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The role of personal values and basic traits in perceptions of the consequences of immigration: A three-nation study

Michele Vecchione[1]*, Gianvittorio Caprara[1], Harald Schoen[2], Josè Luis Gonzàlez Castro[3] and Shalom H. Schwartz[4,5]

[1]Sapienza University of Rome, Italy
[2]University of Bamberg, Germany
[3]University of Burgos, Spain
[4]The Hebrew University of Jerusalem, Israel
[5]The National Research University-Higher School of Economics, Moscow, Russia

Using data from Italy, Spain, and Germany ($N = 1,569$), this study investigated the role of basic values (universalism and security) and basic traits (openness and agreeableness) in predicting perceptions of the consequences of immigration. In line with Schwartz's (1992) theory, we conceptualized security as having two distinct components, one concerned with safety of the self (personal security) and the other with harmony and stability of larger groups and of society (group security). Structural equation modelling revealed that universalism values underlie perceptions that immigration has positive consequences and group security values underlie perceptions that it has negative consequences. *Personal security* makes no unique, additional *contribution*. Multi-group analyses revealed that these associations are invariant across the three countries except for a stronger link between universalism and perceptions of the consequences of immigration in Spain. To examine whether values mediate relations of traits to perceptions of immigration, we used the five-factor model. Findings supported a full mediation model. Individuals' traits of openness and agreeableness explained significant variance in security and universalism values. Basic values, in turn, explained perceptions of the consequences of immigration.

In an era of *multiculturalism and* globalization, the complex phenomenon of immigration is one of the most hotly *debated* topics in Europe and much of the world (Smith & Edmonston, 1997). Given the impact of citizens' attitudes towards immigration and immigrants on electoral outcomes and laws, policies, and legislation aimed at regulating the flow of immigrants (Lahav, 2004; Messina, 2007), it comes as no surprise that scholars addressed the sources of attitudes towards immigrants and immigration in Europe.

Correspondence should be addressed to Dr Michele Vecchione, Department of Psychology, "Sapienza" University of Rome, Via dei Marsi 78, 00185 Rome, Italy (e-mail: michele.vecchione@uniroma1.it).

Alongside socio-demographic characteristics (e.g., Hanson, Scheve, & Slaughter, 2007; Pettigrew, 1998) and macro-level factors (O'Rourke & Sinnott, 2006; Schneider, 2008; Zagefka, Brown, Broquard, & Leventoglu Martin, 2007), psychological underpinnings of immigration-related attitudes were investigated by prior studies (e.g., Akrami, Ekehammar, & Araya, 2000; Dickerson, 2000; Grant, 2008). Recent lines of research focused on the role of personal values and personality traits in affecting attitudes towards immigration and immigrants (Davidov, Meuleman, Billiet, & Schmidt, 2008; Hodson, Hogg, & MacInnis, 2009; Nassar, 2008; Schwartz, 2007; Schwartz, Caprara, & Vecchione, 2010).

Values are cognitive representations of desirable, abstract, trans-situational goals that serve as guiding principles in people's lives (Schwartz, 1992). The most comprehensive and prevailing theory in the field was proposed by Schwartz (1992) who suggests a set of ten basic human values. They are thus conceptually well suited to serve as criteria to evaluate immigration and immigrants. At the same time, values might be shaped by personality traits. Traits are enduring dispositions to behave in habitual ways associated with consistent patterns of thought and feelings (McCrae & Costa, 1990). They describe what people are like and vary in the intensity or strength of their occurrence (Roccas, Sagiv, Schwartz, & Knafo, 2002). Moreover, traits have a genetic component (Lohelin, McCrae, Costa, & John, 1998). They are thus likely to be causally prior to values and attitudes that emerge from and are shaped by the interaction of personality traits and environmental stimuli (McAdams & Pals, 2006; McCrae & Costa, 1996; Rokeach, 1973). Put differently, both values and traits might affect attitudes towards immigration, and the effect of personality traits might be mediated by personal values.

Prior research demonstrated that personal values as proposed by Schwartz predict an aspect of attitudes towards immigrants. Utilizing European Social Survey (ESS) data from 15 West European countries and a short, 21-item version of the Portrait Values Questionnaire (PVQ, Schwartz, 2003), Schwartz (2007) demonstrated that universalism values predict willingness to accept immigrants of a different race/ethnic group or from poorer European and non-European countries most strongly. These values emphasize acceptance, appreciation, and concern for the welfare of all others. Self-direction and stimulation values are also related positively to acceptance of immigrants. In contrast, conservation values, that emphasize preserving the status quo, especially security values, predicted opposition to immigration. In the current European atmosphere, opposition to 'other' immigrants probably reflects concerns about protecting personal and social security, maintaining norms, and preserving traditions (Schwartz, 2006, 2007). Utilizing the complete, 40-item version of the PVQ (Schwartz, 2006), Schwartz *et al.* (2010) confirmed these findings for a sample of Italian voters.

Davidov *et al.* (2008) used ESS values data to study two aspects of attitudes towards immigration, the qualifications respondents deemed important for immigrants to meet (e.g., education, language, skills) and respondents' willingness to accept immigrants. Davidov *et al.* (2008) estimated effects of two higher order values from the Schwartz theory, self-transcendence (benevolence and universalism values) and conservation (security, conformity, and tradition values) on these attitudes. Across 19 countries, the greater the priority respondents gave to self-transcendence values and the less their priority for conservation values, the less stringent the qualifications they demanded of immigrants and the more willing they were to accept them. With few exceptions, these results were replicated in each of the countries. Moreover, they held even after controlling for such individual-level variables as age, gender, education, income, religiosity, attendance at religious services, and left–right orientation and such contextual

variables as GDP per capita, GDP growth, the inflow of immigrants, and the proportion of foreign-born population (Davidov *et al.*, 2008).

Only two studies directly assessed relations of the five trait factors of personality (Digman, 1990; Goldberg, 1993) with attitudes towards immigrants and immigration. Nassar (2008) found that openness and *agreeableness* predicted positive attitudes towards Arabs among Caucasians in the United States. Hodson *et al.* (2009) found that these same two traits predicted positive attitudes towards immigrants among Canadian students. Other studies have examined relations of the five factors of personality to general prejudice towards outgroups (Ekehammar & Akrami, 2003; Ekehammar, Akrami, Gylje, & Zakrisson, 2004; Flynn, 2005). They found that openness and agreeableness relate negatively to prejudice. Threat perception, right-wing authoritarianism, and social dominance orientation mediate the links of one or the other of these two traits to prejudice (Ekehammar *et al.*, 2004; Hodson *et al.*, 2009; Sibley & Duckitt, 2008).

While dealing with traits and values as predictors of attitudes towards immigration, prior research did not explore their combined effect on attitudes towards immigration. In particular, values might be conceived of as intervening factors that mediate the impact of personality traits. Moreover, prior studies consistently demonstrated that security values exhibit the most negative association with attitudes towards immigration among the ten basic values (Davidov *et al.*, 2008; Schwartz, 2007; Schwartz *et al.*, 2010). They did not distinguish two kinds of security values. Although Schwartz (1992) treated security values as a single construct, he noted that it combines two components, personal and group (collective), that derive from the survival requirements of people as biological organisms and of groups. Personal security serves individual interests; it concerns safety of the self. Group security serves wider group interests; it concerns the harmony and stability of national and societal groups. Schwartz and Boehnke's (2004) confirmatory factor analysis of data from 27 countries suggested that these two components of security could be separated. Although the two components have different implications for understanding the psychological bases of attitudes towards immigration, their effects have not been separated thus far. This paper aims at filling these lacunae.

The current research

The current study expands current literature by investigating the extent to which values and traits predict whether individuals perceive the consequences of the flow of immigrants into their country to be positive or negative. It contributes to scholarly knowledge in two ways. First, it aims at examining how traits and values affect individuals' perceptions of the consequences of immigration simultaneously. In particular, we investigated the extent to which the impact of traits is mediated by personal values in three European countries. Second, it suggests distinguishing personal and collective security values when accounting for views on immigration. To this aim, we relied on the prevailing models for organizing the major individual differences in values and traits, namely Schwartz's theory of basic human values and the five-factor model of personality. The next section includes the research hypotheses, that we tested empirically with data from surveys conducted in Italy, Spain, and Germany. Each of these countries has received massive numbers of immigrants over the last half century and immigration pressures on them continue to be high. The proportions of the total population in each country that consist of legal immigrants are 5.8% in Italy (Eurostat, 2008), 12% in Spain, (Instituto Nacional de Estadística, 2009), and 9% in Germany (Statista, 2009).

These figures are likely to be underestimates because they exclude illegal immigrants and people who have acquired local citizenship.

Research hypotheses

Following past research, we hypothesize that universalism values relate most strongly to positive perceptions of immigration and security values relate most strongly to negative perceptions. This trade-off between giving high priority to promoting the welfare of all others and avoiding personal, national, and interpersonal threat has exhibited strong associations with readiness to accept immigrants (Schwartz, 2009). The circular motivational structure of the ten values implies that self-direction and benevolence, the values adjacent to universalism, should also correlate with positive perceptions of immigration. Self-direction shares with universalism comfort with and acceptance of diversity; benevolence shares with universalism anxiety-free concern for the welfare of others (Schwartz, 2009). In contrast, the motivational circle of values implies that conformity, tradition and power, the values adjacent to security, should correlate with negative perceptions of immigration. Conformity and tradition share with security the goal, based in anxiety regarding change, of maintaining the status quo; power, like security, concerns avoiding uncertainty, though for power this is sought through imposing control. Many studies support a pattern of associations between values and other variables that follows the circular motivational structure of values (cf. Schwartz, 2006; Schwartz *et al.*, 2010). Here we test this hypothesized pattern by examining the relations of the whole set of value priorities with perceptions of immigration.

We further hypothesize that both the personal and the group subtypes of security values, which we expect to correlate substantially with one another, are associated with negative perceptions of immigration. Immigration may be perceived as endangering one's personal security by increasing neighbourhood crime and, for some individuals, by reducing the availability of jobs, housing, health, and other resources needed by them and their close family. Immigration may also be perceived as threatening wider group and collective security by increasing intergroup conflict and crime throughout the country and by putting pressure on the national economy. These perceptions may or may not be accurate, of course. Research on values and worries reveals that people who give high priority to the overall index of security values worry more about such threats both to themselves and to the wider society (Schwartz, Sagiv, & Boehnke, 2000).

Should we expect a more negative association for one or the other subtype of security values? Past research suggests that personal concerns are more emotionally arousing than national or collective concerns (Huddy, Feldman, Taber, & Lahav, 2005) and more likely to change people's behaviour (Sattler, Kaiser, & Hittner, 2000). However, national concerns are more strongly and consistently related to individual's positions on social or political issues such as support for policies and political candidates (Citrin, Green, & Muste, 1997; Kinder & Sears, 1985; Sears & Funk, 1990). Moreover, in a U.S. sample, the effects of the perceived personal threat of terrorism on perceptions of the economic consequences of terrorism were overshadowed by the impact of perceived national threat (Huddy, Feldman, Capelos, & Provost, 2002). Hence, although both subtypes of security values are likely to predict perceptions of immigration, we hypothesize that group security has incremental validity over personal security because the consequences of immigration measured here affect the wider society. We do not expect personal security to add to the variance accounted for by group security.

Regarding the five-factor personality traits, we hypothesized that openness relates to positive perceptions of immigration. This is based on observed positive relations of

openness with tolerance for diversity and nonconformity (John & Srivastava, 1999) and negative relations with right-wing authoritarianism (Akrami & Ekehammar, 2006; Ekehammar *et al.*, 2004; McCrae & Costa, 1997) and generalized prejudice (Ekehammar & Akrami, 2003). We further hypothesized that agreeableness relates to positive perceptions of immigration because people who are low on agreeableness are higher in social dominance orientation (Ekehammar *et al.*, 2004; Heaven & Bucci, 2001), a significant predictor of prejudice (Sibley & Duckitt, 2008). We expected no relations of energy/extraversion, conscientiousness, and emotional stability (neuroticism) with perceptions of immigration because these traits have exhibited inconsistent or negligible associations with prejudice in past studies (e.g., Sibley & Duckitt, 2008).

Finally, we hypothesized that values fully mediate the relations of traits with perceptions of immigration. Although values and traits may influence one another reciprocally (Caprara, Schwartz, Capanna, Vecchione, & Barbaranelli, 2006; Roccas *et al.*, 2002), in light of findings of a longitudinal study of voting (Caprara, Vecchione, & Schwartz, 2009), we posit that values are the mediator here. Viewing traits as underlying values is also consistent with Rokeach's (1973) view of personality traits as antecedent to values and with the literature attesting to the significant genetic component of basic traits (Lohelin *et al.*, 1998). The current research provides a first test of the mediational role of basic values in linking personality traits to attitudes towards immigration. It can elucidate how values and traits operate in concert to explain this socially significant attitude.

Based on the conceptual relations among specific traits and values and on previous findings (e.g., Dollinger, Leong, & Ulicni, 1996; Roccas *et al.*, 2002), we hypothesized that openness relates negatively to security values and positively to universalism values. Open-minded individuals are characterized by creativity, intellectual curiosity, and variety seeking, behaviours that conflict with the motivational goals of security values that emphasize maintaining predictability and avoiding anxiety-arousing change. These behaviours are compatible with and may even express the goals of universalism values that emphasize understanding and tolerance for *all* people and ideas and appreciation of beauty and nature. We further hypothesized that the agreeableness trait relates positively to universalism values. Agreeable individuals are friendly, empathetic, generous, honest, warm, and supportive. These behaviours can find expression through pursuing the goals of universalism values.

As control variables, we included a number of socio-demographic characteristics associated with attitudes towards immigration in previous research: education (positive: Hainmueller & Hiscox, 2007; Hanson *et al.*, 2007), age (negative: Pettigrew, 1998), gender (more positive for females: O'Rourke & Sinnott, 2006), and income (inconsistent: e.g., Wilson, 2001). We expected both values and traits to exhibit unique effects on perceptions of immigration even when these variables were controlled.

In sum, this cross-national study examines the role of basic values and basic traits in explaining perceptions of immigration. It adopts taxonomies and measures of values and traits that have demonstrated reliability and validity across cultures and languages.

Method

Participants and procedures

Questionnaires were administered face-to-face to members of the adult population in Italy ($N = 1020$), Spain ($N = 354$), and Germany ($N = 195$) in their native language. The order of administration was values, then perceptions of immigration, and then traits.

Table 1. Demographic composition of the samples

Demographics	Italy	Spain	Germany
Gender			
Males	44.9%	36.7%	50.8%
Females	55.1%	63.3%	49.2%
Age			
18–29	34.5%	59.0%	52.1%
30–39	8.2%	13.0%	2.6%
40–49	12.1%	15.5%	9.8%
50–59	18.0%	9.9%	24.7%
>59	27.2%	2.5%	10.8%
Education			
Elementary	8.1%	19.9%	11.6%
Junior High School	10.5%	54.5%	20.5%
High School	39.1%	17.7%	51.1%
University	42.3%	7.9%	16.8%
Annual income			
<5,000 Euro	3.2%	38.1%	NA
5,000–12,000	17.0%	19.0%	NA
12,000–18,000	27.7%	22.8%	NA
18,000–30,000	32.4%	14.3%	NA
>30,000	19.6%	5.8%	NA

Note. Income was not available (NA) in German sample.

Data were gathered by university students who were briefed on the general aims of the research, instructed on how to administer the questionnaires, and later informed of the specific objectives of the study. Each student was requested to collect data from two to four people, balancing age and gender. Table 1 reports the demographic composition of the samples.

Measures

Basic values

We measured basic human values with the PVQ (Schwartz, 2006). The PVQ includes 40 short verbal portraits of different people, gender-matched to the respondent, each describing a person's goals, aspirations, or wishes that point implicitly to the importance of a value. For each portrait, respondents indicate how similar the person is to themselves on a scale ranging from 'very much like me' to 'not like me at all'. We infer respondents' own values from the implicit values of the people they consider similar to themselves.

Six items measured universalism values (e.g., 'It is important to him to listen to people who are different from him, even when he disagrees with them, he still wants to understand them'). Three items measured personal security values ('It is important to him to live in secure surroundings. He avoids anything that might endanger his safety', 'It is important to her that things be organized and clean. She really does not like things to be a mess', and 'He tries hard to avoid getting sick. Staying healthy is very important to him'). Two items measured group security ('Having a stable government is important to her. She is concerned that the social order be protected', and 'It is very important to him that his country be safe. He thinks the state must be on watch against threats

from within and without'). The general security index averaged answers to these five items.

The native language versions of the PVQ have been validated previously in each country (Bamberg, Herrmann, Kynast, & Schmidt, 2001; Capanna, Vecchione, & Schwartz, 2005; Solano & Nader, 2006). The alpha reliability coefficients for universalism, personal and group security were, respectively, .77, .58, and .72 in Italy; .73, .60, and .64 in Spain; 76, .60, and .63 in Germany. Reliability coefficients of the ten basic values ranged from .43 (tradition in Spain) to .82 (achievement in Italy).

Perceived consequences of immigration

A three-item scale, adopted from the European Social Survey,[1] measured participants' perception of positive and negative consequences of immigration: 'People who come to live here from other countries generally make our country a better place to live', 'People who come to live here from other countries generally take jobs away from the workers of our country', and 'People who come to live here from other countries make our country's cultural life richer'. The scale covers three basic issues concerning the way immigrants are perceived (e.g., Dustmann & Preston, 2007), which are related to (a) the global contribution of immigrants to the recipient country, (b) the implications for economy and labour market, and (c) values and cultural issues. The response scale was labelled *completely disagree* (1), *agree a little* (2), *agree somewhat* (3), *agree a great deal* (4), and *completely agree* (5). We scored items so that higher scores signify a positive view of the consequences of immigration. The Cronbach's alpha reliability coefficients of the scale were .68 in Italy, .70 in Spain, and .81 in Germany.

Traits

We measured traits with the instrument most commonly used and validated in each country. In Italy, we used the Big Five Questionnaire-2 (BFQ-2, Caprara, Barbaranelli, Borgogni, & Vecchione, 2007), a revised version of the BFQ (Caprara, Barbaranelli, Borgogni, & Perugini, 1993), including 120 items that form five domain scales. In Spain, we used a short, 60-item form (BFQ-R) of the official Spanish version of the BFQ (Caprara, Barbaranelli, & Borgogni, 1995), including the items with the best psychometric properties from the BFQ. For both the BFQ-2 and the BFQ-R, respondents indicate agreement with the extent to which each item describes them on a five-point scale ranging from *very false for me* (1) to *very true for me* (5). Cronbach's reliability coefficients for the five domain scales ranged from .82 (emotional stability) to .90 (agreeableness) in Italy and from .60 (energy/extraversion) to .85 (conscientiousness) in Spain.

In Germany, we used the NEO Five-Factor Inventory (NEO-FFI), a 60-item short version of the NEO-PI-R (Costa & McCrae, 1992). Items are rated on a five-point scale ranging from *strongly disagree* (1) to *strongly agree* (5). Reliability coefficients ranged from .71 (agreeableness) to .81 (neuroticism) in Germany. Correlations between the analogous scales in the BFQ, the BFQ-2 and the NEO-PI, in both Italian and American samples, confirmed their convergent validity (Caprara *et al.*, 1993, 2007).

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[1] *Retrieved from http://ess.nsd.uib.no/ess/round1/ November 2, 2005.*

Statistical analyses

We first computed zero-order bivariate correlations to assess the association between individuals' socio-demographic characteristics and their perceptions of immigration. We used partial correlations to examine relations of values and traits to attitudes towards immigration, controlling socio-demographic characteristics. In the analyses of values, we centered each persons' responses on his/her own mean rating of the 40 items to correct for individual differences in scale use, as commonly done in the literature (Schwartz, 2006).

We then used structural equation modelling to test our main hypotheses. This handles measurement error by treating each construct as a latent factor with multiple indicators (Bollen, 1989). We focused on the values and traits for which we had formulated specific hypotheses, namely universalism and security values and openness and agreeableness traits.[2] As a first step, we assessed the measurement model for values and perceptions of immigration, the variables that were measured in the same way in all three countries. We began by assessing the measurement model separately in each country.

The measurement model posited four correlated factors: perceptions of immigration, universalism, personal security values, and group security values. We constrained the loading of one item on each factor to 1.0 to establish a metric for the latent factors and allowed the remaining loadings and factor variances and covariances to vary freely. We fixed the covariances between error terms to zero except for two universalism items whose covariances we allowed to correlate because they form a specific facet of universalism, related to concern for nature and the environment. This distinction is in line with Schwartz's (1992) theory and has been empirically supported in several countries (Schwartz & Boehnke, 2004). We used maximum likelihood to estimate parameters with the EQS program (Bentler, 2001) and evaluated the covariance structure models with several goodness of fit indexes: chi-square, root mean square error of approximation (RMSEA, Steiger & Lind, 1980), comparative fit index (CFI, Bentler, 1990), and standardized root mean square residual (SRMR, Joreskog & Sorbom, 1996).

Next, we ran a multi-group analysis to assess measurement invariance of the scales of the variables across country samples. Model 1 assessed configural invariance – equivalence of the overall structure (i.e., the same number of factors and the same pattern of loadings) across countries. Model 2 examined metric invariance – equivalence of factor loadings across countries. Given the large sample size and number of equality constraints, we set a significance level of .01. After establishing configural and metric invariance, we examined a structural model linking universalism and security values to perceptions of immigration. We also conducted a cross-national comparison to examine whether the strength of associations differed across national samples. In this model, we included the demographic variables as covariates that could affect both values and perceptions of immigration.

Finally, we included openness and agreeableness in the model in order to examine the mediational role of values in linking traits to perceptions of immigration. We tested two competing models. The first model tested the hypothesis that universalism and both personal and group security directly affect perceptions of immigration and fully mediate any influence of traits. We tested the indirect (i.e., mediated) effects of traits with a non-parametric bootstrap approach (Efron & Tibshirani, 1993), implementing the procedure proposed by Shrout and Bolger (2002) with the EQS software (Bentler,

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[2] *Including the other basic values and traits contributed negligibly or not at all to the model.*

2001). The second model added direct effects of traits on perceptions of immigration. Significant direct effect of traits would suggest that values serve to mediate the relation between traits and perceptions of immigration only partly.

Results

Bivariate correlations
The top panel of Table 2 presents the correlations between perceptions of immigration and the demographic variables in each country. Education correlated positively and age negatively with perceptions of immigration as having positive consequences in all three countries. Gender correlated negatively only in Spain. Income, measured only in Italy and Spain, was unrelated to attitudes.

The middle panel of Table 2 reveals that, as hypothesized, the partial correlations of value priorities with perceptions of immigration were most positive for universalism and most negative for security in all three countries, after controlling for the demographics. Moreover the pattern of correlations followed the motivational circle of values, declining

Table 2. Pearson bivariate correlations of perceptions of immigration with socio-demographic variables, traits, and values

	Italy ($n = 1020$)	Spain ($n = 354$)	Germany ($n = 194$)
Demographic variables			
Gender	.00	−.14*	−.08
Age	−.16***	−.15**	−.16**
Education	.24***	.15**	.19**
Income	.07	.03	NA
Values			
Group security	−.25***	−.23***	−.31***
Personal security	−.23***	−.18***	−.21***
Security	−.29***	−.25***	−.31***
Conformity	−.17***	−.13	−.11
Tradition	−.17***	−.15	−.02
Benevolence	.23***	.31***	.26**
Universalism	.34***	.43***	.34***
Self-direction	.21***	.06	.20**
Stimulation	.07	.18*	−.04
Hedonism	.02	.01	−.17*
Achievement	−.11**	−.07	−.08
Power	−.13***	−.16*	−.05
Traits			
Energy/Extraversion	−.01	−.07	−.02
Agreeableness	.24***	.46***	.20**
Conscientiousness	−.03	−.01	−.09
Emotional stability [a]	.13***	.17*	.05
Openness	.27***	.26***	.44***

Note. * $p < .05$; ** $p < .01$. Demographic variables are partialled out from the correlations of perceptions of immigration with values and traits. [a]NEO-FFI neuroticism has been reversed and labelled emotional stability in Germany.

Table 3. Goodness-of-fit statistics for the models tested

	χ^2	df	CFI	SRMR	RMSEA	Comparison	$\Delta\chi^2$	Δdf	p
	Model fit indices					Model comparison test			
Measurement model									
Italy	309.38	70	.934	.059	.059 (.053, .066)	–	–	–	–
Spain	151.56	70	.930	.064	.058 (.045, .071)	–	–	–	–
Germany	116.78	70	.934	.076	.061 (.041, .080)	–	–	–	–
Tests of cross-national invariance									
Model 1. Configural invariance	577.71	210	.933	.070	.034 (.031, .038)	–	–	–	–
Model 2. Full metric invariance	638.09	230	.926	.077	.034 (.031, .038)	2 vs. 1	60.38	20	<.001
Model 3. Partial metric invariance	607.83	227	.931	.074	.034 (.030, .037)	3 vs. 1	30.12	17	.025

from universalism to security in both directions around the circle with few exceptions.[3] Both subtypes of security values exhibited the hypothesized negative correlations with perceptions of immigration, with group security showing slightly stronger correlations in all three countries. As expected, conformity, tradition, and power values exhibited negative correlations and benevolence and self-direction values exhibited positive correlations, though not all of these correlations were significant in Spain and Germany.

The bottom panel of Table 2 reveals that, as hypothesized, the partial correlations of the openness and agreeableness traits with perceptions of immigration were positive in all three countries. Emotional stability correlated positively, though much more weakly, with this attitude in Italy and Spain but not in Germany. Energy/extraversion and conscientiousness were unrelated to perceptions of immigration.

Measurement model

The top panel of Table 3 shows that the measurement model that related the latent variables for attitudes towards immigrants and universalism, personal security, and group security to the respective indicators fit the data quite well in each country. Although the chi square was significant, the other fit indices were all within acceptable ranges. The factor loadings of the indicators on the latent variables were all greater than .40 and significantly different from zero ($p < .001$), supporting the convergent validity of the measures. Personal and group security emerged as related but distinct factors in each country. Correlations between them ranged from .65 (Germany) to .79 (Spain). As a further test of discriminant validity, we fixed the correlation between personal and group security to 1.00 and examined the resulting increase in chi square. This increase was significant in each country: 38.60 in Italy ($p < .001$), 8.97 in Spain ($p < .01$), and 9.56 in Germany ($p < .01$). This indicates that making a distinction between personal

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[3] *The pattern was perfect in Italy, showed only one reversal in Spain (stimulation and self-direction) and two reversals in Germany (hedonism more negative than achievement and power).*

and group security provides a better fit to the data than treating them as a single, overall security variable.

Having confirmed the same measurement model in each country, we were able to test the invariance of measurement across countries. The fit statistics in the bottom panel of Table 3 indicate an adequate fit for the configural invariance model (Model 1). This suggests that the same factor structure holds for the three country samples. The fit statistics for the metric equivalence model (Model 2), which constrained all factor loadings to be equal across groups, also appeared to indicate an adequate fit. However, the chi-square difference test between the two models was statistically significant ($\Delta\chi^2(20) = 60.38, p < .001$; see right side of Table 3), suggesting some non-equivalence so that full metric invariance could not be retained. The Lagrange modification indices revealed that three of the 20 constraints showed a significant chi square. The partial metric invariance model relaxed these constraints (Model 3). The chi-square difference test comparing this model to Model 1 was not significant at the .01 alpha level, $\Delta\chi^2(17) = 30.12; p = .025$. This model met the minimum requirement for metric invariance of at least one equal loading for each measure (Meredith & Horn, 2001). We therefore concluded that partial factorial invariance was established (Byrne, Shavelson, & Muthén, 1989) so that meaningful cross-national comparisons of the structural parameters are legitimate.

Structural model

This model assessed the impact of values on perceptions of immigration, including the demographics that had significant zero-order correlations (gender, age, and education) as controls. The model fit the data, $\chi^2(317) = 864.612, p < .001$, CFI $= .91$, SRMR $= .07$, RMSEA $= .03$ (.03–.04). In all three countries, universalism predicted positive perceptions of immigration, group security predicted negative perceptions, and personal security made no unique contribution. Education predicted positive perceptions of immigration in Italy and Spain, but not in Germany and the other demographic variables did not contribute significantly. In order to compare the models across countries, we constrained the path coefficients to be invariant across groups. Lagrange multiplier tests revealed a stronger path between universalism and perceptions of immigration in Spain ($p < .01$). The strength of the other relations was invariant across countries. The values and demographic variables accounted for 44% of the variance in Italy, 71% in Spain, and 47% in Germany.

Mediation of the link between traits and attitudes towards immigration by values

In order to assess whether values mediate the link between traits and perceptions of immigration, we added latent variables for the openness and agreeableness traits to the structural model. Each trait was defined by two observed indicators created by randomly parcelling all the items that measured it in the respective questionnaires. Figure 1 presents the parameter estimates of the hypothesized model that posits that values completely mediate the effects of traits on perceptions of immigration. This model provided a reasonable fit to the data, $\chi^2(499) = 1379.63, p < .001$, CFI $= .90$, SRMR $= .07$, RMSEA $= .03$ (.03–.04).

As shown in Figure 1, individuals high on the openness trait attributed more importance to universalism values and less importance to both personal and group security values. Individuals high on agreeableness attributed more importance to
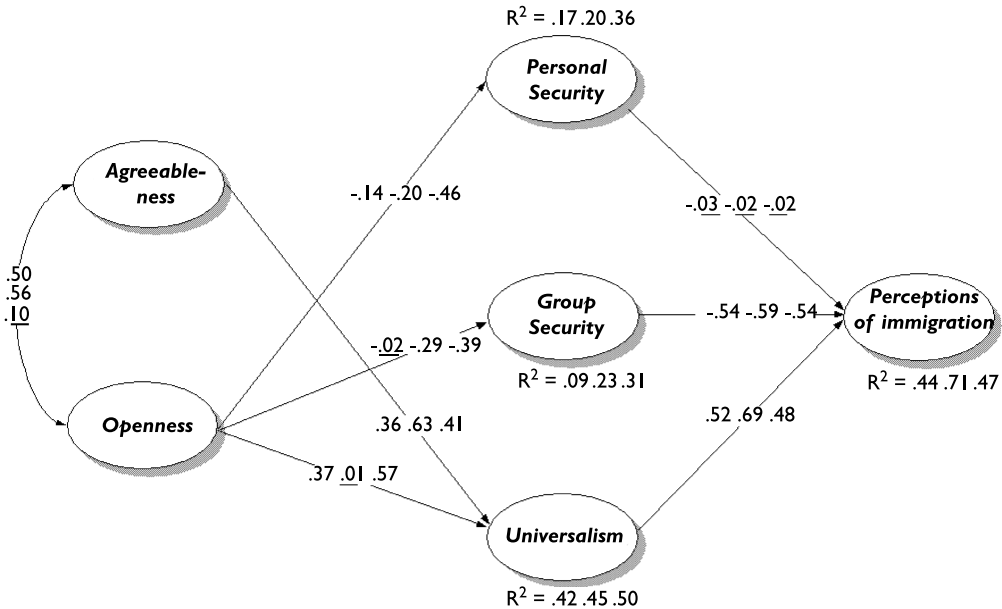
Figure 1. The hypothesized full mediational model. All parameters are standardized. Underlined coefficients are not statistically significant at $p < .05$. The first coefficient refers to the Italian sample, the second to the Spanish sample, and the third to the German sample.

Table 4. Indirect effects of traits on perceptions of immigration mediated through values

	Italy	Spain	Germany
Agreeableness → Universalism → Perception	.20 (.05, .37)	.43 (.19, .69)	.21 (.06, .38)
Openness → Personal Security → Perception	.00 (−.22, .26)	.00 (−.20, .24)	.01 (−.19, .20)
Openness → Group Security → Perception	.01 (−.18, .21)	.17 (.07, .33)	.20 (.04, .35)
Openness → Universalism → Perception	.21 (.04, .36)	.01 (−.17, .21)	.27 (.10, .43)

Note. To calculate the confidence intervals, we ordered 1,000 bootstrap estimates of indirect effect from lowest to highest and used the 2.5th and the 97.5th percentiles as upper and lower bounds (see Shrout & Bolger, 2002); 95% confidence intervals are provided in parentheses.

universalism values. Adding direct effects of openness and agreeableness on perceptions of immigration did not significantly improve the model fit ($\Delta\chi^2$ (6) $= 7.93$, $p = .24$). This analysis suggests that attitudes towards immigrants are substantially influenced by universalism and group security values. Moreover, values are grounded in part in personality traits. Agreeableness is conducive to universalism across countries and openness is conducive to universalism in Italy and Germany. In addition, openness leads to less emphasis on personal security across countries and to less emphasis on group security in Spain and Germany.

We also examined the indirect effects of traits in each country. Table 4 shows parameter estimates and 95% confidence intervals for the indirect effects. Findings reveal that (a) agreeableness contributed to perceptions of immigration in all three countries through its influence on universalism, and that (b) openness had an indirect effect

through universalism in Italy and Germany and through group security in Spain and Germany.

Discussion and conclusions

Public opinion in Europe is sharply divided about how to handle immigration. Zolberg (1987) succinctly captured the longstanding ambivalence towards foreign immigrants with the phrase 'wanted but not welcome'. The public recognizes that immigration may have both positive and negative consequences for their country. Public perceptions are driven by a host of social, economic, cultural, historical, and contextual factors. Relatively unexamined is the possibility that individual differences in value priorities and personality traits may play a critical role in explaining the psychological underpinnings of how people perceive the consequences of immigration. Values and traits, indeed, represent two distinctive characteristics of personality that may be particularly relevant to immigrants acceptance.

The current findings from Italy, Spain, and Germany revealed significant covariation between perceptions of immigration and individual differences in values and traits. These predispositions jointly explained from 44 to 71% of the variance in people's perceptions of the consequences of immigration. Personal values related significantly to perceptions of immigration over and above socio-demographic characteristics. Concerning the role of basic values, our findings are by and large compatible with findings in Schwartz (2007) and Davidov *et al.* (2008). Universalism and security values, in particular, were the strongest predictors, but with opposite signs. Both universalism and security values regulate how people relate socially to others. However, because they express conflicting motivations, they are located on opposite sides of the motivational circle of values (Schwartz, 1992). Universalism values focus on the welfare of others, transcending concern for and anxiety about self. Security values by contrast, focus on avoiding anxiety due to uncertainty and unpredictability (Schwartz, 2009). The trade-off between these two values provides a psychological basis for perceiving the consequences of immigration as positive or negative. In particular, people for whom security is especially important are more likely to perceive higher crime rates, intergroup conflict, economic competition, and undermining of shared cultural beliefs and values as likely consequences of immigration. Moreover, preoccupied with protecting the status quo and controlling anxiety, these people have fewer psychic resources available to recognize possible positive outcomes of immigration (cf. Schwartz, 2009).

Our analysis goes one step further by distinguishing two subtypes of security values, personal and group. Both subtypes correlated with negative perceptions of immigration, but group security values apparently identify the more critical basis of these perceptions. They had substantial paths to perceptions of immigration in all countries, when all predictors were included in one model. In contrast, none of the paths for personal security values were significant. This finding is consistent with the limited impact of individual concerns on the perceived economic consequences of Hispanic and Asian immigration to the United States reported by Citrin *et al.* (1997).

The cross-cultural comparison revealed that group security values had an equally strong negative effect on perceptions of immigration in Italy, Spain, and Germany. Universalism values had an equally strong positive effect in Italy and Germany but an even stronger effect in Spain. Possible differences in the image of immigrants that respondents had in mind in each country may provide a clue to the difference in the effect

of universalism values. We may speculate that these images might reflect the composition of the migrant populations in the three countries. Roughly 45% of the foreign born population in Spain comes from Latin America (Instituto Nacional de Estadística, 2009). These immigrants speak the same language (Spanish), share the same religion (Roman Catholicism) and have a similar cultural background as the indigenous population. In addition, about 20% of the Spanish immigrants come from Western Europe and many of these are also Catholics. In contrast, almost no foreign born immigrants to Italy speak Italian or come from societies influenced by Italian culture, and fewer than half are Catholics. The major sources of Italian immigration are Eastern Europe, Asia, and North Africa (FIERI, 2008). In Germany, few immigrants speak German. The *largest and most visible* group comes from Turkey, well over half are Moslems or Eastern Orthodox, and very few come from countries influenced by Germanic culture (Statista, 2009).

These differences in the composition of the immigrant population suggest that when Germans and Italians provided their perceptions of immigrants they were likely to think about people who were very different from themselves. For many, the prototypical immigrant may have seemed so very different as to be excluded from their moral universe. That is, they may have perceived immigrants as outside the circle of those to whom they are morally obligated as fellow human beings (Schwartz, 2007). In Spain, respondents were less likely to perceive the prototypical immigrant as so different from themselves as to be excluded from their moral universe. Universalism values express tolerance and openness to others, but only to the extent that these others are part of one's moral universe (Schwartz, 2007). Thus, they were more likely to promote positive perceptions of immigrants in Spain than in Germany and Italy. Future research aimed at replicating the country differences should seek evidence relevant to our interpretation by directly measuring whether respondents exclude immigrants from their moral universe.

As hypothesized, the basic dispositional tendencies captured by the agreeableness and openness traits also related significantly to perceptions of immigration. However, their effects were indirect and fully mediated by basic values. Openness affected perceptions through its influence on group security and universalism values, whereas agreeableness affected perceptions through its influence on universalism values. Open-minded individuals attribute more importance to universalism values and less importance to security values. This comports with the consistent positive associations of openness with education (Costa, Fozard, McCrae, & Bosse, 1976) and liberal socio-political views (McCrae, 1996), both of which correlate positively with universalism and negatively with security values (Schwartz, 2006). Agreeable individuals attribute importance to universalism values. This comports with their positive associations with prosocial behaviour (e.g., Graziano & Eisenberg, 1997) with which universalism values also correlate positively.

The current findings assign primacy to values over traits in predicting perceptions of immigration. Although values and traits are related (e.g., Roccas *et al.*, 2002), values explained unique variance in perceptions in the joint analysis whereas traits did not. The findings suggest that traits can be thought as basic potentials for prejudice. Due to their endogenous, inherited dispositions, people may differ in their traits of openness to others and agreeableness in social relations. These biologically based potentials may later develop into the preferences and value priorities (e.g., for universalism or security) that incline them to accept or reject individuals of different ethnic or cultural backgrounds. The combination of endogenous traits with individual experiences and social circumstances leads to values and preferences (McCrae & Costa, 1999).

Findings from this study may have direct implications for policy makers. Perceptions of immigration appear to be rooted in stable personality characteristics. Public opinion on immigration might thus be conceived of as relatively stable. Yet, our results do not imply that public opinion is immutable. Linking personality traits and values to perceptions of immigration requires some interpretation. It is a matter of interpretation whether, for example, one considers a person as belonging to the ingroup or not. At this juncture, attempts to reframe perceptions of the consequences of immigration through public information could affect citizens' willingness to accept immigrants into the country. For example, governments might assess which public beliefs about negative effects of immigration are exaggerated and which beliefs about positive effects are underrated. They could then publicize information about immigration that might reduce perceptions that it threatens security values and that might enhance perceptions that it is an arena for expressing universalism values.

In addition to communication strategies, policy measures that actually reduce threats of immigration to group security or provide citizens non-threatening opportunities to promote the welfare of immigrants could be especially effective in changing perceptions and attitudes. For example, policies that encourage and enable immigrants to better integrate themselves into the social, economic, and cultural life of the society might reduce citizens concerns about the effects of immigration on group security.

There are several limitations to this research. First, studies in each country utilized convenience samples. Although the samples exhibited substantial variability on key demographic characteristics, they did not represent the general population. Moreover, the samples differed both in size and in demographic composition. The instruments used to measure traits in each country also differed, precluding a comparison of the impacts of the openness and agreeableness traits across countries. Despite these limitations, the findings were quite stable across the three countries. This is remarkable, given the host of historical, social, and cultural differences among the countries, including different immigration policies and views of immigration as part of the national identity (Citrin *et al.*, 1997). Plausibly, the theoretical reasoning underlying the findings applies in other countries receiving major immigration (e.g., France, the USA, Australia). Future research should assess the generalizability of the findings. The effects of basic values and personality traits on attitudes and perceptions may be responsive to characteristics of the context. Hence, data gathered under different political and social circumstances might reveal a different pattern of relations.

Another potential limitation is the low reliability of some scales. We have to keep in mind, however, that the variables were modelled as latent constructs, which take into account measurement error (Kline, 2005). Moreover, one should consider as a further limitation the use of a short, three-item scale for measuring perceptions of the consequences of immigration. Although the scale has acceptable psychometric properties in terms of dimensionality and internal consistency, it may fail to address the complexity of such perceptions. Earlier studies have indeed revealed that attitudes towards immigrants comprise different political, economic, and cultural components, among which labour market concerns, security and cultural considerations, and individual feelings towards illegal immigration (Mayda, 2006). Future research should examine the differential role of traits and values in affecting each of these specific components, using large, multifaceted measures. This would provide a more comprehensive understanding of attitude towards immigration and its determinants. Further research should also investigate whether the effects of values and traits on attitudes and perceptions is different across different types of immigrants. Effects might differ, for example, as a function of whether the immigrants

are fleeing oppression or seeking economic advancement, come from culturally similar or different countries, or have similar or different skin colour. Longitudinal research is critical to clarify the causal paths between traits and values and their joint contribution in shaping public opinion towards immigration. This research should also take account of changing circumstances and social events.

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