māori experienced higher levels of poverty at home, in their neighbourhood, and at school compared with non-racialised migrants from high-income countries and Pākehā. Racialised youth (both migrants and non-migrants) and Māori were more likely to report family concern about money for food, electricity, rent, and transport, to report not having slept in their own bed because of hardship, and were also more likely to live in poorer neighbourhoods and attend high-deprivation schools compared with non-racialised migrants and Pākehā.

When disaggregated further, the category of racialised migrants showed differences among migrant groups. Those from LMICs (south Asia and Africa) had higher degrees of poverty (household and neighbourhood deprivation and low school decile) than migrants from high-income countries (east Asia, high-income European and North American countries, and Australia) and Pākehā. However, although most Pacific Island countries were classified as upper-middle-income countries, Pasifika migrants had the highest degree of poverty (household and neighbourhood deprivation and low school decile). Socioeconomic inequities were persistent over generations, especially for Pasifika and other racialised migrants, who were disadvantaged compared with non-racialised migrants. The results indicate that, for Pasifika migrants, socioeconomic inequities were most pronounced for first-generation migrants who have lived in New Zealand for less than 5 years. Pasifika and racialised migrant inequities start to abate with time spent in New Zealand, indicating that migrant generation can act as a structural resource, although inequities with non-racialised migrants persist even for those who have been in New Zealand for three or more generations. For other racialised migrants, the trends with time and generations in New Zealand are less evident than they are for Pasifika, suggesting that migration generation does not have a strong effect as a structural resource for other racialised migrants.

Embodiment resources

Prevalence data for perceived Whiteness, as the embodiment resource indicator, were associated with interpersonal racism (figure 3). Racialised migrants and Māori who were perceived as White had lower observed interpersonal discrimination than racialised migrants

	Reported unfair treatment by teachers	Reported unfair treatment by health providers	Reported unfair treatment by police	Reported being bullied in school due to ethnicity	Reported avoiding school due to bullying	Reported feeling safe in school	Reported feeling safe in school neighbourhood	Reported symptoms of depression	Reported attempted suicide
Pākehā and non-racialised migrants perceived as White	12·7 (11·0–14·6)	2·5 (1·9–3·2)	1·3 (0·9–2·0)	1·5 (1·1–2·2)	0·3 (0·1–0·6)	88·9 (86·7–90·9)	62·5 (59·2–65·7)	22·4 (19·3–25·9)	3·3 (2·6–4·2)
Racialised migrants* and Māori perceived as White	23·4 (20·4–26·7)	5·2 (3·7–7·2)	3·4 (2·5–4·6)	4·8 (3·7–6·3)	1·5 (0·7–3·1)	81·9 (77·7–85·5)	54·1 (49·2–59·0)	27·8 (24·3–31·7)	7·9 (5·7–10·9)
Perceived as East Asian	24·2 (19·6–29·4)	4·3 (3·3–5·6)	3·4 (2·2–5·1)	7·6 (6·1–9·4)	1·1 (0·6–2·0)	88·6 (85·3–91·3)	54·9 (49·8–59·9)	26·7 (23·3–30·5)	3·7 (2·6–5·3)
Perceived as South Asian	25·9 (22·1–30·3)	5·4 (3·6–8·0)	2·7 (1·5–4·7)	11·1 (7·5–16·1)	2·2 (0·9–5·0)	89·4 (85·4–92·5)	54·8 (49·5–60·0)	23·4 (19·9–27·2)	6·3 (4·4–9·1)
Perceived as Pasifika	29·2 (23·6–35·7)	9·6 (7·7–11·9)	6·0 (4·5–8·0)	5·5 (3·6–8·1)	2·3 (1·3–4·0)	84·8 (82·4–86·8)	51·9 (47·4–56·2)	28·6 (24·3–33·3)	13·4 (10·8–16·6)
Perceived as Middle Eastern or Latin American	34·1 (25·0–44·5)	4·9 (1·9–11·9)	8·0 (4·0–15·1)	11·5 (7·1–18·0)	2·2 (0·8–6·0)	87·8 (79·5–93·1)	54·6 (48·9–60·3)	26·7 (19·3–35·6)	7·2 (4·1–12·3)
Perceived as African	36·3 (27·3–46·4)	6·6 (2·7–14·9)	11·2 (6·2–19·5)	11·8 (5·8–22·7)	6·4 (2·2–17·3)	85·0 (79·2–89·4)	52·4 (42·3–62·3)	27·4 (19·0–37·7)	6·2 (2·1–17·2)
Perceived as Māori	34·9 (30·3–39·8)	8·9 (6·7–11·8)	7·5 (5·3–10·4)	3·0 (2·1–4·3)	0·8 (0·4–1·8)	82·1 (78·8–84·9)	54·7 (50·6–58·7)	28·0 (23·4–33·2)	14·2 (10·3–19·1)

Lowest observed interpersonal discrimination — Highest observed interpersonal discrimination

Figure 3: **Prevalence of interpersonal discrimination, symptoms of depression, and attempted suicide by perceived ethnicity**
Prevalence estimates are based on percentages and 95% CIs. 95% CIs are presented in brackets. *Racialised migrants or racialised non-migrants are those with origins in Asia, Pacific, Middle East, Latin America, or Africa.

	n/N (%)	Weighted %*	(95%CI)	Crude			Adjusted for household deprivation			Adjusted for migrant generation			Adjusted for income level of country of origin			Adjusted for perceived ethnicity		
				RR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value
Household deprivation (n=7487)																		
Pākehā	321/3019 (10·6%)	10·5%	8·7–12·6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Māori	391/1457 (26·8%)	25·2%	21·0–29·9	2·15	1·79–2·56	<0·0001	..	..	..	2·22	1·83–2·68	<0·0001	2·17	1·79–2·63	<0·0001	1·80†	1·49–2·18†	<0·0001†
Pasifika	286/904 (31·6%)	32·5%	28·3–37·0	2·75	2·27–3·33	<0·0001	..	..	..	2·64	2·19–3·17	<0·0001	2·73	2·20–3·38	<0·0001	2·31†	1·89–2·82†	<0·0001†
East Asian	120/1177 (10·2%)	10·3%	8·3–12·6	1·03	0·79–1·34	0·83	..	..	..	0·94	0·72–1·23	0·65	0·91†	0·69–1·20	0·50	0·92†	0·71–1·19†	0·51†
South Asian	91/552 (16·5%)	16·9%	14·1–20·1	1·60	1·24–2·07	0·0005	..	..	..	1·48	1·16–1·90	0·0025	1·51	1·15–1·99	0·0040	1·37†	1·07–1·76†	0·014†
MELAA	34/174 (19·5%)	21·5%	13·5–32·4	1·95	1·26–3·00	0·0032	..	..	..	1·76†	1·18–2·64†	0·0070†	1·61†	1·06–2·45	0·026	1·63†	1·02–2·60†	0·040†
Other	43/204 (21·1%)	23·0%	17·0–30·3	2·04	1·45–2·87	0·0001	..	..	..	1·92	1·36–2·70	0·0004	2·04	1·37–3·01	0·0007	1·79	1·29–2·48	0·0008
Neighbourhood deprivation (n=6709)																		
Pākehā	326/2778 (11·7%)	12·0%	8·1–17·4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Māori	598/1190 (50·3%)	48·3%	37·3–59·4	1·97	1·63–2·39	<0·0001	1·95	1·61–2·35	<0·0001	1·99	1·64–2·43	<0·0001	1·99	1·63–2·43	<0·0001	1·71†	1·40–2·10†	<0·0001†
Pasifika	507/798 (63·5%)	63·9%	51·1–75·0	2·41	1·79–3·26	<0·0001	2·36	1·77–3·17	<0·0001	2·37	1·77–3·17	<0·0001	2·40	1·77–3·24	<0·0001	2·10†	1·60–2·76†	<0·0001†
East Asian	200/1087 (18·4%)	20·0%	13·6–28·3	1·94	1·55–2·42	<0·0001	1·94	1·55–2·42	<0·0001	1·86	1·51–2·29	<0·0001	1·85	1·51–2·27	<0·0001	1·77	1·42–2·22	<0·0001
South Asian	158/509 (31·0%)	32·5%	21·1–46·5	1·84	1·40–2·43	0·0001	1·83	1·39–2·41	0·0001	1·78	1·36–2·32	0·0001	1·77	1·32–2·37	0·0003	1·63†	1·27–2·09†	0·0003†
MELAA	40/154 (26·0%)	31·0%	18·7–46·7	2·01	1·47–2·75	0·0001	1·97	1·43–2·72	0·0001	1·92	1·43–2·58	<0·0001	1·84	1·33–2·55	0·0005	1·76†	1·31–2·36†	0·0004†
Other	56/193 (29·0%)	30·9%	20·5–43·8	1·73	1·42–2·11	<0·0001	1·71	1·40–2·09	<0·0001	1·69	1·40–2·05	<0·0001	1·66	1·35–2·06	<0·0001	1·55†	1·26–1·92†	0·0001†

(Table 2 continues on next page)

	n/N (%)	Weighted %*	(95%CI)	Crude			Adjusted for household deprivation			Adjusted for migrant generation			Adjusted for income level of country of origin			Adjusted for perceived ethnicity		
				RR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value
(continued from previous page)																		
Experience of discrimination (n=7448)																		
Pākehā	469/3015 (15·6%)	15·3%	13·3–17·4	..	..	..		..	..	..	..	..	..	..	..	..	..	..
Māori	525/1443 (36·4%)	34·2%	31·0–37·6	2·26	1·94–2·65	<0·0001	2·18	1·86–2·56	<0·0001	2·29	1·96–2·68	<0·0001	2·28	1·95–2·67	<0·0001	1·83†	1·51–2·21†	<0·0001†
Pasifika	299/892 (33·5%)	33·3%	27·7–39·4	2·24	1·79–2·80	<0·0001	2·12	1·67–2·68	<0·0001	2·20	1·74–2·79	<0·0001	2·29	1·83–2·86	<0·0001	1·81†	1·44–2·28†	<0·0001†
East Asian	319/1175 (27·1%)	26·3%	22·4–30·7	1·73	1·39–2·17	<0·0001	1·73	1·39–2·17	<0·0001	1·68	1·33–2·12	0·0001	1·82	1·45–2·29	<0·0001	1·52†	1·21–1·90†	0·0005†
South Asian	150/549 (27·3%)	27·2%	23·6–31·2	1·78	1·44–2·21	<0·0001	1·75	1·41–2·18	<0·0001	1·73	1·39–2·15	<0·0001	1·85	1·44–2·37	<0·0001	1·48†	1·18–1·85†	0·0009†
MELAA	58/174 (33·3%)	35·5%	27·6–44·3	2·33	1·81–3·00	<0·0010	2·26	1·73–2·96	<0·0001	2·25	1·71–2·95	<0·0001	2·45	1·88–3·19	<0·0001	1·89†	1·45–2·45†	<0·0001†
Other	56/200 (28·0%)	30·8%	20·7–43·0	2·02	1·33–3·09	0·0016	1·96	1·28–2·99	0·0025	1·98	1·28–3·05	0·0293	1·86	1·22–2·84	0·0051	1·73†	1·13–2·64†	0·013†
Bullied in school due to ethnicity (n=7300)																		
Pākehā	60/2973 (2·0%)	2·2%	1·6–3·0	..	..	..		..	..	..	..	..	..	..	..	..	..	..
Māori	51/1399 (3·6%)	3·7%	2·9–4·8	1·66	1·08–2·53	0·021	1·56	1·01–2·41	0·045	1·78	1·19–2·67	0·0061	1·77	1·17–2·66	0·0074	1·30†	0·72–2·35†	0·38†
Pasifika	39/869 (4·5%)	5·0%	3·3–7·6	2·28	1·43–3·63	0·0008	2·07	1·28–3·36	0·0038	2·07	1·27–3·37	0·0044	2·40	1·41–4·08	0·0018	1·79†	1·06–3·03†	0·030†
East Asian	93/1154 (8·1%)	7·7%	5·7–10·4	3·58	2·10–6·09	<0·0001	3·58	2·11–6·06	<0·0001	2·92†	1·67–5·10†	0·0003†	3·81	2·42–6·00	<0·0001	3·08†	1·66–5·71†	0·0006†
South Asian	63/543 (11·6%)	10·9%	7·7–15·3	4·97	3·06–8·08	<0·0001	4·84	2·98–7·86	<0·0001	4·14†	2·40–7·12†	<0·0001†	5·01	3·06–8·20	<0·0001	4·04†	2·21–7·36†	<0·0001†
MELAA	18/171 (10·5%)	11·0%	5·7–20·4	4·97	2·54–9·70	<0·0001	4·73	2·44–9·18	<0·0001	3·94†	1·86–8·35†	0·0006†	4·66	2·33–9·32	<0·0001	3·91†	1·94–7·85†	0·0003†
Other	6/191 (3·1%)	3·6%	1·8–7·0	1·59	0·74–3·43	0·23	1·52	0·70–3·27)	0·28	1·37†	0·62–3·05†	0·43†	1·47	0·71–3·03	0·29	1·34†	0·56–3·23†	0·51†

(Table 2 continues on next page)

	n/N (%)	Weighted %*	(95%CI)	Crude			Adjusted for household deprivation			Adjusted for migrant generation			Adjusted for income level of country of origin			Adjusted for perceived ethnicity		
				RR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value	aRR	95% CI	p value
(continued from previous page)																		
Forgone health care (n=7227)																		
Pākehā	850/2974 (28·6%)	29·3%	27·1–31·7	..	..	..		..	..	..	..	..	..	..	..	..	..	..
Māori	517/1354 (38·2%)	38·2%	34·8–41·7	1·28	1·18–1·38	<0·0001	1·20	1·11–1·3	<0·0001	1·29	1·19–1·40	<0·0001	1·27	1·17–2·66	0·0074	1·27	1·12–1·44	0·0005
Pasifika	314/843 (37·2%)	37·0%	32·7–41·6	1·21	1·11–1·33	0·0001	1·10	1·00–1·21	0·044	1·20	1·08–1·33	0·0007	1·18	1·08–1·29	0·0005	1·20	1·03–1·41	0·020
East Asian	376/1162 (32·4%)	32·8%	28·4–37·5	1·11	0·99–1·23	0·073	1·11	0·99–1·23	0·073	1·08	0·94–1·24	0·27	1·03	0·91–1·17	0·64	1·10	0·98–1·24	0·11
South Asian	149/539 (27·6%)	26·4%	22·8–30·3	0·90	0·77–1·05	0·16	0·87	0·75–1·02	0·079	0·88	0·75–1·03	0·099	0·86	0·72–1·02	0·087	0·89	0·74–1·08	0·22
MELAA	57/170 (33·5%)	33·6%	27·2–40·7	1·13	0·94–1·36	0·19	1·08	0·87–1·33	0·48	1·10	0·88–1·37	0·39	1·05	0·84–1·33	0·65	1·12	0·90–1·39	0·29
Other	56/185 (30·3%)	32·9%	23·8–43·5	1·13	0·83–1·54	0·44	1·07	0·78–1·47	0·67	1·11	0·82–1·51	0·50	1·11	0·82–1·49	0·50	1·12	0·79–1·59	0·51
Symptoms of depression (n=7186)																		
Pākehā	634/2955 (21·5%)	22·9%	19·9–26·3	..	..	..		..	..	..	..	..	..	..	..	..	..	..
Māori	413/1355 (30·5%)	31·6%	27·6–36·0	1·34	1·16–1·54	<0·0001	1·24	1·08–1·42	0·0032	1·36	1·17–1·57	0·0001	1·34	1·16–1·54	0·0001	1·30	1·12–1·50	0·0009
Pasifika	220/834 (26·4%)	26·9%	22·4–32·0	1·13	1·00–1·27	0·049	1·00	0·89–1·12	0·95	1·10	0·97–1·26	0·14	1·12	1·00–1·26	0·047	1·09	0·94–1·27	0·25
East Asian	303/1154 (26·3%)	27·1%	23·3–31·3	1·17	0·98–1·40	0·088	1·17	0·98–1·39	0·087	1·11	0·94–1·32	0·20	1·13	0·95–1·36	0·17	1·15	0·97–1·35	0·11
South Asian	127/539 (23·6%)	23·3%	18·5–28·9	1·02	0·83–1·24	0·87	0·98	0·80–1·21	0·85	0·97	0·80–1·19	0·79	1·00	0·81–1·23	0·99	0·99	0·82–1·19	0·90
MELAA	49/163 (30·1%)	30·1%	22·7–38·8	1·28	0·94–1·75	0·11	1·22	0·89–1·67	0·20	1·22	0·89–1·66	0·21	1·25	0·90–1·72	0·17	1·24	0·92–1·68	0·15
Other	47/186 (25·3%)	23·6%	18·3–29·8	1·03	0·75–1·41	0·85	0·96	0·70–1·33	0·82	1·00	0·73–1·35	0·98	1·03	0·77–1·38	0·85	1·01	0·75–1·35	0·97

Models adjust separately for mediating effects of household deprivation and each of the three flexible resources. The number of records included in all models for each outcome is shown in parentheses below the variable name. 234 records with missing data for household deprivation are excluded from all analyses. aRR= adjusted relative risk. MELAA=Middle Eastern, Latin American, and African. RR=relative risk. *Inverse probability weights. †Strong mediation (adjusted RRs differ by more than 10% from the crude RR)

Table 2: **Regression analysis of the effects of ethnicity on socioeconomic, interpersonal, and health outcomes adjusting for mediation by household deprivation and structural and embodiment resources**

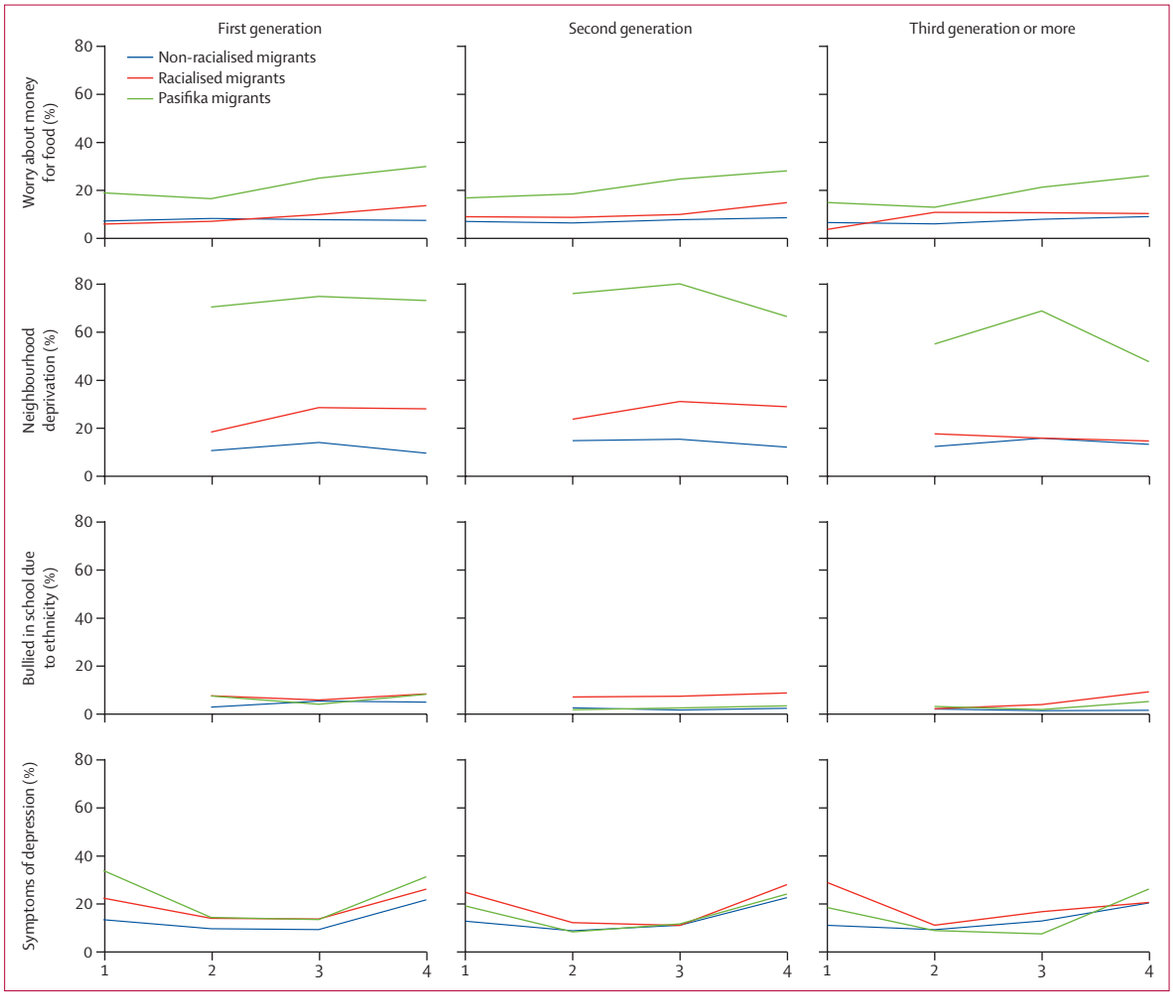

Figure 4: **Prevalence of inequities in socioeconomic, interpersonal discrimination, and health outcomes, based on percentages, by racialised (ie, Pasifika and other) and non-racialised migrant groups in 2001 (first survey wave), 2007 (second survey wave), 2012 (third survey wave), and 2019 (fourth survey wave)**

who were not perceived to be White. Those perceived as Māori, African, and Middle Eastern and Latin American reported higher discrimination by teachers, health providers, and the police than minorities perceived as White (known as White-passing minorities) and than Pākehā. Māori, African, and Middle Eastern and Latin American adolescents were also more likely to report being bullied due to their ethnicity than White-passing racialised migrants and those who were White.

Flexible resources and health outcomes

Structural resources

Health outcomes varied according to structural resource measures. Racialised migrants and Māori reported higher rates of experiencing forgone health care, having symptoms of depression, and having attempted suicide than non-racialised migrants and Pākehā (figure 2). Racialised migrants from LMICs (south Asia and Africa) and the Pacific, reported higher rates of experiencing forgone health care, having symptoms of depression, and having attempted suicide than Pākehā and non-racialised migrants. By migration generation, first-generation Pasifika migrants had the poorest health outcomes. Indeed, health outcomes for Pasifika youth became similar to non-racialised migrants only by the third generation. For other racialised migrants, forgone health care and symptoms of depression were slightly higher than for non-racialised migrants in the first generation but were lower than for non-racialised migrants by the third generation, indicating generational differences in health outcomes.

Structural resources

The results do not show a clear association between symptoms of depression and perceived Whiteness. Racialised migrants and Māori who were perceived as White do not appear to have had advantages related to symptoms of depression or suicide attempts accorded to

Pākehā or over those perceived as non-White. Indeed, being socially assigned to one's own ethnicity appears to have had advantages related to symptoms of depression for some racialised groups (South Asian), but not others (Pasifika).

Structural versus embodiment resources: regression analysis

Crude regression analyses show that ethnic minority groups reported higher socioeconomic deprivation than Pākehā; particularly Pasifika migrants, who reported higher household deprivation (relative risk [RR] 2·75 [95% CI 2·27–3·33]) and reported living in more deprived neighbourhoods (2·41 [95% CI 1·79–3·26]) than Pākehā (table 2). Ethnic minority groups also reported experiencing greater interpersonal discrimination and being bullied more due to their ethnicity than Pākehā, with experience of being bullied due to ethnicity particularly high for adolescents from MELAA ethnicities (4·97 [95% CI 2·54–9·70]) and South Asian ethnicities (4·97 [3·06–8·08]). Māori and Pasifika groups reported experiencing forgone health care more than Pākehā (1·28 [1·18–1·38] for Māori and 1·21 [1·11–1·33] for Pasifika). Māori and Pasifika reported higher degrees of symptoms of depression than Pākehā (1·34 [1·16–1·54] for Māori and 1·13 [1·00–1·27] for Pasifika). Apart from symptoms of depression for Pasifika students, adjusting for household deprivation did not strongly reduce these effects (ie, the adjusted RRs did not change by more than 10% from crude RR), suggesting that ethnic disparities in these outcomes were not strongly mediated by economic factors. We then adjusted for flexible resources. Migrant generation had some mediating effect on household deprivation, particularly for MELAA migrants, but not for other ethnicities. Migrant generation also mediated some of the effects of being bullied due to ethnicity for East Asian, South Asian, MELAA migrants, and other adolescents, but mediated little of the effects on other socioeconomic or health outcomes. Being an ethnic minority and coming from a high-income country reduced the size of ethnic disparities in household deprivation for East Asia and MELAA but did not reduce the disparities for other outcomes. Being an ethnic minority and perceived as White had the largest mediating effect of ethnic disparities, particularly for socioeconomic and discrimination outcomes, but not for health outcomes. This finding suggests that both structural and embodiment resources can mitigate, but not eliminate, the experience of racism.

Flexible resources and racism: trend analysis

Figure 4 indicates selected socioeconomic, interpersonal, and health outcomes from 2001 to 2019 by migration generation for European, Pasifika, and other racialised migrants. The findings show that concerns about money for food increased for Pasifika and other racialised migrants over the 19-year period, irrespective of generation status. Neighbourhood deprivation increased for first-generation and second-generation racialised migrants and remained high across the whole period for Pasifika migrants. Being bullied due to ethnicity also slightly increased over time, especially for third-generation racialised migrants. Prevalence of symptoms of depression declined from 2001 to 2012 but increased again in 2019 for all groups. Overall, the trend analyses indicate persistent and increasing ethnicity-based inequities in socioeconomic status, interpersonal discrimination, and health.

Discussion

This study investigated the effects of flexible structural and embodiment resources on socioeconomic and health inequities (representing the effects of racism) among ethnic minority and migrant youth in New Zealand. We also included the unique profile of Māori youth, recognising their distinct experiences as Indigenous peoples, although findings and implications specific to Māori will be reported in future publications led by Indigenous researchers.

Overall, the findings suggest that Indigenous and ethnic minority youth are consistently more adversely affected by socioeconomic and health inequities than Pākehā groups. Furthermore, we found that racism is a fundamental cause of health inequity, meaning that disparities in health cannot be explained by socio-economic factors alone. However, there are variations in the experience of racism among minorities, mitigated by flexible resources. Country of origin is one such example of a mitigating flexible resource, with ethnic minority migrants from high-income countries of origin like east Asia faring socioeconomically better than migrants from south Asia or the Pacific. The former are more likely to live in affluent neighbourhoods, go to better resourced schools, and have fewer worries about meeting daily basic needs than the latter. Similarly, the embodiment of Whiteness is another flexible resource, found to affect minority youth's everyday interpersonal interactions. Those racialised migrants and Indigenous Māori perceived as White had perceptibly better social experiences than those perceived as non-White. The positive effect of Whiteness was stronger than any of the structural resources analysed. Another important finding was that disadvantage persisted intergenerationally among racialised migrants; our results show that it can take several generations before disadvantages begin to abate, particularly for Pasifika populations. We also found a persistence of widespread and consistent disadvantage among Indigenous Māori adolescents in comparison with all other ethnic groups, indicating the ongoing colonial effect of racism on Māori youth. Finally, our trend analyses showed that experiences of racism and health inequities are persistent and increased over the two decades of the Youth2000 surveys.

These findings are important because they reinforce, but also counter, conventional understandings of racism. Firstly, as shown previously,[20,21] economic advantage is a crucial protective factor; there is potential for mitigating health risks and social mobility for minority youth who have the access to, and the benefits of, high incomes. Conversely, Indigenous and migrant youth who come from poor backgrounds appear to have worse outcomes. Secondly, the findings add to the scarce body of literature[22,23] on the effects of colourism or perceived Whiteness and how it shapes everyday social relationships, a facet of racism that is often underestimated in health research. Thirdly, the results throw light on migration generation as an important factor in interpersonal and economic outcomes. Although there is considerable focus on first-generation migrants as being vulnerable, it is generally accepted that second-generation migrants are better at acculturation (ie, negotiating dominant cultural norms). Our results firmly counter this view. We found that second-generation migrant youth, particularly Pasifika, are as vulnerable as first-generation migrants. Finally, the findings highlight some areas in which there was a direct relationship between structural and embodiment resources; young people who had the least favourable structural and embodiment resources were the worst affected (eg, racialised migrants from LMICs, those who were perceived as non-White, and Indigenous Māori reported experiencing forgone health care and symptoms of depression more than adolescents with more favourable structural and embodiment resources). However, in other areas, direct relationships were not as clear; for example, some racialised groups (Africans and South Asians) experienced high rates of depression, but low rates of attempted suicide. These results highlight the complexity in understanding the effect of flexible resources on mental health outcome indicators, and require further in-depth analysis based on purposefully collected data.

Our intersectional analyses framed around flexible resources as a central concept have been useful in examining the diversity of experiences of racism and, with it, providing insight into the inequity that exists in New Zealand. The findings show the close associations between identities and racism, and that not all identities are equally linked to racial disadvantage. The study also highlights the benefits of nuanced sociologically grounded analyses to draw out heterogeneity and complexity of how racism works.[9,19] However, although this transdisciplinary approach offers an innovative way to understand and measure racism, the translation from the conceptual to the empirical is developmental, particularly in regards to the use of Youth2000 data, which were not specifically collected for this purpose. Consequently, we were constrained by the variables available. Fit-for-purpose data collected specifically to study diverse flexible resources would refine the measures used in the statistical analysis, and also strengthen the conceptual framework. However, given the important findings, this study could be considered a proof-of-concept analysis. The concepts of flexible resources and intersectionality have given us a demonstrably complex, and original, insight into the ways that racism manifests in a multi-ethnic society with many minority groups.

The Youth2000 surveys used rigorous sampling methods and their strengths and limitations have been described previously.[8–10] In our analysis, we were not able to adjust for survey non-response, so our estimates might not represent the general population of New Zealand students. There are limitations to the method of mediation analysis we used, which does not capture possible interactions or unmeasured confounding. Future analyses using more complex approaches such as structural equation modelling could help to understand these causal pathways more fully. Due to small numbers of MELAA individuals in this study and the risk of information being potentially identifiable, we are not able to separate out data for this group. Therefore, the findings on experiences of racism for particular groups (eg, anti-Black racism or Islamophobia) cannot be fully captured by the data we have used. Further research using other dimensions of flexible resources needs to be developed to get a fuller understanding of the complexity of racism in society. Additionally, social gradients operate differently across the spectrum of mental health outcomes, which are not fully captured in our analysis. Our study also did not consider gender, disability, or other dimensions of social difference, which often have considerable effect on socioeconomic and health outcomes. Our analysis, drawn from quantitative survey data, would also benefit from qualitative rich accounts of how aspects of identity foster disadvantage or advantage. Finally, this study focused on adolescent groups in which there are some public support systems in place to counter the effects of negative flexible resources; these support systems might not be available for other age groups. Similar studies of younger children and adult populations might render starkly different results and therefore need to be independently studied.

Our findings offer broad directions for policy and programme interventions. Anti-racism interventions should recognise the differences in exposures and experiences of racism among and between targeted minorities and privileged groups based on their multiple social identities. Public social service, educational scholarships, and health-care provision, particularly for Indigenous and minority adolescents from financially strained communities will have a substantial effect on social mobility. For migrant youth, these interventions should be targeted for each generation, recognising that adolescent inequities occur for up to three migrant generations. Economic support alone, however, is not enough. There is also a need for educational interventions and diversity training around the effects of perceived

Whiteness and racial bias for key care providers, especially teachers, health-service providers, and the police. Initiatives that enable young people's sense of pride in their own cultural diversity and respect for that of others are also crucial to health and wellbeing outcomes.

New Zealand is a thriving bicultural and multi-ethnic society and is known to the world as one of the most welcoming countries, with great acceptance of different ethnicities and cultures. Yet, there is also a lingering legacy of colonial systemic disadvantage and discrimination. This study, a granular examination of racism, portrays a picture of heterogeneity, complexity, and even contradiction. Health researchers must grapple with these complexities if New Zealand and, indeed, multi-ethnic societies around the world, are to be free of racism.

Contributors

RP-J, SL, and RS-K designed, planned, and led the writing of this Article. RS-K developed the conceptual framework. RP-J and SL extracted the data and accessed and verified the data. SL did the data analysis. SL, RP-J, and RS-K contributed to the analysis plan and interpretation. TCC, TF, RP-J, and SL planned the Youth2000 surveys, secured funding, and conducted the surveys. RS-K and RP-J drafted the Introduction and Discussion. RS-K drafted the conceptual overview and aims sections. RP-J and SL drafted the Methods. SL, RP-J, and RS-K drafted the Results. All authors edited the final version of the Article, managed references, produced the figures and tables, had full access to the data in the study, approved the final manuscript, and had final responsibility for the decision to submit for publication.

Declaration of interests

We declare no competing interests.

Data sharing

Individual participant data collected for the study will not be made available as per the Adolescent Health Research Group (New Zealand) data access policy (https://www.fmhs.auckland.ac.nz/en/faculty/adolescent-health-research-group/collaborations-and-access-to-datasets.html). The data dictionary defining each field in the set is available at https://www.youth19.ac.nz/projects.

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