



Language Learning And Peace: Does Multilingual Experience Contribute To Reducing Nationalistic Sentiments? A Structural Equation Model And Fuzzy Set Analysis

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Abstract: Amid the resurgence of exclusionary nationalism and intercultural tensions, understanding how linguistic diversity shapes social attitudes has become increasingly vital. This study investigates how multilingual experience influences nationalism-related affective orientations among Chinese participants, focusing on the ways in which multilingual exposure interacts with mental aggression and intercultural communicative attitudes to shape nationalistic and xenophobic sentiments. Employing a dual-method design that integrates Partial Least Squares Structural Equation Modelling (PLS-SEM) and Fuzzy-set Qualitative Comparative Analysis (fsQCA), the research identifies both linear and configurational pathways linking multilingualism to social attitudes. The PLS-SEM results demonstrate that multilingual experience predicts higher intercultural communicative attitudes and lower nationalistic and xenophobic tendencies, although hypothesised mediation and moderation effects through aggression or intercultural attitudes were not statistically significant. The fsQCA findings reveal multiple equifinal configurations: high nationalism was associated with positive intercultural attitudes combined with lower education or higher aggression, whereas its absence was linked to multilingual experience and international mobility. Similarly, high xenophobia corresponded to lower education and higher aggression, while its absence was primarily related to younger age, intercultural openness, and overseas experience. These results extend current debates on the sociopsychological effects of language learning, suggesting that multilingualism, though not a deterministic factor, contributes to broader social cohesion by expanding social identity and reducing perceived intergroup threat. Despite the limitations of its cross-sectional design, the study highlights the role of multilingual education as a peace-building mechanism that promotes intercultural empathy while maintaining constructive expressions of national pride.

Keywords: Multilingual Experience, Mental Aggression, Intercultural Communicative Attitudes, Nationalistic Sentiments, Negative Attitudes

1. Introduction

“If you speak to a person in a language they understand, you speak to their mind. If you speak to them in their own language, you speak to their heart.” This well-known quote, attributed to Nelson Mandela, vividly captures the profound role of language in connecting people across cultural and ideological boundaries. It metaphorically illustrates how linguistic competence enables not only communication but also empathy, mutual understanding, and, ultimately, peace-building. Similarly, the familiar saying “Talking brings people together” underscores the unifying power of dialogue. In this regard, foreign language education serves not merely as an academic pursuit but as a mediational tool for intercultural understanding and reconciliation.

Language education, as Janks (2009) argues, is a pedagogical and ideological practice capable of serving both emancipatory and hegemonic ends. It exists at the intersection of competing globalist and nationalist discourses that influence language policy and identity formation worldwide (Waldvogel, 2021). However, the recent resurgence of nationalist ideologies has increasingly challenged the role of foreign language education as an agent of intercultural harmony. For instance, the American Council on the Teaching of Foreign Languages reported that only about 20% of school-aged Americans are enrolled in foreign language education, with merely 11 states mandating language study for graduation (ACTFL, 2017). Moreover, between 2013 and 2016, 651 university-level foreign language programs in the United States were eliminated (Johnson, 2019), reflecting a monolingual tendency that contrasts sharply with multilingual policies in other regions.

In contrast, the European Union has institutionalized respect for linguistic diversity through its founding treaties and actively promotes multilingual proficiency among citizens. As a result, nearly 90% of working-age adults in the EU report knowing at least one foreign language (Eurostat, 2024). Similarly, in China, the enthusiasm for English learning since the 1980s has produced more than 400 million English learners (Beijing Evening, 2014), reflecting a strong societal belief in the value of multilingual competence for personal and national development. However, recent trends indicate a gradual decline in enthusiasm and debates about reducing the prominence of English in national curricula. This fluctuation reveals how language policies and public attitudes are deeply intertwined with shifting ideological and national narratives.

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Across these global contexts, multilingualism has been increasingly recognized as a factor influencing social cohesion, intercultural sensitivity, and even peace-building. In this study, peace-building is conceptualized not as a geopolitical process but as a micro-level social phenomenon emerging from intercultural empathy, reduction of perceived intergroup threat, and enhancement of mutual respect through language learning. When individuals learn foreign languages, they encounter alternative worldviews and cultural perspectives that may soften rigid national boundaries and promote intercultural tolerance.

Existing research has extensively examined how nationalism affects language education, but fewer studies have investigated the reverse relationship: how language learning and multilingual exposure may shape nationalistic sentiments. Previous scholarship has shown that nationalism and national identity influence language attitudes and learning motivation (Rivers, 2010, 2020; Teo et al., 2019; Meadows, 2018, 2020). Waldvogel (2021) and Pavlenko (2003) further demonstrated that national identity ideologies are often embedded in language policies and educational materials. However, these studies primarily conceptualize nationalism as a determinant rather than an outcome. The field still lacks a clear understanding of whether multilingual experiences can attenuate nationalistic and xenophobic tendencies by fostering empathy and intercultural openness. Therefore, the directionality of the relationship between multilingualism and nationalism remains theoretically plausible but empirically underexplored.

Moreover, the literature on language education and nationalism has tended to focus on policy and discourse analysis rather than on psychological or attitudinal mechanisms. While earlier works (e.g., Gardner et al., 1985; Donitsa-Schmidt et al., 2004; Yun, 2012) proposed that language learning enhances mutual understanding, few empirical studies have examined the mediating roles of socio-psychological factors such as intercultural attitudes or aggression. Understanding these mechanisms is critical for clarifying whether multilingualism functions as a cognitive and emotional bridge that mitigates prejudice and hostility. Except for the symmetric technique, the current study also employed the fuzzy-set Qualitative Comparative Analysis (fsQCA) as an asymmetric technique to explore how different sets of factors might classify language learners' nationalistic and xenophobic sentiments. Indeed, "the fuzzy set QCA methodology allows assessing several alternative causal recipes concurrently ... instead of considering the unique influence of each variable on the outcome, fsQCA examines how causal conditions (independent conditions) combine into several configurations entailing equifinality, thus conducing to the same outcome (dependent condition)" (Duarte & Pinho, 2019, p. 141).

Responding to these gaps, the present study investigates how multilingual experience relates to nationalism-related affective dimensions among language learners. It integrates two complementary analytical approaches, Partial Least Squares Structural Equation Modelling (PLS-SEM) and fuzzy-set Qualitative Comparative Analysis (fsQCA), to examine both linear relationships and complex, equifinal configurations of influencing factors. Intercultural communicative attitudes and mental aggression are introduced as potential mediating or moderating variables, offering a more nuanced understanding of how multilingualism interacts with affective and cognitive dispositions to influence social attitudes. Therefore, the present research aims to (1) construct a potential model to explain how multilingual experience (or learning foreign languages) influence language learners' nationalistic and xenophobic sentiments; (2) investigate whether intercultural attitudes and aggression can be mediators or moderators; and (3) combine symmetric (SEM) and asymmetric (fsQCA) approaches to explore the sufficient and necessary configurations which influence language learners' nationalistic and xenophobic sentiments. By addressing these objectives, this study seeks to advance theoretical understanding of the psychological mechanisms linking language learning to peace-building and intercultural harmony.

2. Theoretical Background

This study primarily seeks to determine whether multilingual experience (ME) influences language learners' nationalistic and xenophobic sentiments and, if so, through what mechanisms. To conceptualize these underlying processes, the research draws upon Social Identity Theory (Tajfel & Turner, 1979) and the Intergroup Contact Hypothesis (Allport, 1954). According to Social Identity Theory, individuals derive self-esteem from their membership in social groups, which may lead to in-group favoritism and out-group derogation when identity boundaries are perceived as threatened. Multilingual experience, however, may broaden an individual's sense of belonging to include more cosmopolitan or multicultural identities, thereby reducing dependence on narrowly defined national affiliations as sources of self-worth.

Similarly, the Intergroup Contact Hypothesis posits that meaningful contact between groups, under conditions of equality, cooperation, and shared goals, can reduce prejudice and foster more positive intergroup attitudes. Language learning, whether through direct interaction or mediated exposure to diverse cultural symbols, serves as a powerful form of such contact. It not only increases awareness of cultural diversity but also enhances empathy and reduces perceived threats from out-groups (Pettigrew & Tropp, 2008). Therefore, multilingualism may operate as both a cognitive and affective bridge that promotes tolerance and weakens exclusionary tendencies associated with nationalism and xenophobia.

To deepen this theoretical model, the present study incorporates two socio-psychological variables, intercultural communicative attitudes and mental aggression, as potential mediating or moderating factors. These variables may both shape and be shaped by multilingual experience, influencing how language learners perceive and respond to national and cultural boundaries. Accordingly, the following subsections review prior research on the relationships among language learning, nationalism, xenophobia, intercultural attitudes, and aggression. Based on these discussions, the study formulates its conceptual model and hypotheses for subsequent analysis using Partial Least Squares Structural Equation Modelling (PLS-SEM) and Fuzzy-Set Qualitative Comparative Analysis (fsQCA).

2.1. Nationalism, Xenophobia, and Language Learning

As discussed in the introduction, nationalism and its negative manifestations, such as xenophobia, are deeply intertwined with processes of language learning and education. Learning additional languages can strengthen social cohesion and mutual understanding, thereby contributing to the reduction of populist nationalism and xenophobic attitudes (Donitsa-Schmidt et al., 2004; Gardner et al., 1985; Yun, 2012; Yun & Vibber, 2012). However, despite the conceptual linkages identified in these studies, there remains a notable lack of quantitative empirical evidence that directly examines how multilingual experience affects nationalistic and xenophobic sentiments. Addressing this gap, the present study seeks to determine whether multilingual

experience predicts lower levels of such sentiments and whether this influence operates through individuals' intercultural communicative attitudes or mental aggression.

Clarifying these constructs is essential before moving forward. Nationalism, patriotism, and populist nationalism are often used interchangeably, though they represent conceptually distinct forms of national attachment. Kosterman and Feshbach (1989) argued that nationalism may be viewed as a distorted form of patriotism, a more exclusive and defensive attachment to one's nation, sometimes described as patriotism's "bloody brother" (Schaar, 1981, p. 285). Subsequent empirical research, however, has demonstrated that the two are distinct constructs. For instance, Blank and Schmidt (2003) and Li and Brewer (2004) found that while patriotism tends to correlate with pro-social and inclusive attitudes, nationalism is associated with out-group derogation and intolerance (Rivers, 2010). Nevertheless, nationalism is not inherently negative; historically, it has also functioned as a mobilizing force for anti-colonial resistance and national independence (Chatterjee, 1986).

Recognizing these nuances, the present study differentiates between two dimensions of nationalism. The first, based on Rivers (2010), captures moderate, identity-affirming forms of national pride and is referred to in the model as "Nationalism." The second, adapted from Ma and Lu (2019), reflects the more exclusionary and xenophobic side of nationalism and is termed "Negative Attitudes." This dual operationalization allows the analysis to distinguish between patriotic attachment and ethnocentric bias.

Previous research largely explores nationalism as an antecedent rather than an outcome of language learning. Teo et al. (2019), for example, found that negative media portrayals of Japan and China reciprocally reduced students' motivation to learn each other's languages. Rivers (2010, 2020) reported that both nationalism and patriotism negatively predicted Japanese learners' attitudes toward intercultural communication and their motivation for second-language learning. Similarly, Meadows (2014, 2018, 2020) observed that classroom practices can either reproduce or challenge nationalist ideologies depending on the pedagogical context. Collectively, these findings indicate that language learning and nationalism are interdependent, yet the direction of influence remains underexplored.

Furthermore, xenophobia, a potential affective consequence of nationalism, has been shown to obstruct intercultural communication. Kubota (2016) demonstrated that xenophobic attitudes among Japanese professionals hindered their willingness to engage with Chinese counterparts, regardless of linguistic proficiency. Conversely, positive intercultural communicative attitudes can motivate learners to engage more deeply with foreign languages and cultures, thus fostering openness and empathy.

Drawing on this body of research, the current study hypothesizes that multilingual experience functions as a mitigating factor that reduces exclusionary attitudes and enhances intercultural openness. Accordingly, the first hypothesis is proposed:

H1: Multilingual experience will be negatively associated with (a) nationalistic sentiments and (b) xenophobic attitudes.

By testing this hypothesis, the study not only extends the theoretical scope of Social Identity Theory and Intergroup Contact Hypothesis but also contributes empirical evidence to the ongoing debate on whether multilingualism can serve as a mechanism for peace-building through the reduction of prejudice and the promotion of intercultural empathy.

2.2. Intercultural Communicative Attitude

The concept of attitude, as a socio-psychological construct, has long been debated due to its multidimensional nature. Krech and Crutchfield (1948, p. 152) defined attitude as "an enduring organisation of motivational, emotional, perceptual, and cognitive processes concerning some aspect of the individual's world." Later, Davidson and Thompson (1980, p. 27) emphasized its functional dimension as "a learned predisposition to respond in an evaluative (from extremely favourable to extremely unfavourable) manner toward some attitude object." This latter definition is particularly pertinent to intercultural communication, as it recognizes that attitudes are not fixed but dynamic, shaped by social learning and exposure to diverse cultural contexts. Consequently, this study adopts the functional and experiential view of attitudes, conceptualizing *intercultural communicative attitudes* as a dynamic variable that evolves through multilingual exposure and interaction with cultural diversity.

According to Chen (2008), intercultural attitudes comprise three interrelated components. The first involves thinking without prejudice and demonstrating respect for all ethnic and cultural groups. The second entails sharing others' experiences and entering their cognitive and emotional worlds, thereby fostering empathy and tolerance. The third component requires self-reflection, wherein one's culture understands itself through the lens of others, thus promoting collaboration and intercultural dialogue. Collectively, these components frame intercultural attitudes as central to meaningful and peaceful communication. Positive intercultural attitudes enhance understanding and reduce conflict, whereas negative attitudes hinder mutual respect and impede effective cross-cultural engagement.

Previous studies on language attitudes have largely examined them as motivational antecedents in language learning. Research by Bartley (1970), Dörnyei et al. (2006), Titone (1990), Yan (2009), Yi (2016), and Yuan (2017) consistently shows that positive attitudes toward foreign languages and cultures correlate with greater motivation and higher achievement in language acquisition. Yan (2009) further found significant associations between prior language learning experience and the formation of language-specific attitudes. However, less attention has been paid to whether language learning itself, particularly multilingual experience, can reciprocally shape learners' intercultural attitudes. Addressing this question is essential for understanding whether linguistic diversity contributes to broader intercultural openness and social cohesion.

Furthermore, intercultural communicative attitude is theorized as a potential mediator between multilingual experience and nationalistic or xenophobic sentiments. Earlier research suggests that nationalism can be mitigated by fostering social cohesion and mutual understanding through intercultural interaction (Donitsa-Schmidt et al., 2004; Gardner et al., 1985; Yun, 2012; Yun & Vibber, 2012). Schiefer and van der Noll (2017) conceptualize social cohesion as comprising shared values and quality of life, dimensions that presuppose trust and acceptance across societal groups. From this perspective, multilingual education may enhance these shared values by cultivating empathy and respect through language-based intercultural

encounters. Therefore, intercultural communicative attitudes can be understood as a psychological pathway linking linguistic experience to broader socio-political outcomes such as reduced nationalism and xenophobia.

Based on this reasoning, the following hypotheses are proposed:

H2: Multilingual experience will be positively associated with intercultural communicative attitudes.

H3: Intercultural communicative attitudes will mediate the relationship between multilingual experience and (a) nationalistic sentiments and (b) xenophobic attitudes.

2.3. Aggression

Aggression has also been identified as a relevant socio-psychological variable in language learning contexts. Brown (1973) was among the first to propose that aggression constitutes one of the affective or social variables influencing second language acquisition. The *language-aggression hypothesis* (Montare & Boone, 1973) posits that physical aggression can result from inadequate linguistic abilities, as limited verbal skills may hinder individuals' capacity to express emotions constructively. Subsequent studies on children's language development (Clark et al., 2021; Ersan, 2020) confirmed that expressive language proficiency negatively and significantly predicts aggressive behaviors. Similarly, Samar and Amiri (2008) found a negative correlation between aggression and oral English proficiency among Iranian EFL learners, suggesting that improved language skills may reduce frustration and, consequently, aggression.

Aggression also intersects with the broader notion of *social cohesion*, as psychological well-being is a critical component of quality of life (Schiefer & van der Noll, 2017). In this sense, *mental aggression*, understood as cognitive hostility or irritability rather than physical violence, represents an important facet of psychological health that can influence intercultural relations. High levels of aggression may exacerbate perceived intergroup threats, a key factor in the development of xenophobia (Stephan & Stephan, 2000). Conversely, language learning, by enhancing communicative competence and intercultural understanding, may serve as a protective factor that reduces aggression and associated prejudices.

Building on this theoretical foundation, the study introduces mental aggression as both a mediating and moderating construct in the relationship between multilingual experience and attitudinal outcomes. Specifically, reduced mental aggression may explain how language learning fosters openness and empathy, while also moderating the strength of these relationships across individuals. Accordingly, the following hypotheses are proposed:

H4: Multilingual experience will be negatively associated with mental aggression.

H5: Mental aggression will mediate the relationship between multilingual experience and (a) nationalistic sentiments and (b) xenophobic attitudes.

H6: Mental aggression will moderate the relationship between multilingual experience and intercultural communicative attitudes, such that the relationship is stronger among individuals with lower levels of aggression.

Incorporating aggression into this framework advances understanding of the affective mechanisms through which multilingualism contributes not only to linguistic and cognitive development but also to emotional regulation and intercultural harmony.

2.4. Research Questions And Hypothetical Models

Building upon the preceding theoretical discussion and empirical findings, this study hypothesizes that multilingual experience exerts a positive influence on individuals' affective and attitudinal dispositions. Specifically, learning additional languages is expected to decrease aggressive tendencies, enhance positive intercultural communicative attitudes, and reduce nationalism-related emotions such as xenophobia and exclusionary bias. These assumptions are grounded in Social Identity Theory and the Intergroup Contact Hypothesis, both of which posit that intercultural interaction and broadened social identity can foster empathy and mitigate intergroup hostility.

Furthermore, the study seeks to determine whether these relationships operate through indirect psychological mechanisms. In particular, *intercultural communicative attitudes* and *mental aggression* are examined as potential mediating and moderating variables that could explain how multilingual experience shapes emotional and attitudinal outcomes. The hypothesised structural framework is presented in Figure 1, illustrating both the direct and indirect pathways linking multilingual experience with nationalism-related affective dimensions.

Accordingly, the following research questions are formulated:

1. To what extent does multilingual experience predict mental aggression, intercultural communicative attitudes, nationalistic sentiments, and xenophobic attitudes? (H1, H2, H4)
2. Do intercultural communicative attitudes and mental aggression mediate the relationship between multilingual experience and language learners' nationalistic and xenophobic sentiments? (H3, H5)
3. Does mental aggression moderate the relationships among multilingual experience, intercultural communicative attitudes, and nationalism-related emotions? (H6)
4. To what extent do multilingual experience, mental aggression, and intercultural communicative attitudes collectively explain variations in nationalistic and xenophobic attitudes among language learners?

Through these questions, the study aims to construct and empirically test an integrative model explaining how multilingual experience contributes to emotional regulation, intercultural empathy, and ultimately to peace-oriented social attitudes.

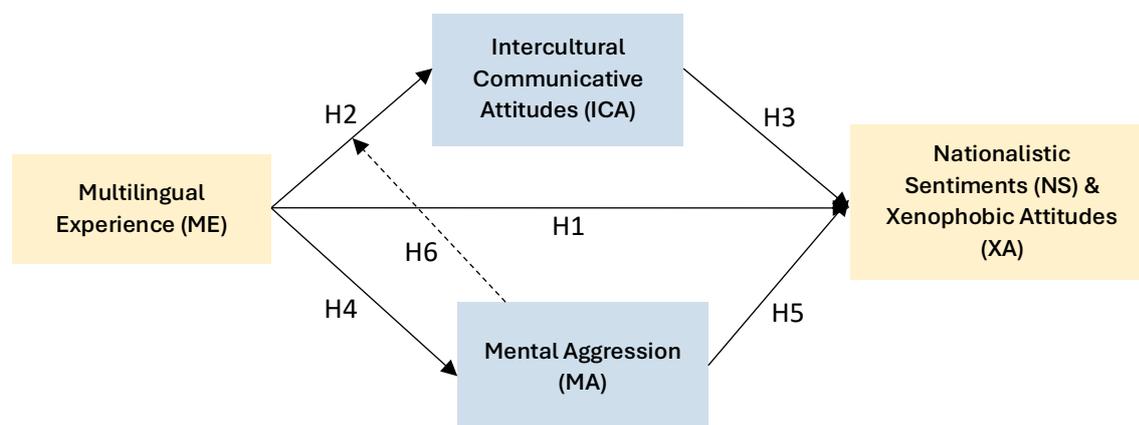


Figure 1: Conceptual Model

3. Methodology and Data Analysis

This study employed a mixed-method analytical design integrating Partial Least Squares Structural Equation Modelling (PLS-SEM) and fuzzy-set Qualitative Comparative Analysis (fsQCA) to examine the influence of multilingual experience on language learners' nationalistic and xenophobic sentiments. In this framework, intercultural communicative attitudes were conceptualized as a potential mediating variable linking multilingual experience with nationalism-related attitudes, while mental aggression was tested as both a mediating and moderating factor. The combination of PLS-SEM and fsQCA allowed the study to explore not only direct and indirect causal relationships but also the complex configurations of conditions underlying nationalistic and xenophobic dispositions.

3.1. Method

This research was conducted under the ethical approval of the Ethics Committee of the School of Foreign Languages, Chongqing University of Posts and Telecommunications (Protocol Code: 20230424). All procedures adhered to the ethical standards set by the Declaration of Helsinki for studies involving human participants. Before participating, respondents were required to read a detailed digital informed consent form explaining the study's purpose, voluntary nature, expected duration (approximately 15–20 minutes), and the general scope of the questions, some of which addressed personal attitudes toward nationalism and intercultural relations. Participants indicated consent by selecting the statement "I agree to participate" before proceeding to the questionnaire.

To ensure anonymity and confidentiality, no personally identifiable information (e.g., names, email addresses) was collected. All responses were automatically anonymized and stored securely on a password-protected server accessible only to the principal researchers. The data will be retained for five years to allow for academic verification and will then be permanently deleted. Data collection took place between November 2023 and January 2024. Recruitment occurred via voluntary participation through online posts shared across university student and alumni social media groups, as well as professional networking platforms. The recruitment message clearly stated that participation was voluntary, had no academic or professional consequences, and involved no financial incentives. This approach ensured ethical compliance and reduced potential response bias by minimizing coercion and self-selection based on material gain.

3.1.1. Measurement of constructs

To ensure conceptual clarity and validity, all variables in the study were measured using established scales from prior literature. The constructs included mental aggression, intercultural communicative attitudes, nationalism, xenophobia, and multilingual experience. Items measuring *mental aggression*, *intercultural communicative attitudes*, *nationalism*, and *xenophobia* were adapted from Li et al. (2011), Yuan (2017), Rivers (2010), and Ma and Lu (2019), respectively. These items were assessed using a seven-point Likert scale ranging from strongly disagree (1) to strongly agree (7). The *multilingual experience* construct was measured through indicators assessing (a) the number of languages the respondent had learned and could use in daily communication, (b) the frequency of foreign language use (five-point scale), and (c) self-rated language proficiency (ten-point scale). Given that the measurement scales differed in range, all variables were standardized (z-scores) before inclusion in the PLS-SEM to enhance comparability across constructs.

To validate the measurement model, the study assessed collinearity using Variance Inflation Factors (VIFs). All VIF values were below 5, satisfying the acceptable threshold (Hair et al., 2011) and confirming the absence of multicollinearity. Additionally, Cronbach's alpha values for all constructs exceeded 0.80, demonstrating satisfactory internal consistency and reliability. The questionnaire also captured demographic variables, including gender, age, educational attainment, and experiences of living or travelling abroad. Only two subdimensions of the Aggression Questionnaire were included, as these better represented emotional aggression rather than physical aggression. To enhance data quality, duplicate and reverse-coded items were incorporated to identify inconsistent or inattentive responses.

3.1.2. Sample and data collection

The final dataset comprised 121 valid responses, after excluding 12 submissions due to inconsistent answers on reverse-coded items. All participants were Chinese citizens, ranging in age from 18 to over 60 years. Among them, 79% were female ($n = 95$) and 21% were male ($n = 26$). The sample represented diverse educational backgrounds: 94% ($n = 114$) held at least a bachelor's degree, and 13 participants were current or completed doctoral students. In terms of international exposure, approximately 75% ($n = 91$) had never lived abroad, while 36% ($n = 44$) had never travelled outside China. Meanwhile, 29% ($n = 35$) had visited at least one foreign country, and 30% ($n = 36$) reported travel to four or more countries. This variation in global exposure provides valuable diversity in assessing the effects of multilingual experience and intercultural contact. Given the use of a self-report questionnaire, the study assessed potential common method bias (CMB) following Podsakoff et al. (2003). The full

collinearity test (Kock & Lynn, 2012) revealed that all constructs had VIF values below 3.3, with only six items slightly exceeding this value but remaining below 5. These results indicate that collinearity and CMB were not significant threats to the validity of the findings.

3.1.3. Data analysis

This research is exploratory in nature, aiming to uncover the direct and indirect mechanisms through which multilingual experience influences nationalism-related affective constructs. The analysis employed a hybrid PLS-SEM and fsQCA approach to capture both linear causal relations and complex configurations of interacting conditions. The PLS-SEM technique was selected because it is particularly suitable for studies with moderate sample sizes and complex path models involving mediation and moderation effects (Hair et al., 2022). It was used to estimate the direct, indirect, and interaction effects between multilingual experience, intercultural communicative attitudes, mental aggression, and the dependent variables, nationalistic and xenophobic sentiments. The SmartPLS 4 software (Ringle et al., 2024) was used for all PLS-based analyses.

To complement this, fsQCA was employed to explore asymmetric and non-linear patterns that cannot be captured by traditional regression techniques. This method identifies multiple equifinal causal configurations, different combinations of conditions that lead to similar outcomes. fsQCA thus enables a nuanced understanding of how multilingual experience interacts with socio-demographic and psychological factors to shape attitudinal outcomes. The QCA software (Ragin & Davey, 2022) was used for calibration and configurational analysis. Together, these two analytical methods provide both causal inference and configurational depth, allowing the study to move beyond simple correlational explanations. The integration of PLS-SEM and fsQCA strengthens methodological rigor, enhances the robustness of findings, and provides a more comprehensive depiction of how multilingual experience contributes to the development of intercultural empathy and the reduction of nationalism-related attitudes.

4. Results

4.1. Measurement Model Assessment

The measurement model was first evaluated by examining indicator loadings, composite reliability (CR), and average variance extracted (AVE). As shown in Table 1, almost all indicator loadings exceeded the recommended threshold of 0.70, confirming good indicator reliability. Although four items loaded slightly below 0.70, they were retained because they had been validated in prior research and contributed conceptually to their constructs. Both CR and AVE values (see Table 1) met accepted standards, with CR values above 0.70 and AVE values above 0.50, indicating satisfactory convergent validity and internal consistency (Foroughi et al., 2022). Discriminant validity was assessed using the Heterotrait–Monotrait (HTMT) ratio. As shown in Tables 2 and 3, all HTMT values were below 0.85 (Henseler et al., 2015; Foroughi et al., 2023), confirming that each construct measures a distinct conceptual domain. Overall, the measurement model demonstrated strong reliability and validity, providing a sound foundation for structural analysis.

Table 1: Measurement model assessment

Constructs	Items	Loadings	Standard deviation (STDEV)	CI (5%)	CI (95%)	Cronbach's alpha	CR	AVE
Aggression	AE1	0.691	0.156	0.392	0.799	0.918	0.926	0.521
	AE2	0.796	0.149	0.525	0.877			
	AE3	0.707	0.163	0.406	0.822			
	AE4	0.718	0.146	0.41	0.809			
	AE5	0.829	0.139	0.554	0.88			
	HE1	0.681	0.036	0.778	0.893			
	HE2	0.756	0.034	0.798	0.909			
	HE3	0.702	0.032	0.817	0.919			
	HE4	0.735	0.058	0.659	0.847			
	HE5	0.709	0.036	0.777	0.893			
Intercultural Communicative Attitudes	HE6	0.583	0.033	0.78	0.886	0.936	0.947	0.691
	HE7	0.731	0.037	0.766	0.887			
	ATT1	0.856	0.045	0.702	0.847			
	ATT2	0.864	0.152	0.428	0.841			
	ATT3	0.882	0.149	0.462	0.848			
	ATT4	0.767	0.155	0.413	0.835			
	ATT5	0.839	0.15	0.475	0.841			
	ATT6	0.831	0.165	0.36	0.831			
Multilingual Experience	ATT7	0.829	0.143	0.305	0.725	0.828	0.853	0.659
	ATT8	0.778	0.184	0.336	0.853			
	ME1-LN	0.785	0.037	0.72	0.839			
	ME2-LU	0.75	0.058	0.639	0.824			
Negative Attitudes	ME3-UF	0.818	0.046	0.731	0.876	0.852	0.859	0.575
	ME4-LL	0.888	0.022	0.847	0.919			
	NA1	0.811	0.058	0.72	0.874			
	NA2	0.667	0.093	0.518	0.807			
	NA3	0.804	0.066	0.698	0.883			
	NA4	0.742	0.081	0.582	0.833			

Constructs	Items	Loadings	Standard deviation (STDEV)	CI (5%)	CI (95%)	Cronbach's alpha	CR	AVE
Nationalism	NA5	0.768	0.068	0.637	0.835	0.871	0.889	0.794
	NA6	0.751	0.083	0.578	0.818			
	NAT1	0.909	0.075	0.829	0.945			
	NAT2	0.878	0.081	0.772	0.929			
	NAT3	0.885	0.089	0.787	0.939			

Source: calculated by the author. Note: CR: Composite Reliability; AVE: Average Variance Extracted.

Table 2: Heterotrait-Monotrait (HTMT) ratio for model 1

	Aggression	Intercultural Attitudes	Multilingual Experience	Nationalism	Negative Attitudes
Aggression					
Intercultural Attitudes	0.135				
Multilingual Experience	0.12	0.435			
Nationalism	0.206	0.122	0.202		
Negative Attitudes	0.145	0.306	0.358	0.331	

Source: calculated by the author.

Table 3: Heterotrait-Monotrait (HTMT) ratio for model 2

	Aggression	Intercultural Attitude	Multilingual Experience	Nationalism	Negative Attitudes	Aggression x Multilingual Experience	Aggression x Intercultural Attitude
Aggression							
Intercultural Attitude	0.135						
Multilingual Experience	0.12	0.435					
Nationalism	0.206	0.122	0.202				
Negative Attitudes	0.145	0.306	0.358	0.331			
Aggression x Multilingual Experience	x 0.205	0.225	0.113	0.154	0.13		
Aggression x Intercultural Attitude	x 0.098	0.365	0.255	0.06	0.059	0.298	

Source: calculated by the author

4.2. Structural Model Assessment

Two competing structural models were developed to test the proposed hypotheses. The key distinction was whether mental aggression functioned as a mediating variable (Model 1) or as a moderating variable (Model 2). Following the recommendations of Hair et al. (2022, 2024) and Chin et al. (2020), model fit was assessed using the Bayesian Information Criterion (BIC), Akaike Information Criterion weight (AICw), and Cross-Validated Predictive Ability Test (CVPAT).

As indicated in Table 4, Model 1 exhibited a lower BIC and higher AICw compared with Model 2, signifying better overall fit and predictive adequacy. The CVPAT values also supported Model 1. Although Model 2 performed slightly better on some individual indices, the collective evidence clearly favored Model 1. Therefore, all subsequent hypothesis testing and interpretations are based on Model 1.

Table 4: Model comparison

Indicators	Model1				Model2		
	Inter Att	Agg	Nat	Xen	Inter Att	Nat	Xen
R ²	0.163	0.006	0.097	0.139	0.19	0.117	0.152
Adj. R ²	0.147	-0.004	0.071	0.115	0.167	0.074	0.111
Q ²	0.106	0.001	0.046	0.067	0.123	0.042	0.067
BIC	-6.383		6.608	1.366	-5.201	13.621	9.188
AICw	0.643		0.971	0.98	0.356	0.029	0.019
CVPAT LV	2.687		2.31	2.715	2.697	2.362	2.853
RMSE	0.957	1.045	1.036	0.988	0.953	1.049	1.031
MAE	0.734	0.825	0.787	0.764	0.724	0.8	0.798
Q ² _predict	0.123	-0.016	0.0005	0.061	0.131	-0.018	-0.014
SRMR			0.081			0.081	

Source: calculated by the author

As shown in Figures 2 and 3 below, the current study constructed two hypothetical models. The difference is whether mental aggression is a mediating variable or a moderating variable. The researcher initially evaluated the fit of the two hypothetical models and conducted a comparative analysis of the two models. In order to evaluate the structural models, we will be making use of the criteria proposed by Hair et al. (2022, 2024) and Chin et al. (2020). Table 4 presents the metrics

employed for the assessment of model fit and the comparison of Bayesian information criterion (BIC) and Akaike information criterion (AIC).

Following the findings of Hair et al. (2019) and Chin et al. (2020), the BIC/BICw³, AIC/AICw, and GM/GMw indices have the capacity to be instrumental in the process of model selection. The present study made a comparison of the BIC and AICw values of two hypothetical models. Model 1 was found to be superior to Model 2, as evidenced by a lower BIC and a higher AICw. The CVPAT LV index also had a role in the selection of the most appropriate model. The results indicate that Model 1, which has a lower CVPAT LV, is preferable to Model 2. Despite the superior performance of Model 2 in other indicators, the current findings support the selection of Model 1. Following the comparison of the two hypothetical models, an investigation was conducted into the path coefficients of Model 1. The results are presented in Table 5. The bootstrapping method was adopted in SmartPLS with 5,000 bootstrap subsamples (resamples) as the original sample (n = 109) for t-values and standard errors (Hair et al., 2013).

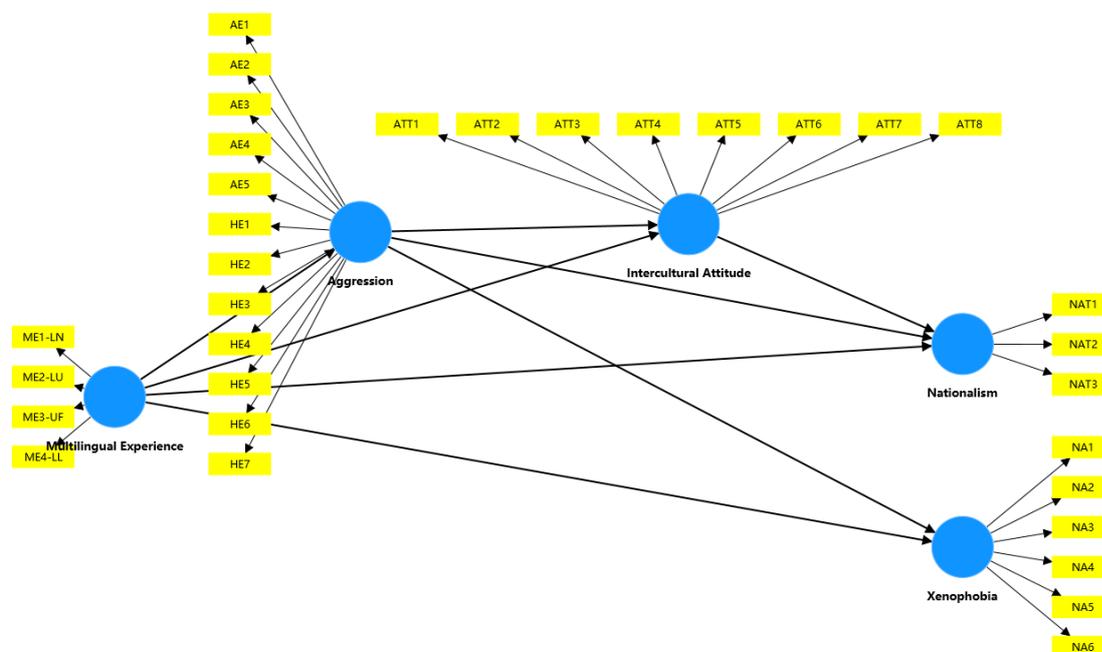


Figure 1: Hypothetical Model 1: The Mediate Effects Model

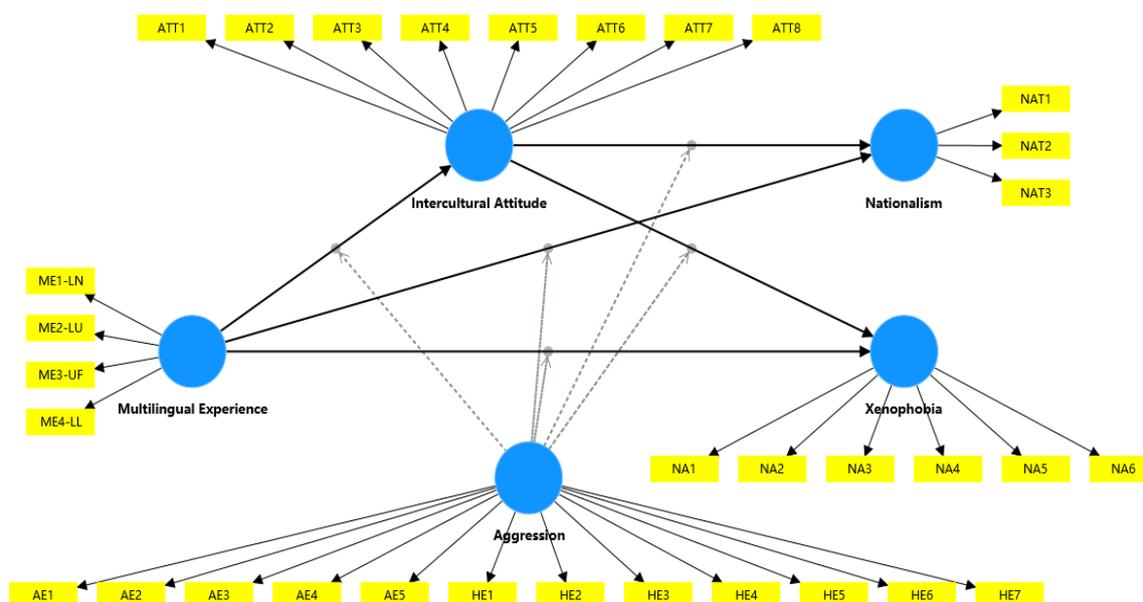


Figure 2: Hypothetical Model 2: The Moderate-Mediate Effects Model

³ AIC (Akaike Information Criterion) and BIC (Bayesian Information Criterion): These are in-sample criteria that balance model fit and complexity to avoid overfitting. AIC estimates the relative information loss, while BIC estimates the posterior probability of a model being true (Burnham & Anderson, 2002). They are calculated using the residuals from the regression of the latent variable scores. For both AIC and BIC, lower values indicate a better balance of fit and parsimony. It is common and acceptable for BIC values to be negative, as the scale is relative; only the differences between models matter for comparison.

AICw (AIC Weight) and BICw (BIC Weight): These weights are derived from the AIC/BIC differences between models. The weight can be interpreted as the probability that a given model is the best among the set of candidate models (Wagenmakers & Farrell, 2004).

Table 5: Results of Hypothesis Testing

Model	Relationships	Path	T values	P values	Decision
Model 1	Aggression -> Intercultural Attitude	-0.105	0.973	0.330	Not supported
	Aggression -> Nationalism	-0.176	1.275	0.202	Not supported
	Aggression -> Negative Attitudes	0.092	0.654	0.513	Not supported
	Intercultural Attitude -> Nationalism	0.187	1.556	0.120	Not supported
	Intercultural Attitude -> Negative Attitudes	-0.179	1.522	0.128	Not supported
	Multilingual Experience -> Aggression	0.075	0.581	0.561	Not supported
	Multilingual Experience -> Intercultural Attitude	0.398	4.665	0.000	Supported
	Multilingual Experience -> Nationalism	-0.233	2.14	0.032	Supported
	Multilingual Experience -> Negative Attitudes	-0.254	2.332	0.020	Supported
	Aggression x Multilingual Experience -> Nationalism	-0.14	0.875	0.382	Not supported
	Aggression x Multilingual Experience -> Negative Attitudes	0.081	0.598	0.550	Not supported
	Aggression x Intercultural Attitude -> Nationalism	0.129	0.841	0.400	Not supported
	Aggression x Intercultural Attitude -> Negative Attitudes	-0.131	0.856	0.392	Not supported

Source: calculated by the author

4.3. Hypothesis Testing

Bootstrapping with 5,000 resamples was conducted in SmartPLS 4 to estimate path coefficients and standard errors (Hair et al., 2013). As shown in Table 5, only direct effects of multilingual experience on intercultural communicative attitudes ($f^2 = 0.189$, $R^2 = 0.163$, $\beta = 0.398$, t -value = 4.665, p -value = 0.000), Nationalism ($f^2 = 0.050$, $R^2 = 0.097$, $\beta = -0.233$, t -value = 2.140, p -value = 0.032), and Negative Attitudes ($f^2 = 0.063$, $R^2 = 0.140$, $\beta = -0.254$, t -value = 2.332, p -value = 0.020) were found.

These findings confirm that multilingual experience positively predicts intercultural communicative attitudes while reducing nationalistic and xenophobic sentiments. No other hypothesised paths, including those involving aggression or interaction terms, reached significance. However, while the impacts of multilingual experience on intercultural communicative attitudes, nationalism, and other negative attitudes were found to be significant, the results of the R^2 do not support the hypothesis that multilingual experience exerts a non-negligible predictive power over these dependent variables. However, given that different disciplines or fields of study employ varying criteria for R^2 (Hair et al., 2019; Raithel et al., 2012), the value of R^2 must exceed 0.1 to be deemed non-negligible (Falk & Miller, 1992). Chin (1998) considered R^2 values of 0.67, 0.33, and 0.19 to be substantial, moderate, and weak, respectively. In light of the preceding research, it is our conviction that, whilst the R^2 in the present study does not evince even weak predictive power, the predictive power of multilingual experience for other dependent variables cannot be ignored. With the assessment of out-of-sample predictive power, the following metrics are employed: Q^2 , root mean square error (RMSE), mean absolute error (MAE), and Q^2_{predict} values. As asserted by Chin (1998) and Hair et al. (2019), the value of Q^2 is expected to exceed 0. Furthermore, Q^2 values greater than 0.00, 0.25, and 0.50 are indicative of small, medium, and large predictive relevance of the PLS path model, respectively. Consequently, the present model exhibits small predictive relevance.

According to Hair et al. (2022, 2024), the f^2 also indicates that the multilingual experience moderately predicts the language learners' intercultural communicative attitudes. However, the influences of multilingual experience on language learners' nationalistic and xenophobic sentiments are small. RMSE, MAE, and Q^2_{predict} values also indicate that the model demonstrates a higher level of performance in comparison to the most naive benchmark, defined as the mean of the indicator for the sample that has been analysed.

4.4. Mediation And Moderation Analysis

The potential mediating and moderating effects were examined using the procedures outlined by Zhao et al. (2010) and Hair et al. (2012, 2017). Neither intercultural communicative attitudes nor mental aggression demonstrated significant mediation, and no moderation effects of mental aggression were detected. These findings indicate that the influence of multilingual experience operates primarily through direct effects, without significant indirect or interactive pathways.

In summary, current research has identified direct effects of multilingual experience on intercultural communicative attitudes, nationalism, and other negative attitudes. However, there is currently no evidence to support the hypothesis that mental aggression moderates such direct effects, nor that mental aggression can act as a mediating variable. The subsequent phase of this study will involve the utilisation of asymmetric analysis to delve deeper into the impact of multilingual experiences, intercultural communicative attitudes, mental aggression, and other sociological factors on the manifestation of nationalistic and xenophobic sentiments in individuals.

4.5. Fuzzy-Set Qualitative Comparative Analysis

4.5.1. Variable selection

In a manner consistent with the preceding PLS-SEM analysis, the present fsQCA analysis utilised multilingual experience, mental aggression, and intercultural communicative attitudes as antecedent variables, and nationalism and xenophobia as outcome variables. Furthermore, the antecedent variables of respondents' international mobility, travel experience, age, and educational attainment were incorporated into the analysis. In this paper, the 95% and 5% are employed as fully affiliated and fully unaffiliated, respectively, and the 50% percentile is designated as the intersection point. This process subsequently calibrates the raw values of the antecedent continuous variable and the continuous outcome variable into fuzzy scores ranging from 0 to 1. The calibrated results are displayed in Table 6.

Table 6: Sets, Calibration, and Descriptive Statistics

	Fuzzy-set calibration			Descriptive statistics			
	95%	50%	5%	Mean	SD	Max	Min
Multilingual Experience (ME)	19	12	5	11.76147	4.658523	23	3
Aggression (Agg)	43	15	4	18.74312	12.70419	59	4
Intercultural Communicative Attitudes (IntAtt)	56	40	15.4	40.04587	11.37442	56	8
Nationalism (NAT)	21	19	9	17.52294	4.054253	21	3
Negative Attitudes (NA)	34.6	20	9	20.11927	7.582539	39	6
Travel Experience by countries and areas (Tra)	10.6	2	0	2.917431	4.279859	27	0
Age	1	3	5				
Education	1	3	5				

Source: calculated by the author

Higher values on the multilingual experience and intercultural communicative attitudes scales are indicative of a greater degree of multilingual experience and a higher level of intercultural communicative attitudes among the respondents. It has been demonstrated that higher scores on the Aggression, Nationalism, and Negative Attitudes scales are indicative of heightened levels of mental aggression, nationalism, and other negative attitudes among respondents. In regard to Age, 1 indicates that the respondent is between 18-24 years old (Generation Z), and 5 denotes that the respondent is over 50 years old (experiencing a more protracted period of specialisation). With regard to the level of education of the respondent, 1 indicates that the individual has only obtained a high school diploma, whereas 5 signifies that the respondent possesses at least a master's degree.

4.6. Results

4.6.1. Necessity Conditions Analysis

The necessity test is employed to verify whether the antecedent variable constitutes a necessary condition for the occurrence or non-occurrence of the outcome. When the necessity consistency score exceeds 0.9, the antecedent variable is deemed to be a necessary condition for the occurrence of the outcome. Table 7 shows the results of the necessity analysis. The results show that none of the antecedent variables constitutes the necessary condition for nationalistic sentiments and other negative attitudes or not. Consequently, it can be concluded that there is no necessary condition to individually influence people's nationalistic sentiments and other negative attitudes, which would require a deeper configurational analysis.

Table 7: Necessity analysis

	Nationalism		~Nationalism		Negative Attitudes		~ Negative Attitudes	
	Consistency	Coverage	Consistenc y	Coverage	Consistenc y	Coverag e	Consistenc y	Coverag e
Live	0.198	0.412	0.289	0.484	0.135	0.238	0.33	0.659
~Live	0.752	0.568	0.649	0.394	0.806	0.514	0.619	0.448
ME_S	0.572	0.653	0.656	0.602	0.559	0.54	0.7	0.767
~ME_S	0.652	0.702	0.623	0.539	0.759	0.69	0.58	0.599
Agg_S	0.547	0.632	0.681	0.633	0.657	0.641	0.614	0.68
~Agg_S	0.682	0.727	0.604	0.517	0.672	0.605	0.676	0.691
IntAtt_S	0.704	0.706	0.673	0.543	0.662	0.561	0.757	0.729
~IntAtt_S	0.545	0.674	0.636	0.634	0.68	0.712	0.544	0.646
Tra_S	0.437	0.616	0.59	0.669	0.467	0.556	0.555	0.75
~Tra_S	0.765	0.699	0.661	0.486	0.79	0.61	0.671	0.588
Age_S	0.712	0.619	0.767	0.536	0.695	0.511	0.791	0.659
~Age_S	0.466	0.713	0.455	0.56	0.536	0.693	0.413	0.606
Education_S	0.552	0.803	0.528	0.618	0.638	0.783	0.499	0.696
~Education_S	0.737	0.66	0.831	0.599	0.752	0.57	0.844	0.726

Source: calculated by the author

4.6.2. Configurations For Nationalism

This study further analysed the sufficiency of configurations leading to the high nationalistic sentiment by respondents. The fsQCA was conducted using the following parameters. The analysis of sufficient conditions utilized a frequency cutoff of 1 and a consistency cutoff of 0.75. The Proportional Reduction in Inconsistency (PRI) score was examined to guard against configurations that might be subsets of both the outcome and its negation. The derivation of core and peripheral causal conditions was achieved by comparing the intermediate solution (which incorporates theoretically plausible directional expectations for each condition) with the parsimonious solution. Conditions appearing in both solutions were categorized as core conditions, while those appearing only in the intermediate solution were categorized as peripheral conditions (Ragin & Davey, 2022). The results of intermediate solutions for the presence of high nationalistic sentiment are presented in the left three columns of Table 8. Three configurational solutions are consistently associated with the high nationalistic sentiment. The overall solution consistency is 0.911, surpassing the consistency threshold (0.75), thereby explaining the significance of these three configurations as a whole. The overall solution coverage is 0.376, indicating that these configurations account for approximately 37.6% of the instances of high nationalism.

Table 8: Configurations for the presence and absence of high prevalence rates of nationalism

	Nationalism				~Nationalism			
	S1	S2	S3	N1	N2	N3	N4	
Age (~Age)	●	○	●	○	●	●	●	
Education (~Education)	○	○	●	●	○	○	○	
ME (~ME)		○	○	○	○	●	●	
Live (~Live)	○	○	○	○	○	●	●	
Travel (~Travel)	○	○	○	●	●	●	●	
MA (~MA)	○	○	●	●	●	○	●	
IA (~IA)	●	○	●	○	●	○	●	
Consistency	0.902	0.932	0.897	0.941	0.933	0.951	0.904	
Raw Coverage	0.217	0.123	0.160	0.105	0.063	0.092	0.122	
Unique Coverage	0.088	0.057	0.053	0.166	0.009	0.026	0.045	
Overall Solution Consistency		0.911			0.936			
Overall Solution Coverage		0.376			0.324			

Source: calculated by the author. Note: ● indicates the presence of the condition; ○ indicates its absence. Conditions are denoted in shorthand (e.g., ME = Multilingual Experience; MA = Mental aggression; IA = Intercultural Attitudes).

Configuration 1, containing various permutations of high nationalism sentiment, which is dominantly driven by the Intercultural Communicative Attitudes, can be interpreted by recalling our conceptual distinction between nationalism and patriotism. The “nationalism” measured here aligns more closely with a form of national pride or patriotic attachment (as defined by Rivers, 2010). Therefore, this finding suggests that positive intercultural attitudes are not incompatible with a strong sense of national pride. Individuals can simultaneously be open to other cultures and maintain a positive identification with their own nation, a stance that differs fundamentally from exclusionary nationalism or xenophobia. In configuration 2, the present study was unable to identify any core conditions. This outcome is, it is argued, of considerable interest and may be considered an expression of the profound national pride that the vast majority of the population of the country holds for their nation. Configuration 3 identifies the high nationalistic sentiment driven by the core conditions, including Education, Mental Aggression, and Intercultural Communicative Attitudes. This solution is consistent with the expectations of the researcher. The absence of a higher education has been identified as a contributing factor to the strengthening of nationalistic sentiments. Concurrently, the medium to high intensity of mental aggression fosters the development of high nationalistic sentiments. This finding is also of interest in the context of intercultural communicative attitudes. However, it is consistent with the findings of Teo et al. (2019) that individuals’ willingness and behaviours in relation to intercultural communication do not necessarily originate from positive acceptance of other cultures. Instead, individuals may seek to impose their own nationalistic values via intercultural communication, which may be perceived as extreme.

This study also analysed the sufficiency of configurations leading to the absence of high nationalistic sentiment by respondents, as shown in the right four columns in Table 8. Firstly, the prevailing impact of individuals’ experiences of travelling abroad on their nationalistic sentiments is readily apparent. This phenomenon stands in stark contrast to the core conditions that previously gave rise to high levels of nationalistic sentiment. Secondly, the study identified multilingual experiences as the core condition leading to lower nationalistic sentiments in individuals. It is also noteworthy that Generation Z respondents exhibit a lower degree of nationalistic sentiment, a phenomenon that may be attributed to their more abundant multilingual experience, increased opportunities for overseas travel and living abroad, and a more expansive worldview. The present study posits that, in terms of more moderate nationalistic sentiments, the multilingual experience, mental aggression, and intercultural communicative attitudes that are its focal point play a dominant role in the presence or absence of nationalism. Conversely, the embodied experience of other cultures exerts a pronounced influence on the absence of nationalistic sentiments.

4.6.3. Configurations For Other Negative Attitudes

In the case of the more extreme nationalistic sentiments, this study similarly analyses the role of the above conditions on the presence and absence of such Negative Attitudes. The results of the intermediate solution for the presence of high xenophobic sentiment are presented in the second column of Table 9. The overall solution consistency is 0.980, surpassing the consistency threshold (0.75), thereby explaining the significance of these three configurations as a whole. The overall solution coverage is 0.203, indicating that these configurations account for approximately 20.3% of the instances of high xenophobia. Despite the limited overall coverage, which means there might be other potential pathways not captured by the present study, the high consistency of these groupings indicates their adequacy in addressing xenophobic attitudes (Greckhamer et al., 2013). The findings indicate that the absence of higher education and the presence of medium to high levels of mental aggression are statistically significant contributors to the strength of xenophobic attitudes. The absence of core conditions, such as multilingual experience and intercultural communicative attitudes, is also a significant factor in the prevalence of xenophobic attitudes.

Table 9: Configurations for the presence and absence of high prevalence rates of Negative Attitudes

	Negative Attitudes		~ Negative Attitudes			
	S1	N1	N2	N3	N4	
Age (~Age)	○	●		●	●	
Education (~Education)	●	○	○	○	○	
ME (~ME)	○	●	●	●	○	
Live (~Live)	○	●	●	●	●	
Travel (~Travel)			●	●	○	
MA (~MA)	●	○	○		●	
IA (~IA)	○	○	●	●	●	

	Negative Attitudes		~ Negative Attitudes			
	S1	N1	N2	N3	N4	
Consistency	0.972	0.989	0.915	0.942	1	
Raw Coverage	0.144	0.093	0.168	0.191	0.056	
Unique Coverage	0.203	0.022	0.016	0.032	0.008	
Overall Solution Consistency	0.980		0.936			
Overall Solution Coverage	0.203		0.239			

Source: calculated by the author. Note: ● indicates the presence of the condition; ○ indicates its absence. Conditions are denoted in shorthand (e.g., ME = Multilingual Experience; MA = Mental aggression; IA = Intercultural Attitudes); blank spaces denote no matter. This analysis is based on the Intermediate Solution.

Regarding the influence on the absence of xenophobic sentiments, the results show that the experience of residing in a foreign country is found to be a primary factor in the development of reduced xenophobic attitudes. Furthermore, age and intercultural communicative attitudes were found to be significant factors in the manifestation of lower xenophobic attitudes. In comparison, members of Generation Z exhibit a substantially lower degree of xenophobic attitudes. Finally, multilingual experience and foreign travel experiences were found to influence the absence of xenophobic emotions only as marginal conditions. This outcome corresponds with that of PLS-SEM. The influence of multilingual experience on nationalism and other negative attitudes is steadily existent, although it is not the most significant influence. In summary, in the context of xenophobic attitudes, an extreme nationalistic sentiment, age, experience of living abroad, and intercultural communicative attitudes are the primary factors that influence the absence of xenophobic attitudes. The influence of multilingual experience on the absence of xenophobic attitudes is non-negligible.

5. Discussion

This study examined how multilingual experience, mental aggression, and intercultural communicative attitudes influence nationalistic and xenophobic sentiments. Drawing on Social Identity Theory (Tajfel & Turner, 1979) and the Intergroup Contact Hypothesis (Allport, 1954), the research proposed that learning additional languages could expand individuals' social identity and facilitate empathy through intercultural contact, thereby reducing hostility toward out-groups. Using a hybrid methodological design combining PLS-SEM and fsQCA, the study provided complementary evidence about both the linear and configurational dynamics linking multilingualism with national and intercultural attitudes.

The findings make three major contributions. First, multilingual experience directly enhanced intercultural communicative attitudes and, to a lesser degree, reduced nationalistic and xenophobic emotions. This supports the central claim of the Intergroup Contact Hypothesis that meaningful intercultural exposure, here operationalized through language learning, fosters understanding and reduces perceived intergroup threat. Although the predictive power was modest, the relationship remained statistically significant, suggesting that even limited multilingual experience can influence attitudinal orientations. Second, neither intercultural attitudes nor mental aggression served as mediators or moderators, implying that multilingualism exerts its effect primarily through direct cognitive and affective mechanisms rather than complex indirect pathways. Third, the fsQCA results revealed that no single variable is sufficient to explain high or low nationalism; instead, combinations of conditions, such as multilingual experience, education, aggression, and international exposure, jointly determine outcomes. This configurational perspective highlights that openness and exclusion are shaped by interdependent psychological and experiential factors.

Interpreted through Social Identity Theory, these results suggest that multilingual experience may broaden the scope of individuals' in-group identification from a narrow national identity to a more cosmopolitan or multicultural self-concept. Language learning can therefore weaken rigid in-group boundaries by allowing individuals to view themselves as members of overlapping cultural communities. However, the findings also indicate that a degree of mild nationalism or national pride may coexist with intercultural openness. Among the relatively well-educated respondents in this study, national pride appeared as confidence rather than exclusion, supporting distinctions in prior literature between patriotism (inclusive attachment) and exclusionary nationalism. This coexistence demonstrates that intercultural competence does not require the rejection of national identity; rather, it promotes a balanced orientation in which identification with one's nation coexists with empathy for others.

The fsQCA analysis further refined this interpretation. Configurations characterized by high education, low aggression, and international mobility were associated with lower nationalism and xenophobia, whereas those combining low education and higher aggression predicted stronger exclusionary attitudes. Multilingual experience consistently appeared as a stabilizing condition, sometimes peripheral but always contributing to more tolerant configurations. These results resonate with previous studies emphasizing that social cohesion and mutual understanding reduce prejudice (Donitsa-Schmidt et al., 2004; Gardner et al., 1985; Yun, 2012). The combination of symmetric and asymmetric analyses, therefore, extends existing theory by showing that multilingualism contributes not only to interpersonal understanding but also to the broader psychological architecture of peace-building, understood here as the cultivation of intercultural empathy and the reduction of perceived threat.

Taken together, these findings demonstrate that language learning functions simultaneously as a cognitive, emotional, and social process. Cognitively, it exposes learners to alternative worldviews; affectively, it promotes empathy and reduces defensive postures; socially, it enables constructive engagement across cultural boundaries. The study thus advances theoretical discussions by empirically linking the micro-level process of language acquisition with macro-level concerns of nationalism and intercultural harmony. It also nuances the debate on globalization and identity by illustrating that multilingual education can foster inclusive identities without eroding cultural self-confidence.

5.1. Theoretical Implications

The findings contribute to the theoretical understanding of the sociopsychological effects of multilingualism. Whereas prior studies have mainly investigated how nationalism influences language learning or policy, this research reverses that focus by examining how multilingual experience shapes nationalism and xenophobia. The results show that multilingual experience

exerts direct positive effects on intercultural communicative attitudes and negative effects on nationalistic and xenophobic sentiments. Although modest in magnitude, these effects were statistically significant, affirming the theoretical expectation that language learning functions as an avenue for intergroup contact and empathy formation.

Neither intercultural attitudes nor mental aggression operated as mediators or moderators, indicating that the influence of multilingualism occurs primarily through direct cognitive-affective mechanisms. The fsQCA findings complement this conclusion, revealing that no single factor is sufficient to determine nationalism or xenophobia; rather, combinations of conditions, such as multilingual experience, education level, aggression, and international exposure, jointly explain attitudinal outcomes.

Viewed through Social Identity Theory, these patterns imply that multilingual experience broadens individuals' social identity to include multicultural or cosmopolitan dimensions, thereby weakening rigid in-group boundaries. Notably, the data also revealed that mild nationalism, a form of inclusive national pride, can coexist with strong intercultural openness, particularly among highly educated respondents. This supports theoretical distinctions between patriotism and exclusionary nationalism and highlights that intercultural competence need not erode cultural self-confidence.

The configurational perspective offered by fsQCA strengthens this argument by demonstrating that low education and high aggression are associated with exclusionary attitudes, whereas education, international mobility, and multilingualism collectively predict tolerance. These findings enrich existing theories by positioning multilingual experience as a subtle but meaningful psychological mechanism for peace-building, one that promotes intercultural empathy and reduces perceived threat.

5.2. Practical Implications

The study's outcomes have practical relevance for language education and policy. They suggest that promoting multilingual learning and international exposure can serve as an effective strategy to counter xenophobia and foster intercultural understanding. In an era characterized by political polarization and cultural insularity, language education should be recognized as a form of social investment that cultivates empathy, openness, and global citizenship.

For educators, the results underscore the importance of embedding intercultural communication training within language curricula, encouraging students to reflect critically on cultural diversity and their own identity. For policymakers, the findings indicate that restricting language learning opportunities may inadvertently reinforce isolationist or defensive cultural attitudes. Balanced policies that support multilingual competence while affirming cultural pride can therefore enhance both national cohesion and international understanding.

Although these implications are consistent with theoretical reasoning, they remain tentative rather than prescriptive, given the exploratory and correlational nature of the study. Future applied research should evaluate the actual effectiveness of multilingual education initiatives in reducing prejudice and strengthening intercultural solidarity.

5.3. Limitations And Future Research Directions

Despite its contributions, the study faces several limitations. The use of a convenience sample dominated by highly educated Chinese participants limits generalizability across demographic groups and cultural contexts. Future studies should employ larger, more diverse, and cross-national samples to assess the universality of the proposed relationships. Additionally, the cross-sectional design prevents causal inference; longitudinal or experimental designs are needed to determine whether multilingual experience precedes attitudinal change or merely co-occurs with it.

Self-reported data may also be affected by social desirability bias, particularly on sensitive topics like nationalism and xenophobia. Incorporating implicit attitude measures or behavioural indicators (e.g., frequency of intercultural interactions) would strengthen future validity. The operationalization of multilingual experience as a formative construct could be refined by including objective measures such as standardized language proficiency tests or verified exposure indicators.

To build on these limitations, future research should pursue three directions: (a) confirmatory and preregistered studies to test the robustness of the present findings; (b) longitudinal and cross-cultural analyses to capture temporal and contextual variations; and (c) qualitative investigations, including interviews and ethnographic observation, to explore the subjective meanings of multilingualism and national identity. Such mixed-method approaches will foster a more comprehensive understanding of how language learning contributes to intercultural empathy and the reduction of prejudice.

6. Conclusion

This study set out to examine how multilingual experience, mental aggression, and intercultural communicative attitudes shape individuals' nationalistic and xenophobic sentiments, employing both Partial Least Squares Structural Equation Modelling (PLS-SEM) and Fuzzy-set Qualitative Comparative Analysis (fsQCA). The integrated results reveal that multilingual experience exerts a small but statistically significant influence in promoting positive intercultural attitudes and reducing exclusionary nationalistic and xenophobic tendencies. These findings support the view that language learning operates as a subtle mechanism of peace-building, fostering empathy and expanding the boundaries of social identity beyond narrow national frameworks.

By integrating Social Identity Theory and the Intergroup Contact Hypothesis, the study contributes to a growing body of research that situates multilingualism within broader socio-psychological and political contexts. It demonstrates that language learning can enhance social cohesion, not merely as a communicative skill but as an instrument of intercultural understanding and tolerance. Practically, the results underscore the value of promoting multilingual education and international exposure as part of national and institutional strategies aimed at strengthening intercultural dialogue. Although the effects observed were modest, they highlight the transformative potential of linguistic diversity for fostering global citizenship and reducing prejudice. Future research should extend this inquiry through longitudinal, cross-cultural, and mixed-method approaches to validate and deepen the understanding of how multilingualism contributes to the cultivation of inclusive, empathetic, and peaceful societies.

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Appendix A

Measurements	English	Chinese
Mental Aggression	My temper flares up easily, but it's usually over quickly.	我的脾气一点就着，但一会儿就好。
	Sometimes I feel like a ticking time bomb ready to explode.	有时，我感觉自己像一个随时要爆炸的火药筒
	I am a calm person by nature.	我是一个脾气平和的人
	Sometimes I get angry for no reason at all.	有时我会无缘无故地发火
	I have trouble controlling my temper.	我难以控制自己的脾气。
	Jealousy sometimes overwhelms me.	我有时会被嫉妒所吞噬。
	I often feel that life is unfair to me.	有时我会觉得我的人生不公平
	It seems like others are always so lucky.	别人似乎总是很走运
	I can't let go of certain things.	我对某些事情感到耿耿于怀。
	I believe there are "friends" talking behind my back.	我认为有 "朋友" 在背后说我的坏话。
Intercultural Communicative Attitudes	When strangers are too friendly towards me, I suspect they have ulterior motives.	陌生人对我过于友好时，我怀疑对方另有目的。
	I sometimes wonder if people are laughing at me behind my back.	我有时怀疑有人在背后嘲笑我。
	I welcome and actively engage with people from different cultural backgrounds.	我欢迎并主动与来自不同文化背景的人互动。
	I understand that people from other cultures may behave differently due to their own cultural upbringing.	我理解来自其他文化的人因为他们自己的文化而有不同的行为。
	I try to learn about the behavioral, value, attitude, and style differences between various cultures.	我试图了解不同文化之间的行为、价值观、态度和风格的差异。
	When interacting with people from different cultures, I reserve judgment.	在与文化上与我不同的人交流时，我会保留我的判断。
	I ask questions about other cultures that differ from my own.	我询问有关于不同于自己的其他文化的问题。
	I seek answers to issues related to cultural differences.	我寻求有关文化差异问题的答案。
	Generally speaking, I maintain a positive attitude towards people from other cultures.	通常来说，我对来自其他文化的人持积极态度。
	If possible, I hope to work together with people from other cultures.	如果可能的话，我希望与来自其他文化的人一起工作。
Nationalism	I hope China will become the most powerful country in the world.	我希望中国将成为世界上最强大的国家。
	The strength of the Chinese economy is attributed to the excellence of its people.	中国经济的强大是由于中国人民的优秀。
	The Chinese people are one of the finest in the world.	中国人民是世界上最优秀的人民之一。
Xenophobia	Foreigners are very open and casual.	外国人都很开放很随便
	Most foreigners are not good at math.	大多数外国人都不会数学
	In foreign countries, going out at night is extremely unsafe, and people walk cautiously on the streets.	在外国，夜晚出门非常不安全，人们走在路上都会小心翼翼的
	Foreigners are deceived and misled by their governments.	外国人都被政府蒙蔽欺骗了
	America is enslaving the world and is the common enemy of all nations.	美国正在奴役世界，是所有国家的共同敌人
If disputes arise between China and other countries, it's usually because those countries provoke us first.	如果中国与其他国家产生纠纷都是其他国家首先挑衅而引起的	