



DEPARTMENT of PSYCHOLOGY

***Who is Adapting to a New Culture? Unmasking How
Personality Traits Predict Acculturation Among
Non-Western Immigrants in Sweden***

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Abstract

Using data from 159 participants ($M_{age} = 27.11$ years; $SD = 6.47$; 55% men), we investigate the relationships between personality traits, acculturation towards heritage and mainstream culture, and sociocultural adaptation among non-Western immigrants in Sweden. A series of regression analyses have shown conscientiousness and agreeableness significantly related to heritage culture identification, while emotionality was associated with mainstream culture identification. Moreover, acculturation towards mainstream culture positively predicts sociocultural adaptation. These findings suggest that personality traits influence cultural identification and processes of integration, thereby improving our understanding of immigrants' adaptation process.

Keywords: Acculturation, heritage-mainstream culture, immigrants, personality traits

Who is Adapting to a New Culture? Unmasking How Personality Traits Predict Acculturation Among Non-Western Immigrants in Sweden

Over the past two decades, Europe has experienced a significant influx of immigrants from the Middle East and North Africa, primarily due to conflicts and political instability in countries such as Afghanistan, Iraq, Syria, and the Maghreb region (Kislev, 2018; Van Mol & De Valk, 2016). In 2015 approximately 1.5 million migrants sought asylum, mainly in Germany, Hungary, and Sweden (Pew Research Center, 2016). This large-scale migration has resulted in changes to the ethnic and sociocultural composition of many European nations (Davidov & Semyonov, 2017), making the integration of immigrants into host countries like Sweden an important issue (Nekby, 2013).

In response to these challenges, policymakers have implemented public policies, promoting integration in various domains, such as employment, education, health, social inclusion, and active citizenship within the host country (Bijl & Verweij, 2012). Fedi et al. (2019) argued that government policy exhibits a tendency to treat immigrants as a homogeneous group, assuming that their experiences with acculturation and adaptation will be identical or similar.

However, research indicated that immigrants' experiences with acculturation and adaptation were far from uniform (Berry, 1997; Ryder et al., 2000; Ward & Kennedy, 1994). Some immigrants may integrate more smoothly into their host societies, while others may struggle. For example, the research found that Turkish immigrants residing in Sweden tend to choose to stay within their segregated and enclosed communities (Bayram et al., 2009).

One possible explanation for these differing experiences may lie in individual differences. As Berry (1997) argued, immigrant integration is linked to acculturation, a process that individual factors can influence. Studies conducted on acculturation have demonstrated the significant role of personality traits in their relation to cultural identification

and sociocultural adaptation. For instance, Ryder et al. (2000) found that heritage culture identification was associated with lower neuroticism and higher conscientiousness.

Personality traits such as conscientiousness, extraversion, and agreeableness were associated significantly and positively with sociocultural adaptation (Wilson et al., 2013).

Despite these findings, there is an inadequacy of research examining the influence of personality traits on the acculturation process in the Swedish context. This gap is significant as understanding these influences could inform more effective and specific policies for immigrants, thereby facilitating more seamless integration.

Therefore, this study aims to address the research question: How do personality traits influence the cultural identification of non-Western immigrants in Sweden, and how do these factors affect their sociocultural adaptation? Given that many immigrants in Sweden originate from Muslim countries like Syria, Iraq, and Afghanistan (Sweden Statistics, 2023), this study will also consider religious aspect of the acculturation process. Past research found that higher religiosity was linked to lower acculturation toward mainstream culture (Friedman & Saroglou, 2010). This study plans to investigate the underlying patterns and relationships among variables relying on exploratory research utilizing quantitative data.

By exploring the relationship between culture identifications, personality traits, and sociocultural adaptation, this study is anticipated to contribute to the existing body of knowledge by providing an in-depth understanding of the personality traits influencing the acculturation process for non-Western immigrants in Swedish contexts.

Theoretical Framework

This section offers a comprehensive overview of the acculturation theory, personality traits, and sociocultural adaptation about immigrants, thereby enhancing contextual understanding. Initially, the section delves into a study of acculturation theory through a review of relevant literature, focusing primarily on mainstream and heritage culture identification. Subsequently, the discussion shifts to the relationship between personality

traits, acculturation, and sociocultural adaptation. The role of age, gender, length of residence, and religious aspect of acculturation will also be elucidated.

Acculturation

Acculturation refers to the process in which individuals from diverse cultures engage in continuous, firsthand contact, leading to the adaptation of their cultural patterns (Redfield et al., 1936). Psychologists introduced the concept of psychological acculturation, emphasizing that individuals undergo changes in behaviors and underlying psychological traits, including attitudes, values, and motivations (Graves, 1967). In psychology, acculturation pertains to the cultural and psychological adjustments that result from continuous contact between individuals from different cultural backgrounds (Berry, 2006). Researchers believe that individuals can adopt various values and behaviors from the mainstream culture without necessarily relinquishing their heritage culture, known as the bidimensional model of acculturation (Berry, 1990; Ryder et al., 2000).

The bidimensional model has gained widespread acceptance among acculturation researchers and is viewed as a more valid and useful way to operationalize acculturation (Capielo Rosario et al., 2019; Huynh et al., 2009; Lefringhausen & Marshall, 2016; Ryder et al., 2000). Specifically, Ryder et al. (2000) emphasized the importance of investigating how strongly individuals identify with their heritage and mainstream cultures to understand acculturation.

Redfield et al. (1936) posited that psychological factors, such as the role of individuals in groups and personality types, influenced the acculturation process. Recent studies have shown the association between acculturation and factors such as personality (Swagler & Jome, 2005; Zhang et al., 2010), sociocultural adaptation (Ataca & Berry, 2002; Ward & Rana-Deuba, 1999), demographic factors (Cheung et al., 2011; Goforth et al., 2014) and religiosity (Friedman & Saroglou, 2010; Güngör et al., 2012).

Acculturation and Personality traits

The relationship between acculturation and personality has been a long-standing interest for sociologists and anthropologists (Gillin & Raimy, 1940; Redfield et al., 1936). Before the rapid development of the Five Factor Model (FFM) of personality traits in psychology, researchers explored the potential links between acculturation and various individual traits such as self-esteem, motivation, and coping strategies (Kosic, 2006).

The popularity of the FFM personality traits (Costa & McCrae, 1992) has influenced acculturation research. Schmitz (1994) sought a more nuanced understanding of risk and protective factors in acculturation by investigating the role of the Big Five dimensions and other personality characteristics. The study revealed that individuals might use different acculturation strategies based on their scores on specific personality factors. Extraversion, emotional stability, sociability, agreeableness, sensation seeking, and open-mindedness were positively associated with integration, while neuroticism, aggression, impulsivity, anxiety, and field dependence were negatively correlated. More open-minded and flexible individuals were shown to be more inclined to integrate into society. Those with stable emotions and low anxiety levels seemed to find integration easier, likely because emotionally stable individuals tend to have better self-acceptance (Costa & McCrae, 1992).

Ryder et al. (2000) argue that heritage culture identification was associated with lower neuroticism and higher conscientiousness, while mainstream culture identification correlated with higher conscientiousness, extraversion, and openness. Conversely, Panicacci and Dewaele (2017) found that heritage culture was negatively associated with flexibility and emotional stability, while mainstream culture was positively correlated with cultural empathy, social initiative, and open-mindedness. A meta-analysis by Schmitz and Schmitz (2022) found integration linked to low neuroticism and high levels of extraversion, openness, agreeableness, and conscientiousness.

Concerning HEXACO personality traits, the honesty-humility factor offers an advantage over FFM (Ashton & Lee, 2008). Honesty-humility factor empirically predicts various outcomes related to ethical, moral, and prosocial attitudes and behaviors, which FFM has not been able to predict (De Vries et al., 2009). Ashton and Lee (2008) argue that low honesty-humility characterizes a poorly socialized individual with a strong inclination toward antisocial activities. Thus, it is plausible that immigrants who exhibit higher levels of honesty-humility may be more inclined to engage in cooperative behavior and adhere to established societal standards of mainstream culture (Hilbig et al., 2014). Therefore, we believe that the HEXACO personality traits may have a meaningful association with acculturation among immigrants in Sweden.

Acculturation and Sociocultural adaptation

The impacts of acculturation on cross-cultural adaptation have been studied in the past (Berry & Sam, 1997; Ward & Kennedy, 1994). Acculturation researchers have identified two distinct yet interrelated aspects of cross-cultural adaptation: sociocultural adaptation and psychological adaptation (Searle & Ward, 1990). Sociocultural adaptation involves developing culturally relevant competencies and demonstrating adaptive behaviors in unfamiliar social contexts, while psychological adaptation is heavily influenced by an individual's psychological and physical well-being (Schmitz, 1994; Ward & Kennedy, 1999). To assess a person's level of sociocultural adaptation, self-reported difficulties in social interactions and completing routine tasks are often used (Wilson et al., 2017). Moreover, various indicators, such as behavioral issues, academic performance, and social skills, have been employed to measure sociocultural adaptation (Sam & Berry, 2010).

Ouarasse and van de Vijver (2005) suggested that acculturation attitudes directly predicted sociocultural adaptation in a sample of second-generation immigrants of Moroccan parentage living in the Netherlands. School and work success served as indicators of sociocultural adaptation, with greater success in these areas correlating to better sociocultural

adaptation levels. The results indicated that positive attitudes towards both heritage and mainstream cultures positively affected school and work success. In other words, immigrants who maintain their cultural heritage while actively participating in the larger society tend to experience better sociocultural adaptation. These findings are consistent with other studies, which report that integration is associated with improved psychological and sociocultural adaptation (Liebkind, 2006; Sam et al., 2006). Supporting these findings, Masgoret & Ward (2006) argue that involvement in heritage and mainstream cultures leads to more positive outcomes.

According to research, studying acculturation, particularly heritage and mainstream culture identification, is crucial for understanding immigrants' sociocultural adaptation in Sweden. As previous studies have demonstrated, positive attitudes towards both heritage and mainstream cultures can lead to better sociocultural adaptation, as indicated by success in school, work, and social integration (Ouarasse & van de Vijver, 2005; Liebkind, 2006; Sam et al., 2006). By examining these aspects of acculturation in the Swedish context, we might contribute valuable insights into the factors that promote successful integration and adaptation of immigrants in Sweden.

Personality and Sociocultural Adaptation

The primary emphasis in examining the association between personality and sociocultural adaptation revolves around identifying specific personality traits that facilitate adaptation to novel cultural environments, necessitating acquiring new knowledge and competencies (Van der Zee & Van Oudenhoven, 2013). Underpinning this perspective is the theoretical premise that an individual's personality attributes significantly impact interpersonal behavior (Costa & McCrae, 1992).

For example, Tam (2008) posited that extroverted individuals exhibit increased proactivity in initiating interactions and soliciting feedback, constituting optimal strategic behaviors for acquiring culture-specific expertise. Furthermore, she argued that agreeable

individuals possess enhanced opportunities for social learning, as their interaction styles tend to elicit more favorable responses. Characterized by a proclivity for exploring novel activities, ideas, and experiences, openness predisposes individuals to pursue new experiences rather than adhere to routines or traditions (McCrae & Greenberg, 2014). These traits are essential in facilitating sociocultural adaptation among immigrant populations (Wilson et al., 2013).

Personality traits were associated with sociocultural adaptations among immigrants (Lee & Ciftci, 2014; Wilson et al., 2013; Ward et al., 2004). Researchers found that sociocultural adaptation is associated with greater extraversion and less neuroticism, and in the case of Singaporean students in Australia, it was also associated with greater agreeableness and Conscientiousness (Ward et al., 2004). Another study found that conscientiousness was an important predictor of expatriate job performance (Mol et al., 2005). Recent meta-analyses indicate that Conscientiousness, Extraversion, and Agreeableness were significantly and positively associated with Sociocultural Adaptation (Wilson et al., 2013).

Unfortunately, there has not been much research on sociocultural adaptation with a sample of immigrants aiming to settle in a host country, as it was known that studies on sociocultural adaptation mostly used samples of international students who were currently studying in a host country (Brisset et al., 2010; Lee & Ciftci, 2014; Ward et al., 2004). In addition, as far as we were concerned, there were still very few researchers using six models of personality traits approach. Most research on this topic uses FFM for assessing personality. Further investigation is needed to determine the relationship between HEXACO personality traits and sociocultural adaptation among Swedish immigrants.

The Role of Age, Gender, Length of Residence, and Religious Aspects on Acculturation

Research has demonstrated that age, gender, and length of residence influence acculturation (Cheung et al., 2011; Ouarasse & van de Vijver, 2005; Kuo & Roysircar, 2004;

Zlobina et al., 2006). Immigrants with longer residence in a host culture were more likely to seek contact and engage with mainstream culture (Zlobina et al., 2006). Higher levels of acculturation were associated with migrating at a younger age and residing in the host country for an extended period (Kuo & Roysircar, 2004). A study in a Muslim immigrant population found that young females exhibited a higher positive appreciation toward mainstream culture (Ouarasse & van de Vijver, 2005).

Investigation of Muslim immigrant populations indicated that the religious aspect impacts acculturation. A consistent pattern emerged across multiple empirical studies, wherein increased levels of religiosity were positively associated with a strong orientation towards heritage culture and negatively correlated with acculturation to the mainstream culture (Friedman & Saroglou, 2010; Gattino et al., 2016; Goforth et al., 2014). According to Goforth et al. (2014), Arab-American Muslims with higher religiosity were more immersed in their ethnic culture.

With respect to individual differences, various scientific studies have demonstrated the influence of personality traits on acculturation and the incorporation of religious beliefs into daily lives (Van der Zee et al., 2016; Saroglou, 2010). Specifically, agreeableness and conscientiousness appear to predict rather than be influenced by religiousness (Saroglou, 2010). Another study found a strong religious identity related to higher affiliation with ethnic groups (Dimitrova et al., 2014). In other words, we argue that religiosity may mediate the relationship between personality and acculturation. For instance, individuals with high levels of conscientiousness may be more able to preserve their religiosity (Saroglou, 2010), thus fostering stronger heritage culture identification (Ryder, 2000). Therefore, we believe the importance of considering the aforementioned factors when examining acculturation in this study.

The present study

To the best of our knowledge, no research has been conducted to investigate the impact of individual differences on acculturation among immigrants in Sweden. Specifically, the role of personality traits as individual factors explains the adaptation and integration process.

The present study will examine the relationship between personality traits, heritage and mainstream culture identifications, and sociocultural adaptation in shaping immigrants' acculturation processes among non-Western immigrants in Sweden. Additionally, we will explore the potential mediating role of religiosity in the relationship between personality traits and immigrants' cultural identifications. More specifically, we propose four specific questions for this study:

1. What are the linear relationships between immigrants' heritage-mainstream culture identifications, personality traits, and sociocultural adaptation?
2. To what extent do personality traits predict immigrants' heritage-mainstream culture identifications?
3. Does religiosity mediate the relationship between personality traits and immigrants' heritage-mainstream culture identifications?
4. To what extent do personality traits and heritage-mainstream culture identifications predict immigrants' sociocultural adaptation?

Method

Participants

The recruitment of study participants was carried out between February and March 2023. The target population of this study was non-Western immigrants who lived in Sweden. The study required participants to be 18 years or older, provide informed consent, describe themselves from non-Western countries, and reside in Sweden for at least five years. The sample size for this study was determined through power analysis using G*power (Faul et al.,

2009). The analysis with G*Power revealed a minimum sample size of $N = 98$ for a medium effect size of Cohen's $f^2 = 0.15$, 80% power, and a .05 one-tailed significance level.

Initially, 224 people participated in the survey; 49 merely filled out their demographic information and skipped the rest of the questionnaire. Thus, 175 participants remained; however, only 166 completed at least 75% of their responses. After removing seven participants that did not fulfill the inclusion criteria, our final sample consisted of $N = 159$.

Table 1

Demographic Characteristics of the Participants (N=159)

Characteristic	N	Percentage
Gender		
Male	88	55.3
Female	71	44.7
Age		
18-20	23	14.5
21-25	54	34
26-30	38	23.9
31-35	33	20.8
36-40	7	4.4
Above 40	4	2.5
Length of residence in Sweden		
5-10	29	17.8
11-15	29	17.8
16-20	57	35
21-25	40	24.5
26-30	4	2.5
31-35	3	1.9
Above 35	1	.6
Religion		
Islam	100	62.9
Hindu	3	1.9
Christian	16	10.1
Other	8	5
Prefer not to answer	32	20.1

Participants identified their countries of origin as the following from the range of options Middle East (112; 70.4%), North Africa (13; 8.2%), Central/Southern Africa (3; 1.9%), Central/South Asia (4; 2.5%), and East/Southeast Asia/Pacific (27; 17%). The age of the participants ranged from 18 to 55 years of age ($M_{age} = 27.11$, $SD = 6.47$); the sample consisted of 88 men (55.3%) and 71 women (44.7%). As many as 113 participants (71.1%) reported were born outside Sweden, and the remaining 46 participants (28.9%) were born in Sweden. Most respondents (87.4%) reported that they were comfortable or very comfortable speaking in English, and as much as 12.6% reported either uncomfortable or very uncomfortable with English. The length of residence of participants in Sweden ranged from 5 to 38 years ($M_{residence} = 17.32$, $SD = 6.01$). The three largest native cultures reported were Afghan (30.8%), Syrian (14.5%), and Iraqi (10.7%). See Table 1 for the detail's other characteristics of the sample in this research.

Materials and Procedures

An online survey was created using Qualtrics (<https://www.qualtrics.com>). Three standardized measures and a related demographic questionnaire comprised the survey. The demographic questionnaire and all instruments were in English. We gathered basic information, including language proficiency, age, gender, place of birth, age at migration, country of origin, religion, and religiosity. Religiosity was assessed by the question, “*Within 0-10, what is your level of religiosity in general?*” using a scale running from 0 to 10. In this study, we calculated the length of residence by subtracting respondents’ age of arrival in Sweden from their current age.

The Brief HEXACO Inventory (BHI)

The Brief HEXACO Inventory is a personality assessment tool designed to measure the six dimensions of personality as proposed by the HEXACO model of personality: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to Experience (De Vries, 2013). This inventory comprises 24 items, each of the six

dimensions measured by four items. Respondents indicate their agreement with each statement on a 5-point Likert scale ranging from “*strongly disagree*” to “*strongly agree*.” In their study, De Vries (2013) reported alpha reliabilities for the BHI ranged between .43 and .72. Even though the BHI has relatively low alpha reliability, its domain scales demonstrated (1) appropriate test-retest stability, (2) adequate levels of self-other agreement, and (3) high convergent correlations with the HEXACO-PI-R (4) low levels of validity loss (5) High levels of convergence between the HEXACO-PI-R and BHI correlations with external variables (De Vries, 2013). The present study’s BHI yielded an alpha coefficient for the HEXACO variables: .50 (Honesty-Humility), .59 (Emotionality), .50 (Extraversion), .44 (Agreeableness), .46 (Conscientiousness), and .45 (Openness to Experience).

The Vancouver Index of Acculturation (VIA)

The instrument utilized to assess acculturation in this study was the Vancouver Index of Acculturation (Ryder et al., 2000). This instrument is comprised of a questionnaire with 20 items, each rated on a scale from one to nine. High scores in the heritage subscale signify a higher level of cultural preservation, while high scores in the mainstream subscale demonstrate greater assimilation into the new culture. Ryder et al. (2000) reported the reliability of the alpha Cronbach heritage and the mainstream dimension above .90 and .80, respectively. In this study, we made several modifications to the instrument. We changed the items in the mainstream dimension to suit the Swedish cultural context.

For example, in the item “*I often participate in mainstream American cultural traditions,*” we changed it to “*I often participate in mainstream Swedish cultural traditions.*” Specifically, for the item “*I would be willing to marry a white American person,*” we modified it to “*If single, I would be willing to marry a white Swedish person.*” This was intended so that married participants could still relate to the question. Then, we revised the response items from nine-point to a traditional five-point Likert scale, ranging from “*strongly disagree*” to “*strongly agree*.” Simms et al. (2019) found that no improvements in

psychometric precision were identified beyond six response options. The reliability analysis in the present study yielded alpha coefficients of .89 and .83 for the heritage and mainstream dimensions, respectively.

The Sociocultural Adaptation Scale Revised (SCAS-R)

The Sociocultural Adaptation Scale Revised is a self-report questionnaire designed to assess an individual's cultural competencies when someone moves to a new cultural environment. Ward And Kennedy (1999) originally developed SCAS to evaluate sociocultural adaptation. Wilson (2013) developed SCAS-R to overcome several shortcomings of prior sociocultural adaptation measures. The SCAS-R contains 19 items that measure four adaptation domains: Interpersonal Communication, Academic/Work Performance, Personal Interests & Community Participation, and Ecological Adaptation. Then, she added two language-related items to evaluate proficiency with the host language, bringing the total number of items to 21. Respondents rate their degree of competency on a five-point Likert scale, ranging from “*not at all competent*” to “*extremely competent*.” The SCAS-R has been found to have good reliability with an overall alpha coefficient of .92 (Wilson, 2013). The overall alpha coefficient we obtained in this study was .81.

Participants were recruited through social media platforms, mainly from Facebook groups and WhatsApp, by word of mouth, and through in-person visits to several locations in Lund and Malmo, Sweden, where the young immigrant community usually gathers. Apart from that, we also contacted a social media influencer living in Malmo with an Afghani background. He has thousands of followers on Facebook and works as a freelance journalist in Sweden. After the discussion, he was willing to help by posting a survey link with a short description of our study on his Facebook page. Respondents were given the opportunity to find out the background of the study, its purpose, and the ethical considerations before deciding to participate in the survey. In compliance with ethical considerations, the survey was performed with full confidentiality. Participants were required to click the agree button

before they could begin filling out the questionnaire if they chose to participate in the study. Participants received a debriefing statement and may provide their email addresses to obtain our study's findings.

Data Analysis

This study used the correlational method and a cross-sectional survey to investigate the associations between personality traits, cultural identification, and sociocultural adaptation. Two primary approaches for addressing research questions were bivariate analysis (correlational statistics) and multivariate analysis (regression analyses). Statistical analysis was conducted utilizing the IBM SPSS Statistics software. v. 29.0 (2022), PROCESS Macro (Hayes, 2013), and R (R Core Team, 2023).

Initial screening for a missing value analysis of 159 cases found that 157 cases had no missing data, and two cases had less than one percent of missing data. Data were complete for 99% of cases, and Little's MCAR test yielded nonsignificant results ($p > .05$). Thus, since there were not too many missing data and the sample was missing completely at random (MCAR), excluding or replacing the missing values for primary analysis was unnecessary. When analyzing the data, all negative-worded items in the instruments were reverse-coded. Analyses were conducted to ensure that the data met the basic assumption to conduct bivariate correlation and regression analyses.

We performed a Pearson linear correlation analysis and created a correlation matrix to address research questions related to the linear relationship between variables. For interpreting the degree of correlation coefficient in individual differences study, we followed Gignac and Szodorai (2016), which suggest normative guidelines of .10, .20, and .30 as relatively small, medium, and relatively large, respectively. Then, hierarchical regression analyses were employed to predict the value of a dependent variable based on the value of a set of independent variables.

In our initial analysis, we investigated the effect of personality traits on mainstream and heritage culture identification. The second analysis assessed the influence of personality traits and culture identification on sociocultural adaptation. Based on previous studies, we estimated regression coefficients for the key independent variables while accounting for age, gender, and length of residence (Awad, 2010; Ouarasse & van de Vijver, 2005; Zlobina et al., 2006;). In the first hierarchical regression, we added age, gender, and length of residence into the model in step one, then entered personality traits in step two to predict acculturation. The second hierarchical regression followed the same method to predict sociocultural adaptation. We added age, gender, and length of residence into the model in step one, then entered personality traits and culture identification in step two to predict sociocultural adaptation.

We investigated the mediating role of religiosity in the relationship between personality traits and culture identification. We followed Baron and Kenny's (1986) as well as Judd and Kenny's (1981) procedures to identify a mediating variable. Firstly, we examined that independent variable significantly affects the dependent variable. Secondly, we investigated whether the independent variable was significantly associated with mediator variable. Next, we ensured that the dependent variable and mediator were correlated significantly. Finally, we aimed to demonstrate full mediation in the analysis, meaning the effect of the independent variable on the dependent variable should have been zero when controlling for the mediator. If the result differed from zero, it suggested partial mediation. Baron and Kenny (1986) argued that mediation analysis could help explain the underlying reasons for relationships between variables.

Results

Assumption Testing

Prior to the primary analysis, we calculated Cook's distance to identify multivariate outliers to satisfy the assumption criteria, and the result showed no value greater than 1. The skewness and kurtosis levels showed that all variables were between -1 and 1 (see Table 2).

Table 2*Descriptive Statistic on Variable*

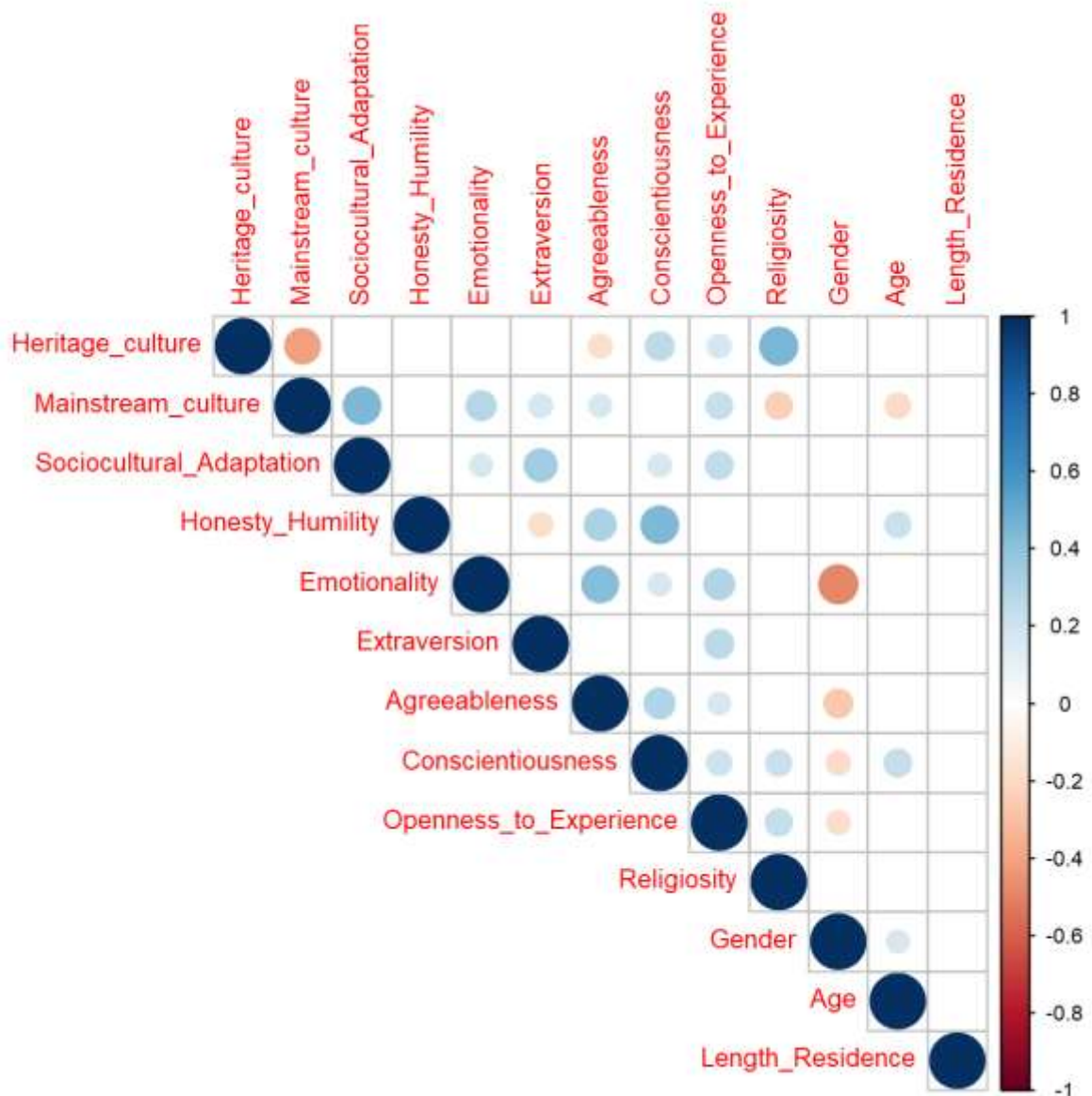
	N	Mean	SD	Skewness	Kurtosis
Personality traits					
Honesty-Humility	159	3.60	0.71	-0.42	-0.14
Emotionality	159	2.76	0.86	-0.22	-0.21
Extraversion	159	3.58	0.77	-0.39	0.22
Agreeableness	159	2.75	0.82	-0.05	-0.48
Conscientiousness	159	3.59	0.73	-0.62	0.14
Openness to experience	159	3.43	0.74	-0.06	-0.62
Acculturation					
Heritage culture	159	4.01	0.68	-0.56	-0.08
Mainstream culture	159	3.19	0.70	-0.08	0.38
Sociocultural adaptation	159	3.78	0.45	-0.19	-0.43
Religiosity	157	5.78	2.67	-0.45	-0.42

Note. *SD* = Standard deviation; *SE* = Standard error.

Values of the residuals were normally distributed, as evidenced by the dots in the normal P-P plots close to the diagonal line, thereby fulfilling the normality assumption. Collinearity statistics showed no multicollinearity with tolerance values greater than 0.1 and VIF below 10. In addition, no predictor variable correlated strongly with values above 0.7/-0.7. The values of residuals were independent, as assessed by a Durbin-Watson statistic of 1.895. The assumption of homoscedasticity was met as assessed by the Breush-Pagan test, and the result showed a nonsignificant value ($p > .05$).

Bivariate Correlation Between Personality Traits, Cultural Identification, and Sociocultural Adaptation

The correlation matrix among study variables is displayed in Figure 1. We examined the bivariate correlation between personality traits, culture identification, and sociocultural adaptation to answer the first research question.

Figure 1*Visual Representation of the Correlation Matrix Among Variables*

Note. N=159, Gender 0=Female 1=Male. A stronger positive correlation is illustrated by darker blue and larger dots, whereas a stronger negative correlation is shown by darker red. No dots indicate a lack of significant correlation between variables. Figure produced with the R corrplot package (Wei & Samko, 2021).

Overall, conscientiousness and agreeableness were related to heritage culture, whereas emotionality and openness to experience were associated with mainstream culture. A deeper engagement in one's heritage culture was correlated with a higher conscientiousness. $r(157) = .25, p < .0$, indicated by a medium blue dot with a bright color. Moreover, a higher level of heritage culture was correlated with less agreeableness $r(157) = -.19, p < .05$, as evidenced by the smaller red dot with a brighter color. In terms of mainstream culture, we found a significant, positive correlation with emotionality $r(155) = .28, p < 0.1$ and openness to experience $r(157) = .22, p < .01$. Higher level mainstream culture related to greater emotionality and openness to experience.

Next, we examined the association between personality traits and sociocultural adaptation. The results showed that extraversion and openness to experience were more positively related to sociocultural adaptation than other traits. Extraversion has the strongest correlation coefficient, $r(157) = .35, p < .01$, followed by openness to experience, $r(157) = .24, p < .01$, indicating that higher levels of extraversion and openness to experience are associated with higher degrees of sociocultural adaptation.

The subsequent investigation focused on the relationship between culture identification and sociocultural adaptation. We identified sociocultural adaptation significantly and strongly correlated with mainstream culture $r(157) = .44, p < .01$, but not with heritage culture $r(157) = -.14, p = .08$. This indicated a higher level of mainstream culture immersion associated with higher sociocultural adaptation.

Impact of Personality Traits on Culture Identification

To evaluate the predictive power of personality traits on heritage and mainstream culture identification, we performed hierarchical regression analyses. Regarding heritage culture identification, the first step of regression consisting of gender, age, and length of residence revealed insignificant results, $R^2 = .05, F(3,155) = 2.66, p = .05$. After accounting for variable in step one, personality traits were entered in step two and produced significant

results, $R^2 = .23$, $F(9,149) = 4.89$, $p < .001$. Adding personality traits significantly increased the variance from 5% to 23% in the model, giving an additional 18% variance explained, $\Delta R^2 = .18$, $\Delta F(6, 149) = 5.76$, $p < .001$. Specifically, agreeableness ($\beta = -.31$, $p < .001$), and conscientiousness ($\beta = .26$, $p < .01$) were significantly predicting heritage culture identification. This finding suggested that lower agreeableness and higher conscientiousness were associated with a high degree of heritage culture immersion.

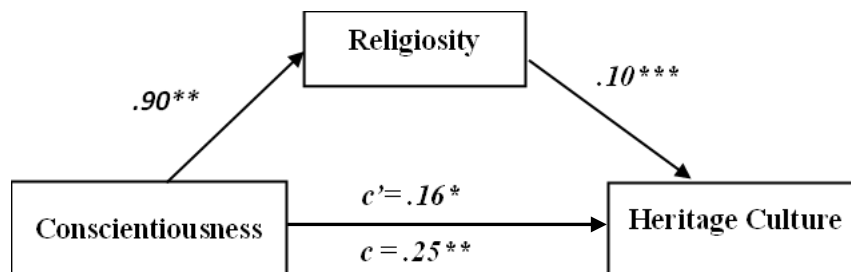
When it comes to mainstream culture identification, the first step of hierarchical regression comprised gender, age, and length of residence, and the model was not significant, $R^2 = .05$, $F(3,155) = 2.45$, $p = .07$. In step two, we added personality traits in the model and revealed significant result $R^2 = .17$, $F(9,149) = 3.30$, $p < .05$. The inclusion of personality traits resulted in a notable increase in variance from 5% to 17% within the model, thereby accounting for an additional 12% of the variance, $\Delta R^2 = .12$, $\Delta F(6, 149) = 3.61$, $p < .05$. The result showed that only emotionality which significantly and positively predicted mainstream culture immersion ($\beta = .24$, $p < .05$).

The Mediation Role of Religiosity

The following research question explored the mediating role of religiosity in the relationship between personality traits and immigrants' cultural identifications. Regression analysis showed that agreeableness and conscientiousness were significant predictors of heritage culture identification. The correlation matrix reveals a moderate to strong relationship between conscientiousness, religiosity, and heritage culture, with higher levels of conscientiousness associated with higher religiosity and increased heritage culture. No significant relationship was found between agreeableness and religiosity. In mediation analysis, Baron & Kenny (1986) argued that the mediator variable must be significantly correlated with both independent and dependent variables. Thus, we assumed that religiosity might serve as a potential mediator in the relationship between conscientiousness and heritage culture identification.

Figure 2

The Mediating Effect of Religiosity in the Relationship Between Conscientiousness and Heritage Culture Identification



Note: * $p < .05$, ** $p < .01$, *** $p < .001$. All presented effects are unstandardized.

In order to explore to what degree the linear relation of conscientiousness on heritage cultural immersion was influenced by religiosity, we conducted a mediation analysis using PROCESS Macro (see Figure 2). The c path denotes total effect of conscientiousness on heritage culture identification, whereas c' path represents direct effect of conscientiousness on heritage culture identification. The indirect effect of conscientiousness on heritage culture identification through religiosity was significant ($ab = 0.09$; 95% CI = .35; .16). This indicated that religiosity mediated the relationship between conscientiousness and heritage culture identification.

Regarding mainstream culture identification, emotionality was a significant predictor in the regression model. However, the correlation matrix result showed no significant relationship between religiosity and emotionality. According to Baron and Kenny (1986), we assume that there was no sign of a mediation process.

Impact of Culture Identification and Personality Traits on Sociocultural Adaptation

We conducted hierarchical regression analyses to examine the impact of culture identification and personality traits on sociocultural adaptation. We entered age, gender, and

length of residence in the first step. We found the model was not significant in predicting sociocultural adaptation, $R^2 = .03$, $F(3,155) = 1.43$, $p = .23$. In step two, personality traits and culture identification were entered after accounting for variable in step one and showed significant results, $R^2 = .31$, $F(11,147) = 6.04$, $p < .001$. Adding personality traits and culture identification explained 31% variance in the model, improving 28% variance explained, $\Delta R^2 = .28$, $\Delta F(8, 147) = 7.58$, $p < .001$. Mainstream culture identification ($\beta = .33$, $p < .001$) emerged as the strongest predictor, followed by extraversion ($\beta = .28$, $p < .001$).

Discussion

The present study examines the relationships between personality traits, heritage and mainstream culture identification, and sociocultural adaptation among immigrants in Sweden. Overall, our findings reveal that conscientiousness and agreeableness are significant predictors of heritage culture immersion, whereas emotionality is significantly predicting mainstream culture identification. Moreover, acculturation towards mainstream culture and extraversion have a significant predictive ability in sociocultural adaptation. Religiosity also potentially mediates the relationship between conscientiousness and heritage culture identification.

In this study, the positive relationship between conscientiousness and cultural heritage immersion aligns with Ryder et al. (2000), which found that higher conscientiousness is associated with higher heritage culture identification. A possible explanation for this result may come from prudence, the facet level of HEXACO Conscientiousness. Prudent individuals are characterized by cautious decision-making and long-term planning (Ashton & Lee, 2007). Their tendency to consider consequences and inhibit impulses might contribute to a stronger connection to their cultural heritage by preserving cultural values, cultural continuity, and risk aversion.

On the other hand, the negative association between agreeableness and cultural heritage identification indicates lower agreeableness related to higher cultural heritage

immersion. This may be potentially due to the flexibility facet of HEXACO Agreeableness. Flexibility measures a person's disposition to compromise and collaborate with others (Ashton & Lee, 2007). We argue that immigrants exhibiting lower flexibility tend to preserve their heritage culture traditions. This finding is consistent with Panicacci and Dewaele (2017), which found that heritage culture negatively correlates with flexibility.

Furthermore, our results show a positive association between mainstream culture and emotionality. This might be explained by dependence, the facet levels of HEXACO emotionality. Individuals with higher dependence scores might seek emotional support from others (Ashton & Lee, 2007). This need for support could motivate them to engage more with the mainstream culture, build relationships with host society members, and seek guidance from locals.

The present study suggests that religiosity potentially mediates the relationship between conscientiousness and heritage culture identifications. Additionally, the direct and indirect effects are significant and have the same direction. This indicates partial mediation (Baron & Kenny, 1986); in other words, religiosity may partially explain the impact of conscientiousness on heritage culture identification. Conscientiousness and religiosity, according to researchers, are associated in the sense that individuals with higher levels of conscientiousness may be better able to preserve their values related to their religiosity. (Saroglou, 2010); consequently, a stronger heritage culture identity is established (Ryder, 2000).

Moreover, religiosity seems to play an essential role in cultural identification among immigrants in Sweden. Specifically, higher religiosity correlates with higher heritage culture immersion and lower mainstream culture identification. This result is somewhat unsurprising since 70% of participants in this sample are from the Middle East, and around 63% identified as Muslims; this pattern seems consistent with previous research. A previous study suggests

that higher religiosity among Muslim immigrants correlated with lower acculturation to the host culture (Friedman & Saroglou, 2010; Goforth et al., 2014).

The data shows higher immersion towards mainstream culture and extraversion are related to higher sociocultural adaptation. Extraverted individuals tend to be more outgoing, sociable, and assertive (Ashton & Lee, 2007), making them more likely to engage in social interactions with people from the mainstream culture. These social interactions can provide opportunities for learning about the host culture, building social networks, and receiving social support, which can facilitate sociocultural adaptation. The result aligns with previous research, which suggests that extraversion is essential for successful adaptation in the host country, contributing to higher sociocultural adaptation (Wilson et al., 2013).

Our study provides an empirical response to the question posed in the title: “Who is adapting to a new culture?” We suggest that individual differences significantly influence the acculturation process. In particular, we argue that immigrants high in emotionality are more likely to immerse themselves in the mainstream culture, a behavior that potentially facilitates their adaptation to the host country. On the other hand, immigrants high in conscientiousness tend to align more closely with their heritage culture, a preference that may pose challenges to their adaptation process.

Religiosity emerges as an additional factor influencing acculturation, providing further insight into the tendency of highly conscientious immigrants to affiliate strongly with their heritage culture. Finally, our findings suggest that extraverted immigrants who engage more actively with the host culture will likely develop better cultural competencies, easing their adaptation to the new culture.

Limitations and Future Research

This study is limited by its cross-sectional design and reliance on self-report measures. It means this research only captures a snapshot of the relationships between variables at a specific time and is susceptible to response biases. To our knowledge, this

research is the first to explore the relationship between personality traits, acculturation, and sociocultural adaptation among immigrants in Sweden; we believe it provides valuable insight for future research. Furthermore, we encourage longitudinal research, which offers a deeper understanding of how these relationships change and develop over time.

Next, although it has limitations, a single-item scale to evaluate religiosity remains relevant in academic research. According to Abdel-Khalek (2007), using a single-item measure to assess religiosity is reliable, valid, and practicable. We suggest that future studies on acculturation consider the aspect of religiosity and its measurements, mainly if the sample is Muslim immigrants.

Regarding controlling variables in regression analysis, researchers put criticism surrounding the use of control variables in regression analysis (Westfall & Yarkoni, 2016). However, others believe including control variables in a regression model can reduce the possibility of confounding bias (MacKinnon & Lamp, 2021). In order to tackle this issue, we cautiously consider variables that may impact outcomes, drawing from prior empirical research. By doing this, we believe it might reduce potential bias in estimating the relationships between the independent and dependent variables and provide a more accurate assessment of the main effects.

Next, interpreting the results in mediation analysis is challenging and even complicated, particularly when considering causal effect estimation (Rohrer et al., 2022). We identify the possibility of collider bias in the mediation path. Some argue that culture might causally affect religiosity (Jackson et al., 2021) as well as conscientiousness which also causally affects religiosity (Saroglou, 2010). The collider bias may lead to spurious associations between the independent and dependent variables. Unfortunately, there is no practical method for correcting collider bias (Tönnies, 2022). To address this situation, we carefully identify the status of the variable in the model before the study begins. In this study,

based on previous research, religious aspects play a significant role in influencing cultural immersion (Friedman & Saroglou, 2010; Goforth et al., 2014).

Finally, the sample size was relatively small compared to the Swedish immigrant population, limiting the findings' generalizability. However, the power analysis results indicated that this study's sample size is appropriate for the required data analysis.

Furthermore, the sample size in this study is $n=159$, which falls marginally below the point of stability at $n=161$, the minimum sample size required for a stable correlation estimate (Schönbrodt & Perugini, 2018). Thus, despite the smaller sample size, we assume this study produced meaningful results. We encourage future research to replicate this study with a larger and more diverse sample.

Conclusion and Practical Implications

To summarize, our study emphasizes the importance of individual differences, notably personality characteristics, in the integration and adaptation process. Particularly, when studying Muslim immigrant populations, it is crucial to consider their religious background. We believe that ignoring individual factors and assuming that all immigrants are the same may lead to ineffective solutions for the problem of immigrant integration in Sweden. Moreover, the findings could have practical implications for policymakers and practitioners working with immigrant populations.

For example, when developing immigrants' policy, the government may consider the role of experts in psychology. Aside from that, policymakers may integrate psychologists into the migration office. They may help identify the likely challenges and opportunities immigrants encounter in their acculturation process based on their personality traits. This information could then be used to guide immigrants in fostering more successful and smooth acculturation experiences and, ultimately, more cohesive societies.

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