RESEARCH PAPER

Immigration Attitudes and Subjective Well-Being: A Matter of Identity?

Heinz Welsch[1] · Philipp Bierman[2] · Jan Kühling[1]

Abstract
Drawing on previous literature that has found individuals' subjective well-being (SWB) to be correlated with social and political attitudes, we study the relationship between individuals' attitudes towards immigration and their SWB. We treat immigration attitudes as an aspect of individuals' self-image and hypothesize that, through a mechanism of moral satisfaction, greater immigration-friendliness is associated with greater SWB (H1). We further hypothesize that greater disparity of immigration attitudes yields social antagonism and as such is associated with less SWB (H2). Finally, we hypothesize that the SWB benefit (if any) from immigration-friendliness increases in the disparity of the respective attitudes, as greater disparity permits individuals to differentiate themselves from others, thus contributing to their sense of identity (H3a). Alternatively, the SWB benefit from immigration-friendliness (if any) may increase in the degree of consensus (lack of disparity), as greater consensus may indicate the existence of a social norm, conformity with which yields SWB through social approval (H3b). Using 227,596 observations from 35 European countries, 2002–2018, we find multivariate correlational relationships consistent with H1, H2 and H3a.

Keywords Subjective well-being · Life satisfaction · Attitudes · Immigration · Identity · Antagonism

JEL Classification I31 · F22 · D74 · D63 · Z13

1 Introduction

In addition to objective correlates of well-being (e.g. health, gender, employment status and marital status), recent research has found subjective well-being (SWB) to be related to a number of behaviors and attitudes, notably pro-social and pro-environmental ones (e.g. Brown and Kasser 2005, Kasser 2017, Binder and Blankenberg 2017, Welsch and Kühling 2018). Mechanisms that may explain such empirical relationships include moral

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✉ Heinz Welsch
  welsch@uni-oldenburg.de

1   Department of Economics, University of Oldenburg, 26111 Oldenburg, Germany

2   Department of Sociology, University of Magdeburg, 39104 Magdeburg, Germany

satisfaction related to a self-image of altruism and generosity (e.g. Andreoni 1990, Kahnemann and Knetsch 1992), social distinction and social identity (e.g. Akerlof and Kranton 2000), and conformity to social norms (e.g. Akerlof 1980).

While—with regard to such mechanisms and motivations—favorable attitudes towards immigration arguably fall into a similar category and may thus be related to SWB in similar ways, the relationship between immigration attitudes and SWB remains largely unexplored. Yet, looking at this relationship seems to be pertinent given the importance of immigration as a crucial issue and one of the key dividing lines in contemporary politics in a number of advanced democracies.

The literature on attitudes towards immigration has focused on several determinants of such attitudes, which may shape the relationship between immigration attitudes and SWB. One perspective focuses on immigration's (perceived) consequences, addressing, in particular, effects on labor markets (Mayda 2006), the welfare state (Facchini and Mayda 2009), and compositional amenities (Card et al. 2012). In addition, the role of (social) psychological factors such as racial prejudice (Dustmann et al. 2007) and bitterness in life (Poutvaara and Steinhardt 2018) was studied. A general message from this research is that economic and social consequences of immigration play an important role in shaping attitudes towards immigration.

Another perspective on immigration attitudes involves issues of identity. In a related domain—racist and xenophobic attitudes—Mocan and Raschke (2016) conceive of these attitudes as expressions of people's identity (self-image), that is, their sense of belonging to a social group or category. They argue that the relevant identity categories in the case of xenophobic (anti-immigration) attitudes are "native" and "foreigner". Their empirical results on the correlates of foreigner-related attitudes are consistent with such an identity view. In particular, "native" identity appears to be a substitute for income in individuals' utility function, that is, individuals are willing to forego income (by refusing to cooperate in the workplace, say) if this serves to uphold their "native" identity.

The present paper ties in with the idea that an individual's attitude towards foreigners may partly reflect her identity, but studies the role of the respective self-image in the utility function *directly*, by using SWB as a proxy for utility (dependent variable) and indicators of immigration-friendliness (IF) as independent variables. Motivated by recent findings that SWB is positively related to holding an environment-friendly self-image (Binder and Blankenberg 2017, Welsch and Kühling 2018) and the idea that immigration-friendliness, similar to environment-friendliness, may reflect an individual's moral self-image and/or social identity, we formulate and test a number of hypotheses on the relationship between IF and SWB. Specifically, we hypothesize that, through a mechanism of moral satisfaction, greater immigration-friendliness is associated with greater SWB. We further hypothesize that greater disparity of immigration attitudes yields social antagonism and as such is associated with less SWB. Finally, we hypothesize that the SWB benefit (if any) from immigration-friendliness increases in the disparity of the respective attitudes, as greater disparity permits individuals to differentiate themselves from others, thus contributing to their sense of identity. Alternatively, the SWB benefit from immigration-friendliness (if any) may increase in the degree of consensus (lack of disparity), as greater consensus may indicate the existence of a social norm, conformity with which yields SWB through social approval.

In exploring our hypotheses, we use data on SWB, measured as life satisfaction (LS), and immigration attitudes from the European Social Surveys (ESS). Using 227,596 observations from 35 countries, 2002–2018, and controlling for a rich set of individual-level correlates of LS as well as macroeconomic indicators, the population

share of immigrants, country fixed effects and year fixed effects, we find the following: (1) LS is significantly positively correlated with immigration-friendliness. (2) LS is significantly negatively correlated with a measure of disagreement on immigration. (3) The positive association between LS and immigration-friendliness is greater when the degree of disagreement is greater.

Our results are robust to controlling for a large set of potential confounders, including economic and compositional consequences of immigration. Like prior work on identity and well-being, however, the analysis carries limitations with respect to issues of causality. Conceptually, it is possible that causality runs both ways, that is, immigration-friendly people are more satisfied and more satisfied people are more immigration-friendly. Given the cross-sectional nature of the data and the unavailability of appropriate instrumental variables for immigration attitudes, we are unable to rigorously disentangle the extent to which attitudes are causing satisfaction, satisfaction is causing attitudes or they influence each other in a dynamic fashion.

Our results suggest a robust correlational relationship between immigration-friendly attitudes and subjective well-being. Notwithstanding limitations to rigorous testing of causality, the relationship can be argued to be at least partly a reflection of individuals' sense of identity. Specifically, the finding that the relationship is stronger when there is greater disparity of immigration attitudes within society is consistent with the view that immigration-friendly individuals derive psychological benefits from differentiating themselves from others with a different identity.

The paper is organized as follows. Section 2 offers a review of theoretical underpinnings and develops the theoretical framework and hypotheses. Section 3 describes the data and methods employed. Section 4 reports and discusses the results. Section 5 concludes.

2 Literature Background and Theoretical Framework

Since there are to our knowledge no studies that analyze the relationship between SWB and immigration-friendliness we have to draw on relevant neighboring fields to develop our hypotheses as to how immigration-friendly attitudes may be associated with SWB. While some strands of the literature suggest that there may be direct psychological benefits of holding an immigration-friendly self-image, involving moral norms, social norms (conformity), social identity (distinction) and social cohesion, another focuses on the perceived real-world consequences of immigration, involving economic concerns and compositional amenities. We discuss those channels and the pertinent literature in turn.

2.1 Moral Motivation

The paper most closely related to the present work is Binder and Blankenberg (2017), who show that an environment-friendly self–image goes with greater SWB, even controlling for actual pro-environmental behavior. Referring to corroborating evidence of altruistic lifestyles being associated with greater SWB (Binder and Freytag 2011, Dunn et al. 2011), they argue that upholding a green self-image may yield moral satisfaction from living in agreement with a moral norm, that is, a feeling of what is ethically right (Nyborg 2018).

Specifically, they refer to the norm of pro-sociality (altruism and generosity). The interpretation of green lifestyles as manifestations of pro-sociality is supported by the finding that the positive association between green lifestyle and SWB disappears when controlling for generosity (Brown and Kasser 2005 and, similarly, Binder and Blankenberg 2016).

We argue that the research on green lifestyle and SWB is relevant to the present work because, similar to environment-friendliness, immigration-friendliness can be viewed as a manifestation of pro-sociality, yielding utility through living in agreement with a moral norm. This leads to the conjecture that immigration-friendliness is associated with greater SWB.

To summarize, moral motivation provides a first channel through which subjective well-being may be related to immigration-friendliness.

2.2 Social Distinction and Social Identity

It is a common perception that people strive to distinguish themselves from others in order to derive utility from such distinctions (Frey and Stutzer 2016). Among potential variables that may serve as criteria for social distinction, wealth and consumption arguably are the most relevant ones in economic analysis (Veblen 1899). Yet, many other dimensions along which people differentiate themselves from others can be mentioned, ranging from nationality, race, and religious denomination to musical tastes, philosophical world views, and moral values and attitudes. Self-identification with such characteristics defines an individual's *personal identity*, whereas the perception that one's personal identity is similar to that of a group of others and differentiates that group from other groups defines the individual's *social identity*.

While the relevance of social identity for economic analysis has been recognized relatively recently (Akerlof and Kranton 2000), the notion has long been used in other social-science disciplines and has become the key concept of "social identity theory" (Tajfel 1972). According to the standard definition, social identity is "the individual's knowledge that he belongs to a certain social group together with some emotional and value significance to him of this group membership" (Tajfel 1972, 292). Through the formulation "emotional and value significance", this definition suggests the existence of a psychological benefit from being a member of a particular group while at the same time distinguishing oneself from other groups (Esteban and Raj 1994, Akerlof and Kranton 2000). Being related to the existence of social groups, such a benefit arises only to the extent that there are groups within society that are sufficiently diverse along the relevant dimension. Uniformity throughout the whole society rules out psychological benefits from social distinction.

In this paper we maintain that a potentially identity-relevant attitude is an individual's immigration-friendliness. From a social identity perspective, immigration-friendliness may yield utility because it allows individuals to differentiate themselves from others. Arguably, such differentiation is more likely to be successful when immigration-friendly attitudes are more dispersed in society, rather than being uniform.

Social identity provides a second channel through which subjective well-being may be related to immigration-friendliness.

2.3 Social Conformity and Social Norms

While distinction through social identity is one potential channel for immigration-friendliness to enhance subjective well-being, an alternative channel is conformity to a social norm. Social norms can be defined as agreements shared within society about what constitutes appropriate and inappropriate behavior (Schultz et al. 2007). In contrast to moral norms which, as noted above, refer to inner feelings of what is ethically right, social norms involve extrinsic social forces such as others' social approval, disapproval, inclusion, or exclusion (Nyborg 2018). Through such channels, conformity to social norms may be a source of utility. If immigration-friendliness has the status of a social norm, individuals may derive utility from conformity to it.

With respect to measuring whether an attitude constitutes a social norm, Welsch and Kühling (2018) have argued that the validity of a social norm depends on the degree of *unanimity* with which it is held in a society. Following such an approach, they found that SWB is more strongly related to environment-friendly attitudes when a society is characterized by a stronger consensus on environmental issues. In our empirical analysis we will consider the unanimity of immigration attitudes as indicators of the validity of a presumed social norm of immigration-friendliness.[1]

Conceptualizing the validity of the presumed immigration-friendly social norm by the unanimity with which the respective view is held within society leads to an interesting symmetry between the social identity and social norm views of how subjective well-being is associated with immigration-friendliness. While the social norm view entails that the association (if any) is stronger when society is less divided on the issue, the social identity view entails that the association may be stronger when society is more divided, as this enhances the potential for social distinction through taking a particular attitude.

Conformity to a social norm provides a further channel through which subjective well-being may be related to immigration-friendliness.

2.4 Social Antagonism

Considering the issue of social division (lack of unanimity) with respect to immigration-friendliness, a natural question is if and how such division per se may affect subjective well-being, independent of its influence on how subjective well-being is related to immigration-friendliness.

Literature pertinent to this issue refers to the relationship between income inequality and indicators of the quality of life. For instance, a number of studies found regional income inequality to be a predictor of individual health status (e.g. Kawachi et al. 1999). In addition to affecting health, income inequality has been found to negatively affect European citizens' SWB (Alesina et al. 2004, Ebert and Welsch 2009; see Clark and

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[1] Alternatively, it has been suggested to measure the validity of a social norm by the prevalence (average level) of a behavior or attitude, rather than by unanimity (lack of division). In studying the consequences of "unemployment as a social norm", Clark (2003) operationalized the validity of the presumed norm by the level of unemployment in an individual's social environment and found the well-being repercussions from individually being unemployed to be lower when average unemployment is higher. In our empirical analysis of the relationship between immigration-friendliness and SWB we experimented with measures of prevalence and found this relationship (as well as SWB itself) to be not significantly related to the average level of immigration-friendliness. To keep the paper concise, our discussion does not further pursue the issue of prevalence of immigration-friendliness.

D'Ambrosio 2015 for a survey and discussion). A common denominator of such findings is the importance of social cohesion (or its converse: antagonism) for the quality of life (Kawachi et al. 1999), but indicators of cohesion other than economic inequality do not seem to have been studied in quality of life research.

Independent of quality of life research, the notion and measurement of social antagonism are basic elements of the *identification-alienation framework* of Esteban and Raj (1994). In this framework, an individual from one group feels identified with other individuals in the same group, while feeling alienation towards individuals from a different group. Following Esteban and Raj (1994), the interaction between identification and alienation yields *antagonism* and as such may lead to social tension, unrest, rebellion, civil war and similar phenomena. Sen (2006) discusses relationships between social identity and violence.

By undermining social cohesion, social antagonism with respect to immigration may be a channel through which subjective well-being can be related to immigration-friendliness.

2.5 Hypotheses and Model

This subsection summarizes our hypotheses, as suggested by the literature discussed so far. The first hypothesis refers to the potential well-being benefits of conformity to an internal (moral) norm:

Hypothesis 1 *(moral norm)* Holding an immigration-friendly self-image is associated with greater SWB.

The second hypothesis refers to the potential well-being repercussions of a lack of social cohesion:

Hypothesis 2 *(social cohesion)* Social disparity (lack of consensus) with respect to immigration-friendliness is associated with less SWB.

The third set of hypotheses refers to the potential well-being benefits of social distinction (social identity) and, respectively, social conformity (social norms):

Hypothesis 3a *(social identity)* The well-being benefit of holding an immigration-friendly self-image is greater when the social disparity of the respective attitude is higher.

Hypothesis 3b *(social norm)* The well-being benefit of holding an immigration-friendly self-image is greater when the social consensus of the respective attitude is higher.

In Hypothesis 3b, social consensus is conceptualized as the converse of social disparity referred to in Hypothesis 3a. Observing this symmetry, we can concisely capture our hypotheses in terms of the following models:

$$SWB_i = f\big(IF_i, disparity, IF_i * disparity\big), \tag{1}$$

where IF_i denotes immigration-friendliness at the level of the individual whereas *disparity* refers to immigration-friendliness at the societal level. Hypothesis 1 (moral norm) predicts that the derivative with respect to the first argument is positive whereas Hypothesis 2 (social cohesion) predicts that the derivative with respect to the second argument is negative. Hypotheses 3a (social identity) predicts a positive derivative with respect to the third argument, whereas Hypotheses 3b (social norm) predicts a negative derivative with respect to the third argument.

2.6 Accounting for Economic and Compositional Concerns

The discussion up to this point has focused on the possibility of direct psychological effects of holding an immigration-friendly attitude. An alternative perspective would rather focus on the real-world implications of immigration, involving economic conditions and compositional amenities. In such a view, well-being benefits or repercussions from holding a particular attitude towards immigration would reflect individuals' expectations as to immigration's consequences.

While Mayda (2006) and Facchini and Mayda (2009) focused on economic consequences of immigration, Card et al. (2012) differentiated between economic factors and concerns about "compositional amenities" that natives derive from their neighborhoods, schools and workplaces, and found the latter to be 2–5 times more important in explaining the variation in attitudes towards immigration than the former.

While perceptions of economic effects of immigration may be negative, being based on increased labor market competition, positive economic outcomes are also conceivable, for instance in terms of increased output. Likewise, perceived compositional effects may be negative (related to fear of crime, feelings of alienation and similar concerns) or positive (being based on a taste for multiculturalism). Since, according to Card et al. (2012), attitudes towards immigration are related to such (perceived) effects of immigration, these effects may provide an additional (or alternative) channel through which subjective well-being and immigration attitudes can be related to each other.

To account for this possibility, the model stated in Eq. (1) is extended to capture possible economic or compositional consequences of immigration. Empirically, we proxy the consequences of high levels of immigration by the share of immigrants in the respective societies. Additionally, we will control for possible economic effects of immigration by including macroeconomic indicators.

3 Method

3.1 Data and Definition of Variables

We use survey data from nine waves of the European Social Survey (ESS); see www.europeansocialsurvey.org. The ESS is a repeated cross-sectional, multi-country survey covering over 30 nations. Its first wave was fielded in 2002/2003, the ninth in 2018/2019. ESS data are obtained using random (probability) samples, where the sampling strategies are designed to ensure representativeness and comparability across European countries.

The nine-wave cumulative dataset of the ESS involves 36 countries. Since the required macroeconomic control variables (see below) are unavailable for one country (Kosovo),

our analysis refers to the following 35 countries, accounting for economic and political/cultural heterogeneity between subgroups of countries: Albania, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the UK. Since macroeconomic data for 2019 are not yet available, our empirical analysis refers to 2002 to 2018. Due to missing values (item non-response) for some of the variables, the final sample for econometric analysis includes 227,596 data points.[2]

The variable used to capture subjective well-being is life satisfaction (LS). It is based on the answers to the following question.

LS: *All things considered, how satisfied are you with your life as a whole nowadays?* (Respondents were shown a card.) *Using this card, where would you place yourself on this scale, where 0 means extremely dissatisfied and 10 means extremely satisfied?*

We used the answers on the 11-point life satisfaction scale as our dependent variable.

Our main independent variables are indicators of immigration-friendliness (IF) towards people of the same race or ethnic group (*IF-Same*), different race or ethnic group (*IF-Diff*) and from poorer countries outside Europe (*IF-Poor*). The respective indicators are based on the following questions.

IF-Same Now, using this card, to what extent do you think your country should allow people of the same race or ethnic group as most people in this country to come and live here? Allow many to come and live here = 1; Allow some = 2; Allow a few = 3; Allow none = 4.

If-Diff How about people of a different race or ethnic group from most people in this country? Still use this card. Allow many to come and live here = 1; Allow some = 2; Allow a few = 3; Allow none = 4.

IF-Poor How about people from the poorer countries outside Europe? Use the same card. Allow many to come and live here = 1; Allow some = 2; Allow a few = 3; Allow none = 4.

For all three items the data were recoded such that "Allow none" = 0, …., "Allow many" = 3.

Control variables at the individual level include socio-demographic and socio-economic factors that have been found to be related to SWB (sex, age, health status, immigrant status, marital status, household size, employment status, household income, and the level of education), see, e.g., Dolan et al. (2008). In addition, our regressions include macroeconomic control variables (GDP per capita, annual GDP growth rate, unemployment rate, inflation rate) by country-year, taken from the World Bank's *World Development Indicators* online database (https://databank.worldbank.org/source/world-development-indicators). We also control for the share of immigrants in the population (by country-year).

The definitions and summary statistics of the main variables are displayed in Table 2 in the appendix. The mean life satisfaction score is 6.959 (on the 0–10 scale) and the standard deviation is 2.63. For immigration-friendliness (measured on the 0–3 scale), we find the highest mean value for *IF-Same* (1.880) and somewhat smaller values for *IF-Diff* (1.551) and *IF-Poor* (1.463). The standard deviations are rather large, amounting to about

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[2] In order not to confound robustness with respect to exclusion/inclusion of control variables with changes in the sample, we chose to use a fixed sample for all specifications even if a smaller set of variables included in some specifications would have permitted to use a larger sample.

0.9 for all three IF measures. They suggest a considerable disparity of attitudes towards immigration.

3.2 Measuring Attitude Diversity

As our measure of diversity (and potential antagonism) we use fractionalization (*Frac*). It is defined as follows:

$$Frac = 1 - \sum_{i=1}^{4} s_i^2. \tag{2}$$

where s_i denotes the proportion of individuals in category *i*. The index takes the value zero when all individuals belong to the same category and reaches its maximum when the individuals are equally distributed across all groups. *Frac* measures the probability of two randomly chosen individuals being from different groups.[3]

Numerically, the mean values of *Frac* (the probability of two randomly chosen individuals belonging to different categories) are 0.640 for *IF-Same*, 0.666 for *IF-Diff* and 0.672 for *IF-Poor* (Table 2).

3.3 Empirical Strategy

We estimate micro-econometric SWB functions in which the self-reported life satisfaction (*LS*) of individual *i* in country *c* and year *t* depends on the following set of variables:

- An aggregate indicator of individuals' immigration-friendliness $IF_{ict} = (IF\text{-}Same + IF\text{-}Diff + IF\text{-}Poor)/3$,
- An indicator of the disparity of immigration-friendliness by country and year, $Frac_{ct}$ (computed as the average across *Same*, *Diff* and *Poor* of the respective fractionalization measures),
- Andividual-level socio-demographic and socio-economic indicators (***micro**$_{ict}$*) and macroeconomic and macro-demographic indicators (***macro**$_{ct}$*),
- Country and year dummies (*country*$_c$, *year*$_t$, respectively).

Using an aggregate *IF* indicator, as defined above, appears justified in view of high internal consistency of a latent IF construct involving the three individual variables *IF-Same, IF-Diff* and *IF-Poor* (Cronbach's alpha is 0.869). In robustness checks, we use dummy sets (involving "none"," a few", "some" and" many" people to be allowed to come to the country) for the three individual indicators instead of the aggregate indicator.

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[3] We experimented with an alternative diversity measure, entropy (Rao 1982), which accounts not only for the size distribution of categories, but for their distance. Specifically, the entropy measure computes the population-weighted total (standardized) distances between all groups and can be interpreted as the expected distance between two randomly selected individuals. In our life satisfaction regressions the entropy of immigration attitudes is never nearly significant and seems to have no explanatory value. This is consistent with the view that the basis for individuals' alienation experience is simply the fact that they belong to different groups, regardless of their distance. As argued by Montalvo and Reynal-Querol (2005), "the dynamics of the 'we' versus 'you' distinction is more powerful than the antagonism generated by the distance.".

The general form of the estimating equation reads as follows:

$$LS_{ict} = cons + \alpha \cdot IF_{ict} + \beta \cdot Frac_{ct} + \boldsymbol{\gamma' micro}_{ict} + \boldsymbol{\delta' macro}_{ct} + country_c + year_t + \varepsilon_{ict}$$

$$(3)$$

where ε_{ict} denotes the error term. The *micro* controls are reported health status, sex, age, marital status, household size, employment status, household income, the level of education, and immigrant status. The *macro* controls are GDP per capita, the annual GDP growth rate, the unemployment rate, and the inflation rate as well as the proportion of immigrants in the population. In addition to those controls, we account for unobserved country- and time-invariant factors with country and year fixed effects. The *country* fixed effects account for unobserved time-invariant country characteristics (like culture or institutions) that may be correlated with both the immigration attitudes and well-being whereas the *year* fixed effects account for unobserved time-specific confounding factors that are common to all countries (e.g. common global shocks). In particular, the year dummies may account, *inter alia*, for the refugee crisis.

To test whether the relationship between life satisfaction and immigration-friendliness is moderated by the degree of attitude fractionalization we introduce into the basic specification, Eq. (3), interactions of *IF* with different degrees of *Frac*.

Given that our data are repeated cross-sections, we cannot use individual fixed effects to control for personality traits. Together with unavailability of valid instruments for immigration-friendly attitudes, this constitutes a limit to causal interpretation. In order to tentatively account for personality, however, we will check the robustness of our results to including the endorsement of a fundamental human value which psychologists have found to be linked to "dispositional traits" (McAdams and Pals 2006) and to be stable over the adult life cycle: the importance of helping people and caring for their well-being (Graham et al. 2011, Haidt 2012).[4]

Following the common practice in life satisfaction research, we estimate Eq. (3) and versions thereof using least squares. It is typically found that this does not affect results in any substantive way in comparison to (maximum likelihood) estimators for ordered variables (e.g. Ferrer-i-Carbonell and Frijters 2004). In the present case, moderation analysis (involving interaction terms of explanatory variables) prevents application of the latter, but robustness checks will be conducted for the linear benchmark specification (Sect. 4.3). We use robust standard errors adjusted for clustering at the county-year level (an equivalent correction would be through multi-level modelling).

4 Results and Discussion

4.1 Descriptive Analysis

As seen in Table 3 in the Appendix, the three immigration attitudes show moderate to high correlations to each other: $r(IF\text{-}Same, IF\text{-}Diff) = 0.6901$, $r(IF\text{-}Same, IF\text{-}Poor) = 0.5959$,

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[4] The relevant variable is elicited in the ESS as follows. **Care**: *Now I will briefly describe some people. Please listen to each description and tell me how much each person is or is not like you: It's important to her/him to help the people around her/him. She/he wants to care for their well-being.* The response options were: *very much like me (1), like me (2), somewhat like me (3), a little like me (4), not like me (5), not like me at all (6)*. We reverted the coding such that "very much like me" = 6, …., "not like me at all" = 1.

$r(\textit{IF-Diff, IF-Poor}) = 0.7797$. Furthermore, the immigration attitudes are positively, though not strongly correlated with life satisfaction, the correlation coefficients amounting to 0.1271 (IF-Same), 0.1372 (IF-Diff), 0.1380 (IF-Poor) and 0.1507 for the aggregate measure of immigration-friendliness (IF).

Turning to the macro-level variables, it is seen that their correlation with IF is very weak whereas there are substantial correlations with the fractionalization of *IF: Frac* is negatively correlated with per capita income at $r = -0.5903$ and positively correlated with the unemployment rate at $r = 0.4712$ and the inflation rate at $r = 0.3621$. These correlations of attitude fractionalization to the macroeconomic variables are consistent with the idea that poor economic outcomes may be viewed by some individuals as being related to immigration, leading to anti-immigration attitudes by some, whereas other individuals do not perceive such relationships or disregard them in forming attitudes towards immigration (Sect. 2.6). In contrast to the positive relationship between fractionalization and poor macroeconomic performance, the correlation between fractionalization and the population share of immigrants is negative ($r = -0.2205$). From a methodological point of view, the positive associations between attitude fractionalization and poor economic conditions suggest that it is important to control for the macroeconomic indicators in the multivariate analysis.

4.2 Main Analysis

Regression 1 in Table 1 is a benchmark regression which includes individuals' immigration-friendliness, *IF*, and the control variables. With respect to the latter, we note that—as an indication of the quality of the data—the results are qualitatively in agreement with common findings (Frey and Stutzer 2002, Dolan et al. 2008).[5] Life satisfaction is positively related to health, income, being female, being married and to the level of education, negatively related to being unemployed, and U-shaped in age. As is usually found, being involuntarily unemployed is the strongest adverse factor for life satisfaction. It reduces LS by 0.953 points on the 11-point scale. Being an immigrant attracts a significant negative coefficient. With respect to idiosyncratic time effects (year dummies) we note a slight increase in the level of satisfaction during the recovery from the financial crisis while being stable otherwise. In all subsequent regressions the qualitative results are the same.

With respect to the macro level variables, it should be recalled that their inclusion serves to control for aspects of the relationship between satisfaction and immigration attitudes that may stem from immigrations' effects on economic conditions and on compositional amenities (as discussed in Sect. 2.6).[6] We find that the unemployment and inflation rates attract significant negative coefficients. The growth rate and GDP per capita attract positive but insignificant coefficients, which—as a reflection of the Easterlin paradox—is not uncommon in data for developed countries (Clark et al. 2008). The coefficient on the immigrant share is also non-significant.

Turning to our variable of main interest, we find that greater immigration-friendliness is significantly related to greater life satisfaction (consistent with Hypothesis 1). Quantitatively, a 1-step increase of immigration-friendliness (e.g. from "Allow a few" to "Allow

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[5] Since (in comparison to the macro-level controls), the micro-level controls are of less substantive interest, they are omitted in Table 1 for space considerations. Results are available upon request.

[6] The share of immigrants serves as a proxy for possible effects of immigration on compositional amenities.

Table 1 Regression results

	Reg1	Reg2	Reg3	Reg4
IF	0.160***	0.159***	0.101***	0.0937***
	(15.50)	(15.45)	(4.90)	(4.48)
Frac		−1.144	−2.587***	−2.514***
		(1.58)	(3.05)	(2.98)
IF*Frac50			0.0549***	0.0541***
			(2.66)	(2.61)
IF*Frac75			0.0735***	0.0723***
			(2.81)	(2.75)
IF*Frac100			0.0811***	0.0822***
			(2.78)	(2.82)
Care				0.121***
				(16.06)
Growth Rate	0.00836	0.00789	0.00827*	0.00820
	(1.62)	(1.57)	(1.66)	(1.65)
GDP p.c.	0.00552	0.00663	0.00618	0.00561
	(1.14)	(1.37)	(1.11)	(1.03)
Unempl. Rate	−0.0372***	−0.0349***	−0.0340***	−0.0353***
	(7.11)	(6.33)	(6.33)	(6.66)
Inflation Rate	−0.0189***	−0.0196***	−0.0197***	−0.0201***
	(2.70)	(2.83)	(2.94)	(2.98)
Immigrant Share	−0.359	−0.404	−0.161	−0.170
	(0.43)	(0.49)	(0.19)	(0.21)
Observations	227596	227596	227,596	227,596
R-squared	0.295	0.295	0.295	0.297

Dependent variable: 11-point life satisfaction. Regressions (OLS) include socio-demographic controls and country and year dummies. Standard errors are corrected for country-year clustering. t statistics in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

some") is associated with life satisfaction being 0.160 points higher (on the 11-point scale). This is about one-sixth of the effect of leaving unemployed status (0.953). An increase of IF by one standard deviation (0.794) amounts to an increase in life satisfaction by 0.127 points.

Regression 2 in Table 1 augments regression 1 by including the fractionalization of immigration attitudes by country-years (*Frac*). In the light of our Hypotheses 2 and 3, the fractionalization indicator plays a twin role in this specification: It captures both the hypothesized main effect (stemming from social tension), and the moderating effect on the relationship between satisfaction and immigration-friendliness (through either identity or conformity). It is seen that inclusion of *Frac* leaves the positive coefficient on individual immigration-friendliness unchanged, whereas the fractionalization indicator attracts a negative, though insignificant, coefficient. One way to explain this insignificance is that a negative main effect (Hypothesis 2) and a positive moderating effect (Hypothesis 3a) neutralize each other.

To explore this idea, Regression 3 includes *Frac* along with interactions of *IF* with dummy variables that indicate into which quartile the variable *Frac* in a given country-year

falls. In this specification, the coefficient on *Frac* captures the main effect of fractionalization, the coefficient on *IF* captures the relationship between satisfaction and immigration-friendliness in the first quartile of *Frac* (base category) and the interactions of *IF* with *Frac50*, *Frac75* and *Frac100* capture this relationship in the second, third and fourth quartile of *Frac*, respectively.

With respect to the main effect of Frac, Regression 3 reveals that it is significantly negative—consistent with Hypothesis 2. The coefficient (− 2.587) suggests that an increase of fractionalization by one-standard deviation (0.037) is associated with a decrease in life satisfaction by 0.096 points. A move from the minimum of fractionalization (0.357) to the maximum (0.742) would be associated with a drop in satisfaction by 0.996 points, a quite substantial change.

The relationship between satisfaction and immigration-friendliness in the first quarter of *Frac* is significantly positive (coefficient on *IF*). The coefficient (0.101) is about two-thirds of its counterpart in Regressions 1 and 2. When we consider the second quartile of fractionalization, the relationship is significantly larger (by 0.0549 points) and it further increases monotonically, though less strongly, up to the fourth quartile—consistent with Hypothesis 3a.

As discussed above we are unable to capture personality traits through fixed effects but check the robustness of our findings by using the variable *Care* (see footnote 4) to tentatively account for dispositional traits. As seen in Regression 4, the coefficients on the main variables of interest (immigration-friendliness, attitude fractionalization, and the interactions between them) show little change in comparison to Regression 3. The variable *Care* attracts a significantly positive coefficient: people with a disposition towards helping others and caring for their well-being are happier. Yet, even controlling for this, there remains a significantly positive relationship between immigration-friendliness and life satisfaction.

Overall, life satisfaction is significantly positively related to immigration-friendliness and this relationship is significantly larger when immigration attitudes are more fractionalized. According to Regression 3 the satisfaction-attitude relationship is about 80 percent larger in the fourth quartile of fractionalization than in the first quartile. According to Regression 4, the satisfaction-attitude relationship is almost 88 percent larger in the fourth quartile. Here, a one-step increase in immigration-friendliness (on the four-point scale) is associated with life satisfaction being 0.176 points higher. To illustrate, the latter Fig. (0.176) corresponds to more than 18 percent of the effect of leaving unemployed status (0.953). An increase in IF by one standard deviation (0.794) amounts to an increase in 11-point life satisfaction by 0.074 points in the first quartile of fractionalization and to 0.140 points in the fourth quartile.

4.3 Further Robustness Checks

An arguably crucial modelling choice is the use of an aggregate indicator of immigration-friendliness. In robustness checks (available upon request) we considered the three individual indicators *IF-Same, IF-Diff* and *IF-Poor* separately instead of the aggregate indicator, using dummy variables for "Allow none","Allow a few", "Allow some" and"Allow many". With respect to all three IF indicators, higher degrees of IF are monotonically and significantly associated with greater satisfaction, and the results for the three individual attitudes show little difference across the varieties *IF-Same*, *IF-Diff* and *IF-Poor*: This also holds when we use an ordered logit estimator instead of least squares. The uniformity of results for the three IF measures and the strict monotonicity of coefficients for increasing

degrees of immigration-friendliness justifies the use of an aggregate IF indicator in the main analysis.

Another robustness issue refers to the refugee crisis of 2015.[7] To check whether results are driven by the refugee crisis, we ran the regressions shown in Table 1 without the year 2015 and found no appreciable changes in the results (available upon request).

4.4 Discussion

While the bulk of previous literature has focused on economic and non-economic consequences (actual or perceived) of immigration in explaining attitudes towards it, the role of identity (introduced into economics by Akerlof and Kranton 2000) for attitudes towards immigration (or foreigners) has only started to be recognized (Mocan and Raschke 2016).

Together with the latter work, our results suggest that both anti-immigration and pro-immigration attitudes can be viewed as manifestations of the respective individuals' identities. The role of immigration's consequences notwithstanding, anti-immigration attitudes seem to be associated with the respective people placing an emphasis on their self-image as being "native", whereas pro-immigration-attitudes correspond to a self-image of being "cosmopolitan". At the same time, there appear to be emotional correlates to those attitudes. While anti-immigration attitudes are correlated with bitterness in life (Poutvaara and Steinhardt 2018), pro-immigration attitudes may afford a "warm glow" of conforming to a moral norm of generosity and altruism. Those emotional correlates of negative and positive attitudes towards immigration explain why the latter are associated with greater satisfaction than the former.

The relevance of identity considerations to understanding (positive) attitudes towards immigration is corroborated by the finding that the SWB benefit associated with immigration-friendliness is increasing in the degree of attitudinal fractionalization: since social identity relies on differentiating one's own category from other categories, heterogeneity is necessary and useful to endow people with a sense of identity. In the case at hand, fractionalization of attitudes towards immigration allows "cosmopolitans" to differentiate themselves from more nationally-minded individuals.[8]

Overall, the positive association between immigration-friendliness and SWB seems to be based on both moral satisfaction (warm glow) and the benefits from differentiation (identity).

5 Conclusions

Immigration is a crucial issue in contemporary politics, and attitudes towards immigration are highly dispersed in many countries. In this paper we treated individuals' immigration-friendliness as an aspect of their self-image and hypothesized that, similar to other moral self-images, greater immigration-friendliness is associated with greater subjective well-being (Hypothesis 1). We further hypothesized that greater disparity of immigration

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[7] We owe this point to an anonymous reviewer.

[8] As suggested by a reviewer, two further points may be relevant when it comes to identity benefits from immigrant-friendliness. One is that people identifying with the extreme right ("Altright") movement, who obviously will display low levels of immigration-friendliness, possibly may derive a positive social identity from the link with Altright. Another is that it may matter if an immigrant-friendly individual lives in a relatively tolerant or intolerant context (and vice versa). While we acknowledge these possibilities, our data does not permit capturing identification with the Altright movement nor the degree of tolerance in society.

attitudes yields social antagonism and as such is associated with less SWB (Hypothesis (2). Finally, we hypothesized that greater disparity of immigration attitudes permits immigration-friendly individuals to differentiate themselves from others, thus raising the SWB benefit of holding an immigration-friendly self-image by enhancing immigration-friendly individuals' sense of social identity (Hypothesis 3a). As an alternative to the "immigration-friendliness as social identity" hypothesis we tested an "immigration-friendliness as social norm" hypothesis, which entails that immigration-friendliness yields SWB benefits through social conformity (Hypothesis 3b).

Using more than 227.000 observations from 35 European countries, 2002–2018, we found evidence consistent with our hypotheses. Controlling for a rich set of individual-level correlates of LS as well as macroeconomic indicators, the population share of immigrants, country fixed effects and year fixed effects, we found evidence consistent with Hypotheses 1, 2 and 3a: (1) LS is significantly positively correlated with immigration-friendliness. (2) LS is significantly negatively correlated with a measure of disagreement on immigration. (3) The positive association between LS and immigration-friendliness is greater when the degree of disagreement is greater.

By controlling for macroeconomic indicators and the population share of immigrants, we took account of immigration's consequences (actual or perceived) for economic conditions and "compositional amenities" that may affect SWB and hence may influence the attitude-SWB relationship. We found that though disagreement on immigration is strongly correlated to poor economic conditions, fractionalization of immigration attitudes is significantly associated with lower SWB even controlling for the "consequences channel". This is consistent with an "attitudinal social antagonism channel" being involved in the relationship between attitude disparity and SWB.

Being consistent with a social identity interpretation of how SWB is related to immigration-friendliness, our results are at the same time inconsistent with social conformity as an explanation for this relationship. To be more specific, our findings are inconsistent with immigration-friendliness acting as a social norm at the level of the whole society. This does not rule out that immigration-friendliness constitutes a *group norm* within certain segments of the population such as, for instance, the more left-leaning milieu.

We acknowledge that, for lack of appropriate instrumental variables, our study is unable to rule out that causality between immigration-friendliness and life satisfaction runs both ways. Our study shares this limitation with prior work on identity and well-being. Limitations to rigorous testing notwithstanding, however, the moderation effect of attitude disparity may give us a clue as to the causal order. One interpretation of the evidence is that social disparity of immigration attitudes enhances the influence of immigration-friendliness on life satisfaction by permitting individuals to strengthen their sense of identity. Another scenario would entail that attitude disparity enhances the influence of life satisfaction on immigration-friendliness because more satisfied people are willing to take a clearer stance towards immigration in a more diverse context. An appraisal of the two—not mutually exclusive—interpretations is left to the reader.

Some directions for future research are straightforward: Similar issues as those studied in this paper are potentially important with respect to other identity-relevant personal attributes such as religion, ethnicity, employment status, education level, living in a rural or urban environment, to name a few. With respect to each of those attributes, it is worthy of investigation how the respective disparity at the societal level affects individual well-being and how that disparity affects the attribute-SWB relationship.

Appendix

See Tables 2 and 3.

Table 2 Summary statistics

Variable	Description	Mean	Std. Dev.	Min	Max
LS	Life satisfaction; 11-point scale; 1 = dissatisfied; 11 = satisfied	6.959	2.263	0	10
IF_Same	Immigration-friendliness towards people from same race or ethnic group; 4-point scale	1.880	0.863	0	3
IF_Same_Frac	Probability of two randomly chosen individuals being from different IF-groups	0.640	0.053	0.357	0.747
IF_Diff	Immigration-friendliness towards people from different race or ethnic group; 4-point scale	1.551	0.894	0	3
IF_Diff_Frac	Probability of two randomly chosen individuals being from different IF-groups	0.666	0.038	0.357	0.745
IF_Poor	Immigration-friendliness towards people from poorer countries outside Europe; 4-point scale	1.463	0.917	0	3
IF_Poor_Frac	Probability of two randomly chosen individuals being from different IF-groups	0.672	0.037	0.357	0.748
IF	Aggregation (mean) of IF_Same, IF_Diff, and IF_Poor	1.632	0.794	0	3
Frac	Mean of IF_Same_Frac, IF_Diff_Frac and IF_Poor_Frac	0.660	0.037	0.357	0.742
Care	Importance to help and care for people; 6-point scale; 1 = low importance; 6 = high importance	4.803	0.991	1	6
Growth rate	GDP growth rate; year-on-year change of GDP in percent	1.553	3.332	− 14.379	23.986
GDP p.c.	GDP per capita; thousand PPP-adjusted 2005 USD yearly	36.889	12.991	7.506	88.610
Unempl. Rate	Unemployed rate; Unemployed persons as percentage of total civilian labor force	7.979	4.142	2.397	26.094
Inflation rate	Inflation rate; year-on-year change of consumer price index in percent	2.231	2.359	− 1.144	15.881

Table 2 (continued)

Variable	Description	Mean	Std. Dev.	Min	Max
Immigrant share	Immigrant share; immigrants as percentage of total population	0.043	0.045	0	0.500
Immigrant	Personal immigration status; dummy variable; 0 = non-immigrant; 1 = immigrant	0.041	0.199	0	1
Health status	Health status; 5-point scale; 1 = bad health condition; 5 = good health condition	3.761	0.921	1	5
Female	Gender; dummy variable; 0 = male; 1 = female	0.526	0.499	0	1
Male	Gender; dummy variable; 0 = female; 1 = male	0.474	0.499	0	1
Age	Respondent´s age in years	48.831	17.964	14	105
Size household	Number of persons living in household	2.663	1.394	1	20
Marital_Single	Marital status; dummy variable; 1 = single	0.269	0.443	0	1
Marital_Married	Marital status; dummy variable; 1 = married	0.533	0.499	0	1
Marital_Divorced	Marital status; dummy variable; 1 = divorced	0.011	0.104	0	1
Marital_Separated	Marital status; dummy variable; 1 = separated	0.095	0.293	0	1
Marital_Widowed	Marital status; dummy variable; 1 = widowed	0.093	0.290	0	1
Occ_Paid_Work	Occupation/employment status; 1 = paid work	0.516	0.500	0	1
Occ_Education	Occupation/employment status; 1 = in education	0.066	0.248	0	1
Occ_Unemp_Invol	Occupation/employment status; 1 = involuntary unemployed	0.039	0.193	0	1
Occ_Unemp_Vol	Occupation/employment status; 1 = voluntary unemployed	0.016	0.126	0	1
Occ_Sick	Occupation/employment status; 1 = sick	0.026	0.158	0	1
Occ_Retired	Occupation/employment status; 1 = retired	0.247	0.431	0	1
Occ_Civil_Military	Occupation/employment status; 1 = in civil or military service	0.001	0.035	0	1
Occ_Household	Occupation/employment status; 1 = household worker	0.080	0.272	0	1
Occ_Other	Occupation/employment status; 1 = other occupation	0.010	0.098	0	1
Net income	Household's total net income corresponding to income brackets/deciles	5.460	2.760	1	10
Education level	Highest level of education	3.898	1.812	1	7
Number of obs.	227,596				

Table 3 Correlations between main variables

	LS	IF_Same	IF_Diff	IF_Poor	IF	Care	Immigrant
LS	1.0000						
IF_Same	0.1271	1.0000					
IF_Diff	0.1372	0.6901	1.0000				
IF_Poor	0.1380	0.5959	0.7797	1.0000			
IF	0.1507	0.8509	0.9257	0.8937	1.0000		
Care	0.1123	0.0585	0.0624	0.0740	0.0731	1.0000	
Immigrant	0.0063	0.0437	0.0581	0.0535	0.0582	0.0264	1.0000
	IF	Frac of IF	Growth	GDP p.c.	Unempl.	Inflation	Imm. Share
IF	1.0000						
Frac of IF	−0.1618	1.0000					
Growth	0.0090	0.0940	1.0000				
GDP p.c.	0.1309	−0.5903	0.0069	1.0000			
Unempl.	−0.0377	0.4712	−0.1169	−0.4674	1.0000		
Inflation	−0.0546	0.3621	−0.0249	−0.3882	0.0452	1.0000	
Imm. Share	0.0484	−0.2205	−0.0664	0.5587	−0.0776	−0.1942	1.0000

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