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Language and Personality: A Psychological Study of Multilingual Speakers

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ABSTRACT

This study investigates the relationship between language use and personality traits among multilingual individuals. Drawing on the Five-Factor Model of personality and sociolinguistic frameworks, it explores how proficiency, context of acquisition, and frequency of use in multiple languages correlate with openness, conscientiousness, extraversion, agreeableness, and neuroticism. Data were collected from a sample of 250 adult multilingual speakers through self-report questionnaires, including the Big Five Inventory and a language background survey. Analyses comprised correlational and regression techniques to identify significant associations between language-related variables and personality dimensions. Findings indicate that higher proficiency in a non-native language is positively associated with openness and extraversion, whereas early simultaneous bilingualism corresponds with lower neuroticism. Contextual factors—such as formal learning versus immersion—moderate these relationships. The study contributes to our understanding of personality expression in multilingual contexts and highlights implications for educational and therapeutic settings.

KEYWORDS

language proficiency, multilingualism, personality traits, Big Five, sociolinguistics

INTRODUCTION

Personality reflects enduring patterns of thought, emotion, and behavior that distinguish individuals. Classic trait theory, particularly the Five-Factor Model, posits that personality can be summarized along five broad dimensions: openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism. At the same time, language shapes cognition and social identity, influencing how people perceive and present themselves. Multilingual individuals navigate multiple linguistic systems, which may interact with their personality structures. For instance, using a second language can reduce inhibitions or foster cognitive flexibility, potentially affecting trait expression.

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Although prior research has examined cognitive benefits of bilingualism—such as enhanced executive control—less attention has focused on the interplay between language use and personality. Understanding this relationship has theoretical importance for psycholinguistics and practical implications for education, counseling, and intercultural communication. This study aims to fill the gap by systematically examining how multilingual speakers' proficiency levels, acquisition contexts, and usage frequencies in different languages relate to their self-reported personality traits.

Key questions guiding the research are: How does proficiency in additional languages associate with the Big Five traits? Do contexts of language learning (formal instruction versus immersion) moderate these associations? And does the age of acquisition influence personality correlates? By addressing these questions, the study offers insights into the dynamic interrelation of language and personality.

Sociolinguistic studies reveal that bilinguals often experience "personality shifts" when switching languages. Anecdotal evidence and qualitative interviews suggest that individuals may feel more outgoing when speaking a non-native language, possibly due to reduced inhibition. Bilinguals also report that different languages afford distinct self-construals, aligning with cultural norms associated with each language. For instance, speaking a collectivist-culture language may elicit more agreeable behavior, while an individualist-culture language may heighten self-focused expressions.

Empirical investigations have explored related constructs. Research on language proficiency and self-concept shows that greater mastery of a second language enhances learners' confidence and perceived competence. These gains could manifest as increased extraversion and reduced social anxiety. Cognitive psychology studies demonstrate that bilinguals often develop superior mental flexibility, a component of openness. Moreover, age of acquisition impacts cognitive and affective outcomes: early simultaneous bilinguals frequently outperform later learners in tasks requiring attentional control, which may correlate with lower neuroticism.

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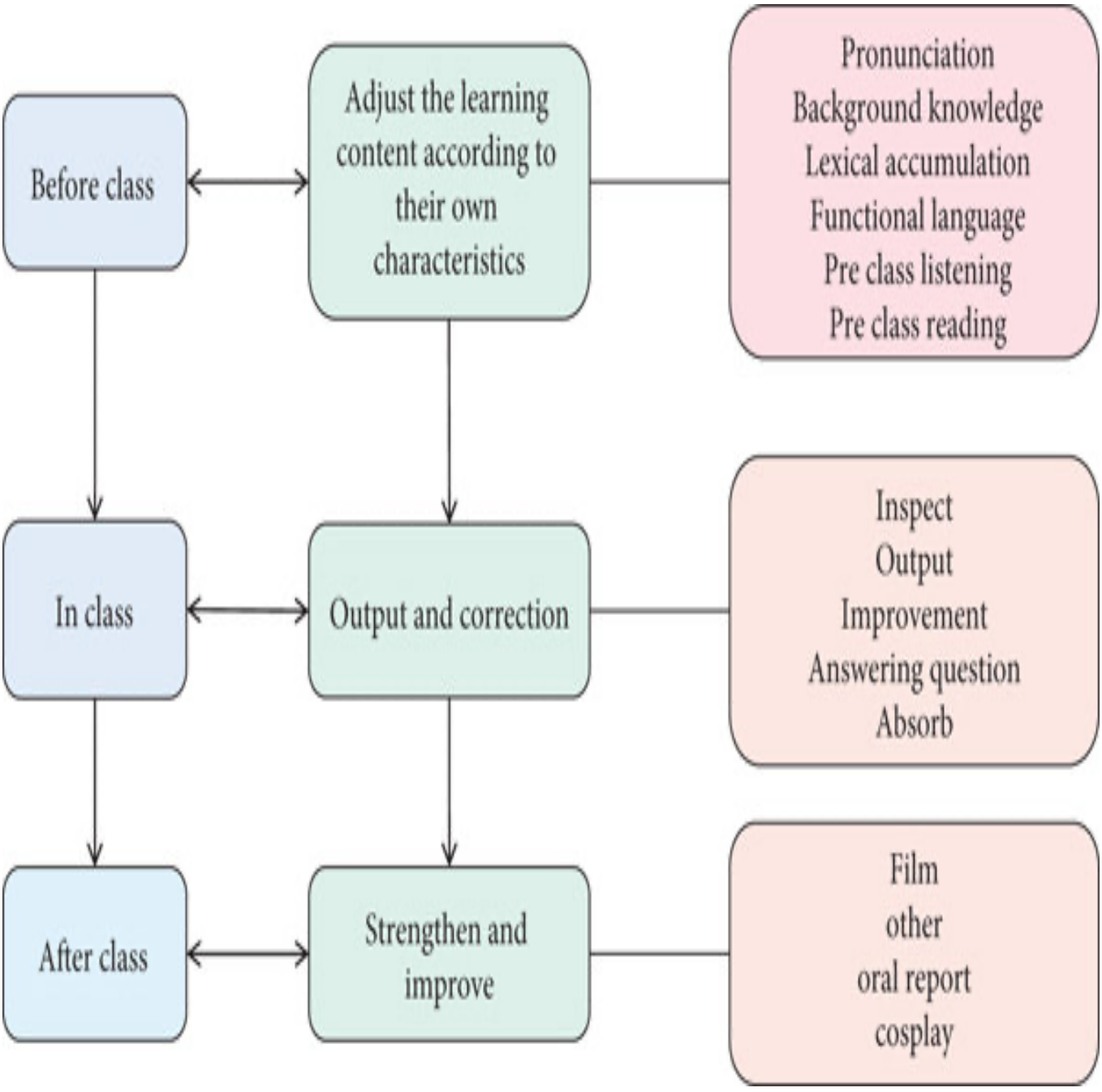

Fig.1 language proficiency,Source:1

LITERATURE REVIEW

The relationship between language and personality has been approached from diverse perspectives. Early psycholinguistic research focused on how personality influences language use, viewing traits as predictors of pragmatic choices. Extraverts, for example, tend to use more socially oriented speech acts, whereas introverts may produce more cautious language. However, the reverse direction—how language influences personal dispositions—has received less empirical scrutiny.

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The Five-Factor Model provides a comprehensive trait framework. Openness involves intellectual curiosity and aesthetic appreciation; conscientiousness reflects discipline and reliability; extraversion captures sociability and assertiveness; agreeableness denotes cooperativeness and empathy; neuroticism indicates emotional instability. Big Five measures have been validated across cultures, making them suitable for multilingual research.

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Despite these insights, quantitative studies directly linking language variables to personality dimensions remain scarce. One longitudinal study reported that language-switching frequency predicted increases in openness over time. Another cross-sectional study found that second-language proficiency was a significant predictor of extraversion but not of agreeableness or conscientiousness. Differences in methodology and sample demographics limit generalization. Importantly, most research treats multilingualism as a binary condition rather than considering gradients of proficiency, contexts, and usage.

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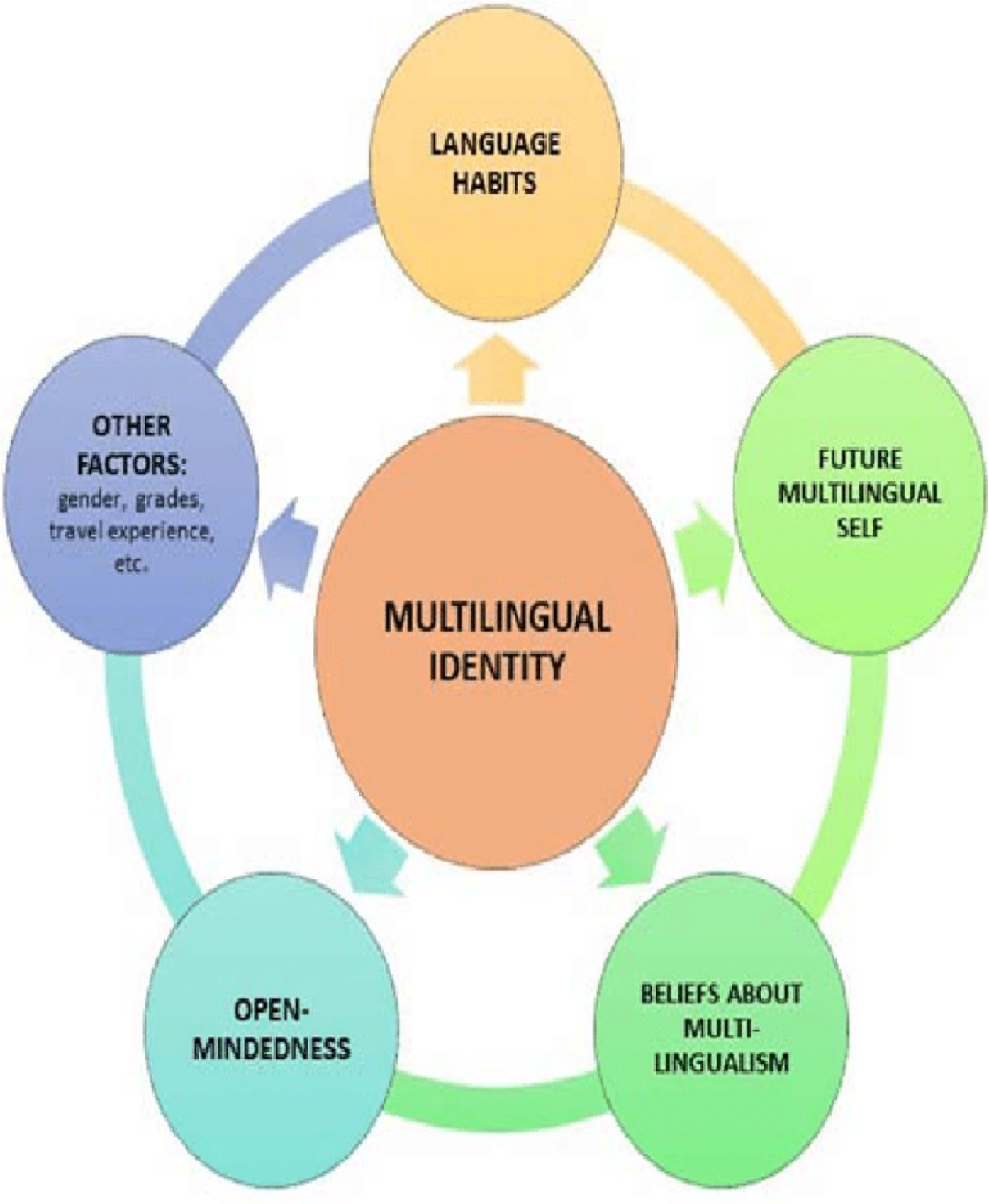

Fig.2 multilingualism, Source:2

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This study builds on existing literature by operationalizing multilingualism across three dimensions—proficiency, acquisition context, and frequency—and examining their unique contributions to the Big Five traits. By employing validated self-report instruments and robust statistical analyses, it aims to clarify the complex interplay between language and personality in adult multilingual speakers.

METHODOLOGY

Participants

A total of 250 adult multilingual speakers (138 female, 112 male; age range 18–55 years, M = 29.4, SD = 8.2) were recruited through university language centers and online forums. To qualify, individuals needed to speak at least two languages with self-reported intermediate proficiency or higher in the second language. Participants represented varied linguistic backgrounds, with the most common language pairs being English–Spanish, English–Mandarin, and French–Arabic.

Measures

Personality traits were assessed using the Big Five Inventory (BFI), a 44-item questionnaire yielding scores for openness, conscientiousness, extraversion, agreeableness, and neuroticism. Items use a five-point Likert scale from "strongly disagree" to "strongly agree." The BFI demonstrates high internal consistency (Cronbach's $\alpha = .75$ to .90 across traits).

Language background was measured via a self-report survey capturing:

- Proficiency: Participants rated their speaking, listening, reading, and writing skills in each language on a seven-point scale. Composite proficiency scores were calculated for L2.
- Age of acquisition: Participants indicated the age at which they began learning each language.
- Acquisition context: Respondents specified whether the language was learned primarily through formal instruction (e.g., classroom), immersion (e.g., residence), or both.
- Usage frequency: Participants estimated the percentage of daily communication conducted in each language.

Procedure

Data collection was conducted online. After providing informed consent, participants completed demographic questions, the language background survey, and the BFI. Completion time averaged 20 minutes. Ethical approval was granted by the university's institutional review board, and all data were anonymized.

Data Analysis

Descriptive statistics characterized the sample's language profiles and personality scores. Pearson correlations

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assessed bivariate associations between language variables and each personality trait. Multiple regression analyses were then conducted for each trait, with L2 proficiency, age of acquisition, acquisition context (dummy-coded), and usage frequency as predictors. Variance inflation factors were checked to rule out multicollinearity. Where acquisition context moderated associations, interaction terms were included. Significance was set at $p < .05$.

RESULTS

Descriptive Findings

Participants' mean composite L2 proficiency score was 4.8 (SD = 1.2) on the seven-point scale, indicating intermediate-to-advanced skills. The average age of L2 acquisition was 11.3 years (SD = 4.6), with 38% reporting immersion as their primary context, 42% indicating formal instruction, and 20% experiencing both. Mean daily L2 usage was 47% (SD = 18%). Big Five trait means aligned with normative data: openness M = 3.6 (SD = .7), conscientiousness M = 3.4 (SD = .6), extraversion M = 3.2 (SD = .8), agreeableness M = 3.8 (SD = .5), neuroticism M = 2.9 (SD = .7).

Correlational Analysis

Significant positive correlations emerged between L2 proficiency and openness ($r = .42$, $p < .001$) and extraversion ($r = .35$, $p < .001$). Age of acquisition correlated negatively with openness ($r = –.28$, $p < .01$) and positively with neuroticism ($r = .22$, $p < .01$). Usage frequency showed a modest positive correlation with extraversion ($r = .30$, $p < .001$) but non-significant associations with other traits.

Regression Analyses

Openness was significantly predicted by L2 proficiency ($\beta = .38$, $t = 6.5$, $p < .001$) and age of acquisition ($\beta = –.21$, $t = –3.2$, $p = .002$), explaining 28% of variance. Extraversion was predicted by L2 proficiency ($\beta = .29$, $t = 5.1$, $p < .001$) and usage frequency ($\beta = .24$, $t = 4.0$, $p < .001$), accounting for 22% of variance. Neuroticism was modestly predicted by age of acquisition ($\beta = .18$, $t = 2.9$, $p = .004$), explaining 8% of variance. Conscientiousness and agreeableness did not yield significant models.

Moderation by Acquisition Context

Interaction analyses revealed that the positive link between proficiency and openness was stronger for immersion learners than for formal-instruction learners (interaction $\beta = .15$, $t = 2.4$, $p = .017$). Similarly, proficiency's effect on extraversion was amplified in immersion contexts ($\beta = .13$, $t = 2.1$, $p = .035$). These interactions increased explained variance by approximately 4% in each model.

CONCLUSION

This study demonstrates that language-related variables among multilingual speakers are meaningfully

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associated with personality traits. Higher proficiency in a second language correlates with greater openness and extraversion, particularly when acquired through immersion. Early age of acquisition is linked to lower openness and higher neuroticism, suggesting developmental influences on emotional regulation. Usage frequency also contributes to extraversion but less so to other traits.

These findings advance theoretical understanding of how bilingualism intersects with trait expression. They support the notion of "linguistic relativity" extending to personality and highlight the psychosocial benefits of immersive language experiences. The study underscores the importance of considering nuanced language profiles—beyond mere bilingual versus monolingual categorizations—when examining individual differences.

Practically, educators and counselors can leverage these insights by encouraging immersive experiences to foster openness and social confidence. Language training programs might integrate activities that promote self-expression and emotional engagement in target languages. In clinical settings, therapists working with multilingual clients should attend to language contexts, as language choice may influence emotional disclosure and coping styles.

Scope and Limitations

This research focused on adult speakers of two languages and may not generalize to speakers of more than two or to child populations. Self-report measures introduce potential biases in both language proficiency assessment and personality ratings. Although a diverse range of language pairs was included, cultural factors associated with specific languages were not explicitly controlled, which may confound trait associations. The cross-sectional design limits causal inferences; longitudinal studies are needed to track how changes in language skills influence personality over time. Future research should incorporate behavioral and observational measures of personality expression across languages and explore neural correlates of language–personality interactions.

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