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Openness, extraversion and the intention to emigrate

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ABSTRACT

Economic, demographic and sociological factors influence the intention to emigrate, but variation in personality also may be consequential. In this report, data on intention to emigrate are drawn via nationally-representative samples from 22 countries in the Americas. Multivariate analyses permit attention to the key factors identified in past empirical research, but also enable examination of the effects of openness to experience and extraversion. Openness and extraversion both are shown to exert modest positive influence on the intention to emigrate. Additionally, heterogeneity in these effects is observed in that the influence of both traits is found to be conditional on a respondent's level of education.

1. Introduction

Economic, demographic and sociological factors hold dominant positions in most accounts of the intention to emigrate. People choose to migrate largely due to economic opportunity. Under U.S. immigration law, for instance, prospective immigrants are granted preferred status if they possess extraordinary abilities in areas such as the sciences, business, education, and even athletics. Life circumstances, the centerpieces of demographic research, also matter. As one example, migration typically will be more feasible for unmarried individuals in their 20 s than for heads of households in their 30 s or 40 s. As to sociological considerations, potential networks of support in new contexts can be pivotal in whether to move. People find it easier to emigrate if they have friends or family in the new country, individuals who can help them to navigate the logistical hurdles inherent in moving to another nation.

The factors noted here demonstrably do affect migration. Nonetheless, any account of the intention to emigrate may be incomplete if it fails to incorporate psychological dispositions. Migration is a major decision, one replete with risk and uncertainty. Regardless of support networks or prospects for economic gain, people can be expected to vary in their psychological comfort with such an extreme change. Hence, in addition to the other forces noted here, individuals' personality traits also likely influence the intention to emigrate.

Prior research has devoted only sporadic attention to the influence of personality on migration. We expand upon that past work in two key manners. First, we employ indicators of two trait dimensions commonly studied in contemporary personality research, openness to experience and extraversion. Second, rather than focus on a single nation, we consider the intention to emigrate among over 30,000 survey respondents who answered representative national surveys in 22 countries in the Americas. In the remainder of this report, we first briefly recount what past research has demonstrated with respect to the antecedents of migration, and we elaborate on why personality traits are expected to be consequential. Following discussion of data and measures, results of our analyses are reported.

2. Factors influencing the intention to emigrate

2.1. Economic and demographic considerations

Research on the antecedents of migration traces back over a century (e.g., Fairchild, 1936; Ravenstein, 1885; Tait, 1927). Much of this research focuses on economic and demographic factors. From this perspective, people move to another nation in pursuit of economic gain. If economic prospects in one's nation of origin are poor, emigration will be more likely, especially if the person possesses marketable skills and an absence of demographic obstacles to migration. At the individual level, the basic profile of a person likely to emigrate is one who is relatively young, male and well-educated (e.g., Graves & Linneman, 1979; Van Dalen, Groenewold, & Fokkema, 2005).

Sociological factors also have been found to affect migration. First, the likelihood of emigration increases if the person has a close contact, usually a relative, living overseas (e.g., Heering, van der Erf, & Van Wissen, 2004). This circumstance prompts "chain migration" (e.g., MacDonald & MacDonald, 1964). Second, if a household receives financial payments—remittances—from overseas, there is a

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heightened likelihood that yet another individual will seek to move abroad (e.g., van Dalen et al., 2005).

The focus of the present study is personality, but it is essential that we account for other key predictors of the intention to emigrate. Drawing on the prior research described briefly here, all models will include controls for the respondent's age, sex and education level, whether the respondent has a close contact living overseas, whether the respondent's household receives remittances, GDP per capita and baseline differences across this study's 22 nations.

2.2. Personality and migration

We focus on the possible impact of openness to experience and extraversion on the intention to emigrate. Moving to a new nation seemingly constitutes precisely the sort of new experience that defines openness as a trait dimension. Similarly, because migration is an inherently bold move, and one that necessitates social interactions with strangers, we see extraversion as of self-evident pertinence to migration. Past research has generated relevant findings, such as that individuals scoring high in openness and extraversion make successful adjustments to international work assignments (Huang, Chi, & Lawler, 2005). Also, Bloeser, McCurley, and Mondak (2012) show that extraversion helps migrants overcome cultural barriers to civic engagement.

Several past works have explored the broader relevance of psychology for migration. Indeed, there has been a renewal of attention to psychology and migration in recent years (e.g., Carr, 2010; Crossroads, 2012; Groenewold, de Bruijn, & Bilsborrow, 2012). Work in this area, labeled "migration psychology" (e.g., Fawcett, 1985–1986), examines numerous matters, including the possible psychological underpinnings of the decision to emigrate (e.g., Frieze & Li, 2010).

Past empirical research regarding personality influences on international migration has consistently found personality to be consequential. This research bolsters our claim that personality in general, and possibly openness and extraversion, may influence migration. Winchie and Carment (1988) matched data from 102 Indian males who had applied for Canadian immigrant visas with data from 114 males in India who had expressed no intention to emigrate. In addition to limiting the analyses to males, subjects were matched on age, education and occupational status. The authors conducted a two-part discriminant analysis, focused largely on personality. Results revealed strong effects for variables such as sensation seeking and preference for new people. Silventoinen et al. (2008) also considered migration between two nations, in this case movement from Finland to Sweden. Extraversion was found to be associated with the likelihood of migration.

Cotton and Majchrzak (1990) also considered the effects of personality on migration, albeit in a highly specialized circumstance. The study focuses on 286 production workers at an AT&T plant in Indianapolis, Indiana, employees with at least 15 years of seniority. When the plant was shut down, employees were offered the opportunity to remain with the company by relocating outside of Indianapolis. Just under half of the sample opted to relocate. Personality effects may be muted in this case because the status quo—continuing to work at the Indianapolis plant—was not an option, and thus all workers were forced to make a potentially life-changing decision. The authors explored the effects of having a Type A personality and a psychological disposition toward flexibility on the decision to relocate. The latter overlaps with openness, as the authors' scale incorporated items such as "I like to try new things." Flexibility emerged as a significant predictor of relocation in the discriminant analyses, providing further confidence that openness will influence the decision to emigrate.

The Cotton and Majchrzak (1990) study examined migration within a single nation. Jokela and his colleagues have followed up on that inquiry with research regarding the influence of personality on migration within Finland (Jokela, Elovainio, Kivimaki, & Keltikangas-Jarvinen, 2008) and the United States (Jokela, 2009). The latter is especially relevant for present purposes in that the effects of Big Five variables were explored. In tests consonant with those outlined below, migration within the American states was found to be influenced by extraversion, and migration both within and between states was affected by openness to experience.

In addition to consideration of possible direct effects of openness and extraversion on the decision to emigrate, a conditional effect also will be examined in the current study. In his overview of migration psychology, Fawcett (1985–1986) emphasizes that psychological research on migration must be situated with respect to economic and demographic factors if it is to make an interdisciplinary contribution to our understanding of migration. Toward that end, we will consider possible interactions between personality variables and education. Possessing a higher level of education affords greater opportunities for migration, but whether people act on these opportunities may hinge on personality. At least two patterns are plausible. First, if education is necessary, but not sufficient, to prompt migration, then personality may be especially consequential among the highly educated. In other words, the highest likelihood of migration might be observed among individuals who have high levels of both education and either openness or extraversion; in such an instance, personality would play a *complementing* role. Alternately, education might be sufficient, but not necessary, to motivate migration. In this scenario, personality effects would be muted among the educated, but sharper among prospective emigrants with lower education levels. This pattern would resemble that found by Bloeser et al. (2012) in a study of response to jury summonses. There, individuals who did not face cultural barriers to civic engagement were likely to appear for jury duty irrespective of variation in personality. Conversely, among respondents who did face cultural barriers—typically immigrants—the likelihood of summons compliance increased markedly as a function of extraversion. In this scenario, personality plays a *compensating role*.

3. Data and method

Data are from the 2010 AmericasBarometer surveys. These surveys were fielded in 26 nations in the Americas as part of Vanderbilt University's Latin American Public Opinion Project (LAPOP). The present analyses are limited to the 22 nations in which the survey included items measuring both intention to emigrate and personality.[1] Data were gathered in face-to-face interviews of representative national samples. A target number of cases of 1500 was employed in most of the countries, but larger samples, averaging 2616, were drawn in Bolivia, Brazil, Chile and Ecuador. In our models, data are weighted so that each nation contributes 1500 cases.

The dependent variable, *intention to emigrate*, is measured with data from an item on which respondents were asked "Do you have any intention of going to live or work in another country in the next three years?" Responses are coded 1 = yes, 0 = No. Overall, just under 20% of respondents answered in the affirmative; this rate ranges from 9.7% in Chile to 44.6% in Guyana.[2] Because the dependent variable is dichotomous, models will be estimated using a

[1] The included nations are Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela. Excluded nations are Canada, Haiti, Honduras and the United States; in these nations, all ítems needed for the present analyses are not available.

[2] We measure intended behavior, not actual behavior (i.e., whether a person emigrated), and thus it is possible that respondents' intentions do not mesh with their actions. This has been examined by Van Dalen & Henkens, 2008, who found, first, that intention to emigrate strongly predicts subsequent emigration, and second, that the determinants of intention to emigrate and actual emigration match very closely.

Table 1
Determinants of the intention to emigrate. Source: 2010 AmericasBarometer surveys; data from 22 nations are included.

	Model I: baseline	Model II: openness and extraversion	Model III: openness, extraversion and interactions with education
Level-two effects			
Constant	0.47 (0.24)	0.52* (0.24)	0.52* (0.24)
GDP per capita (in thousands of 2005 constant $USD)	−0.04* (0.02)	−0.04* (0.02)	−0.04* (0.02)
Level-one effects			
Sex (1 = female, 0 = male)	−0.36*** (0.03)	−0.36*** (0.03)	−0.36*** (0.03)
Age in years	−0.05*** (0.00)	−0.05*** (0.00)	−0.05*** (0.00)
Education (0–18)	0.03*** (0.00)	0.02*** (0.00)	0.02*** (0.00)
Relative living abroad (1 = yes, 0 = no)	0.48*** (0.04)	0.48*** (0.04)	0.48*** (0.04)
Family receives remittance from abroad (1 = yes, 0 = no)	0.72*** (0.05)	0.70*** (0.05)	0.70*** (0.05)
Openness to experience (centered by nation)		0.21** (0.06)	−0.12 (0.17)
Extraversion (centered by nation)		0.15* (0.07)	0.49** (0.19)
Education × openness			0.03* (0.01)
Education × extraversion			−0.03 (0.02)
Number of cases (unweighted)	35,873	34,555	34,555

Note: the dependent variable is the self-reported intention to emigrate (1 = intends to move or work overseas within the next 3 years, 0 = does not intend to emigrate). Cell entries are coefficient estimates from multilevel random effects logistic regression models with random effects by nation. Data are weighted so that each nation contributes 1500 observations; this is done to prevent nations with oversampling from having exaggerated impact on coefficient estimates.
* $p < .05$.
** $p < .01$
*** $p < .001$.

variant of logistic regression. More specifically, we estimate multilevel logistic regression models with random effects for nation.[3]

All models include six control variables to represent in parsimonious form the key sociological, demographic and economic influences on migration. Individual-level controls include *sex* (1 = female, 0 = male; 51% of respondents are female), and *age* in years (mean = 39.12; s.d. = 15.84). *Education* is measured as the respondent's number of years of formal education, with coded values ranging from 0 to 18 (mean = 9.45; s.d. = 4.34). *Relative abroad* represents whether the respondent has a close relative currently living in another nation (1 = yes, 0 = no; 24.0% answered yes), whereas *remittance* indicates whether the respondent's family currently receives financial assistance from abroad (1 = yes, 0 = no; 11.1% answered yes). *GDP per capita*, measured in thousands of 2005 US dollars, is included as a nation-level control (mean = 10.08; s.d. = 4.72).

Because the AmericasBarometer surveys primarily concern social and political attitudes and behaviors, it was necessary to measure personality in brief form. Toward this end, the 2010 surveys included a modified version of the TIPI scale (Gosling, Rentfrow, & Swann, 2003). Seven-point self-rating scales were used. The actual TIPI was included on the survey in pilot testing, but linguistic difficulties related to translation and word complexity necessitated revisions. Interviewers in the field were consulted, and the terms reported in Goldberg (1992) were reviewed in order to find words widely accessible to all respondents, including those with no formal education and those residing in small rural villages. Upon back-translation to English, the AmericasBarometer *openness* scale includes respondents' self-ratings as to whether they are "open to new experiences and intellectual," and "uncreative and unimaginative," with data recoded to range from 0 (low openness) to 1 (mean = 0.64; s.d. = 0.27). These individual-level scales were then centered on the nation-level means (see Enders & Tofighi, 2007)[4]; the resulting measure ranges from −0.76 to 0.45 (by construction, the mean = 0; s.d. = 0.26). For *extraversion*, respondents rated themselves as "sociable and active" and "quiet and shy" (mean = 0.59; s.d. = 0.25); final scales were again centered on the nation-level means; this measure ranges in value from −0.64 to 0.51 (s.d. = 0.24). Seven of the eight terms used in these measures, all but "open to new experiences," are tested in Goldberg (1992), and emerge as valid indicators of, respectively, openness and extraversion.

Three models will be estimated. The first includes the six control variables. The second model adds the measures of openness and extraversion. Lastly, the third model adds interactions between the two personality variables and education.

4. Results

Logistic regression coefficients from three models are reported in Table 1.[5] In the first model, the six control variables all produce significant coefficients, with all effects in the expected direction. From these, the profile of an individual who is likely to emigrate is that the person is male, young, relatively well-educated, has a close family member living in another nation, receives a remittance from overseas, and lives in a relatively impoverished country. These results corroborate patterns seen repeatedly in research on the economic, demographic and sociological bases of migration.

The second model in Table 1 adds the centered measures of extraversion and openness. Both variables produce statistically significant effects. Substantively, the effects are modest. As extraversion increases in value from lowest to highest, the estimated likelihood of a baseline respondent (see note 5) intending to emigrate rises from 0.34 to 0.37. The corresponding increase for openness is from 0.33 to 0.38. When openness and extraversion both increase from their lowest to highest values, their combined substantive effect is a shift in the probability of migration from 0.31 to 0.39. Although the changes in predicted probabilities constitute

[3] This procedure permits the intercept to vary by nation. The model's total intercept is the average across all countries in the data. Deviations from this average are then estimated as error terms attached to the intercept for each nation.

[4] Although centering is advisable in two-level models so as to differentiate between nation-level and individual-level effects (Enders & Tofighi, 2007), in the present case the consequences are negligible because very little of the variance in personality—5% for openness and two percent for extraversion—is at the nation level. All significant results reported below with respect to the personality variables also are found when the original uncentered scales are employed in place of the centered measures.

[5] We omit the nation random effects to conserve space. The most "average" country (i.e., the one with a random effect that deviates the least from the intercept) is Guatemala. Thus, we will use Guatemala as our baseline when estimating predicted effects. To provide a sense of the influence of personality when the individual faces a close decision regarding whether to emigrate, estimates will focus on a hypothetical respondent who is male, age 29, with 12 years of formal education, and who has a close relative living abroad, but who does not receive a remittance from overseas.

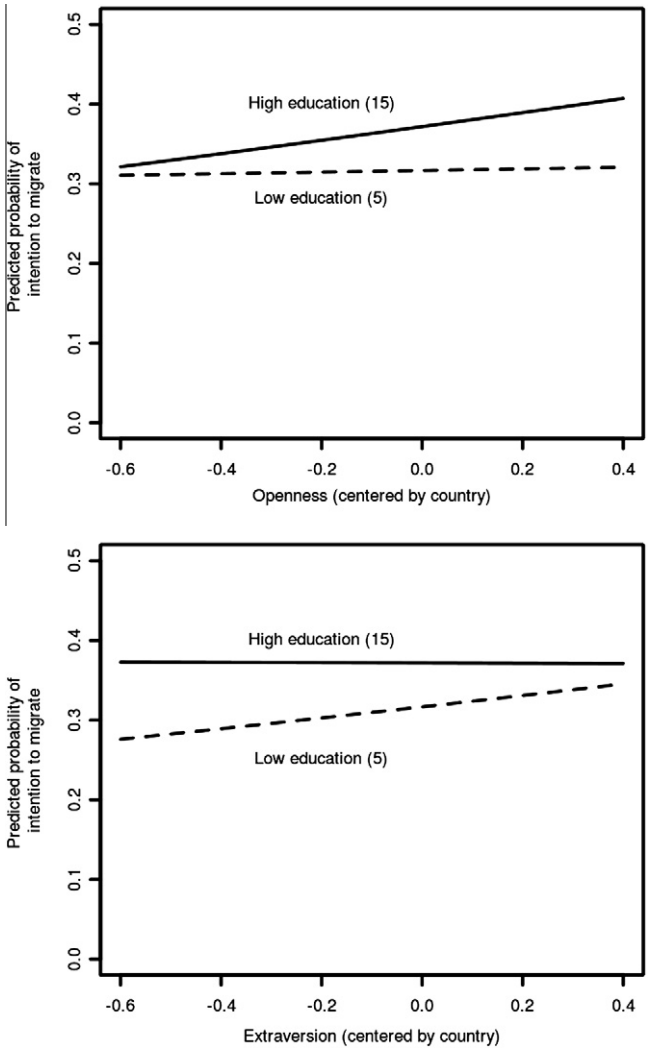

Fig. 1. The conditional effects of openness and extraversion on the intention to migrate.

only a few percentage points, these substantive effects fare well relative to those for the conventional predictors of migration. For instance, the 0.33–0.38 shift for openness is equal to what we would see if a respondent's education increased from 7 to 16 years, or if the person's age dropped from 32 to 27.

The final model in Table 1 adds interactions between the two personality variables and education. Both interaction terms yield significant results, albeit with opposite effects.[6] Predicted probabilities derived from these interactions are depicted in Fig. 1, with education set at relatively high (15) and low (5) levels. What we see is that the overall effects of openness, extraversion and education all are positive with respect to intention to emigrate. That is, on average, the intention to emigrate is higher for better-educated respondents and those scoring high on the two personality scales. But extraversion and openness combine with education in different manners. For openness, it is a *complementing* effect in that the greatest likelihood of migration is seen among respondents with high levels of both openness and education. Openness is irrelevant where education is low. For extraversion, it is a *compensating* effect. Respondents with low levels of education are relatively unlikely to intend to emigrate, but the education gap shrinks as extraversion rises. For both trait dimensions, the substantively modest overall effects emerging from the second model in Table 1 mask important elements of heterogeneity. Depending on one's education level, openness and extraversion may be inconsequential for the intention to emigrate, or they may produce swings as high as 10% points.

[6] The coefficient for the education x extraversion interaction just misses the 0.05 threshold; specifically, p = 0.052.

5. Discussion and conclusion

Findings provide evidence of several key points. First, and most fundamentally, high levels of openness and extraversion have been demonstrated to correspond with a heightening of the intention to emigrate. These basic findings corroborate past research regarding the impact of personality on migration, but also extend on that research. For one, present results offer what we believe to be the first demonstration of a personality effect on the intention to emigrate with data drawn from representative cross-national samples. Second, building on Fawcett's (1985–1986) recommendation, we have contemplated possible interactions between personality variables and another predictor of migration, education. For openness, the greatest effect on intention to emigrate is seen among relatively well-educated respondents. Conversely, extraversion partly compensates for a low educational level, with the sharpest extraversion effects observed for respondents with minimal levels of formal education.

Three limitations of the present study also must be noted. First, the substantive effects of personality on intention to emigrate are modest. Personality contributes to the explanation of who emigrates, but the decision to emigrate still appears to be driven primarily by economic, demographic and sociological factors. Second, what this study has gained in breadth, with over 30,000 respondents from 22 nations, has come at the expense of depth in that openness and extraversion have been measured with coarse two-item indicators. Although it is encouraging that statistically significant and substantively notable effects emerge even with such abbreviated scales, it is clear that replication with richer scales is needed. Replication would be especially beneficial for helping to determine whether particular facets of openness and extraversion are most pivotal for migration. Lastly, the interactions between personality and education are suggestive, but a fuller account of the complex underpinnings of the intention to emigrate will require careful attention to a multiplicity of possible situation-disposition interactions.

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