



A preliminary study on the relationship between cultural identification, racial discrimination, and well-being of Chinese Malaysians Young adults

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Abstract

It was well documented that racial minorities struggle with discrimination that jeopardizes their mental well-being. However, the interaction between cultural identification (CI) and mother tongue (MT) on perceived discrimination among minority communities was unclear. This study adopted a cross-sectional survey to investigate how different Chinese in Malaysia (CIM) groups experience in-group versus out-group discrimination based on their MT, and its impact on well-being. We hypothesized that (1) different CIM-MT groups would differ in their in-group discriminations; (2) there would be a pathway from CI to discrimination and to mental well-being; (3) MT would have a moderation effect on the pathway. A standardized online survey measuring CI (national vs. ethnic), perceived discrimination (in-group vs. out-group), and mental well-being (life satisfaction vs. mental distress) was administered to CIM college students. Analysis using ANCOVA and PLS-SEM ($N=288$) showed that the English-MT group reported higher in-group discrimination than the Chinese-MT group. Moreover, the PLS-SEM analysis showed that ethnic identity, not national identity, displayed a significant negative association with in-group discrimination, which then significantly predicted mental distress in general. Furthermore, MT was a significant moderator between national identity and out-group discrimination. The findings confirmed that MT could predispose CIM to different exposure of racial dynamics and contexts. In lieu of the detrimental effect of both forms of racial discrimination, we advocate for culturally responsive mental health services for ethnic minorities around the world.

Keywords Ethnic minority · Cultural identity · Racial discrimination · In-group vs out-group · Mother tongue

Though global societies are progressing toward a more civilized and politically correct perspective on racial diversity, racial discrimination is undeniably still embedded in either the daily microaggression level or the structural level. Several studies have shown that racial discrimination, even in the form of microaggressions, would lead to adverse mental health and health consequences, particularly among ethnic minorities in America. For instance, racial microaggressions could predict adverse mental health symptoms

among Asian Americans, such as anxiety, depression, lower behavioural control and negative affect (Nadal et al., 2015). Similarly, Donovan et al. (2013) found that racial microaggressions significantly contribute towards depressive symptoms among Black females. Negative physical effects of microaggressions were also evident at the cortisol level as a biomarker (Majeno et al., 2021). Not only would discrimination have a negative effect on the mental well-being of immigrants and ethnic minorities, but it would also indirectly escalate the racial tensions between diverse ethnic groups as well (Wei et al., 2012; Forrest-Bank & Jenson, 2015; Nadal et al., 2015).

One of the direct results of racial discrimination is internalized stigma towards people of the same race (André & Dronkers, 2017; Reskin, 2012). Especially in a host culture where assimilation is expected, the minority groups might internalize different degrees of racism towards their own

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race, which results in in-group stereotype and discrimination. For example, Otusanya and Bell's (2018) qualitative study demonstrated that newly immigrated West Africans faced extensive barriers when communicating with African Americans; especially the newly migrant Africans reported experiencing microinsults from African Americans due to their differing culture and lifestyle. However, the impact of in-group dynamics on the racial discrimination is understudied, especially in the multicultural countries from the nonWestern region with nonWestern populations. Hence our study aimed to bridge the knowledge gap by intentionally zooming into one minority group in Southeast Asia—Chinese in Malaysia (CIM) as they have a long migrant history in the host country, yet still retained their own ethnic identity and mother-tongue, thus creating an extremely rich spectrum to investigate both within-group and between-group racial dynamics.

Racial dynamics in Malaysia

Currently, Malaysia's racial population stands with Malays as the majority (69.8%), followed by CIM (22.4%), Indians (6.8%) and other minorities (<1%) (Department of Statistics Malaysia, 2021). Some racially divisive policies remained even after Malaysia established its independence in 1957 from 300 years of British colonization. An obvious case is the establishment of the New Economic Policy (NEP) in 1970, which privileged Malays in economic development with affirmative action (reversely). This has further exacerbated the tensions between the racial dominant versus minority groups (Jomo, 2004).

In 2018, the Malaysia Racial Discrimination Report (Pusat KOMAS, 2018) revealed perceived discrimination among Malaysians ranged from overt racist messages, comments, or xenophobic behaviours, the deliberate exclusion of certain races in using public infrastructure or property rentals, to covert microaggressions such as preferences for certain races or language abilities in job advertisements (Pusat KOMAS, 2018). Though a recent systematic review (Nasir et al., 2021) acknowledged the existence of various form of microaggressions in Malaysia, the authors, consisting mainly of Malay scholars, still argued that privilege should be granted to Malays due to their "*bumiputera* (indigenous)" status:

"The reality that Bumiputeras are the original inhabitants of Malaysia, which they inherited from their forefathers should be honoured by all and thus *certain privileges*, as mentioned in Article 152 of the Malaysian constitution, *should continue so that their special position within the country is properly safeguarded*.

No one can deny that the *Malays* (generally referred as Bumiputera) *have tolerated a lot of other races* and accommodated the immigrants (referring to the Chinese and Indians who were brought in before they are given citizenship) to survive in this country... Taking into account the considerable sacrifices of the Malays, they deserved some privileges as a token of gratitude." (p.159)

Such "Malay Supremacy" statements and exclusivist stance towards ethnic minorities (treating all nonMalays as immigrants) in a published international journal resembles another form of pedagogical microaggression towards non-Malay researchers who might perceive equality otherwise. Hence it is unsurprising that minority students in higher education in Malaysia would be subject to subtle forms of racial oppression.

Till date, only qualitative studies have been conducted to explore racial discrimination among college students in Lino et al. (2017) interviewed 40 Malaysian college students from three major racial groups regarding their perceived racial microaggressions. All participants identified themes and domains of microaggressions similar to the previous research findings, such as "differential treatments based on race and religion", "assumptions of superiority or inferiority due to race" and "racial insensitivity" (Sue et al., 2007; Wong et al., 2014). A further exploration conducted on the same sample found that ethnic minority groups (such as Chinese and Indians) reported structural racism such as statutory rights, public education rights, and employment opportunities in the public sector; whereas Malays as the dominant group reported microaggressions more informally in their daily lives (Lino & Hashim, 2019). Moreover, all Chinese, Indian and other ethnic minority participants reported feelings of being "alien in their own land" when being intentionally told by the extreme Malay politicians to "go back to their home country" (Lino & Hashim, 2019).

Despite being a multicultural country, ethnic relationships in Malaysia tend to be strained due to the racially divisive policies implemented during British colonization, especially between Chinese born in Malaysia (CIM) and the dominant group of Malays who were granted certain privileges by the British government (Koh, 2014; Ward & Hewstone, 1985). In 1969, after "unfavorable" election results (to the Malays group) were released, random CIM from the Klang Valley area were attacked and murdered which caused social turbulence and historical trauma to many CIM thereafter (Show, 2021; Kua, 2019). Despite the fact that there has never been a race riot of this scale since then, racial tensions did not diminish even in the 21st century. The 2018 Malaysia Racial Discrimination Report revealed an increase in both macro- and micro-level racial discrimination occurrences in

Malaysia (Pusat KOMAS, 2018). Hence focusing on a multiracial country such as Malaysia would be a starting point to investigate the concept and framework of racial discrimination beyond “WEIRD” (Western, Educated, Intelligent, Rich, Democratic) society (Henrich et al., 2010), including its effect on mental well-being among the racial minorities.

Diversity among Chinese Malaysians

As previously stated (Department of Statistics Malaysia, 2021), the CIM ethnic group is the second biggest ethnic group in Malaysia whose migration history could be traced to the early sixteenth century. According to historians, the CIM community’s heterogeneity could be explained by a complex history comprising two major migration waves (Tan, 1997). The first wave of Chinese migrants in the early 1600s eventually married the locals, resulting in a new mixed CIM cultural community. They were known as Chinese *Peranakan* who used Malay or English as their mother tongue, and attended Malaysian national schools (Teo, 2005; Ting, 2013). The *Peranakan* used to refer to the multiracial CIM, but now it was widely used as a cultural heritage that represents descendants of early settler CIM. The second wave of immigration, happened in the 1800s, included a large influx of Chinese labourers from different regions of China that varied by their cultural and linguistic practices (Wang, 2016). Chinese clans, often consisting of individuals who share the same mother tongue and regional culture, were eventually formed as a means for social/community support and job opportunities (Yen, 1981).

While Malay as the official language is enacted mainly by Malays community as mother-tongue, the Chinese Malaysian community strived hard to keep their Chinese mother tongue (or dialectic) culture through their education system. Since the early nineteenth century, CIM leaders formed the independent Chinese school system aiming to cultivate and preserve the Chinese cultural identity and heritage by teaching the youths in Mandarin (Thock & Tan, 2016). However, after Malaya claimed independence in 1957 and Malaysia was formed in 1963, the education system was streamlined into Bahasa Malaysia as the language medium for governmental schools (Kaur & Shapui, 2018). Chinese education became marginalized. As a result, CIM formed their own vernacular school system, where Mandarin is used as the main teaching medium and Bahasa Malaysia is only taught as a subject, creating a subgroup of CIM who still is fluent in using Mandarin-Chinese as mother tongue, thus espouses Chinese ethnic identity and ethnic dialect (Coluzzi, 2017). Besides government school and Chinese school, some wealthier Chinese merchants also opted to send their children to receive English education provided

or left by Christian missionaries during the colonial times (Ting, 2013; Xia et al., 2018), leading to another subgroup of CIM English-speakers with a more Westernized and “globalized” cultural identity (Ting, 2013). This is why our study focused on comparing Chinese-speaking CIM versus English-speaking CIM, as they consisted of the two major linguistic groups of new generation Chinese Malaysians.

This division in the education system and linguistic preferences inevitably created different spectrums of cultural identification (CI, ethnic identity vs. national identity) among the younger generations of CIM (Ting, 2013), culminating in a unique dynamic within CIM and with other racial groups in Malaysia. Reasoning from a cultural ecological niche perspective (Ting et al., 2021), mother tongue heritage built the ecology that co-evolves with CIM’s rationality and identity, which in turn leads to different interpretations of cultural behaviors and expectations (Ting & Foo, 2018). For example, Lee and Khalid’s (2016) study showed that Chinese applicants who are fluent in Mandarin fare better in the private corporate hiring system (which are mainly operated by Chinese businessmen) compared to applicants from other races or English-speaking Chinese applicants. Their study illustrated the social phenomena of in-group discrimination within the CIM community, something which has not been studied extensively. Hence our study aimed to investigate the impact of both out-group (from other race) and in-group discrimination (from one’s own race) on the well-being among CIM from diverse backgrounds.

Research aims and hypotheses

The present study focused on CIM college students who are in the critical stage of psychosocial identity developments. Applying social identity theory (Tajfel & Turner, 2004), racism or discrimination was formed through in-group and out-group comparison, which leads to rejection and exclusion. Recent literature found that the relationship between ethnic identity and psychological burden of racism could be moderated by race (Woo et al., 2019). Thus we expected that those who espouse stronger Malaysian national identification (higher degree of assimilation to host country) would experience less discrimination from the majority race than those who espouse a stronger Chinese ethnic identification (lower degree of assimilation); vice versa, stronger Malaysian national identification would associate with higher degree of within-race discrimination (from other Chinese). On the other hand, higher Chinese ethnic identification would be associated with lower degree of within-race discrimination, but experienced higher degree of out-group discrimination. Lastly, we also expected a negative associations of racial

discrimination on mental well-being of CIM, according to Minority Stress theory (Frost & Meyer, 2023).

In summary, we proposed a conceptual framework that investigated the relationship between cultural identities (ethnic vs. national identity), forms and sources of discrimination (within-race vs. between-race) and mental well-being (mental distress vs. life satisfaction) (See Fig. 1). We also explored the moderation effect of mother tongue between the relationship of cultural identities and forms of discrimination.

Research question 1

Is there a difference on the experienced Out-group and In-group discrimination between two CIM groups (Chinese MT vs. English MT)?

Hypothesis 1a. Chinese-MT group would report higher Out-group discrimination than the English-MT group.

Hypothesis 1b. Chinese-MT group would report lower In-group discrimination than the English-MT group.

Research question 2

Is there an association between cultural identification and forms of discrimination?

Hypothesis 2a. Higher National identity score would predict lower level of Out-group discrimination.

Hypothesis 2b. Higher Ethnic identity score would predict lower levels of In-group discrimination.

Research question 3

Is there an association between forms of discrimination and mental well-being?

Hypothesis 3a. Both forms of discrimination would positively associate with DASS total scores (mental distress).

Hypothesis 3b. Both forms of discrimination would negatively associate with life satisfaction scores.

Research question 4

Would mother tongue (MT) moderate the relationship between cultural identification and forms of discrimination?

Hypothesis 4a. Mother tongue could be a moderator for National identity and Out-group discrimination.

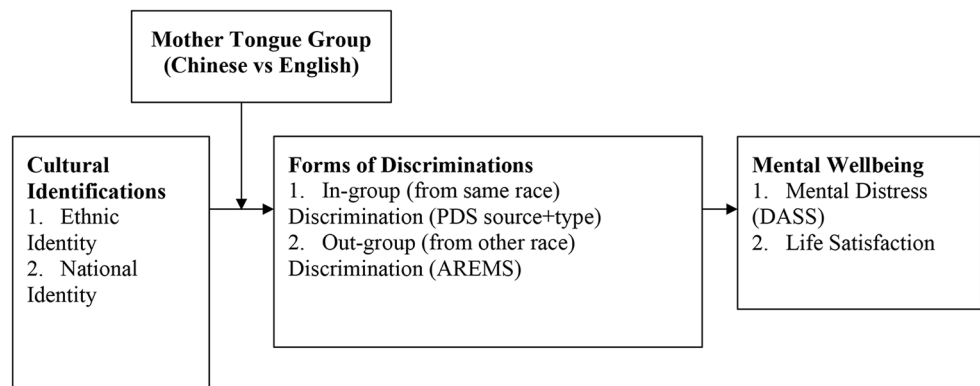
Hypothesis 4b. Mother tongue could be a moderator for Ethnic identity and In-group discrimination.

Methodology

Design and recruitment

We used G*Power (Erdfelder et al., 1996) to perform priori power analysis to identify the required sample size for a multiple regression analysis with seven predictors. The analysis aimed for a total R^2 value, 80% power, and an alpha level of 0.001. The results showed that a sample size of 142 would be appropriate for a medium effect size ($f^2=0.15$; Cohen, 2013), which led to our recruitment goal of 200 samples. Recruitment posters of this study were placed around the campus of various universities and spread through social media. There were two ways to participate: in person or by email. Convenience sampling strategy was employed. Researchers actively travelled to various universities and approached students to fill out the survey in a quiet, enclosed setting. Meanwhile, electronic versions of the explanatory statement and consent form were sent to those participants who elected to participate via email.

Fig. 1 Conceptual framework



Participants spent approximately 30 min completing the questionnaire. Each participant then received a bookstore coupon worth 5 MYR (equivalent to 1 USD) as a token of appreciation, upon completion. Our study obtained ethical clearance from the institution of the first author before the research began (Project ID 17,948).

Participants

In our study, the participants must be: (1) a Chinese born in Malaysia (Malaysian Citizenship) with both parents of Chinese descent; (2) aged between 18 and 30, and (3) actively enrolled in a college setting in Malaysia. There were a total of 311 participants recruited, with 92 identifying their MT as English (EMT), and 198 identifying their MT as either Mandarin or another Chinese dialect (CMT). There was no other MT indicated by the participants aside from English and Chinese (Mandarin or dialect). Twenty-one participants who did not indicate their MT, were then excluded from the data analysis in this study. The mean age of the EMT group was 21.01 ($SD=1.73$), 53.26% male ($N=49$), 46.74% female ($N=43$); while the mean age of the CMT group was 20.97 ($SD=1.56$), 32.16% male ($N=65$), 66.33% female ($N=130$). Other demographics such as participants' education level, monthly household income, and religious affiliations, were summarised in Table 1. ANOVA analysis also demonstrated that these two groups significantly differed in their English and Chinese proficiency, which confirmed the ecological validity of our grouping sample (Table 1).

Instruments/measurements

A compilation of validated scales/instruments was used to measure socio-demographic background, cultural identity, perceived discriminations, life satisfaction, and mental distress. The demographics section inquired participants' background information, including age, gender, religion, highest level of education, hometown, secondary education background, official language used in secondary school education, perceived mother tongue, monthly household income, generations born in Malaysia and parents' occupation. The questionnaire was presented in bilingual format (English and Mandarin). All scales were translated and cross checked by third party bilingual professionals to ensure the accuracy of translation.

Adapted cultural identity scale (A-CIS)

This scale was originally created and validated among Latinx in the United States (Berry et al., 2006). It was adapted in this study with 4 items measuring national identity (Malaysian nationality) and 8 items measuring ethnic

identity (Chinese ethnicity) for contextualization purposes. Examples of ethnic identity are “I feel that I am a part of Chinese culture” and “I am proud of being Chinese”. Examples of national identity are “I feel that I am part of Malaysian culture” and “I am happy to be Malaysian”. Each item was scored on a five-point Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*). The two domain scores were divided by the total number of items to reflect participants' agreement level on each identity. The maximum averaged score would be five, indicating a high level of identification towards Chinese or Malaysian cultural identity. In this study, the internal reliability for both subscales were moderately high, with Cronbach's $\alpha=0.85$ for the National identity subscale, and Cronbach's $\alpha=0.86$ for the Ethnic identity subscale.

Adapted perceived discrimination scale (A-PDS)

This study adapted PDS to measure within-race (in-group) discrimination. The A-PDS scale was originally created by Berry et al. (1989) to assess the perceived discrimination experienced by migrants in their host country. It was tested among immigrants and citizenships across 13 countries (Berry et al., 2006). The Chinese version of PDS was developed in a past study that involved Hong Kong and Mainland Chinese participants (Hui et al., 2015). To assess discrimination within Chinese ethnicity (in-group), we adapted the scale by instructing participants to provide responses on the items according to their experience with “other Chinese”. Sample items include “I don't feel accepted by other Chinese” and “I have been threatened or attacked by other Chinese”. There are two domains to the current scale—the first domain (items 1–5; PDS-type) measures accumulative level of discriminations experiences, from different types of discrimination such as teasing, unfair treatment and feelings of unacceptance; the second domain (items 6a–6b; PDS-source) has three items measuring the frequency of mistreatment from teachers/lecturers, other adults outside school or students in the same school. Items were rated on the scale of 1 = *Strongly disagree* to 5 = *Strongly agree* for PDS-type, and rated on the scale of 1 = *Never* to 5 = *Very often* for PDS-source. Higher PDS-type scores indicated higher levels of perceived discrimination experiences, and higher PDS-source scores indicated higher frequencies of mistreatment from known acquaintances. In this current study, the Cronbach's α for PDS-type and PDS-source were reported at 0.88 and 0.76 respectively, whilst the overall scale's Cronbach's α was 0.89.

Adapted racial and ethnic microaggression scale (A-REMS)

To be more culturally appropriate and safe for the CIM participants, we opted for a more covert form of measurement

Table 1 Demographic information of EMT and CMT

Variables	English MT (<i>N</i> =92)		Chinese MT (<i>N</i> =196)		χ^2	<i>p</i>
	<i>N</i>	%	<i>N</i>	%		
Age (mean)	90	21.01	193	20.97	11.60	0.12
Gender					10.37*	0.001
Male	49	53.26	65	33.16		
Female	43	46.74	130	66.33		
Rather not say	-		1	0.51		
Current Education Level					9.99	0.08
Year 1 undergraduate	22	23.91	30	15.31		
Year 2 undergraduate	27	29.35	54	27.55		
Year 3 undergraduate	22	23.91	60	30.61		
Year 4 undergraduate	9	9.78	12	6.12		
Graduate diploma	-		11	5.61		
Others (e.g. professional certificates)	12	13.04	28	14.29		
Rather not say	-		1	0.51		
Monthly Household Income					10.00	0.08
Less than RM1,000 (USD215)	7	7.61	13	6.57		
RM1,000-RM2,000 (USD215-USD430)	1	1.09	8	4.04		
RM2,000-RM3,000 (USD430-USD645)	4	4.35	18	9.09		
RM3,000-RM4,000 (USD645-USD860)	11	11.96	21	10.61		
RM4,000-RM5,000 (USD860-USD1,075)	7	7.61	33	16.67		
RM5,000 (USD1,075) and above	61	66.30	102	52.53		
Unspecified	1	1.09	1	0.51		
Hometown category					1.79	0.18
Urban/city	74	80.43	143	72.96		
Rural/kampung	15	16.30	45	22.96		
Unspecified	3	3.26	8	4.08		
Religion					29.78**	<0.001
No religion	18	19.57	25	12.76		
Roman Catholic	3	3.26	3	1.53		
Protestant Christian	32	34.78	33	16.84		
Taoist	3	3.26	19	9.69		
Muslim	2	2.17	2	1.02		
Buddhist	29	31.52	112	57.14		
Other religion (e.g. Sikh)	4	4.35	1	0.51		
More than 1 religion	1	1.09	1	0.51		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>p</i>
English Proficiency	18.85	2.40	14.92	2.91	126.80**	<0.001
Mandarin Proficiency	10.61	3.99	16.55	3.25	180.15**	<0.001
Malay Proficiency	13.61	3.61	12.93	2.83	3.01	0.08
National Identity	4.20	0.77	4.42	0.61	7.00*	0.01
Ethnic Identity	4.01	0.61	4.45	0.53	43.31**	<0.001
DASS	18.65	12.49	16.10	9.93	3.33	0.07
Life Satisfaction	21.72	7.35	21.96	6.02	0.09	0.76

Note. *M*=Mean, *SD*=Standard Deviation, Exchange rate based on FOREX 21 June 2023

p*<.05, *p*<.001

(Racial and Ethnic Microaggression Scale) to assess between-race (out-group) discrimination by soliciting individuals' encounter of daily microaggressions experiences. The REMS was originally developed by Nadal (2011) to measure ethnic-specific microaggressions in an American context. The scale's validity has been examined among Asian Americans, Whites, African Americans, and Latinos, with internal reliability of $\alpha=0.91$ (Forrest-Bank & Jenson, 2015). The original scale comprises 45 items that assess the frequency (Yes or No) of perceived racial microaggressions within the previous six months on six aspects reflected in six subscales—Assumptions of Inferiority (AI), Environmental Microaggression (EM), Exoticization and Assumptions of Similarity (EAS), Micro-Invalidations (MI), Workplace Microaggressions (WM), and Second-class Citizen and Assumptions of Criminality (SCAC). After reversing EM scores and summing all subscale scores, higher scores would imply higher levels of perceived ethnic and racial microaggressions. For the purpose of this study, this scale was adapted and contextualized to suit the Malaysian context. For instance, the term “People of Colour” was altered to “ethnic minority” to represent CIM. Besides, work-related questions such as “an employer or co-worker treated me differently than White co-workers” were modified to a higher education setting, given that this study exclusively recruited student samples from university or college. Lastly, after examining the items and comparing it with the past literature, only three subscales (total 19 items) that were relevant to racial discrimination experiences in Malaysia were included in this study's final analysis—Second-class Citizen (SC; items 2, 6, 8, 11, 40), Micro-Invalidations (MI; 4, 7, 10, 14, 26, 27, 30, 33, 39), and School Microaggressions (SM; adapted from Workplace Microaggressions scale, items 1, 15, 16, 25, 44). The internal consistency (Cronbach's α) for the SC, MI and SM subscales were 0.56, 0.79 and 0.56 respectively, indicating inadequate reliability of SC and SM; but the Cronbach's α for the overall A-REMS scale (19 items) was 0.80. Hence only overall total scores were used as one factor to define the perceived between-race (out-group) discriminations.

Satisfaction with life scale (SWLS)

To operationalize psychological well-being, we employed the Satisfaction of Life index (Diener et al., 1985) which comprises five items, such as “In most ways my life is close to my ideal, the conditions of my life are excellent, and I am satisfied with my life”. All items were rated on a seven-point Likert scale, with 1 being *Strongly disagree* and 7 being *Strongly agree*. The total score ranges reflected degree of life satisfaction. Previous studies showed that both Mandarin and English versions of the scale (Li et al., 2016; Diener

et al., 1985) demonstrating high internal consistency ranging from 0.71 to 0.89. It had high convergence with several other measures of life satisfaction and subjective well-being, showing good construct validity (Pavot et al., 1991). This scale had also been validated among the Malaysian clinical population, showing good concurrent, discriminant and criterion validities (Aishvarya et al., 2014). The internal consistency of this scale is moderately high (Cronbach's $\alpha=0.87$) in this study.

Depression anxiety stress scale-21 (DASS-21)

DASS-21 (Lovibond & Lovibond, 1995) was designed to evaluate psychological distress (depression, anxiety, stress), with 7 items falling under each domain. All 21 items were rated on a four-point Likert scale (0=*Did not apply to me at all*, 3=*Applied to me very much or most of the time*). The overall score was used in this study to represent overall mental distress. Past research on Malaysian adult and university student populations have shown that the DASS-21 has adequate internal consistency (Cronbach's $\alpha=0.69$), and discriminant and convergent validities (Yusoff et al., 2013). The internal consistency (Cronbach's $\alpha=0.93$) is quite high for the total scale score.

Analysis

ANCOVA was employed to test the group differences (Hypothesis 1) between different MT groups among CIM, because it helps to control for the effect of covariates on the demographic background while comparing the outcome (dependent variables) of both groups. IBM SPSS version 27.0 was used to perform the analysis.

Partial least squares structural equation modeling (PLS-SEM) was utilized to assess the construct validity and analyze the relationships of multiple variables (Hypotheses 2–4). PLS-SEM is a highly appealing methodology due to its capacity to test complex models comprising multiple constructs, indicator variables, and structural paths, without assuming the data distribution. One distinctive aspect of PLS-SEM is its focus on causal prediction within the framework of SEM, enabling the estimation of statistical models that offer causal explanations. This approach, introduced by Wold (1982) and Hair et al. (2019), prioritizes prediction and resolves the perceived conflict between explanation, which is normally emphasized in academic research. The current analysis used the SmartPLS 4.0 software to perform PLS-SEM. Missing data was addressed through pairwise deletion using the SPSS tools prior to the software analysis in SmartPLS.

Results

Assessment of reflective measurement model

Following the recommendation of Hair et al. (2017) regarding PLS-SEM, three analysis (i.e., internal reliability, convergent validity and discriminant validity) were performed to examine the reliability and validity of the reflective constructs. As shown in Supplement Table 1, all key variables exhibited satisfactory values for Cronbach's α (CA) and composite reliability (CR), surpassing the minimum threshold of 0.70 (Hair et al., 2019). In order to enhance measurement quality, two items with low loadings (<0.40) from the DASS-21 were removed (refer to Supplementary Table 1). Moreover, all constructs surpassed the minimum average variance extracted (AVE) score of 0.50, indicating adequate convergent validity (Bagozzi & Yi, 1988). The constructs' discriminant validity was also confirmed as the heterotrait-monotrait (HTMT) values between constructs remained below the threshold limit of 0.90, indicating that the constructs were distinct from one another (refer to Supplementary Table 2; Gold et al., 2001).

Assessment of formative measurement model

In this study, the second domain of PDS source was defined as a formative construct. Following the approach suggested by Cheah et al. (2018), a two-step analysis was conducted to determine the reliability and validity of formative constructs. The variance inflation factor (VIF) was utilized to examine collinearity among the formatively measured items. The VIF values for the three items ranged from 1.46 to 1.60 (refer to Supplementary Table 3), all of which were below the threshold value of 3. This indicates that collinearity issues were not a concern in the available data (Becker et al., 2015; Hair et al., 2019). Followed by examining the significance and outer weights, the results indicated that PDS_6c was statistically significant ($p < .001$), while PDS_6a and PDS_6b were not significant ($p > .05$). However, all three items were retained to ensure the content validity of the PDS source (refer to Supplementary Table 3).

Assessment of higher-order construct

Next, both constructs – AREMS and DASS were assessed based on the procedure for Type 2 higher-order construct (i.e., reflective-formative) (Sarstedt et al., 2019). When assessing collinearity issues, all the dimensions with VIF values were less than 3.3, suggesting that the dimensions did not suffer from multicollinearity issues. Furthermore, the results of outer weights and significance demonstrated that the stress domains ($p < .05$) had a statistically significant

effect on DASS, but depression and anxiety domains were not significant ($p > .05$). Nevertheless, all three domains, i.e., MI, SC and SMI were insignificant regressed on AREMS. Yet, all of these were also retained to fully capture the underlying meaning of AREMS and DASS (See Supplementary Table 4).

Hypothesis 1: group comparisons testing

As there was a significant difference in Gender and Religion ratio between the CMT and EMT groups, both variables were entered as covariate in further analysis. Assumption of normality was examined using the histogram and Q-Q plot which showed approximately normal curves. The assumption of homogeneity of covariance (Bartlett test) was met for both PDS ($p = .18$) and AREMS ($p = .24$) scores for the One-way Analysis of Covariance (ANCOVA). As hypothesized, the CMT group reported significantly lower PDS scores than the EMT group ($F = 11.35, p < .001$). However, there were no significant group differences between CMT and EMT groups in their AREMS ($F = 1.98, p = .12$) (See Table 2). Hypothesis 1 was partially confirmed.

Hypothesis 2–3: relationships testing

Drawing from the bootstrapping result (See Fig. 2; Table 3), it was evident that, firstly, ethnic identity was negatively related to both PDS-source (H1a: $\beta = -0.48, p < .001, f^2 = 0.25$) and PDS-type (H1b: $\beta = -0.38, p < .001, f^2 = 0.15$), but not on AREMS. The effect size (f^2) of ethnic identity on PSS-source and PSS-type was at medium range (0.15–0.35). However, the relationships between National identity and AREMS, PDS-sources and PDS-types were not significant. Thus, hypothesis 2 was partially confirmed.

Meanwhile, both AREMS (H5a: $\beta = 0.19, p < .05, f^2 = 0.004$) and PDS-type (H4a: $\beta = 0.33, p < .001, f^2 = 0.06$) were found positively related to DASS but not on SWLS. Thus hypothesis 3 was confirmed.

In addition, a blindfolding method was used to evaluate the predictive relevance (Q^2) of the path model. The Q^2 values for the endogenous variables were greater than zero (varying from 0.005 to 0.15) which meant the present model possessed predictive qualities (Hair et al., 2017).

Hypothesis 4: moderation analysis

As hypothesized, there was a significant moderating effect of MT on the relationship between National identity and AREMS (H8b: $\beta = -0.64, p < .05$) (See Table 4). Subsequently, the interaction plot was used to further elaborate on the significant finding. As presented in Fig. 3, the line labelled “Chinese” had a steeper gradient than that labelled

Table 2 ANCOVA on perceived in-group discrimination and out-group discrimination by mother tongue group controlling for gender and religion

Variables	English MT	Chinese MT	<i>F</i>	<i>p</i>
	(<i>N</i> =92)	(<i>N</i> =193)		
	<i>M (SD)</i>	<i>M (SD)</i>		
Perceived In-group Discrimination type (PDS1–5)	11.99 (4.72)	8.97 (3.99)	11.99**	<0.001
Perceived In-group Discrimination source (PDS6a-c)	6.53 (2.59)	5.39 (2.37)	5.98*	0.001
Perceived In-group Discrimination total (PDS1–6)	18.52 (6.67)	14.36 (5.83)	11.35**	<0.001
Perceived Out-group Discrimination total (AREMS13)	1.98 (2.31)	2.34 (2.38)	1.98	0.12

Note. **p* < .05, ***p* < .001

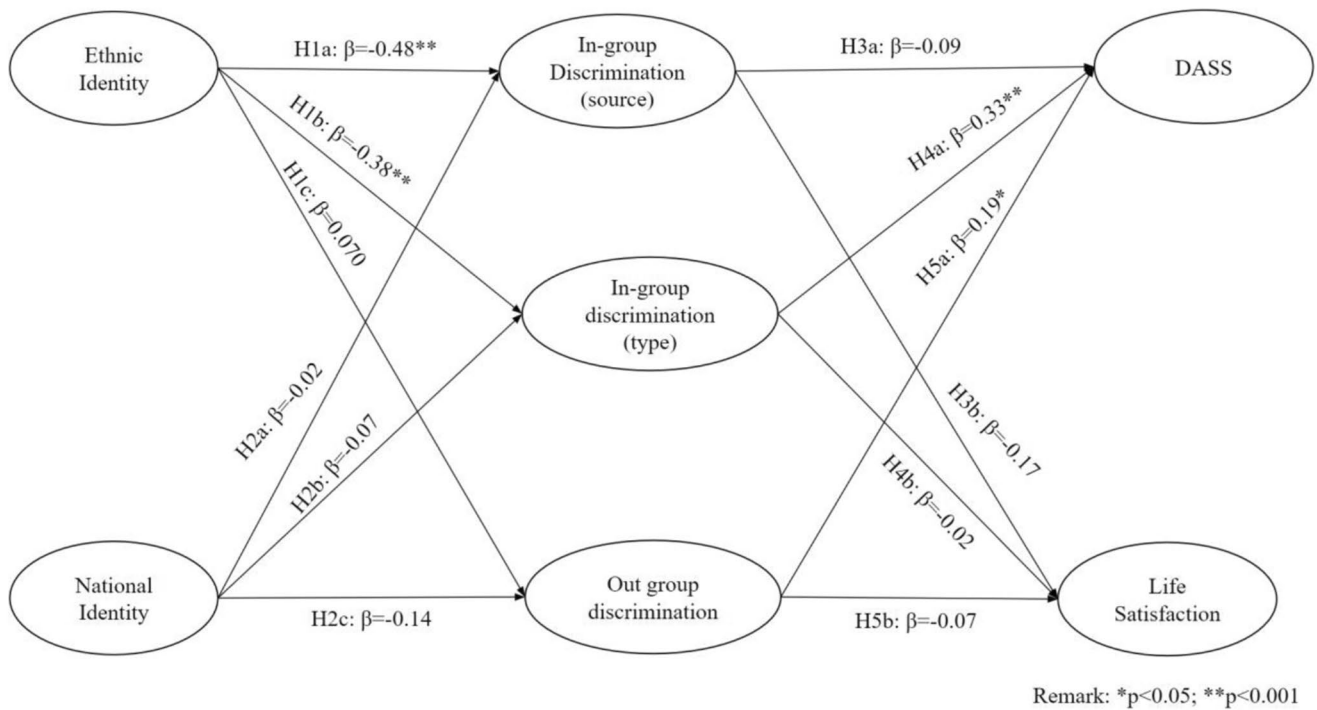


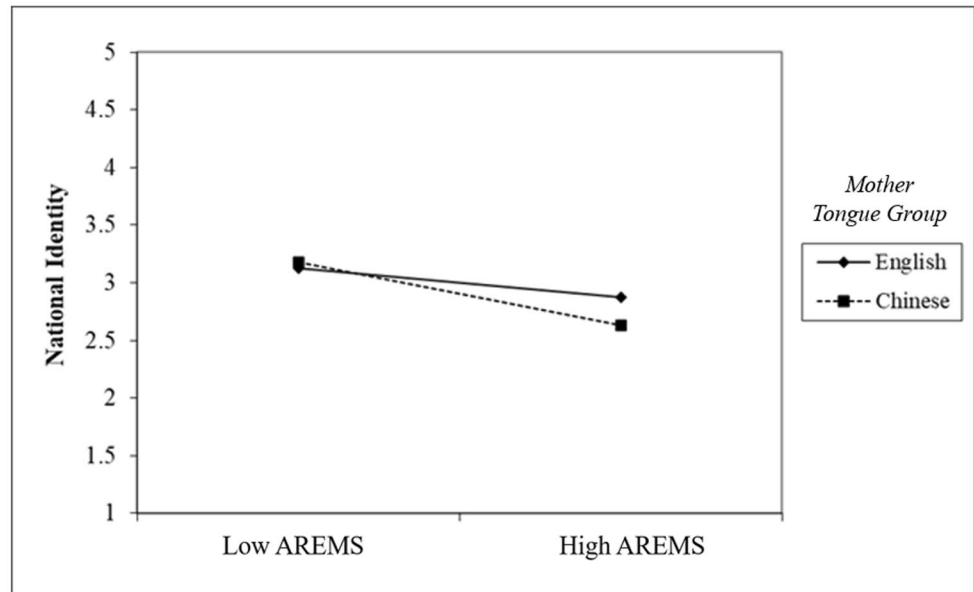
Fig. 2 Path coefficient through structural equation modeling

Table 3 Result of structural equation modeling analysis

Path Relationship	Std Beta	Std Error	<i>t</i> -values	<i>p</i> -values	VIF	<i>R</i> ₂	<i>f</i> ²	<i>Q</i> ₂
H1a) Ethnic Identity -> In-group Discrimination (source)	-0.48	0.05	8.78	<0.001	1.17	0.235	0.25	0.15
H1b) Ethnic Identity -> In-group Discrimination (type)	-0.38	0.06	6.27	<0.001	1.17	0.171	0.15	0.09
H1c) Ethnic Identity -> Out-group discrimination	-0.07	0.11	0.62	0.27	1.17	0.032	0.004	0.005
H2a) National Identity -> In-group Discrimination (source)	-0.02	0.06	0.37	0.35	1.17		0.001	
H2b) National Identity -> In-group Discrimination (type)	-0.07	0.06	1.10	0.14	1.17		0.005	
H2c) National Identity -> Out-group Discrimination	-0.14	0.16	0.90	0.19	1.17		0.02	
H3a) In-group Discrimination (source) -> DASS	-0.09	0.12	0.76	0.22	1.94	0.13	0.005	0.07
H3b) In-group Discrimination (source) -> Life Satisfaction	-0.17	0.11	1.60	0.05	1.94	0.04	0.02	0.02
H4a) In-group Discrimination (type) -> DASS	0.33	0.11	3.14	<0.001	1.95		0.06	
H4b) In-group Discrimination (type) -> Life Satisfaction	-0.02	0.11	0.14	0.44	1.95		0.001	
H5a) Out-group Discrimination -> DASS	0.19	0.10	1.97	<0.05	1.03		0.04	
H5b) Out-group Discrimination -> Life Satisfaction	-0.07	0.10	0.72	0.24	1.03		0.005	

Table 4 Result of moderation analysis with mother tongue as moderator

Path Relationship	Std Beta	Std Error	<i>t</i> -values	<i>p</i> -values
Ethnic Identity *Mother Tongue -> In-group discrimination (source)	-0.17	0.17	0.98	0.16
National Identity*Mother Tongue -> In-group discrimination (source)	0.07	0.14	0.49	0.31
Ethnic Identity *Mother Tongue -> Out-group discrimination	0.27	0.24	1.10	0.14
National Identity*Mother Tongue -> Out-group discrimination	-0.64	0.38	1.70	<0.05

Fig. 3 Interaction between national identity and out-group discrimination. Note: MT = Mother Tongue, AREMS = Out-group discrimination

“English”. This implied that the negative relationship between National identity and Out-group discrimination was stronger for the CMT group compared to the EMT group. However, MT did not moderate the path between Ethnic identity and PDS. Thus, hypothesis 4 was partially confirmed.

Discussion

This study investigated the relationship between cultural identification, perceived racial discrimination, and mental well-being; we also investigated the moderating effect of mother tongue on the relationship between different cultural identification and types of perceived discrimination. The results showed that (1) the CMT group reported lower in-group discrimination than the EMT group, (2) ethnic identity was negatively associated with in-group discrimination, (3) both forms of discrimination were positively correlated with mental distress, and (4) MT had a significant moderating effect on national identity and out-group discrimination, with CMT having a stronger negative relationship than the EMT group. Our current study is consistent with the recent literature that racial discrimination has a detrimental impact on the psychological well-being of minorities (Le et al., 2020; Lee et al., 2020); furthermore, we have two novel

findings—first, we confirmed that exposure to in-group discrimination is associated with different cultural identifications; second, we confirmed that mother tongue serves as a “social marker” for CIM, especially among the Chinese-speaking (CMT) group.

Ethnic identity might buffer in-group discrimination

Our study confirmed that a “hybrid identity” inclusive of ethnic identity is actually more adaptive than retaining “national identity” alone in face of in-group discriminations. In the past, social identity theory (Turner & Reynolds, 2010) proposed that individual identity was derived from the relevant group membership, which included cultural identity. Due to globalization, however, the singular “cultural identity” concept might not be able to explain the new generations of migrants’ experiences and their inter and intra-racial conflicts with mainstream societies. Many studies done in an American context found that being “bicultural” could lead to better psychological functioning (Kim & Vietze, 2022; Piña-Watson et al., 2019). Our findings among CIM are in consistent with the past literature that to many diasporic populations worldwide, a “hybrid cultural identity” model (Belgrade et al., 2021; Pieterse, 2001) is probably more helpful in explaining their in-group interactions and inter-racial discriminations.

Role of mother tongue for ethnic and linguistic minorities

As hypothesized, the CMT group reported significantly lower in-group discrimination score than the EMT group, but both groups did not differ in their out-group discrimination. The higher perceived in-group discrimination in EMT could be due to their lack of fluency in the mother tongue, which is a key tool of communication with in-group community. This feeling of being rejected by one's own ethnic community is quite a common phenomenon among younger generations of ethnic minorities where they have lost their original dialect and being assimilated into the host culture where they were born (Biswas, 2022). They are different from their first-generation migrant ancestors, who are still loyal to their home country and home dialect. Yet they have been teased as “*banana*” (a Chinese who does not speak Chinese) by other CMT (Muthahirah, 2018). As proven in our study, this type of in-group rejection is equally harmful to mental well-being (positive association with mental distress) as out-group rejection.

On the other hand, the different mother tongue group has differed in their association of national identity and out-group discrimination; especially for the Chinese-speaking group, higher national identity is negatively associated with discrimination from other races. This could be interpreted as adopting national identity (cultural assimilation) might be a helpful strategy to reduce discrimination from the host culture for those CIM who still retain their Chinese dialect mother tongue, but not those whose primary language is English. The latter group did not benefit as much on the national identification in curbing out-group discrimination. As English-speaking CIM in our sample did not have such a strong national identification as their Chinese-speaking counterparts, it was reasonable that their national identification was not associated with out-group discrimination. Moreover, this study finding also refutes the myth that “Chinese-speaking CIM are not patriotic” as their national identity score is statistically higher than English-speaking CIM. In summary, mother tongue can be a cultural or social marker for ethnic minorities like CIM, which is associated with different forms of cultural identification and racial discrimination.

Implications on college mental health with ethnic minority students

Many researchers found that indirect and subtle discrimination (microaggressions) against ethnic minorities was still deeply ingrained in the education system, which could be perpetuated by educators and education policy on a macro level (Gupta et al., 2021). According to a past study, 34.4%

of undergraduates in Malaysia exhibited symptoms of anxiety, social dysfunction and confidence-related problems, with CIM undergraduates reporting the lowest levels of mental health among other ethnicities (Md Nordin et al., 2010), especially in public university settings where structural racism is allowed (for example the public display of Malay supremacy in Nasir et al., 2021).

Therefore, urgent attention and advocacy must be given to CIM college students in order to reduce the negative impacts of both in-group and out-group discrimination. Though most of the colleges in Malaysia were equipped with counselling services, not all students with psychological distress seek help from counsellors as a result of stigma and lack of awareness (Arifin et al., 2022; Berry et al., 2019; Ibrahim et al., 2019). Hence, college counsellors should be well equipped with cultural competence when working with a CIM group by assessing their cultural orientation, mother tongue, hybrid identities, and perceived discrimination before assuming the best clinical practices and interventions for certain individuals. Embedded in a strong-ties society (Sundararajan, 2020), CIM's perceived acceptance from the in-group peers could be critical in their development of healthy self-concept and cultural identity. Campus educators could encourage the formation of CIM student bodies based on different mother tongues (or dialects) to facilitate social belonging while preparing students to interact with other language groups (even if they are from the same race). Inter-racial engagements have not only been an ongoing effort in Malaysia (Majid et al., 2019), but globally (e.g., the Black Lives Matter movement), especially during the pandemic era (Allam et al., 2021). Acknowledging the cultural heritage (such as mother tongue and ethnic identity) brought by minority groups would be the first step towards fostering national unity.

Limitations in this study and future direction

Despite the usefulness of the present findings, the validity of some adapted and contextualized scales (e.g., A-REMS, A-PDS, A-CIS) might be limited in capturing the full spectrum of implicit racism in Malaysia, as they were originally developed in a non-Western context. Hence some items in those scales were excluded in the study due to their low-loading to the measured constructed. Future studies are encouraged to develop contextualized scales to measure both within-race and between-race discrimination in the context of Malaysia. As racial discrimination is still a sensitive topic in Malaysia, not all participants were feeling safe in reporting or recalling their negative experiences on paper. A future study could employ mixed methods by adding focused group or in-depth interviews to collect more personal narratives in a culturally safe environment. Lastly,

according to the demographic table, the CIM sample investigated in this study was mainly from urban settings with a middle-class household income and should not be generalized to the overall CIM community.

Conclusion

This study highlights the experiences of ethnic minorities born in a multicultural country, such as Malaysia, where they were raised with diverse mother tongues and cultural identities. New generations of ethnic minorities in heterogeneous countries are often faced with the need to assimilate into the mainstream national identity while preserving their marginalized ethnic identity. We theorized that different mother tongues might predispose minorities to different cultural systems and ecologies, which either expose or shelter them from in-group and out-group discriminations. As both forms of discrimination are detrimental to mental well-being among younger adults, advocacy for the mental health of all ethnic minorities in the pedagogical settings should also be promoted.

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Authors' contribution Rachel Sing-Kiat Ting led the research team in conceptualizing research questions and survey questionnaires, applying for grants and ethics approval, launching data collection and entry process, and drafting the original draft of this manuscript. Xin-Jean Lim contributed in running PLS-SEM data analysis for hypothesis testing, and drafting the Result section; Joy Yung-Re Lim contributed in data collection, data cleaning; Jia-Yee Choo contributed in basic data analysis, literature review, and manuscript formatting. All are involved in reviewing the final version of this manuscript.

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Data Availability The datasets generated during and/or analysed during the current study are not publicly available due to author's university copyright issue, but are available from the corresponding author on reasonable request.

Declarations

Compliance with ethical statement Ethical approval for this study project was granted under the first author's institution Human Ethics Review Board; written informed consents were obtained from all participants. On behalf of authors, there is no known conflict of interests between the authors, nor between the authors and the participants.

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