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# The Role of Personality in the Mental Health of Iranian Immigrants: Investigating the Mediating Role of Acculturation

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**ABSTRACT**

**Background:** Migration challenges the mental health of millions of Iranian immigrants. Although acculturation is considered a key pathway linking individual differences to immigrant well-being, the simultaneous contribution of personality traits, self-regulatory capacities, and acculturation orientations to psychological distress remains underexplored.

**Aims:** This study examined (1) the direct effects of the Big Five traits, integrative self-knowledge, mindfulness, and self-control on distress, and (2) whether heritage and mainstream acculturation orientations mediate these relationships.

**Methods:** In a cross-sectional design, 356 Iranian immigrants (252 women; mean age = 37.37 years) in 30 countries completed validated Persian measures, including the Goldberg Big Five Inventory, Integrative Self-Knowledge Scale, Mindful Attention Awareness Scale, Brief Self-Control Scale, Depression Anxiety Stress Scales (DASS-21), and the Vancouver Index of Acculturation (VIA). The VIA was subjected to confirmatory factor analysis, resulting in a refined 16-item version. Structural equation modeling tested the proposed conceptual model.

**Results:** he final model demonstrated satisfactory fit (RMSEA = .053, CFI = .894). For direct effects, neuroticism was the strongest positive predictor of psychological distress (β = .54), while integrative self-knowledge (β = –.31), extraversion (β = –.16), and self-control (β = –.13) were significant negative predictors. Openness, agreeableness, conscientiousness, and mindfulness showed no significant direct effects. For mediation, all sixteen hypothesized indirect paths through heritage and mainstream acculturation were non-significant after controlling for personality variables; neither acculturation dimension significantly predicted distress.

**Conclusion:** In the complex context of migration, deep-seated inner resources such as emotional stability and integrative self-knowledge are far stronger determinants of mental health than the cultural strategies immigrants adopt. The findings challenge simplistic models that attribute immigrant well-being primarily to acculturation, and underscore that who the immigrant is matters more than which culture they embrace. Interventions aimed at fostering integrative self-knowledge may be particularly effective in promoting mental health among Iranian immigrants.

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## Extended Abstract

### Introduction

Migration is a profoundly transformative experience that demands a reorganization of psychological, identity, and cultural structures, engaging cognitive, emotional, behavioral, and interpersonal dimensions simultaneously (Berry, 1997). For the millions of Iranian immigrants worldwide—a diaspora estimated at 4 to 6 million (Ministry of Foreign Affairs of the Islamic Republic of Iran, 2020)—this process carries particular weight. Research shows that language barriers, unemployment, perceived discrimination, culture shock, and weak social support converge to elevate risks for mental health difficulties (Shishehgar et al., 2015; Amini et al., 2022). Migration thus functions as a chronic environmental stressor requiring continuous adaptation, and its destructive potential grows when preparation and support are lacking (Virupaksha et al., 2014).

Central to immigrant mental health is acculturation, the process of psychological and cultural change arising from sustained intercultural contact (Berry, 1997). Berry's bidimensional model distinguishes two independent orientations: maintaining heritage culture and identity, and seeking contact with the larger mainstream society. Their intersection yields four strategies: integration (maintaining heritage while embracing mainstream), assimilation (abandoning heritage for mainstream), separation (retaining heritage and avoiding mainstream), and marginalization (rejecting or being excluded from both). Integration is consistently linked with the best mental health outcomes, and marginalization with the poorest (Choy et al., 2020; Schmitz & Schmitz, 2022). Importantly, structural factors such as immigration policies and societal acceptance powerfully constrain which strategies are realistically available (Berry, 1997).

What determines how successfully an immigrant navigates this complex process? The answer lies not only in external circumstances but also, critically, in the inner resources the individual brings. Dispositional personality traits are central determinants of acculturation trajectories and their psychological consequences (Bornstein, 2017). The Five-Factor Model, a cross-culturally validated framework (McCrae & Costa, 1997), provides a robust lens. Neuroticism—the tendency toward negative affect and emotional instability—is the strongest personality correlate of poor mental health (Kotov et al., 2010) and is associated with heightened stress perception (Luo et al., 2023). In migrants specifically, higher neuroticism predicts lower health-related quality of life (Farugie et al., 2025). Extraversion, by contrast, generally acts as a protective factor, associated with lower depression, greater well-being (Costa & McCrae, 1980; Kotov et al., 2010), reduced perceived stress (Luo et al., 2023), and the formation of new social networks that increase access to crucial social support in the host country (Valenzuela & Rogers, 2021). The relationships of openness, agreeableness, and conscientiousness with mental health are more nuanced. Openness can facilitate intercultural self-efficacy (Mak & Tran, 2001) yet also correlate with heightened acculturative stress (Ramdhonee & Bhowon, 2012). Agreeableness fosters supportive relationships (Bowling et al., 2005) but shows inconsistent direct associations with depression (Kotov et al., 2010). Conscientiousness is generally negatively associated with depression (Kotov et al., 2010) and linked to adaptive coping and health-promoting behaviors (Takahashi et al., 2013).

Beyond these broad traits, three specific self-regulatory capacities—integrative self-knowledge, mindfulness, and self-control—were selected based on Ghorbani and colleagues' (2014) multi-process model of self-regulation. This framework posits that these three capacities function as complementary and synergistic components of a healthy self-regulatory system: mindfulness provides non-judgmental awareness of immediate experience (Kabat-Zinn, 1994; Keng et al., 2011); integrative self-knowledge

synthesizes past, present, and future into a coherent self-narrative (Ghorbani et al., 2008); and self-control supplies the executive capacity for regulating impulses and pursuing long-term goals (Tangney et al., 2004). Unlike the relatively stable Big Five traits, these self-regulatory capacities are considered more malleable and potentially trainable, making them particularly relevant targets for intervention in migrant populations. For immigrants navigating identity discontinuities, daily acculturative stressors, and the sustained demands of adaptation, this tripartite model offers a uniquely comprehensive lens through which to examine how inner resources may facilitate not only psychological well-being directly, but also the capacity to engage flexibly with both heritage and mainstream cultures.

The critical question, therefore, is not merely whether these personality and self-regulatory traits predict mental health, but how they do so. A plausible mediational pathway—and the central hypothesis of this study—is that the immigrant's personality and self-regulatory capacities (the "inner resources") shape the acculturation orientations they adopt (the "cultural strategies"), and these orientations, in turn, determine their psychological well-being. In other words, who the immigrant is and how they regulate themselves may influence the cultural path they take, which then impacts their mental health.

This gap is stark in Iranian immigrant research. Although studies have documented the heavy mental health burden—from the impact of restrictive policies and transnational political events (Taridashti et al., 2025; Zareian Jahromi et al., 2025) to high rates of depressive symptoms (Seidisarouei, 2025)—no study has tested an integrative quantitative model that simultaneously examines personality, self-regulation, and acculturation as predictors of distress. Most work has isolated single risk or protective factors without modeling their interplay (Amini et al., 2022). This interplay may be especially consequential for Iranian immigrants because the predominantly collectivist values of Iranian culture—emphasizing family loyalty, interdependence, and group harmony—often contrast sharply with the individualist norms of many host countries, making acculturation a more demanding and psychologically salient task.

The present study addresses these gaps with two integrated objectives: (1) to examine the direct effects of the Big Five traits, integrative self-knowledge, mindfulness, and self-control on psychological distress in a large, geographically diverse sample of Iranian immigrants; and (2) to test whether heritage and mainstream acculturation orientations mediate these relationships. We expected neuroticism to positively predict distress, and the remaining personality/self-regulatory variables to be negative predictors. We also hypothesized significant indirect effects via acculturation orientations. A secondary contribution is the first psychometric validation of the Vancouver Index of Acculturation (Ryder et al., 2000) in an Iranian immigrant sample.

## Method

### Study Design and Theoretical Framework

This study employed a cross-sectional, correlational design to examine the direct and indirect relationships among personality traits, self-regulatory capacities, acculturation orientations, and psychological distress in Iranian immigrants. The conceptual framework integrated the Five-Factor Model of personality (McCrae & Costa, 1997), Berry's bidimensional acculturation model (Berry, 1997), and a multi-process self-regulation framework encompassing integrative self-knowledge, mindfulness, and self-control (Ghorbani et al., 2014). The hypothesized structural model specified direct paths from eight personality and self-regulatory variables to psychological distress, as well as indirect paths mediated by heritage and mainstream acculturation orientations.

### Ethical Considerations and Data Protection

The study was conducted in full compliance with the ethical principles outlined in the latest revision of the Declaration of Helsinki (World Medical Association,

2024). Participation was entirely voluntary and anonymous. An informed consent statement was presented on the first page of the online questionnaire, clearly explaining the research aims, procedures, and the voluntary nature of participation. Participants were informed of their right to withdraw at any point without any consequences. No personally identifying information was collected; only demographic details such as age, gender, country of residence, and duration of stay were requested. Participants were given the option to provide an email address if they wished to receive individualized descriptive feedback on their responses; this information was stored separately and was not linked to their questionnaire data. All data were stored securely and treated with strict confidentiality. The research did not involve any financial costs to participants, and no monetary incentives were provided.

**Study Population and Eligibility Criteria**

The target population comprised Iranian immigrants aged 18 years or older who had relocated from Iran to another country. Inclusion criteria required participants to have been born in Iran, to currently reside outside Iran, and to have lived in the host country for a minimum of one year. This minimum duration was chosen to ensure that participants had had sufficient exposure to the acculturation process. Additionally, participants needed to possess adequate Persian literacy and the digital skills necessary to complete an online questionnaire via a computer or smartphone.

**Sampling Strategy and Bias Mitigation**

A convenience sampling strategy was employed. The online survey link was disseminated through social media platforms, messaging applications, and direct contacts with Iranian diaspora communities across multiple countries. Recruitment messages explicitly targeted Iranians living outside Iran. To mitigate sampling bias and enhance geographic diversity, efforts were made to distribute the link across a variety of platforms and networks serving different host countries and demographic profiles. Following initial data collection, responses were carefully screened. A total of 373 individuals began the survey. Fifteen respondents were excluded because they completed the survey from within Iran (as identified by self-reported location). One participant was excluded for having resided in the host country for less than one year, and one additional participant was removed due to an aberrant response pattern indicative of inattentive or careless responding. The final sample consisted of 356 participants (252 women, 104 men) residing in 30 countries across six continents. The mean age was 37.37 years (SD = 9.43, range = 18–73), and the mean length of residence in the host country was 5.25 years (SD = 5.88, range = 1–37). The sample was highly educated, with 72.1% holding a master's or doctoral degree. The largest contingents resided in Europe (50.8%) and North America (38.8%).

**Data Collection Instruments and Validation**

All measures were administered in Persian. Where validated Persian versions of instruments were available, those were adopted. For the Vancouver Index of Acculturation, which had no prior Persian version, a formal translation and validation process was undertaken. Internal consistency for all scales in the current sample was calculated using Cronbach's alpha.

**Personality.** The Big Five personality traits were measured using the Goldberg 50-item Big Five Factor Markers (Goldberg, 1999), which comprises 10 items per trait rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). The scale has demonstrated satisfactory reliability in international samples: Gow et al. (2005) reported Cronbach's alphas of .89 for Emotional Stability (the inverse of Neuroticism), .90 for Extraversion, .79 for Openness, .85 for Agreeableness, and .79 for Conscientiousness. In an Iranian sample, Ghorbani et al. (2005) reported alphas of .70, .50, .65, .60, and .70, respectively, which were deemed acceptable for research purposes. In the present sample, Cronbach's alphas were: Neuroticism = .90, Extraversion = .86, Openness to

Experience = .77, Agreeableness = .77, and Conscientiousness = .82.

**Integrative Self-Knowledge.** Integrative self-knowledge was assessed with the 12-item Integrative Self-Knowledge Scale (ISK; Ghorbani et al., 2008). The ISK measures the capacity to synthesize past, present, and future self-experience into a coherent narrative. Items are rated on a 5-point Likert scale (0 = strongly false to 4 = strongly true). Ghorbani et al. (2008) reported strong psychometric properties, with Cronbach's alphas ranging from .81 to .82 across three Iranian samples and from .74 to .78 across three American samples, alongside evidence for convergent, discriminant, and incremental validity. A subsequent study in Iran also reported an alpha of .79 (Ghorbani et al., 2010). In the present sample, Cronbach's alpha was .89.

**Mindfulness.** Dispositional mindfulness was measured with the 15-item Mindful Attention Awareness Scale (MAAS; Brown & Ryan, 2003). The MAAS assesses the tendency to be aware of and attentive to present-moment experiences in daily life. Items are rated on a 6-point Likert scale (1 = almost always to 6 = almost never). Brown and Ryan (2003) reported Cronbach's alphas ranging from .82 to .87 across seven independent samples, and demonstrated strong construct and criterion-related validity. The Persian version of the MAAS has also been validated, with Ghorbani et al. (2009) reporting a Cronbach's alpha of .82 and significant associations with self-knowledge and mental health indices. In the present sample, Cronbach's alpha was .89.

**Self-Control.** Self-control was assessed with the 13-item Brief Self-Control Scale (Tangney et al., 2004). This unidimensional measure captures the ability to regulate impulses, emotions, and behaviors in the service of long-term goals. Items are rated on a 5-point Likert scale (0 = not at all to 5 = very much). Tangney et al. (2004) reported a Cronbach's alpha of .89 in the original validation study. In Iranian samples, Ghorbani et al. (2014) reported alphas ranging from .83 to .85. In the present sample, Cronbach's alpha was .88.

**Psychological Distress.** Psychological distress was assessed with the 21-item Depression Anxiety Stress Scales (DASS-21; Lovibond & Lovibond, 1995). The DASS-21 contains three 7-item subscales measuring depression, anxiety, and stress over the past week. Responses are provided on a 4-point scale (0 = did not apply to me at all to 3 = applied to me very much). In an Iranian validation study, Rahimi et al. (2006) reported Cronbach's alphas of .70 for Depression, .66 for Anxiety, and .76 for Stress, alongside adequate convergent validity with the Beck Depression Inventory (r = .70) and the Zung Anxiety Scale (r = .75). Consistent with a transdiagnostic conceptualization of psychological distress (Carrozzino et al., 2023), the total DASS-21 score was used as the primary outcome variable. Cronbach's alphas in this sample were .91 (Depression), .85 (Anxiety), and .89 (Stress).

**Acculturation.** Acculturation orientations toward heritage and mainstream cultures were assessed with the Vancouver Index of Acculturation (VIA; Ryder et al., 2000). The original 20-item instrument comprises two 10-item subscales (Heritage Culture and Mainstream Culture), covering domains such as values, social relationships, traditions, and humor. In the original Canadian validation study, items were rated on a 9-point Likert scale (1 = strongly disagree to 9 = strongly agree), and Cronbach's alphas of .89 for Heritage and .83 for Mainstream subscales were reported (Ryder et al., 2000; Doucerain et al., 2017). An Italian validation study, which used a simplified 4-point scale, reported alphas of .83 and .87 (Celenk & Van de Vijver, 2011).

For the present study, the VIA was translated into Persian and back-translated by the research team, retaining the 9-point Likert format. Because this was the first application of the VIA in an Iranian immigrant sample, its factor structure was examined using confirmatory factor analysis (CFA) with

maximum likelihood estimation. The initial 20-item, two-factor model showed inadequate fit. Multivariate normality was violated (Mardia's normalized multivariate kurtosis critical ratio = 35.38); therefore, bootstrap resampling with 5000 samples was used to obtain robust standard errors and confidence intervals. Examination of modification indices and standardized residual covariances indicated that a substantial portion of the misfit originated from strong error covariances involving four items: Item 7 ("It is important for me to maintain or develop the practices of my heritage/mainstream culture") and Item 8 ("I believe in the values of my heritage/mainstream culture") in both the Heritage and Mainstream subscales. This pattern, consistent with prior findings that value- and tradition-related items may function differently across non-Western cultural contexts (Testa et al., 2019; O'Donald & Calia, 2025), led to the removal of these four items. The resulting 16-item model (8 items per factor) showed acceptable fit: $\chi^2/df = 2.91$, RMSEA = .073 (90% CI [.065, .081]), CFI = .905, GFI = .915. All standardized factor loadings were ≥ .41 ($p < .001$). Cronbach's alphas for the Heritage and Mainstream subscales were .83 and .81, respectively. A comprehensive psychometric report of the VIA in this sample, including measurement invariance and item-level analyses, will be presented in a separate article.

**Data Collection Procedures and Quality Control**

Data were collected via an online survey platform. The survey link, accompanied by a brief description of the study, was distributed through various social media channels and messaging applications. The landing page presented the informed consent information; only after indicating consent could participants proceed to the questionnaire. The average completion time was approximately 25–35 minutes. Quality control measures included attention checks embedded within the survey and post-hoc screening for response patterns suggestive of inattentive or careless responding, as described in the sampling strategy.

**Statistical Analysis and Missing Data Management**

Analyses were conducted using SPSS 27 and AMOS 31. Descriptive statistics and Pearson correlations were computed for all study variables. Univariate normality was assessed through skewness and kurtosis indices; all variables fell within acceptable ranges (skewness < |2|, kurtosis < |3|; Kline, 2016). Multivariate normality was examined with Mardia's test; the significant result indicated a violation of this assumption. Consequently, the structural equation model (SEM) was tested with maximum likelihood estimation and bootstrap resampling (5000 samples) to derive robust standard errors and confidence intervals. Multicollinearity among the exogenous variables was ruled out (all tolerance values > .40, all VIF values < 2.50).

The hypothesized model included direct paths from all personality and self-regulatory variables to psychological distress, as well as indirect paths via the two acculturation dimensions. Model trimming proceeded in a stepwise fashion: non-significant structural paths ($p > .05$) were removed sequentially, and theoretically plausible error covariances between items from the same construct were added based on modification indices. Model fit was evaluated using multiple indices: the normed chi-square ($\chi^2/df$), the root mean square error of approximation (RMSEA) with its 90% confidence interval, the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the goodness-of-fit index (GFI). The final model retained only significant paths. For all mediation hypotheses, the significance of indirect effects was assessed via the product of the a and b paths, with the prerequisite that the b path (mediator to dependent variable) be statistically significant.

Regarding missing data, the online survey was configured to require responses to all items before submission, effectively preventing item-level missing data. The participant exclusions described earlier resulted in a complete dataset for the final sample of 356.

## Results

### Preliminary Analyses and Model Fit

Table 1 presents the descriptive statistics and bivariate correlations among all study variables. Psychological distress showed the strongest positive correlation with neuroticism (r = .74, p < .01) and the strongest negative correlations with integrative self-knowledge (r = –.70, p < .01), mindfulness (r = –.61, p < .01), and self-control (r = –.50, p < .01). Among the acculturation dimensions, mainstream orientation correlated negatively with distress (r = –.26, p < .01), while heritage orientation showed no significant association (r = –.06, p > .05).

The hypothesized structural model, encompassing all direct and indirect paths, was tested using SEM with.

Table1. Descriptive Statistics and Bivariate Correlations Among Study Variables (N = 356)

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Neuroticism | 30.71 | 8.94 | — | | | | | | | | | | |
| 2. Agreeableness | 40.23 | 5.44 | –.10 | — | | | | | | | | | |
| 3. Extraversion | 30.31 | 8.22 | –.17** | .43** | — | | | | | | | | |
| 4. Conscientiousness | 37.69 | 7.22 | –.27** | 0.08 | 0.03 | — | | | | | | | |
| 5. Openness | 38.04 | 5.78 | –.21** | .15** | .18** | .25** | — | | | | | | |
| 6. Mainstream Acculturation | 57.39 | 14.47 | –.24** | .11* | .17** | .20** | .11* | — | | | | | |
| 7. Integrative Self-Knowledge | 45.46 | 9.07 | –.62** | 0.09 | .15** | .34** | .49** | .25** | — | | | | |
| 8. Self-Control | 46.32 | 9.24 | –.46** | 0.07 | 0.02 | .66** | .32** | .19** | .52** | — | | | |
| 9. Mindfulness | 62.36 | 11.56 | –.56** | 0.05 | 0.09 | .38** | .31** | .22** | .62** | .56** | — | | |
| 10. Heritage Acculturation | 70.05 | 15.02 | –.04 | .39** | .24** | 0 | –.08 | –.03 | –.05 | –.01 | –.05 | — | |
| 11. Psychological Distress | 37.8 | 27.47 | .74** | –.16** | –.28** | –.33** | –.27** | –.26** | –.70** | –.50** | –.61** | –.06 | — |

Note. M = mean; SD = standard deviation;.* p < .05, ** p < .01.

maximum likelihood estimation and bootstrap resampling (5000 samples). Following a stepwise trimming procedure in which non-significant structural paths (p > .05) were removed and theoretically justified error covariances were added, the final model demonstrated satisfactory fit to the data. As shown in Table 2, the normed chi-square indicated excellent fit ($\chi^2/df = 1.98$), and the RMSEA fell within the range considered very good (RMSEA = .053, 90% CI [.049, .057]). The incremental fit indices fell slightly below the conventional .90 benchmark (CFI = .894, TLI = .885) and the GFI was marginal (.817). These values are considered acceptable given the model's substantial complexity—involving eight latent exogenous variables, multiple indicators per construct, and a relatively moderate sample size—but they nevertheless suggest that a more parsimonious or better-specified model might exist (Kline, 2016). Readers should therefore interpret the path estimates with appropriate caution pending replication in larger, independent samples.

Table2. Model Fit Indices for the Final Structural Model

| Fit Index | Acceptable Threshold | Obtained Value | Evaluation |
|---|---|---|---|
| $\chi^2$/df | < 3 | 1.98 | Excellent |
| RMSEA | < .08 | 0.053 | Excellent |
| CFI | ≥ .90 | 0.894 | Acceptable |
| TLI | ≥ .90 | 0.885 | Acceptable |
| GFI | ≥ .90 | 0.817 | Marginal |

Note. RMSEA = root mean square error of approximationCFI = comparative fit index; TLI = Tucker-Lewis index; GFI = goodness-of-fit index. Evaluation thresholds based on Kline (2016).

**Objective 1: Direct Effects of Personality and Self-Regulation on Psychological Distress**

The first objective was to examine whether the Big Five personality traits, integrative self-knowledge, mindfulness, and self-control directly predict psychological distress in a diverse sample of Iranian immigrants. Based on the theoretical framework, it was expected that neuroticism would be positively associated with distress, while the remaining personality and self-regulatory variables would show negative associations.

Table 3 presents the standardized path coefficients for all hypothesized direct effects in the final trimmed model. Four of the eight hypothesized direct paths were statistically significant. Neuroticism positively predicted psychological distress (β = .54, p < .001), emerging as the single strongest predictor in the model. Integrative self-knowledge negatively predicted distress (β = –.31, p < .001), representing the second-strongest predictor and the most powerful protective factor. Extraversion (β = –.16, p < .001) and self-control (β = –.13, p < .01) were also significant negative predictors of distress.

The paths from openness to experience, agreeableness, conscientiousness, and mindfulness to psychological distress were non-significant and were removed during model trimming. Thus, these four variables did not emerge as direct predictors of distress in the multivariate model. The non-significance of mindfulness is particularly noteworthy given its strong bivariate correlation with distress (r = –.61), and can be attributed to its shared variance with integrative self-knowledge (r = .62) and neuroticism (r = –.56).

Table3. Standardized Direct Effects on Psychological Distress in the Final Model

| Predictor | β | SE | 95% CI |
|---|---|---|---|
| Neuroticism | .54*** | 0.1 | [.43, .64] |
| Integrative Self-Knowledge | –.31*** | 0.1 | [–.43, –.19] |
| Extraversion | –.16*** | 0 | [–.24, –.08] |
| Self-Control | –.13** | 0 | [–.22, –.04] |
| Openness to Experience | — | — | — |
| Agreeableness | — | — | — |
| Conscientiousness | — | — | — |
| Mindfulness | — | — | — |

Note. β = standardized path coefficient; SE = bootstrap standard error; CI = bootstrap confidence interval. Dashes (—) indicate paths that were non-significant and removed during model trimming. ** p < .01, *** p < .001.

**Objective 2: Mediating Role of Acculturation Orientations**

The second and central objective was to test whether heritage and mainstream acculturation orientations

mediate the relationships between the personality/self-regulatory variables and psychological distress. I t was hypothesized that both acculturation dimensions would carry significant indirect effects, transmitting the influence of personality and self-regulation onto distress.

For a mediational pathway to be established, both the *a* path (predictor to mediator) and the *b* path (mediator to outcome) must be statistically significant. Table 4 displays the standardized coefficients for all *a* and *b* paths in the final model. Critically, after controlling for the direct effects of all personality and self-regulatory variables, neither heritage nor mainstream acculturation orientation significantly predicted psychological distress (both *b* paths non-significant, $p > .05$).

Consequently, these paths were removed during model trimming. The absence of significant *b* paths precluded any indirect effects, and none of the hypothesized mediational pathways were supported.

**Table4. Standardized Path Coefficients for the Hypothesized Mediation Pathways in the Final Model**

| Predictor → Mediator → Outcome | *a* path (β) | *b* path (β) | Indirect Effect |
|---|---|---|---|
| Neuroticism → Mainstream → Distress | –.24*** | — | Not supported |
| Neuroticism → Heritage → Distress | — | — | |
| Extraversion → Mainstream → Distress | .17** | — | |
| Extraversion → Heritage → Distress | .14* | — | |
| Openness → Mainstream → Distress | — | — | |
| Openness → Heritage → Distress | –.21*** | — | |
| Agreeableness → Mainstream → Distress | — | — | |
| Agreeableness → Heritage → Distress | .47*** | — | |
| Conscientiousness → Mainstream → Distress | .19** | — | |
| Conscientiousness → Heritage → Distress | — | — | |
| ISK → Mainstream → Distress | — | — | |
| ISK → Heritage → Distress | — | — | |
| Mindfulness → Mainstream → Distress | — | — | |
| Mindfulness → Heritage → Distress | — | — | |
| Self-Control → Mainstream → Distress | — | — | |
| Self-Control → Heritage → Distress | — | — | |

Note. ISK = Integrative Self-Knowledge. Dashes (—) in the *a* path column indicate paths that were non-significant and removed. Dashes in the *b* path column indicate that the mediator-to-outcome path was non-significant and removed; all *b* paths were non-significant, precluding any indirect effects.* $p < .05$, ** $p < .01$, *** $p < .001$.

Despite the failure of the mediational chains to complete, several *a* paths—representing the influence of personality on acculturation orientations—were significant and are worth noting. Neuroticism negatively predicted mainstream acculturation ($\beta = –.24$, $p < .001$). Extraversion positively predicted both mainstream ($\beta = .17$, $p < .01$) and heritage ($\beta = .14$, $p < .05$) orientations. Conscientiousness positively predicted mainstream orientation ($\beta = .19$, $p < .01$). Agreeableness was the strongest predictor of heritage orientation ($\beta = .47$, $p < .001$). Openness to experience negatively predicted heritage orientation ($\beta = –.21$, $p < .001$). Integrative self-knowledge, mindfulness, and self-control showed no significant paths to either acculturation dimension after controlling for the other variables.

*Final Structural Model.* Figure 1 displays the final trimmed structural model with standardized path coefficients. For visual clarity, only significant structural paths are shown; non-significant paths and correlations among the exogenous variables are omitted. The model provides a clear visual summary of the study's central findings: psychological distress is directly predicted by a set of deep-seated personality and self-regulatory variables, while acculturation orientations—though themselves

shaped by personality—do not serve as conduits of these effects onto mental health.

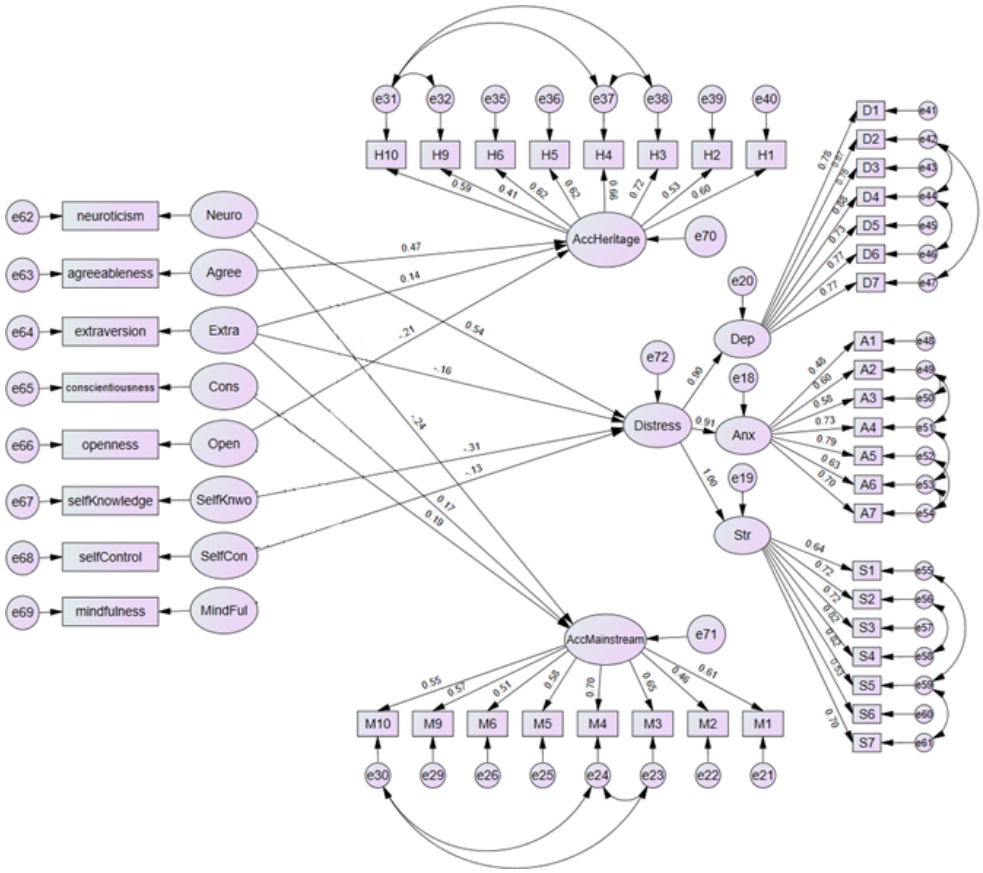


**Figure 1 Final Structural Equation Model with Standardized Path Coefficients.**

**Only significant structural paths (p < .05) are displayed. Correlations among exogenous variables are omitted.**

## Discussion

This study tested a comprehensive theoretical model examining the direct and indirect (acculturation-mediated) paths linking personality and self-regulatory capacities to psychological distress in a large, geographically diverse sample of Iranian immigrants. The findings offer a nuanced and, in certain respects, unexpected picture of the determinants of immigrant mental health.

**Direct Effects: The Primacy of Personality and Self-Knowledge**

The direct pathways revealed a clear hierarchy of predictors. Neuroticism was the single strongest predictor of psychological distress, consistent with decades of research identifying this trait as a transdiagnostic vulnerability factor for mood and anxiety disorders (Kotov et al., 2010; Tyrer et al., 2022). In the migration context, where individuals face chronic and varied stressors—language barriers, discrimination, loss of social networks, and cultural dislocation (Amini et al., 2022)—the tendency to experience heightened negative affect, to perceive events as more threatening (Luo et al., 2023), and to employ maladaptive emotion regulation strategies (Barańczuk, 2019) may become particularly deleterious. Our finding that neuroticism remained the dominant predictor even when an extensive battery of other personality and self-regulatory variables was simultaneously entered underscores its foundational role in immigrant mental health.

Equally important, integrative self-knowledge emerged as the most powerful protective factor,

surpassing extraversion and self-control in its negative association with distress. This finding extends prior work on the ISK construct (Ghorbani et al., 2008; Hajifathali et al., 2021) into the migration domain. Integrative self-knowledge—a construct developed in Iranian cultural contexts—captures the capacity to synthesize experiences across past, present, and future into a coherent self-narrative, precisely the psychological resource needed when migration disrupts biographical continuity and challenges established identities. Immigrants high in integrative self-knowledge may be better able to frame the migration experience not as a rupture or a loss, but as a meaningful chapter within an ongoing life story, drawing on culturally familiar modes of self-reflection to protect against the identity confusion and alienation that can fuel psychological distress (Berry, 1997). The fact that it retained its predictive power even when controlling for neuroticism's substantial variance further suggests that it is not merely the inverse of emotional instability, but a distinct and complementary resource.

The significant protective roles of extraversion and self-control, though more modest in magnitude, align well with existing literature. Extraversion's association with lower distress likely operates through multiple mechanisms, including a greater propensity to form new social networks and thereby access social support (Valenzuela & Rogers, 2021), a tendency to experience more positive affect (Costa & McCrae, 1980), and the use of more adaptive coping strategies (Barańczuk, 2019). Self-control, as a foundational self-regulatory capacity, may help immigrants manage the daily challenges of acculturation—resisting maladaptive coping behaviors, pursuing long-term adaptive goals such as language learning or professional re-establishment, and regulating emotional reactions to setbacks (Tangney et al., 2004; Moffitt et al., 2011).

The non-significance of openness, agreeableness, conscientiousness, and mindfulness in the final model warrants careful interpretation. For openness and agreeableness, prior meta-analytic evidence already indicates inconsistent direct associations with depression at the broad factor level (Kotov et al., 2010), and facet-level analyses reveal that different sub-components of these traits can exert opposing effects on mental health (Lyon et al., 2021). In the migration context, openness may present a particularly complex picture: it can facilitate intercultural social self-efficacy (Mak & Tran, 2001), yet also heighten sensitivity to cultural conflict and acculturative stress (Ramdhonee & Bhowon, 2012), potentially resulting in a null net effect on distress. For conscientiousness, its strong bivariate correlation with self-control ($r = .66$) suggests that its variance in predicting distress was largely captured by self-control in the multivariate model. The non-significance of mindfulness, despite its substantial bivariate correlation with distress ($r = –.61$), reflects its shared variance with integrative self-knowledge ($r = .62$) and neuroticism ($r = –.56$). This pattern supports the multi-process self-regulation model (Ghorbani et al., 2014), in which mindfulness (providing raw experiential awareness) may require integrative self-knowledge (providing a meaning-making framework) to exert its full protective effects on mental health. In a complex and disorienting context such as migration, simply attending to the present moment may not be sufficient without a coherent narrative structure within which to organize those experiences.

**The Failure of Acculturation as a Mediator: A Critical Null Finding**

Perhaps the most theoretically significant result of this study is the complete failure of acculturation orientations to mediate any of the personality–distress relationships. After controlling for the powerful direct effects of personality and self-regulatory variables, neither heritage nor mainstream acculturation orientation was significantly associated with psychological distress. This finding challenges a central assumption within the acculturation

literature—namely, that the cultural strategies immigrants adopt are proximal determinants of their mental health.

How can we reconcile this null finding with the substantial body of research documenting associations between acculturation strategies and well-being (Berry, 1997; Choy et al., 2020)? Several explanations are plausible. The most parsimonious is that the frequently observed bivariate relationship between acculturation and mental health is, to a substantial degree, spurious, reflecting the confounding influence of underlying personality traits. In our bivariate analyses, mainstream acculturation did correlate negatively with distress ($r = –.26$). However, this association vanished once neuroticism and integrative self-knowledge were entered into the model. This pattern suggests that individuals with higher emotional stability and greater self-knowledge are simultaneously more inclined to engage with the mainstream culture *and* experience lower distress. It is not the cultural engagement *per se* that reduces distress, but rather the inner resources that facilitate both. This interpretation aligns with the person-environment interaction perspective: stable, self-aware individuals navigate any environment, including a new culture, more adaptively.

A second possibility is that the relationship between acculturation and mental health is not linear, but interactive, as Berry's (1997) original bidimensional model implies. It may be the *combination* of heritage and mainstream orientations—resulting in strategies such as integration, assimilation, separation, or marginalization—that predicts well-being, rather than either dimension alone. Our dimensional approach, while methodologically advantageous, may have failed to capture these interactive effects. Future research should test whether acculturation *strategies* mediate personality–distress links where separate *dimensions* do not.

Third, the highly educated nature of our sample (over 72% holding graduate degrees) and their relatively long average residence duration (5.25 years) may have restricted the range of acculturative stress experienced. As Choy et al. (2020) noted, higher education and language proficiency can buffer the negative effects of acculturation challenges. In a sample facing more severe structural barriers—such as refugees, asylum seekers, or low-skilled labor migrants—acculturation orientations might exert a stronger influence on mental health.

**Personality Traits and Acculturation Orientations**

Although the mediational chains were incomplete, the significant *a* paths between personality and acculturation orientations are consistent with prior research (Valenzuela & Rogers, 2021) and provide insight into the personality profiles associated with different cultural engagement patterns. Neuroticism's negative association with mainstream orientation aligns with the notion that emotional instability impedes engagement with a novel cultural environment. Extraversion's positive associations with both heritage and mainstream orientations suggest that sociability and positive emotionality drive broader cultural engagement in general, regardless of the cultural target. Agreeableness's strong positive prediction of heritage orientation is intriguing: highly agreeable individuals, characterized by loyalty, cooperation, and valuing of relationships, may be particularly committed to preserving the cultural traditions and values of their family and community of origin. Conscientiousness's positive association with mainstream orientation may reflect a dutiful, planful approach to the tasks of acculturation, treating engagement with the host culture as a goal to be systematically pursued.

**Study Strengths and Critical Limitations**

This study possesses several notable strengths that lend credibility to its findings. First, it draws on a relatively large and geographically diverse sample of Iranian immigrants residing in 30 countries across six continents, a population that remains underrepresented in acculturation and mental health research. This diversity enhances the generalizability

of the findings beyond single-country immigrant samples. Second, the study employed a comprehensive and theoretically integrative model that simultaneously examined the Big Five personality traits alongside three self-regulatory capacities—integrative self-knowledge, mindfulness, and self-control—permitting a nuanced assessment of their unique contributions. Third, the use of structural equation modeling with bootstrap resampling allowed for a rigorous test of both direct and indirect pathways while accounting for violations of multivariate normality. Fourth, the study provides the first psychometric evaluation of the Vancouver Index of Acculturation in an Iranian immigrant sample, yielding a refined 16-item instrument with acceptable reliability and factorial validity for future research with this population.

These strengths must be weighed against several critical limitations. First, the cross-sectional design precludes causal inferences. Although the structural model was grounded in established theory, reverse causation or reciprocal dynamics cannot be ruled out; for instance, elevated psychological distress may inflate self-reports of neuroticism or erode self-regulatory capacities over time. Second, the sample, while geographically diverse, was recruited through convenience sampling and comprised predominantly highly educated immigrants (over 72% holding graduate degrees) and women (70.8%). Iranian immigrants with lower educational attainment, refugees, asylum seekers, and labor migrants—groups likely to face more severe acculturative stressors and structural barriers—were underrepresented. Consequently, the findings may not fully generalize to these more vulnerable segments of the Iranian diaspora. Third, the exclusive reliance on self-report measures introduces the potential for shared method variance and social desirability biases, particularly for constructs that share an introspective, evaluative component. Fourth, the refinement of the VIA, although empirically justified by modification indices and consistent with prior cross-cultural psychometric work (Testa et al., 2019; O'Donald & Calia, 2025), was conducted within the same sample used to test the substantive model. The 16-item version therefore requires cross-validation in an independent sample of Iranian immigrants. Finally, the model focused narrowly on acculturation orientations as the sole mediators, leaving several potentially important mechanisms—such as perceived social support, everyday discrimination, acculturative stress, and transnational connections—unexamined.

**Implications and Future Directions**

The findings of this study carry significant implications for both theory and practice. At the theoretical level, the complete failure of acculturation orientations to mediate the personality–distress relationship challenges a core assumption within the acculturation literature. The results suggest that *who the immigrant is*—their baseline emotional stability, their capacity for coherent self-understanding, their sociability, and their self-regulatory discipline—matters considerably more for psychological well-being than the specific cultural strategies they adopt. This is not to suggest that acculturation is irrelevant; rather, its influence may be more indirect, context-dependent, or interactive than prevailing linear models assume. Theorists should consider whether acculturation functions primarily as a moderator—amplifying or buffering the effects of personality—or as an outcome in its own right, rather than as a proximal mediator of mental health.

At the practical level, the robust protective role of integrative self-knowledge highlights it as a particularly promising target for intervention. Programs designed to help immigrants construct a coherent narrative of their migration experience—linking past, present, and future into a meaningful whole—may prove more effective in promoting mental health than programs focused solely on cultural adaptation skills or behavioral acculturation. Narrative therapy techniques, acceptance and commitment therapy, and structured life-story

interventions could be adapted for immigrant populations. The dominant role of neuroticism further underscores the importance of screening for emotional instability and providing targeted stress management and emotion regulation training to vulnerable individuals. Given that self-control was an independent predictor, interventions aimed at strengthening self-regulatory skills—such as goal-setting, planning, and impulse management—may also yield tangible mental health benefits for immigrants.

Looking ahead, several directions for future research emerge directly from the present findings and limitations. Longitudinal panel studies that track Iranian immigrants prospectively—ideally from the pre-migration phase through multiple post-settlement waves—are essential for disentangling the temporal dynamics among personality, acculturation, and psychological distress. Future studies should deliberately oversample underrepresented subgroups, including refugees, asylum seekers, and labor migrants, to determine whether acculturation orientations exert stronger effects in populations facing more severe structural barriers. Multi-method approaches, incorporating clinician-administered interviews, collateral reports, and behavioral or physiological indicators, would help mitigate shared method variance. Cross-validation of the refined 16-item VIA in an independent Iranian immigrant sample, with full measurement invariance testing, is a priority for psychometric research. Notably, given the failure of acculturation orientations to mediate personality–distress links, future work should prioritize testing moderation models in which acculturation strategies (the interaction of heritage and mainstream orientations) amplify or buffer the effects of personality on mental health, rather than serving as a conduit for these effects. Moreover, more elaborate moderated mediation models should also be tested, incorporating social support, perceived discrimination, acculturative stress, and transnational connections as additional pathways. Randomized controlled trials evaluating whether interventions that enhance integrative self-knowledge produce measurable improvements in immigrant mental health would provide the strongest test of the practical implications suggested by these findings.

In sum, this study provides the first integrative test of a model linking personality traits, self-regulatory capacities, and acculturation orientations to psychological distress in Iranian immigrants. Neuroticism was the strongest risk factor, while integrative self-knowledge emerged as the most powerful protective resource, exceeding extraversion and self-control. Critically, acculturation orientations did not mediate these relationships; all indirect paths were nonsignificant. These findings challenge conventional models that place acculturation strategies at the center of immigrant well-being and indicate instead that who the immigrant is—their emotional stability, self-knowledge, and self-regulation—matters more than the specific cultural choices they make. Ultimately, the mental health of Iranian immigrants, and perhaps of immigrants more broadly, may depend less on the culture they embrace and more on the self they bring.

## Ethical Considerations

**Compliance with ethical guidelines:** This article is derived from the master's thesis of the first author in clinical psychology at the Faculty of Psychology, University of Tehran. The study was conducted in full compliance with the ethical principles of the Declaration of Helsinki (World Medical Association, 2024). Participation was entirely voluntary and anonymous; informed consent was obtained from all individual participants prior to data collection. Participants were assured of the confidentiality of their personal information and that results would be reported solely at the group level without any identifying details.

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**Authors' contribution:** The first author designed the study, collected the data, and drafted the manuscript. The second author was the supervisor, the third was the advisor, and the fourth contributed as a statistical consultant. All authors reviewed and approved the final manuscript.

**Conflict of interest:** The authors declare no conflict of interest.

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