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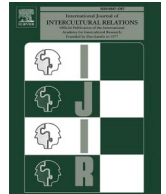
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How do Australian majority-group members acculturate? A person-centred approach¹

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ABSTRACT

Understanding how majority-group members adapt to cultural diversity is increasingly important in plural societies such as Australia. However, little is known about majority-group members' acculturation towards immigrants and self-identifying minority-group members in a shared society. We address this with data from two white Australian majority group samples (Study 1, $n = 212$ undergraduate students and Study 2, $n = 300$ community sample). Using person-centred latent profile analysis, we identified majority-group members to be following an integrated (endorsing both majority and ethnic minority cultures, study 1), dominant (endorsing mostly the majority culture), disengaged (rejecting both cultures) and receptive strategy (endorsing mostly ethnic minority cultures). In Study 2 we also identified a diffuse strategy (showing no clear cultural preference). Moreover, intercultural sensitivity and intergroup contact predicted the probability of belonging to these acculturation profiles in expected ways in both studies, positively predicting profiles higher in endorsement of other culture adoption (integrated, receptive) and negatively predicting those low in other culture adoption (dominant, disengaged). We discuss our findings with reference to the need for further theoretical development of how majority groups approach acculturation and additional investigation in a range of sociocultural contexts.

Acculturation is the psycho-socio-cultural change that occurs during and after intercultural contact (Berry, 2017). It is a bidimensional process for ethnic minority-group members, incorporating heritage cultural maintenance and adoption of or participation in other cultures including the mainstream culture (Sam & Berry, 2010). Most acculturation literature describes minority members' acculturation and how their acculturative behaviours are restricted by majority-group members' acculturation *expectations*, such as by civic norms and rules (van de Vijver, 2015). However, how majority-group members acculturate to immigrants and self-identified ethnic minorities is relatively unexplored (Kunst et al., 2021). Little is known about the extent to which they prefer to maintain their own/national culture (National Culture Maintenance; NCM) and/or the extent to which they prefer to adopt minority members' cultures in a shared society (Other Culture Adoption; OCA). This is important because discordant or conflictual acculturation

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orientations can contribute to intergroup tensions (Bourhis et al., 1997) and majority members' openness to other cultures and strength of national or ingroup identification can impact minorities' opportunities, experiences and sense of belonging in multiethnic contexts (Dandy & Pe-Pua, 2015; Dunn, 2009).

In the present study we address this research gap by using a person-centred approach to identify Australian majority members' acculturation orientations towards minority members' cultures across student (Study 1) and community samples (Study 2). To explore the attributes of each observed acculturation strategy, we examine their relationships with two key intergroup variables: intercultural sensitivity and intergroup contact.

Majority members' acculturation

Immigration and globalisation have resulted in societies that are increasingly ethnically diverse (IOM, 2023). Not only are majority groups declining as a proportion of the total population in contexts such as Australia (Van Oudenhoven & Ward, 2013), the impetus and opportunities for intercultural contact within societies are increasing. For example, in Australia, where approximately 50% of the population was born overseas and/or has at least one parent born overseas (Australian Bureau of Statistics [ABS, 2022]), rates of intercultural 'mixing' through friendships, interaction and intercultural marriage are high compared with other nations (Ang et al., 2002). Although there is some evidence that majority Australians – predominantly white and of British/European descent¹ – are less likely than other cultural groups to engage in intercultural interaction (Dandy & Pe-Pua, 2015), they are nonetheless likely to encounter ethnic minority members in a range of educational, occupational and recreational contexts and may be motivated to adopt aspects of minority cultures.

Majority and minority groups' acculturation processes are likely to differ because the motives or pressures to adapt to other groups are distinct. Indeed, these groups differ due to their power imbalance within a society, with majority members referring to individuals who belong to a group that holds greater economic, political and social power relative to minority members. Thus, while ethnic minorities such as immigrants are motivated to adapt to the host or majority culture, to gain access to civic national identity and acquire social capital for example, majority groups are not driven by civic processes to adapt to minorities (McAllister, 2018), nor do they have the same social capital needs. Instead, majority individuals are more likely to be free to choose their acculturation strategy because of their social capital and ethnolinguistic vitality (Berry, 2017; Kesler & Bloemraad, 2010; Lefringhausen & Marshall, 2016).

Not surprisingly then, studies in which Berry's two-dimensional model of acculturation has been applied to majority groups have shown different acculturation strategies for majority members than have been observed with minority members such as immigrants. These studies have mostly adopted a person-centred as opposed to variable-centred analytical approach to exploring the structure of majority acculturation strategy. This is an appropriate strategy for identifying group patterns particularly when the population cannot be assumed to be homogenous (Grigoryev & van de Vijver, 2018; Kunst, Lefringhausen, et al., 2021). Findings from these studies show that both the observed number of majority acculturative experiences, and the bi-dimensional configuration of those experiences differ across national contexts and samples (Kunst, Lefringhausen, et al., 2021). Nonetheless, three out of five reported acculturation strategies, labelled integrated (high on both dimensions), dominant (high on national culture maintenance and low on other culture adoption), and undifferentiated (low to medium scores on both dimensions) are the most common² preferences for majority-group samples across several contexts including the UK, Norway and the USA (Haugen & Kunst, 2017; Komisarof, 2009; Lefringhausen et al., 2021).

Majority Australians' acculturation experiences

Australia is a culturally plural context with many opportunities for intergroup contact but little is known about majority Australians' acculturation experiences (Dandy & Pe-Pua, 2015). Studies of majority acculturation expectations of immigrants show a preference for immigrants to integrate (e.g., Abu-Rayya & White, 2010) but some prefer assimilation (Dandy, 2010). In their qualitative study exploring acculturation orientations among multiple groups Dandy, Ziaian, & Moylan, 2018 found Australian majority-group members reported little perceived need for their own cultural maintenance, given their cultural, political and economic dominance. Nonetheless, majority Australians reported motivation to learn about other cultures, particularly those of Indigenous Australians (Dandy, Ziaian, & Moylan, 2018). Thus, there appears to be some desire to adapt to aspects of minority cultures but this may be restricted to learning rather than adopting, and these findings are limited to a small qualitative sample. Reflecting the need for further investigation, our first aim was to explore majority Australians' acculturation strategies.

The role of intercultural contact and intercultural sensitivity in majority-group acculturation

To better understand majority-group acculturation we explored the association with relevant intergroup variables: intergroup contact and intercultural sensitivity. By definition, acculturation occurs when members of two or more groups engage in (positive) contact and there is robust evidence that positive intergroup contact reduces prejudice and enhances positive attitudes toward the other group (Pettigrew & Tropp, 2006). This suggests that positive contact (i.e., high in quality and frequency) should be positively

¹ Majority Australians are defined as white Australians of British ancestry (Sibley & Barlow, 2009). They are both the numerical majority and the economic and politically dominant cultural group in Australia.

² For majority groups we would argue that 'dominant' is a more appropriate term than separated.

associated with majority-group members' Other Culture Adoption. Consistent with this expectation, Lefringhausen et al. (2021) found that contact was positively associated with minority culture adoption for English samples in the UK.

In addition, we would expect majority acculturation to be related to intercultural sensitivity (IS), the affective drive to engage in processes that promote awareness and understanding of cultural difference and culturally competent communication (Chen & Starosta, 1997). According to the Developmental Model of Intercultural Sensitivity, individuals progress through five stages (denial, defense, minimization, acceptance, adaptation and integration), from low (ethnocentric) to high (ethnorelative) intercultural sensitivity, by internalising cultural differences through experiential learning (Bennett, 1986). Therefore, it can be expected that Other Culture Adoption, which depicts an attitudinal and behavioural orientation towards the adoption of minority cultures, is related to IS as an affective response towards the acknowledgement and/or engagement with these other cultures. Supporting this, Lefringhausen and Marshall (2016) found Other Culture Adoption was positively associated with ethnorelativism (high IS) using two different measures, and Lefringhausen et al. (2021) found a positive correlation with majority-group members' identification with all of humanity as well as constructive marginalization (indicators of high IS).

The current study

Our aim was to explore majority-group Australians' acculturation profiles using a person-centred approach because this does not assume that everyone follows the same pattern as the group aggregate. Instead, this method determines the strategy from individuals' scores, which is appropriate for exploration and in theory development (Grigoryev & van de Vijver, 2018; Lefringhausen et al., 2021; Schwartz & Zamboanga, 2008). We were interested in whether majority-group Australians' acculturation scores would display a similar structure to that observed in other settler societies such as the USA. Based on past research, we expected to find at least three acculturation strategies but were open to additional structures given the exploratory nature of the study. Specifically, we hypothesised that (1) at least three distinct acculturation strategies would emerge for majority-group Australians: integrated (high on both desire to maintain national culture and desire to adopt other cultures); dominant (high on national cultural maintenance and low on adoption of other cultures) and undifferentiated (low to moderate on both dimensions). In addition, and following from Hypothesis 1, we proposed that individuals who prefer acculturation strategies that are high in other culture adoption (e.g., integration) will score higher on intercultural sensitivity (2) and will report more frequent and more positive intercultural contact (3) than those low in other culture adoption (e.g., dominant).

Recognising the importance of context for studies of acculturation, we tested these hypotheses with two samples of majority-group Australians: undergraduate students (Study 1) and a community sample (Study 2). A student sample was chosen because the university environment is one in which there are many opportunities for majority-group members to engage in intercultural interaction through the presence of international students and staff as well as the general nature of universities to foster the exploration of new ideas and ways of thinking. Nonetheless, student samples have some demographic restrictions (e.g., for SES) and therefore we investigated the same hypotheses with a community sample, representative of Australian society more broadly, to determine whether similar patterns would be observed.

Study 1 – student sample

Methods

Participants and procedure

Participants were 220 undergraduate students (83% female) who were 18 years old or over (range: 18–68 years, $M = 31.93$, $SD = 12.31$, Median = 28), born in Australia and who identified as having White/European cultural heritage.

Ethics approval was granted by the University Human Research Ethics Committee [2021–02401 DOIDGE]. Participants completed an online Qualtrics survey and were recruited as part of an undergraduate psychology course for course credit ($n = 175$) and through university undergraduate communications (incentivised with a gift certificate raffle valued at AUD50; $n = 45$). Data were collected from March to October 2021. Items within measures and the order of measures were randomised to minimize order effects. Unless stated otherwise, items were rated on a 7-point Likert response scale, where 1 = *Strongly Disagree*, and 7 = *Strongly Agree*.

Materials

Multi-Vancouver Index of Acculturation (Multi-VIA)

We used Lefringhausen and Marshall's (2016) adaptation of the VIA, the Multi-VIA, to measure majority-group acculturation. Lefringhausen and Marshall (2016) validated this scale across two studies reporting supportive discriminant and convergent validity. Moreover, the Multi-VIA showed configural invariance and partial metric invariance across three continent groups including the USA, Europe (Germany & the UK) and Asia (India & China). Reliability was good across all country samples, with alphas for National Culture Maintenance ranging between .81–.91 and for Other Culture Adoption between .73–.89.

Scale wording was altered for the Australian context; the instructional stem was "Thinking about your cultural identity as an Australian, please read the following statements and check the box that best describes you.". Ten items measured National Culture Maintenance (NCM), e.g. "I often participate in my Australian cultural traditions" ($\alpha = .90$), and ten items measured Other Culture Adoption (OCA), e.g. "I often participate in diverse cultural traditions" ($\alpha = .84$).

Intercultural Sensitivity Scale (ISS)

Chen and Starosta's (2000) 24-item scale was used to measure Intercultural Sensitivity on a continuum from low (ethnocentric) to high (ethnorelative). Based on the authors' and other researchers' reports regarding validity (Chen & Starosta, 2000; Meleady et al., 2021; Wang & Zhou, 2016) and high internal reliability for the present sample ($\alpha = .87$) we used an aggregate score for the full scale. An example item is "I enjoy interacting with people from different cultures".

Intergroup contact

The 10-item intergroup contact scale from Islam and Hewstone (1993) was used to measure contact quality and frequency (5 items each). This scale has been used extensively and has established validity and reliability (Lolliot et al., 2015). Higher scores indicate higher perceived quality of, or more frequent, contact. Quality items began with the stem "When you meet people from other cultural backgrounds, do you generally find the contact..." followed by quality descriptors: voluntary, equal, cooperative, pleasant, intimate. A 7-point Likert scale was used for responses, where 1 was the low-quality extreme ("not at all pleasant"), and 7 was the high quality ("very pleasant"). Three frequency items begin with the stem "How often have you had contact with people from other cultural backgrounds at ..." followed by contexts (work, university, community meetings or events) while the other two refer to socialising with people from other cultural groups and number of friends from other cultural groups. An aggregate contact score was used and internal reliability was .73.

Demographics and attention check

Demographic information for gender, age and place of study was also collected from the sample. An attention check item was included ("Please move on to the following questions by selecting 'yes' ").

Study 1 results

Analytical approach

Following data screening, latent profile analyses (LPA) were carried out to discover the unique acculturation profiles among the respondents. LPA is used to categorize a given population into mutually exclusive and exhaustive subpopulations, otherwise termed as classes, based on the similarities in their response patterns to a set of continuous variables (Spurk et al., 2020). Compared to conventional, non-latent clustering methods such as hierarchical and *k*-means clustering procedures, LPA deals with class/profile membership as an unobserved categorical variable, whereby its value specifies the probability a respondent belongs to each class or profile (Spurk et al., 2020).

The R software with "TidyLPA" and "dplyr" packages were used for the purpose of the LPA (Rosenberg et al., 2019). As a first step, LPA carries out a test for the fit indices of a 1-profile model and subsequently adds to the number of profiles until additional profiles do not produce better fit indices (Masyn, 2013). Based on the number of previously identified acculturation strategies for majority-group members (Kunst, Lefringhausen, et al., 2021), we tested up to a 5-profile solution. To determine the optimum number of profiles, a solution-based comparison of the model fit indices of different profiles was carried out. These solutions include: the Lo-Mendell-Rubin Adjusted Likelihood Ratio Test (LMRA-LRT; Lo et al., 2001), the entropy values (Celeux & Soromenho, 1996), Bootstrapped Likelihood Ratio Test (BLRT), the Bayesian Information Criterion (BIC; Schwarz, 1978), and Akaike Information Criterion (AIC; Akaike, 1974).

The LMRA-LRT and BLRT solutions are used as indicative tests to determine whether the model with a *K* profile significantly fits the data better than a model with *K*-1 profile. BIC and AIC values are often used when comparing different model solutions, with lower values suggesting a better model fit. At the same time, entropy values which are close to 1 indicate a good classification of respondents into subpopulations (Spurk et al., 2020). After carrying out the LPA, all the respondents were automatically assigned to their most probable classes based on a post-hoc analysis using maximal posterior probabilities. The posterior probability represents the probability of respondents being categorized according to classes within a given profile (Masyn, 2013).

The assumptions of normal distribution within our variables were not met in either dataset. Therefore, we applied the MLR estimation. Because outliers in data can contribute to disproportioned LPA outcomes, we conducted a test for multivariate outliers using

Table 1
Model Fit Indices and Entropy of the Latent Profile Analysis for the Student Sample.

Number of Profiles	Log likelihood	BIC	AIC	BLRT	LMRA-LRT	Entropy values
				<i>p</i>	<i>p</i>	
1	-601.02	1222.68	1209.26	-	-	1.00
2	-595.04	1227.17	1203.67	0.01	< 0.001	0.52
3	-589.02	1230.60	1197.03	0.02	< 0.001	0.60
4	-580.03	1228.75	1185.12	0.01	< 0.001	0.70
5	-579.02	1243.70	1189.99	0.60	> 0.001	0.67

Note. Best-fitting model is in bold. BIC = Bayesian information criterion; AIC = Akaike information criterion; BLRT = Bootstrapped likelihood ratio test; LMRA-LRT = Lo-Mendell-Rubin adjusted likelihood ratio test.

the Mahalanobis distance (for NCM and OCA; [Spurk et al., 2020](#)). At a p -value of 0.001, eight and four responses were excluded from Studies 1 and 2, respectively, leaving the current sample sizes of 212 (student sample) and 300 (representative community sample) for the LPA.

Person-centred acculturation strategies: latent profile analysis

[Table 1](#) includes information about different LPA models with their corresponding fit indices for the student sample. Notably, both the BIC and AIC values for the 4-profile model are the lowest in comparison with the other models. The 4-profile model is also best classified because it has the highest entropy value of 0.70 in comparison with classes 2 and 3 with entropy values of 0.52 and 0.60 respectively. (Class 1 has a perfect classification because all the participants are assigned to one class, hence the highest Entropy value of 1). Based on these fit indices, we considered a 4-profile model to be most suitable for the student sample data.

Class 1 ($n = 21$; 9.9%) was characterized by a pattern of low scores on National Culture Maintenance (NCM; $z = -1.43$) and Other Culture Adoption (OCA; $z = -1.40$) and was labelled *disengaged*. Class 2 ($n = 79$; 37.3%) was characterized by higher scores on NCM ($z = 0.105$) and a low score on OCA ($z = -0.630$) and was labelled as *dominant*. For class 3 ($n = 67$; 31.6%), there was a pattern of moderate to high scores for both acculturation dimensions of NCM ($z = 0.917$) and OCA ($z = 0.590$); hence this class was labelled as *integrated*. Lastly, class 4 ($n = 45$; 21.2%) was characterized by a low score on NCM ($z = -0.927$) and moderate to high scores on OCA ($z = 0.745$); thus, class members were labelled as *receptive*. [Fig. 1](#) is the graphical depiction from R of the four profiles' scores (as z scores) for the two acculturation dimensions, NCM (left) and OCA (right) Bars reflect confidence interval for the class centroids and boxes reflect the standard deviations within each class; a box encompasses $\pm 64\%$ of the observations in a normal distribution.

Predicting class membership using intercultural sensitivity and contact

To test hypotheses 2 and 3 and because IS and contact are proposed to be pre-conditions for acculturation strategies, we conducted linear regressions using the profile probability scores derived from the LPA as dependent variables.³ In a multiple linear regression, we tested whether age, gender (dummy coded: men = 1), Intercultural Sensitivity (IS), and Contact (as independent variables) significantly predicted the profile probability scores for each of the four profiles. The results are summarised in [Table 2](#).

For membership probability of class (profile) 1: disengaged, the results indicated that collectively the predictors of age, gender, IS, and contact accounted for 14.0% of the variance ($R^2 = .14$, $F(4, 207) = 9.58$, $p < .001$). Independently, IS ($\beta = -.179$, $p = .023$) and contact ($\beta = -.233$, $p = .004$) predicted the probability of being in the disengaged group. However, gender ($\beta = .060$, $p = .354$) and age ($\beta = -.064$, $p = .327$) did not significantly predict probability of having a disengaged style.

For membership probability of class 2: dominant, we found that the independent variables accounted for 14.2% of the variance ($R^2 = .14$, $F(4, 207) = 9.71$, $p < .001$). Both IS ($\beta = -.230$, $p = .004$) and contact ($\beta = -.227$, $p = .005$) significantly predicted a lower probability of being in the dominant class but gender ($\beta = -.057$, $p = .377$) and age ($\beta = .037$, $p = .572$) did not.

The independent variables explained 8% of the variance ($R^2 = .08$, $F(4, 207) = 5.61$, $p < .001$) in the probability of belonging to the integrated profile (class 3). Unlike the pattern of results for disengaged and dominant class probabilities, only IS ($\beta = .243$, $p = .003$) significantly (and positively) predicted class membership for the integrated class. Contact ($\beta = .100$, $p = .224$), gender ($\beta = .095$, $p = .156$) and age ($\beta = -.007$, $p = .918$) did not significantly predict probability of membership in this class.

Finally, for the receptive class the independent variables accounted for 13.3% of the variance ($R^2 = .13$, $F(4, 207) = 9.09$, $p < .001$). However, only contact ($\beta = .294$, $p < .001$) significantly predicted probability of receptive class membership; IS ($\beta = .100$, $p = .202$), gender ($\beta = -.089$, $p = .172$) and age ($\beta = .015$, $p = .816$) did not.

Discussion

Addressing hypothesis 1, we found four acculturation strategies in our student sample of majority-group Australians that we called disengaged (low in both acculturation dimensions of national culture maintenance [NCM] and other culture adoption [OCA]), dominant (higher NCM than OCA), integrated (moderate to high on both dimensions) and receptive (low on NCM and moderate to high on OCA). Except for the receptive profile, these are like the strategies observed with other majority-group samples. For example, our participants with an integrated profile had moderate to high scores on both acculturation dimensions, and, like [Kunst, Lefringhausen, Skaar, et al. \(2021\)](#) we found a profile with low scores on both dimensions. Reflecting the relative power of the Australian majority-group in mutual acculturation processes we called this latter strategy disengaged rather than marginalised, the term used for minority groups. Finally, we identified a dominant profile, with higher scores for national culture maintenance than for other culture adoption.

In this sample we identified a novel profile, containing individuals who endorsed the Australian national culture comparatively less than the other acculturation profile groups (except for disengaged) and other culture adoption more highly than the other groups. This profile does not reflect Berry's conceptualisations of assimilation, as reported for immigrants and majority-group members ([Lefringhausen et al., 2021](#)). Instead, participants in this profile appeared to reject NCM whilst moderately – but not strongly – endorsing OCA. Therefore, we identified this strategy as majority-group members being receptive towards other cultures.

³ From the LPA every participant has four scores, each reflecting the probability of belonging to a profile group.

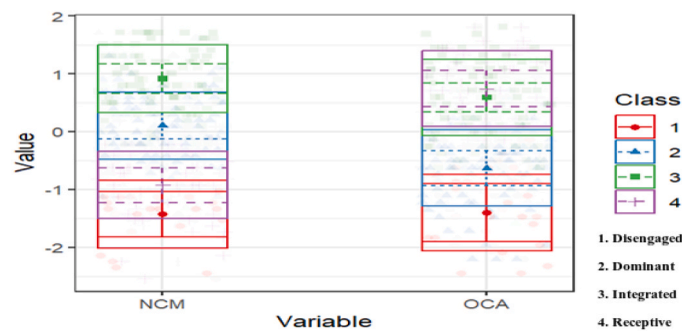


Fig. 1. The 4-profile model of acculturation strategies by dimension in the student sample.

Table 2

Regression predicting acculturation class probability scores from LPA using IS, Contact, Gender and Age for the student sample.

Variable	β	SE	t	p	95% CI
Disengaged class membership probability					
IS	-.179	.001	-2.30	.023	[-.006,.000]
Contact	-.233	.005	-3.00	.004	[-.027, -.005]
Male gender	.060	.043	.928	.354	[-.044,.123]
Age	-.064	.001	-.982	.327	[-.004,.001]
Dominant class membership probability					
IS	-.230	.002	-2.94	.004	[-.010, -.002]
Contact	-.227	.008	-2.86	.005	[-.038, -.007]
Male gender	-.057	.062	-.88	.377	[-.176,.067]
Age	.037	.002	.56	.572	[-.003,.005]
Integrated class membership probability					
IS	.243	.002	3.00	.003	[.002,.011]
Contact	.100	.009	1.22	.223	[-.006,.027]
Male gender	.095	.068	1.42	.110	[-.037,.229]
Age	-.007	.002	-.103	.904	[-.005,.004]
Receptive class membership probability					
IS	.100	.002	1.28	.202	[-.001,.006]
Contact	.294	.008	3.70	< .001	[.013,.043]
Male gender	-.089	.059	-1.37	.172	[-.198,.036]
Age	.015	.002	.233	.816	[-.004,.005]

Further exploration of these profile groups was undertaken to examine hypotheses two and three by conducting linear regressions to predict profile probability scores using intercultural sensitivity and intergroup contact. These analyses revealed interesting patterns. As expected, intercultural sensitivity and contact were significant negative predictors of the probability of being in the disengaged and dominant profiles, which have low scores on Other Culture Adoption. By contrast, intercultural sensitivity positively predicted the probability of belonging to the integrated group, whereas contact positively predicted belonging to the receptive group. It is plausible that the receptive acculturation strategy reflects an intermediary stage in acculturation in which individuals desire to adopt aspects of other cultures, but their intercultural sensitivity is not yet highly developed. Contact then becomes more important in the development of intercultural sensitivity. According to the Developmental Model of Intercultural Sensitivity (Bennett, 1986) individuals progress through six stages from denial to integration; an intermediary stage is acceptance, in which “people are curious about other cultures and cultural differences” (Bennett & Hammer, 2017, p.3). Possibly these participants are in an acceptance stage. However, our data are correlational and further investigation is needed (e.g., longitudinal designs), to clarify the antecedents of majority-group acculturation strategies (Kunst, 2021).

This study added to the body of knowledge as the first quantitative investigation of majority-group Australians’ acculturation strategies. However, the findings may have been influenced by demographic features of the sample such as being highly educated and predominantly female. It is also likely that generational differences are present in majority-group acculturation and students may show increased Other Culture Adoption due to the intercultural nature of and opportunities for interaction on university campuses. Therefore, we sought to replicate the study with a sample that is more representative of the broader Australian community.

Study 2 – representative community sample

Method

Participants, procedure and materials

We employed Qualtrics to recruit a sample that is nationally representative for gender and age (excluding those aged under 18

years) according to census data. In addition, participants had to be born in Australia and identify as having White/European cultural heritage. Qualtrics draws on panels of people registered to participate in research; they provide a short description of the study and recruit participants who meet the inclusion criteria until the quotas are filled. Overall, 304 Australians participated, aged 18–80 years ($M = 46.66$, $SD = 18.24$, Median = 45); 51.3% ($n = 157$) identified as female. Participants' qualifications in formal education (highest level completed) were (n ,⁴ percentage): primary schooling (2, 2.0%); secondary schooling (100, 32.9%); vocational training Diploma or certificate (95, 31.3%); Bachelor's degree (79, 26.0%); Masters or Doctoral degree (22, 7.2%). These figures are slightly below the national average, but direct comparisons are not possible since national statistics are not available for specific ethnocultural groups. The online survey procedure was identical to that of Study 1 except that participant recruitment was undertaken by Qualtrics. The survey was available from 25th January to 22nd February 2022. The measures were the same as per Study 1 (NCM, $\alpha = .91$; OCA, $\alpha = .92$; IS, $\alpha = .90$; and Contact, $\alpha = .84$).

Results

The data were screened to ensure the participants met the inclusion criteria for majority-group Australian, passed attention checks and had complete data for the key variables. The same analytical process was undertaken as per Study 1. Table 3 below presents information comparing LPA models with their corresponding fit indices. It can be seen from the table that the 2, 4 and 5 profile-solutions are statistically significant in terms of BLRT values of 0.01 and LMRA-LRT values of < 0.001 . Based on the fit indices, parsimony and theoretical interpretability, the four-profile model was preferred (see [Supplementary Materials](#) for information about the 5-profile solution).

Best-fitting model is in bold. BIC = Bayesian information criterion; AIC = Akaike information criterion; BLRT = Bootstrapped likelihood ratio test; LMRA-LRT = Lo-Mendell-Rubin adjusted likelihood ratio test.

Class 1 ($n = 11$, 3.70%) had high scores on NCM ($z = 1.02$) and low scores on the OCA ($z = -1.78$) and was labelled as *dominant*. Class 2 ($n = 137$, 45.7%) was characterized by low scores on NCM ($z = -0.686$) and OCA ($z = -0.350$) and labelled as *disengaged*. For class 3 ($n = 11$, 3.7%), there were low scores on the NCM ($z = -1.93$) but moderate scores on the OCA ($z = 0.455$): the class was labelled as *receptive*. Class 4 ($n = 141$, 47%) had moderately high scores for both the NCM ($z = 0.770$) and OCA ($z = 0.460$) dimensions of acculturation and was labelled as *diffuse*. Fig. 2 is the graphical depiction from R of the four profiles' scores (converted to z scores) for the two acculturation dimensions, NCM (left) and OCA (right; Bars reflect confidence interval for the class centroids and boxes reflect the standard deviations within each class; a box encompasses $\pm 64\%$ of the observations in a normal distribution).

Consistent with our approach in Study 1, to investigate the evidence for hypotheses 2 and 3 we conducted regression analyses to test for the predictability of IS, Contact, Gender,⁵ and Age on the profile membership probability scores in the representative sample. The results for the dominant profile scores indicate that the independent variables accounted for 12.3% of the variance ($R^2 = .12$, $F(4, 295) = 11.45$, $p < .001$) and only IS ($\beta = -.291$, $p < .001$) was a significant independent predictor. Contact ($\beta = -.08$, $p = .224$), gender ($\beta = -.019$, $p = .775$) and Age ($\beta = .099$, $p = .131$) did not predict dominant class membership probability scores.

Similarly, the results from regression analysis involving IS, Contact, Gender, and Age indicate that the independent variables accounted for 10.8% of the variance in disengaged probability scores ($R^2 = .11$, $F(4, 295) = 10.085$, $p < .001$). Intercultural Sensitivity ($\beta = -.145$, $p = .041$), Contact ($\beta = -.226$, $p = .001$) and gender ($\beta = -.160$, $p = .017$) significantly predicted the disengaged probability scores while age ($\beta = .062$, $p = .348$) did not.

For the receptive profile, the independent variables accounted for only 3.5% of the variance in probability scores ($R^2 = .035$, $F(4, 295) = 3.739$, $p = .060$). Both IS ($\beta = .209$, $p = .005$) and Age ($\beta = -.137$, $p = .046$) predicted receptive class probability scores whereas contact ($\beta = -.060$, $p = .415$) and gender ($\beta = .025$, $p = .721$) did not.

Finally, the independent variables accounted for 16.0% of the variance in the diffuse class membership probability scores ($R^2 = .16$, $F(4, 295) = 15.243$, $p < .001$). Intercultural Sensitivity ($\beta = .174$, $p = .012$), contact ($\beta = .277$, $p < .001$) and gender ($\beta = .154$, $p = .018$) significantly predicted the diffuse probability scores, age ($\beta = -.045$, $p = .478$) did not. Table 4.

Discussion

In the representative community sample we found four majority acculturation profiles, three of which bore some similarity to those observed in our student sample (dominant, disengaged and receptive) and a diffuse profile like that found in other majority-group samples (e.g., Kunst, Lefringhausen, Skaar, et al., 2021). Dominant and disengaged are akin to the immigrant acculturation strategies of separated (high NCM, low OCA) and marginalised (low on both dimensions), respectively. The receptive profile is characterised by low NCM scores and moderate to high OCA scores. Interestingly, in this sample, no group was identified as integrated: individuals in the diffuse category had only moderate scores on both dimensions.

Although we have interpreted the clustering in similar ways to that observed in the student sample, it is worth noting that the score variability was much greater in this sample, particularly for Other Culture Adoption (see Fig. 2). This might reflect greater variability in the sample's demographic characteristics, e.g., regarding age, gender and SES, and/or it might be because our acculturation measure referred to 'other cultures' rather than specific ethnocultural groups. Previous research including Australian studies (e.g., Dandy & Pe-Pua, 2010) has demonstrated that ethnocultural minority groups are not equally valued or liked by majority-group members.

⁴ Not all participants answered this question.

⁵ Gender was dummy coded where identifying as male = 1.

Table 3
Model Fit Indices and Entropy of the Latent Profile Analysis for the Community Sample.

Number of Profiles	Log likelihood	BIC	AIC	BLRT	LMRA-LRT	Entropy values
1	-850.03	1723.53	1708.72	<i>p</i> -	<i>p</i> -	1.00
2	-834.04	1707.76	1681.83	0.01	< 0.001	0.66
3	-832.05	1721.76	1684.73	0.29	> 0.001	0.50
4	-819.05	1712.58	1664.43	0.01	< 0.001	0.80
5	-809.06	1709.22	1649.96	0.01	< 0.001	0.80

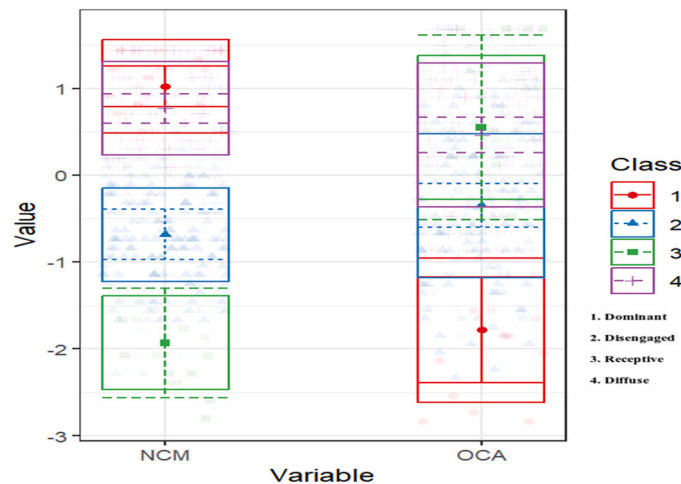


Fig. 2. The 4-profile model of acculturation strategies by dimension in the representative sample.

Table 4
Regression predicting acculturation class probability scores from LPA using IS, Contact, Gender and Age for the representative community sample.

Variable	β	SE	<i>t</i>	<i>p</i>	95% CI
Dominant class membership probability					
IS	-.291	.001	-4.135	< .001	[-.004, -.001]
Contact	-.085	.003	-1.219	.224	[-.011,.002]
Male gender	-.019	.022	-.286	.775	[-.050,.037]
Age	.099	.001	1.513	.131	[.000,.002]
Disengaged class membership probability					
IS	-.145	.002	-2.051	.001	[-.007,.000]
Contact	-.226	.008	-3.208	.001	[-.043, -.010]
Male gender	-.160	.055	-2.204	.017	[-.241,.024]
Age	.062	.002	.941	.348	[-.002,.004]
Receptive class membership probability					
IS	.209	.001	2.837	.005	[.001,.003]
Contact	-.060	.003	-.816	.415	[-.010,.004]
Male gender	.025	.023	.357	.721	[-.037,.054]
Age	-.137	.001	-1.999	.046	[-.002,.000]
Diffuse class membership probability					
IS	.174	.002	2.526	.012	[.001,.008]
Contact	.277	.008	4.061	< .001	[.017,.050]
Male gender	.154	.055	2.385	.018	[.023,.239]
Age	-.045	.001	-.711	.478	[-.004,.002]

Although we used the same instruments with both samples it is possible that this sample had exposure to different cultural groups than did university students, resulting in more mixed views about other culture adoption. That is, the students may have thought about the more highly educated 'other cultural groups' they encounter on campus when completing the measure, such as international students and staff. These groups are a specific subset of the minority cultural groups in Australia and are probably of higher status than those groups that members of the representative community sample are likely to encounter. Reference to 'other cultural groups' has been the practice in other majority acculturation studies and as the first such investigation with Australian majority-group members, this approach was deemed appropriate. Nonetheless, in future studies researchers should specify groups because factors such as cultural

distance from the majority Australian culture and whether minorities are valued (or not) by the majority (Montreuil & Bourhis, 2004) are likely important.

The associations between acculturation profile probabilities and intercultural sensitivity (IS) and contact were similar to those observed with the student sample, corroborating the general pattern of findings. In sum, IS and contact were quite consistently positively associated with acculturation profiles characterised by higher other culture adoption (e.g., receptive) and negatively associated with those lower in OCA (dominant and disengaged), regardless of NCM. Age and gender had small relationships with acculturation, but these were not consistent across profiles. The age finding is not surprising, and illustrates that younger participants were more likely to belong to the receptive group. As discussed earlier, this might reflect a more intermediary stage of intercultural sensitivity development.

General discussion

We sought to explore majority-group Australians' acculturation strategies using the bottom-up, person-centred approach of Latent Profile Analysis, which is appropriate for exploration and theory development (Grigoryev & van de Vijver, 2018; Lefringhausen et al., 2021; Schwartz & Zamboanga, 2008). This approach does not assume that each individual follows the same pattern as the group aggregate but determines the strategy from individuals' scores. We identified four profiles in a student sample (disengaged, dominant, integrated and receptive), and four in a representative sample (disengaged, dominant, receptive and diffuse). The disengaged and dominant profiles have similar dimensional patterns to the categories referred to as marginalised and separated for ethnic minority samples such as immigrants in Berry's model of acculturation. We used different terminology to label these to reflect the socio-economic and cultural power of majority-group Australians. This power and ethnolinguistic vitality of being the majority group is evident in the strategies across both samples, which tend to be low in other culture adoption. Indeed, what is perhaps most noteworthy in both samples is that other culture adoption is rarely strongly endorsed (scores tend to be moderate to high, the highest being for the receptive group in the student sample) whereas national culture maintenance is often strongly rejected (e.g., in the case of disengaged and receptive groups in both samples). Whether this is a pattern unique to the Australian context or more generalisable to other majority-group samples deserves further investigation.

Patterns of association with intercultural sensitivity and contact were as predicted, with profiles reflecting higher scores in OCA showing positive relationships with both intergroup variables compared with those low in OCA. Intercultural sensitivity was a consistent predictor of class membership for nearly all acculturation profiles, suggesting that intercultural sensitivity training could be a pathway to enhance mutual acculturation outcomes for majority group members. However, further research is needed to determine if intercultural sensitivity is an antecedent, consequence or simply a correlate of acculturation orientations and profiles among majority groups.

Our findings have some commonalities with those observed in other majority samples, e.g., the identification of a dominant (or separated) profile, and some differences, such as the identification of the novel receptive strategy. It is not surprising to observe differences across national contexts given their different social and political histories of intergroup relations. Nonetheless, additional research using person-centred and variable-centred approaches is needed to further develop theories of how majority groups in multi-ethnic settings like (and unlike) Australia approach acculturation.

Limitations

This was an exploratory study and there are some limitations of our approach. Although the inclusion of measures of intercultural sensitivity and contact provided further insight into the acculturation profiles we identified, our second and third hypotheses depended on the outcomes of hypothesis one and were largely descriptive. Other associations may have resulted had we obtained different profiles and our classification of profile groups is open to other interpretations, although by using profile probability scores rather than constructing discrete categories we recognised the score variability for acculturation dimensions. In addition, a more nuanced approach would include specifying ethnocultural minority groups, towards which majority-group members have different attitudes (e.g., valued and devalued immigrants) in the measure of acculturation.

Conclusions

Acculturation is a mutual process which has implications for all engaged in intercultural contact. However, how majority-group members acculturate to immigrants and minority ethnic groups has been relatively unexplored: there is a need for more empirical studies in a range of sociocultural contexts to advance theory and understanding of how groups that are politically, socially and economically dominant approach acculturation. As the first quantitative investigation of majority-group acculturation amongst Australians, and drawing on two samples, our findings contribute to this emerging field.

Declaration of Competing Interest

None.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.ijintrel.2023.101876](https://doi.org/10.1016/j.ijintrel.2023.101876).

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