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# But Who Are Those “Most People” That Can Be Trusted? Evaluating the Radius of Trust Across 29 European Societies

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**Abstract** As comparative research has repeatedly demonstrated that societies where people trust each other more easily are better able to generate a series of positive externalities, the study of generalized trust has taken pandemic forms. However, critical voices have warned that the levels of trust (the intensity to cooperate) are conceptually different from the radius of trust (with whom you would cooperate) (Fukuyama in *Trust. The social virtues and the creation of prosperity*. Free Press, New York, 1995). In this article, the classic trust question, i.e. whether “most people can be trusted or whether you cannot be too careful,” is brought in relation with tolerance towards cultural minorities, people with deviant behavior, and political extremists, as surveyed in the 2008 wave of the European Values Study. The results point to a hierarchy in social tolerance, furthermore indicating that while ‘trusters’ are more inclusive towards cultural minorities and people with deviant behavior, they are not substantially more tolerant towards extremist political voices compared to ‘distrusters’. Also, the radius of trust is context dependent, with especially economic modernization determining how wide the radius of trust is. We relate the findings of this study with recent research outcomes and implications for trust research.

**Keywords** Generalized trust · Radius of trust · Modernization · Cross-national analysis · European Values Study

## 1 Introduction

The study of generalized or social trust has taken pandemic forms. Several research outcomes have shown that societies in which citizens trust each other more easily are ‘healthier,’ i.e. governance meets higher democratic standards (Putnam 1993), economic growth is more easily achieved (Knack and Keefer 1997; Fukuyama 1995), and people are

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in general happier and in better shape (Subramanian et al. 2001; Helliwell and Putnam 2004). The causal mechanism is as follows: generalized trust facilitates solving collective action problems, reduces the transaction costs present in everyday social interactions, and facilitates the flow of information from one or more persons to others (Putnam 2000). Because of the many beneficial and desirable externalities of generalized trust, the scholarly research aiming at disentangling the roots of trust has proliferated (Delhey and Newton 2005; Bjørnskov 2007; Nannestad 2008).<sup>1</sup>

A particular interest in the origins of trust has been dedicated to the trust-generating context people live in (Delhey and Newton 2005). To give a brief overview, trust is more easily generated in equal societies (Uslaner 2002), universalist welfare states (Kumlin and Rothstein 2005), by impartial policies (Rothstein and Stolle 2008) or is a by-product of a Protestant tradition (Delhey and Newton 2005). Nevertheless, an oft-heard criticism has been raised over a superficial cross-national reading of the classic trust-question whether “most people can be trusted.” Relying on insights from Francis Fukuyama (1995), authors have argued that people who indicate that most people can be trusted might have different conceptions of “most people” depending upon the context they live in (Delhey et al. 2011). Put differently, if conceptions of “most people” are rather narrow, this implies that despite being trusting, the group of people one engages with is rather homogeneous. If the mix of trustees that those who say that “most people can be trusted” actually would associate with differs strongly across contexts, then cross-national comparisons into trust are not accurate at all (Fukuyama 1995, 2002).

Essentially, the question whether a similar mix of people is trusted across various societies falls back to the *radius* of trust, which must conceptually be distinguished from the often analyzed *levels* of trust (Fukuyama 1995). While it has been argued that the levels of trust varies across countries, those who express trust in others might nevertheless have different conceptions of whom to tolerate into one’s so-called “moral community” (Uslaner 2002), i.e. in certain societies, ‘trusters’ might be more outward-reaching towards people that are different from themselves than in other societies. The analysis of the classic trust-question whether “most people can be trusted” has largely overlooked whether ‘trusters’ across a variety of societies are equally inclusive to ‘otherness.’

Building upon recent research outcomes (Delhey et al. 2011), the main aim of this manuscript is twofold. First of all, we will continue enlarging the literature on the radius of trust by analyzing the extent to which trust is related to social tolerance. In the second place, we analyze whether this association between trust and social tolerance is invariant across societies, and if not, whether discrepancies can be explained by relevant context characteristics.

While the few studies touching upon questions on the radius of trust have correlated the classic trust-question with conceptually distinct forms of a thick/inward-looking and a thin/outward-reaching version (Welch et al. 2007; Freitag and Trauttmüller 2009; Delhey et al. 2011), this study alternatively proposes to relate generalized trust with tolerance towards ‘marginal’ social groups. More specifically, an adjusted version of the Bogardus’ Social Distance Scale, present in the 2008 wave of the European Values Study, is analyzed. This

<sup>1</sup> As is evident, a number of these studies run into endogeneity: e.g. Uslaner (2002) argues that people trust each other less in more unequal societies. However, in a more recent study, Bergh and Bjørnskov (2011) qualify this thesis by arguing that trust also leads to more generous welfare states. This dilemma to a large extent reflects the schism in social capital literature, i.e. the distinction between the society-centered approach towards trust, with individual-level trust having macro-level externalities (e.g. Putnam 1993); in contrast with the institution-centered approach towards trust, with macro-level contexts facilitating the conditions in which trust can flourish (e.g. Hooghe and Stolle 2003).

scale has asked respondents to indicate which social groups, ranging from people with a criminal record, homosexuals, right-wing extremists, Jews, among others, they rather don't prefer as a neighbor. Using multilevel modeling, we are able to detect the influence of specific national contexts and the association between generalized trust and social tolerance.

## 2 Literature Review

### 2.1 Describing the Radius of Trust

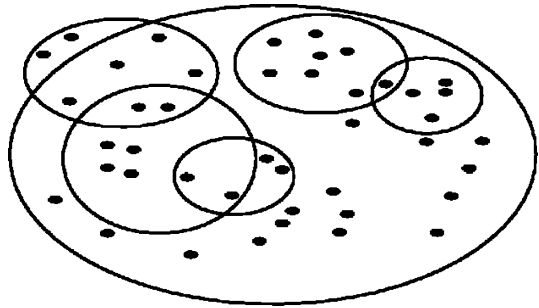
Trust has become a paramount topic in comparative social science research since Putnam (1993) demonstrated that trust, being the cultural dimension of his conception of social capital,<sup>2</sup> is able to deliver in better working democracies. This renewed research interest in trust has not always led to a uniform definition of the concept—whether it regards “a bet about the future contingent actions of others” (Sztompka 1999, p. 25), an “encapsulated interest” (Hardin 2001, p. 3) or “the belief that others will not deliberately or knowingly do us harm (...) and will look after our interests (...)” (Newton 2007, p. 343), trust always involves a relationship between *ego* and *alter*. Yet, the conception of *alter* has been subject of lively discussions. One stream within the trust literature embraces the idea that trust is based on experiences with and the reputation of *alter* (Offe 1999; Hardin 2006). This ‘thick’ or particularized kind of trust is expressed to those people that are known or familiar to you. On the other hand, a different conception follows upon dealing with *alters* that are completely different from *ego*, and whose behavior cannot easily be assessed. This ‘thin’ or generalized type of trust goes beyond rational considerations and makes more appeal to moral considerations: this type of trust is expressed because trust in itself is valued (Uslaner 2002). To put it differently, “the central idea distinguishing generalized from particularized trust is how inclusive your moral community is” (Uslaner 2002, pp. 16–17). The importance of this this generalized trust cannot be understated, as it is “functional for complex societies that involve countless daily interactions between unfamiliar people” (Delhey et al. 2011, p. 787).

Precisely the evaluation of whether the extent of the moral community that reflects generalized trust is similar across different societies has caused concern. Francis Fukuyama (1995, 1999, 2001, 2002) was among the first to diagnose this problem by distinguishing between the levels and the radius of trust. In various studies, Fukuyama has argued that every society holds in itself a certain level of trust among its members, which results in cooperative behavior between them. However, by looking at the positive externalities of these cooperative relations that result from trust, Fukuyama states that the radius of who can be trusted can vary greatly according to the context these cooperative relations take place. As is represented in Fig. 1, according to Fukuyama, modern societies need to be represented by a number of concentric trust radiuses that might overlap depending on the social role actors take up.

The main conceptual difficulties between the levels and radius of trust have been summarized well by Delhey et al. (2011, p. 787): whereas the “radius of trust determines the width of the cooperation circle, (...) the level of trust determines the intensity of civic cooperation within this circle.” This also means, as the authors acknowledge, that a wide

<sup>2</sup> Putnam (1993) described social capital as “the features of social organization like networks, trust and reciprocity that facilitate cooperation.” While networks refer to the structural features of social organization, trust and reciprocity has been classified as cultural dimensions of social capital.

**Fig. 1** The radiuses of trust among social actors. *Source:* Fukuyama (2002, p. 9)



radius, i.e. being inclusive towards a wide range of people, does not compensate for low levels of trust, i.e. a low likelihood of taking a risk in dealing with others.

A recent interest in the radius of trust has been initiated by Delhey et al. (2011) who distinguish between “in-group trust” (trust in your family, your neighborhood, and people you know personally) and “out-group trust” (people you meet for the first time, people of another religion, people of another nationality). For several countries, then, the authors have regressed generalized trust on out-group and in-group trust, with the per country specific delivered regression coefficients for out-group and in-group trust subtracted; this difference between out-group and in-group trust is what the authors refer to as the radius of trust in a given country, where a value of 0 refers to a narrow trust radius, and a value of 1 to a wide trust radius. Importantly, correlating countries’ radius and levels of trust, the authors argue that the relation between the level and radius of trust is rather weak: across countries, only a correlation of 0.25 can be diagnosed, leading to conclusion that “it is misleading to assume that a high trust level automatically means a wide trust radius.”

Nevertheless, at the individual level, the authors provide no clear evidence of how strong the relationship between the levels and radius of trust is. Individual level research outcomes, however, show irregularities in the correlation between generalized trust and tolerance in people who are different from you. Nannestad (2008), to give but one example among others (Sturgis and Smith 2010), has correlated generalized trust among respectively Danish natives and immigrants with tolerance towards the respective surveyed group. Within the sample of immigrants, slightly less than 50 % of the respondents indicated that they trust “most people”; however, within this group of trusting immigrants, approximately 8 % don’t trust the native Danes while a similar proportion of 10 % doesn’t trust other immigrants of the same ethnicity. Contrary, among the native population, slightly more than 80 % affirms that “most people can be trusted”; however, within this group of trusters, about 20 % does not trust immigrants. To sum up, evidence within (Nannestad 2008; Sturgis and Smith 2010) and across countries (Delhey et al. 2011) indicate that more research is needed to comprehend who is precisely included in the moral community of ‘trusters’ and is excluded among ‘distrusters.’ Thus, we need first of all disentangle how inclusive ‘trusters’ or exclusive ‘distrusters’ actually are towards marginal societal groups, i.e. towards people who are different from them.

## 2.2 Determinants of the Radius of Trust

Criticism on the conceptual distinction between the levels and radius of trust originate from comparative research, as Fukuyama (1995, 2002) refuted insights from Knack and Keefer (1997) on the relation between trust and economic growth. Fukuyama, arguing that the latter did not qualify societies in terms of their trust radius, posited that especially residents

of Confucian societies (for the reason being that these are collectivistic), but to a certain extent also Latin-America and Balkan countries, are rather inward looking, in spite of extensive cooperative relations within these societies. While a multitude of studies on the levels of trust exist, only recently empirical evidence on the radius of trust has been presented, providing in a number of plausible explanations (Delhey et al. 2011), which are briefly discussed.

First of all, as Delhey et al. (2011) posit that “differences in trust levels can be interpreted sensibly only when trust radiuses are similar.” This means that those who express trust need to be as tolerant towards similar marginal groups no matter what context they live in. Conceptually, this implies that the association between individual-level trust and social tolerance is equal in low trusting societies (with a low number of people expressing that most people can be trusted) as in high trusting societies (with a large share of people having trust in most people). Although there are differences in the radius of trust across societies, Delhey et al. (2011) argue that they are not strongly related to the levels of trust, i.e. a correlation of 0.25, which makes this hypothesis more theoretical than empirical.

Next to a culture of trust, other cultural characteristics that might define the radius of trust regard religious traditions and a communist legacy. The second context is a Protestant tradition, and precisely its culturally embedded effects.<sup>3</sup> The logic is that while Catholic, Islam and Eastern Orthodox religions are more hierarchically oriented, Protestant religion places more emphasis on horizontal relations that unite people (Bjørnskov 2007; Trauttmüller 2011). Third, authors have argued that the communist legacy has suppressed trust across Eastern European countries (Mishler and Rose 1997; Rose 1994), meaning that those limited number of people who expresses trust might, in the end, not be very inclusive towards others. In sum, while Protestant countries have higher levels of trust, and post-communist legacies produced a rather distrusting citizenry, we can expect that those people who find that most people can be trusted are also additionally more inclusive towards other social groups in societies characterized by a Protestant and non-communist tradition.

Relatedly, a fourth expected country-level moderator of the association between generalized trust and social tolerance is good governance (Rothstein and Stolle 2008; Freitag and Buhlmann 2009). The main argument is that trust is more easily expressed in the presence of a political system that sanctions betrayal (Fukuyama 2002). Another mechanism has been proposed (Rothstein and Stolle 2008) beyond this instrumental interpretation, namely that well-functioning democracies embody impartiality and carry out equality, and these institutions have ‘norm-shaping’ spill-over effects on related attitudes of egalitarianism. The difference between ‘trusters’ and ‘distrusters’ in how inclusive they are towards other groups might therefore be larger in more democratic societies.

A fifth potential moderator of the trust-tolerance association is modernization, i.e. economic wealth, being of high relevances in the Delhey et al. (2011) study. Two different explanations for this pattern can be recalled (Inglehart 1977, 1997). On the one hand, in economically affluent societies, it is easier to take risks in trusting strangers, since there are financial securities if trust is betrayed. ‘Trusters’ would therefore be more likely to affiliate with people different from them. On the other hand, modernization has precisely widened the moral horizon of individuals. As modernization has made ‘distrusters’ and ‘trusters’ more tolerant, it nevertheless can be expected that ‘trusters’ might find it, disproportionately, more easier to be confident with unknown others.

<sup>3</sup> While the original work of Fukuyama (1995) made reference to Confucian religion, as this paper will make analyze the European Values Study, this religious tradition becomes redundant.

Sixth, Uslaner (2002, 2008); Uslaner and Brown (2005) argues that inequality—the way national wealth is distributed—is the strongest predictor for trust. In fractionalized societies, trust is lower because there is a lack of shared sense of togetherness and optimism, whereas people also feel more comfortable with people that are alike (Rokeach et al. 1960; McPherson et al. 2001; Realo et al. 2008). Accordingly, if equality reduces the perceived differences between people, we might expect that in more equal societies, trust is associated with including more ‘other’ people, i.e. marginal groups.

Seventh and related, a different view on social distance concerns ethnic-cultural diversity, for which a similar logic applies: in societies with high shares of immigrants it is more difficult to foster trust because cultural differences make it more difficult to predict others’ behavior (Rokeach et al. 1960; Messick and Kramer 2001). Recent evidence also suggest that people tend to “hunker down” when faced with diversity (Putnam 2007; Alesina and La Ferrara, 2002), although European studies are not conclusive in that respect (Letki 2008; Tolsma et al. 2009; Hooghe et al. 2009). Nevertheless, in line with income fractionalization arguments, we can thus also expect that the presence of immigrants as an expression of social distances makes ‘trustors’ less likely to be outward reaching compared to societies that are rather homogeneous.

### 3 Data and Methodology

In order to analyze the extent to which ‘trustors’ are more tolerant towards others than ‘distrusters,’ and whether cross-national differences between tolerance between these two groups depends on the context, the 2008 wave of the European Values Study (EVS) is being analyzed. The EVS has sampled approximately 1,500 respondents in 47 European societies, comprising the 27 member states of the European Union (EU) and a number of post-Soviet societies (EVS Foundation 2010). Mainly out of data considerations, i.e. the availability of harmonized cross-national indicators, as well as empirical reasons,<sup>4</sup> we restrict ourselves to 29 EU member states or OECD countries.<sup>5</sup>

#### 3.1 Independent Variables

Conventional research on generalized trust, including this one, uses the classic question “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?” which has been introduced by Rosenberg (1956) to study faith in people. Since the 1970s, generalized trust has been introduced as a repeated measure in general social surveys like the US General Social Survey, the World Values Study, and the European Social Survey, and is assumed to capture trust in people who are different

<sup>4</sup> The factor analysis on the ‘Social Distance Scale’ (see Table 1) revealed a different factor solution when the 18 other, predominantly post-Soviet societies like Azerbaijan and Armenia, were included in the analysis. To give but one example, people with AIDS were loading on the ‘deviant behavior scale,’ while this link is not made in the sample of selected countries.

<sup>5</sup> These countries are Austria (AT), Belgium (BE), Bulgaria (BG), Switzerland (CH), Cyprus (CY), Czech Republic (CZ), Germany (DE), Denmark (DK), Estonia (EE), Spain (ES), Finland (FI), France (FR), United Kingdom (GB), Greece (GR), Hungary (HU), Ireland (IE), Iceland (IS), Italy (IT), Lithuania (LT), Latvia (LV), Malta (MT), Netherlands (NL), Norway (NO), Poland (PL), Portugal (PT), Romania (RO), Sweden (SE), Slovenia (SI), and Slovak Republic (SK). Luxembourg is removed from the data file because it features as an outlier in many structural indicators, including gdp per capita. For each country in our analysis, a representative sample of approximately 1,500 respondents was questioned. For more information, check <http://www.europeanvaluesstudy.eu>.

from you (Uslaner 2002). Unlike the European Social Survey, which offers the possibility to study trust using three indicators and an 11-response scale (Reeskens and Hooghe 2008), the EVS has offered this single trust-question with a dichotomous response scale, which enables to distinguish ‘distrusters’ (who say that “you cannot be too careful” and are given a code of ‘0’) from ‘trusters’ (who say that “most people can be trusted” and are given a code of ‘1’).

### 3.2 Dependent Variable

To understand how inclusive ‘trusters’ are towards other groups in society, we will analyze an adjusted version of the Bogardus Social Distance Scale. The scale consists of the question “On this list are various groups of people. Could you please sort out any that you would not like to have as neighbors?” with as mentioned groups people with a criminal record, of a different race, left wing extremists, heavy drinkers, right wing extremists, people with large families, emotionally unstable people, Muslims, immigrants/foreign workers, people who have AIDS, drug addicts, homosexuals, Jews and gypsies.<sup>6</sup>

As this social distance scale explicitly questions the level of tolerance towards marginal social groups, our research differs substantially from recent research outcomes on the radius of trust (Freitag and Traummüller 2009; Delhey et al. 2011). The latter studies have correlated the classic Rosenberg-question with thick (particularized) and thin (generalized) versions of trust and thus explained similar trust-items by generalized trust. Yet, if trust is about “the belief that others will not deliberately or knowingly do us harm (...) and will look after our interests (...)” (Newton 2007, p. 343), delineating “others” in concrete terms, i.e. in reference to specific social categories that you have difficulties with tolerating, provides a strong indication about one’s belief that those listed groups might do us harm or will conflict our interests, i.e. cannot be trusted.

To refine the empirical analysis, we first of all reduce the 14 listed marginal categories to a smaller number of latent constructs. An exploratory factor analysis (Table 1) reveals three conceptually different factors, namely tolerance towards cultural minorities (which includes tolerating people of a different race, people with large families, Muslims, immigrants and foreign workers, and Jews), tolerance towards deviant behavior (including people with a criminal record, heavy drinkers, emotionally unstable people, and drug addicts), and tolerance towards political extremists (which includes tolerance towards left and right wing extremists). People with AIDS, homosexuals and gypsies fit either no or more than one factor, a valid reason for excluding them from the analyses. Cronbach’s alpha correlations of the scale-specific survey items additionally indicate internally consistent scales. Therefore, in a subsequent step, three scales have been constructed as follows: of the factor-specific items, factor scores are produced and standardized to a 0–10 to allow for comparisons between the three factors.<sup>7</sup> The means on each of the tolerance variables is printed, too, and indicates that Europeans are most tolerant towards cultural minorities while least they are least permissive towards persons of deviant groups as neighbors, while tolerance towards extreme political ideologies takes a middle ground.

<sup>6</sup> In the master questionnaire of the EVS, also “Christians” have been taken up as group. However, as a number of countries have not questioned permissive attitudes regarding having Christians as neighbors, we opted to leave this category out.

<sup>7</sup> Other methods to construct these scales have also been tested, like for instance means scales that represent the number of social groups within one of the three discovered scales the respondent has listed. The results are similar for the various scaling techniques. Nevertheless, to abstract as much as unique variance of the several indicators, factor scales were preferred above additive or means scales.



**Table 1** Social distance scaling analysis

|  | Factor 1—cultural minorities | Factor 2—deviant behavior | Factor 3—political ideology |
|--|------------------------------|---------------------------|-----------------------------|
| People with a criminal record            | 0.161                        | <b>0.547</b>              | 0.061                       |
| People of a different race               | <b>0.660</b>                 | 0.091                     | 0.132                       |
| Left wing extremists                     | 0.208                        | 0.174                     | <b>0.784</b>                |
| Heavy drinkers                           | 0.028                        | <b>0.580</b>              | 0.144                       |
| Right wing extremists                    | 0.098                        | 0.093                     | <b>0.795</b>                |
| People with large families               | <b>0.495</b>                 | 0.016                     | 0.113                       |
| Emotionally unstable people              | 0.248                        | <b>0.445</b>              | 0.052                       |
| Muslims                                  | <b>0.633</b>                 | 0.209                     | 0.098                       |
| Immigrants/foreign workers               | <b>0.675</b>                 | 0.180                     | 0.072                       |
| People who have AIDS                     | 0.440                        | 0.494                     | 0.008                       |
| Drug addicts                             | −0.017                       | <b>0.651</b>              | 0.085                       |
| Homosexuals                              | 0.422                        | 0.457                     | 0.010                       |
| Jews                                     | <b>0.653</b>                 | 0.133                     | 0.053                       |
| Gypsies                                  | 0.357                        | 0.344                     | 0.048                       |
| Explained variance                       | 30.92 %                      | 11.89 %                   | 10.44 %                     |
| Cronbach's alpha of bold items           | 0.778                        | 0.665                     | 0.798                       |
| Means of scale constructed by bold items | 8.56                         | 4.78                      | 7.06                        |

Entries represent the result of one exploratory factor analysis, followed by a Cronbach's alpha reliability test. Subsequently, scales have been constructed with the items in bold, and descriptives for the scales (with standard deviations between brackets) are given

### 3.3 Country-Level Moderators

Evidently, the main aim of this paper is analyzing cross-national differences in the association between trust and social tolerance, which requires an operationalization of the theoretical informed contexts. Unless otherwise defined, all data have been obtained from Eurostat (2010) and are printed in Appendix Table 8. In the first place, individual-levels of trust are aggregated to the national level in order to analyze whether larger deviances in social tolerance between 'distrusters' and 'trusters' (a wider radius of trust) are more common in societies where people tend to trust others more easily. Second and third, a context of Protestant tradition or postcommunist legacy, are represented by two dummies, both of them obtained from the Pippa Norris (2009) Crossnational Democracy Data. Fourth, good governance is operationalized using the World Bank (2010) Government Effectiveness Indicator. Fifth, national wealth is operationalized by the GDP per capita. Sixth, as for the indicator of income inequality, the Gini-coefficient is analyzed. Seventh and final, to capture the level of ethnic-cultural diversity, the UN figures of the share of foreigners, linear interpolated for 2008 using the 2005 and 2010 estimates, are analyzed.

### 3.4 Control Variables

In order to estimate the association between generalized trust and social tolerance, we control for a number of respondent covariates. For age, we expect that the elderly are less tolerant than the younger age cohorts. Gender is been recoded to man (reference) and women, with the

expectation that women are more tolerant. As for immigrant status, we expect that people of foreign origin, in contrast with natives (reference), are in general more tolerant towards cultural minorities and deviant behavior, but oppose extreme political views. Marital status is categorized in four groups, namely those in a relationship (reference), those who are separated or divorced, widowed, and the singles; the expectation is that those in a partnership are more tolerant than other groups. For socioeconomic status, a number of indicators are controlled for, with the expectation that higher SES is associated with more tolerant orientations towards cultural minorities, but with less tolerant views on deviance and extreme ideologies. As for educational level, we distinguish the lower educated (reference) from the middle and higher educated. For employment status, the unemployed, students, retired and other categories are contrasted with the employed (reference). For income, a distinction is made between respondents with a low income (reference), middle and high income, as well as there has been a dummy assigned for observations with nonresponse. Last but not least, to control for related ideas, religiosity is included with its attendance of religious services question, ranging from 0 (“(practically) never”) to 6 (“more than once a week”). For information of the individual-level variables, check Appendix Tables 6 and 7.

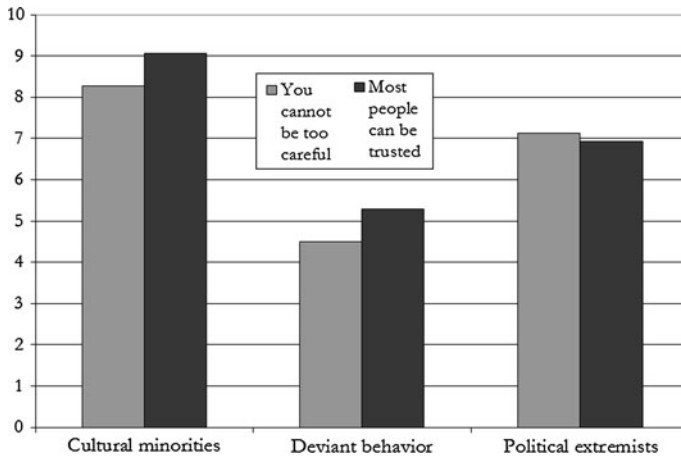
### 3.5 Methodology

The analysis technique employed in this paper is multilevel multiple regression analysis (Hox 2010; Gelman and Hill 2006), a strategy that is especially suitable to account for clustering, such as that existing when respondents in cross-national datasets are sampled within countries. Also, multilevel modeling allows for estimating the effect of national level covariates on individual level outcomes, and, as an extension particularly of use in the present instance, for the introduction of cross-level interactions.

## 4 Results

### 4.1 Bivariate Results

In the first step, the bivariate association between trust and social tolerance is reviewed. Figure 2 displays the information of Table 1, namely that Europeans are most tolerant towards cultural groups (8.56 on a scale from 0 to 10), less tolerant towards people with deviant behavior (4.78), and somewhat in between as for political extremists (7.06). Nevertheless, Fig. 1 shows that ‘truststers’ are not uniformly more tolerant towards just any marginal social group. For both tolerance towards cultural minorities and people of deviant behavior, the difference between ‘truststers’ and ‘distrusters’ is about 0.80 (on a scale from 0 to 10). Respondents who are inclined to trust most people are thus also more permissive towards having cultural minorities or people expressing deviant behavior as neighbors, yet with this nuance that ‘truststers,’ with a scale score of 5.29, are not overwhelmingly tolerant towards deviance while ‘distrusters’ are nonetheless rather outreaching towards cultural minorities (8.28). The most interesting finding is that, based on the pooled data, ‘truststers’ are slightly less inclusive towards political extremists than ‘distrusters.’ People who express intolerant opinions and foster distrust are thus not more tolerated by ‘truststers’ than by ‘distrusters.’ These first bivariate results already indicate that the radius of trust is an phenomenon not easy to research, as ‘truststers’ are not unconditionally tolerant towards just anybody, while ‘distrusters,’ on the other hand, are more inclusive towards certain marginal groups than conventional wisdom might suggest.



**Fig. 2** Mean scale scores on social tolerance along social trust. The *graph* represents the mean scores on being tolerant towards having neighbors of a pronounced cultural background, having neighbors that exhibit deviant behavior, and having political extremist neighbors

In addition, Table 2 shows that differences in tolerance between ‘trustors’ and ‘distrusters’ depend from the national context respondents live in, as it shows a series of t-tests with a negative difference score indicating that ‘trustors’ are more tolerant towards the listed group, while a positive difference score means that ‘distrusters’ are more inclusive. As for tolerance towards cultural minorities, across almost all societies, ‘trustors’ are more tolerant towards cultural minorities. Differences between ‘trustors’ and ‘distrusters’ are most outspoken in Austria, i.e. almost 2 scale points, but also in Finland, Sweden, and Lithuania. Differences are absent in Slovenia, Romania, Cyprus, Slovakia, Latvia, Poland and Spain. A related pattern emerges for tolerance towards people of deviant behavior, which are in almost all countries also significantly more tolerated by ‘trustors’ than by ‘distrusters.’ Yet, the difference between ‘trustors’ and ‘distrusters’ is again largest in Austria, but also in Slovakia, France, Hungary, and Lithuania, while there are no significant differences in Estonia, Ireland, Czech Republic, Spain, Cyprus, Slovenia, and Romania. Patterns are remarkably different for tolerance towards extreme political ideologies, where the association between trust and tolerance can take both positive and negative turns. We can observe that ‘trustors’ in Lithuania, Portugal, Austria and Cyprus, are more inclusive towards people with extreme ideas, while ‘trustors’ in France, Denmark and Great Britain are, on the contrary, less inclusive than ‘distrusters.’

In sum, the bivariate exploration highlighted three trends. First of all, while it may be evident that people apply ‘hierarchies’ in evaluating their permissiveness towards certain marginal groups, it is nevertheless interesting that ‘trustors’ show more variation in how accepting they are towards ‘otherness’ than their status would predict. Second, in line, while we see that generalized trustors are not tolerant towards just any groups compared to distrusters, it can also be observed that they are less tolerant towards those groups that mobilize exactly on the basis of intolerance, namely political extremists. Third, also the fact that the inclusion of marginal groups is different across countries provides additional information that not only the levels of trust depend upon the context, but that also the radius is more narrow or wide depending upon the country people live in. In subsequent section we will first of all analyze whether the differences between trustors and distrusters

**Table 2** Mean differences in social tolerance between trusters and non-trusters

| Country (N)       | Cultural minorities |         | Deviant behavior |         | Political ideology |         |
|-------------------|---------------------|---------|------------------|---------|--------------------|---------|
|                   | Diff                | T value | Diff             | T value | Diff               | T value |
| Austria (1,302)   | −1.81***            | −11.94  | −1.78***         | −9.50   | −0.67**            | −2.79   |
| Belgium (1,484)   | −0.45***            | −5.97   | −0.59***         | −3.59   | −0.17              | −0.79   |
| Bulgaria (1,057)  | −0.71***            | −3.53   | −0.81***         | −3.16   | −0.73              | −1.86   |
| Cyprus (1,321)    | −0.03               | −0.10   | −0.35            | −0.90   | −0.60*             | −1.99   |
| Czech (1,472)     | −0.69***            | −4.44   | −0.16            | −0.89   | −0.34              | −1.38   |
| Denmark (1,224)   | −0.71***            | −5.48   | −0.44*           | −2.29   | 0.54**             | 3.29    |
| Estonia (1,299)   | −0.40*              | −2.14   | 0.01             | 0.08    | −0.30              | −1.14   |
| Finland (1,006)   | −1.20***            | −7.19   | −0.84***         | −4.19   | −0.49*             | −2.07   |
| France (1,448)    | −0.39***            | −7.14   | −1.03***         | −6.90   | 0.57**             | 2.82    |
| Germany (1,726)   | −0.57***            | −6.49   | −0.69***         | −4.99   | 0.43*              | 2.32    |
| Greece (1,369)    | −0.66***            | −5.29   | −0.82**          | −3.44   | −0.04              | −0.22   |
| Hungary (1,491)   | −0.46***            | −4.26   | −1.03***         | −4.78   | −0.15              | −0.82   |
| Iceland (698)     | −0.33***            | −4.04   | −0.57**          | −2.79   | −0.31              | −1.24   |
| Ireland (615)     | −0.20               | −1.07   | −0.05            | −0.18   | 0.12               | 0.35    |
| Italy (1,143)     | −0.79***            | −4.89   | −0.85***         | −3.76   | 0.26               | 0.53    |
| Latvia (1,257)    | −0.04               | −0.26   | −0.20            | −1.06   | 0.12               | 0.45    |
| Lithuania (1,347) | −1.02***            | −6.48   | −1.01***         | −6.16   | −0.95***           | −3.57   |
| Malta (1,185)     | −0.61**             | −2.74   | −0.44            | −1.80   | −0.54              | −1.87   |
| Netherl (1,336)   | −0.78***            | −5.37   | −0.50**          | −2.79   | 0.12               | 0.47    |
| Norway (1,053)    | −0.57***            | −4.12   | −0.57***         | −4.88   | 0.24               | 0.95    |
| Poland (1,222)    | −0.29               | −1.80   | −0.63**          | −2.86   | −0.03              | −0.14   |
| Portugal (1,365)  | −0.34*              | −2.31   | −0.87**          | −3.41   | −0.72**            | −3.22   |
| Romania (1,032)   | 0.04                | 0.18    | −0.42            | −1.50   | −0.42              | −1.36   |
| Slovakia (1,112)  | −0.03               | −0.12   | −1.26***         | −4.12   | −0.60              | −1.59   |
| Slovenia (1,160)  | 0.19                | 0.67    | −0.36            | −1.66   | 0.35               | 1.18    |
| Spain (1,414)     | −0.35               | −5.33   | −0.32            | −1.73   | 0.28               | 1.37    |
| Sweden (910)      | −1.14***            | −6.83   | −0.85***         | −3.50   | −0.09              | −0.28   |
| Switzerl (1,178)  | −0.49***            | −6.08   | −0.48***         | −2.88   | 0.20               | 0.81    |
| Great Br (1,656)  | −0.52***            | −5.23   | −0.51**          | −3.14   | 0.28***            | 1.39    |
| EVS (35,882)      | −0.79***            | −30.41  | −0.79***         | −20.80  | 0.20***            | 4.40    |

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ 

persist after controlling for other covariates that are able to explain social tolerance and after controlling for the country clustering.

## 4.2 Multiple Regression Results

Despite this bivariate exploration, a stronger test is to evaluate how social trust is associated with social tolerance holding constant relevant individual covariates as well as taking the country clustering into account. Reviewing the results of this multivariate test in Table 3, the bivariate patterns are partially confirmed. With regard to tolerance towards having

cultural minorities as neighbors, ‘trustors’ have a scale score about half a point higher than ‘distrusters.’ For tolerance towards deviant behavior, the effect parameter is even more outspoken, as ‘trustors’ score about 0.7 higher than ‘distrusters.’ Yet, taking the country clustering and confounders into account,<sup>8</sup> the bivariate exploration (Table 2) shows opposite patterns to the multivariate findings, as ‘trustors’ are slightly more tolerant towards extreme opinions than ‘distrusters’—the difference in tolerance towards extremist opinions is less than 0.2 in favor of the ‘trustors.’ On the basis of this multivariate step, we can conclude that social trust is positively associated with social tolerance: people who express that most people can be trusted are indeed more permissive towards excepting “others” as neighbors. ‘Trustors’ are, on average, far more inclusive towards deviant behavior and cultural minorities than ‘distrusters,’ and slightly more tolerant towards accepting people with extreme political ideologies. Nevertheless, the same qualification as for the bivariate test needs to be made: a quick look at the intercepts once again shows that tolerance towards deviant behavior fluctuates around the scale mean, which makes that ‘trustors’ level of inclusion is not unconditional. Thus, while ‘trustors’ are more tolerant towards others than ‘distrusters,’ even ‘trustors’ are not unconditionally inclusive towards just anybody.

#### 4.3 Cross-Level Interactions

In this final step, we explore whether the radius of trust is moderated by the national context, i.e. whether the association between social trust and social tolerance (the difference between ‘trustors’ and ‘distrusters’ in their permissiveness towards social groups) is moderated by country-level variables. The results are summarized in Table 4. Due to page limitations, the main effects are not printed but briefly summarized below (see Appendix Table 9). First of all, residents are more tolerant towards cultural minorities in high trusting societies, liberal democracies, prosperous nations and in non-postcommunist societies; income inequality, the share of immigrants and a protestant tradition have no bearing influence on tolerance towards cultural minorities. Tolerance towards people with deviant behavior is higher in economically wealthy countries, and only marginally higher in democratic societies and in culturally diverse countries, while it is lower in postcommunist societies. Cross-national variation in tolerance towards deviance cannot be explained by aggregated trust, income inequality, and whether or not the country had a Protestant tradition. Interestingly, between-country differences in tolerance towards extreme political voices cannot be explained by either of the proposed country-level variables. Although some contextual characteristics have no effect on social tolerance (i.e. the context does not affect ‘trustors’ and ‘distrusters’ simultaneously), it is nevertheless important to analyze whether the context works differently for ‘trustors’ and ‘distrusters’.

Observing first of all the cross-level interactions between the national context and individual generalized trust on tolerance towards cultural groups in Table 4, it can be seen that there is a strong moderating effect of the aggregate level of social trust in a given country. This means that in countries where trust is high, there is a larger discrepancy between ‘distrusters’ and ‘trustors’ regarding the level of inclusiveness towards cultural minorities. As for the more structural indicators, we can observe that there is a stronger association between trust and tolerance towards cultural minorities in more democratic societies, economically prosperous countries, egalitarian societies, and in countries without

<sup>8</sup> Only controlling for the country clustering, i.e. not taking related individual-level controls into account, reveals no difference between ‘trustors’ and ‘distrusters,’ which means that the association between trust and extreme political opinions is suppressed by controls.

**Table 3** Multivariate regression of social tolerance on generalized trust and individual—level variables

| Fixed effects             | Model 1: cultural minorities |         | Model 2: deviant behavior |         | Model 3: political ideology |         |
|---------------------------|------------------------------|---------|---------------------------|---------|-----------------------------|---------|
|                           | Param                        | T value | Param                     | T value | Param                       | T value |
| Intercept                 | 8.14***                      | 50.70   | 4.82***                   | 18.80   | 7.71***                     | 28.8    |
| Generalized trust         | 0.51***                      | 17.30   | 0.69***                   | 17.70   | 0.17***                     | 3.57    |
| Age                       | −0.00*                       | −2.02   | 0.00                      | 0.28    | −0.01***                    | −5.82   |
| Women                     | 0.17***                      | 6.37    | −0.19***                  | −5.22   | 0.48***                     | 11.04   |
| Of foreign origin         | 0.24***                      | 6.02    | 0.15**                    | 2.95    | −0.14*                      | −2.32   |
| Marital status            |                              |         |                           |         |                             |         |
| Apart                     | 0.06                         | 1.32    | 0.16*                     | 2.56    | 0.06                        | 0.84    |
| Widowed                   | −0.18***                     | −3.55   | −0.21**                   | −3.29   | −0.03                       | −0.39   |
| Single (Ref: Partnered)   | 0.01                         | 0.39    | 0.18***                   | 3.51    | 0.11                        | 1.75    |
| Education level           |                              |         |                           |         |                             |         |
| Middle                    | 0.16***                      | 4.63    | −0.05                     | −1.02   | −0.28***                    | −5.20   |
| Higher (Ref: lower)       | 0.39***                      | 9.84    | −0.11*                    | −2.16   | −0.61***                    | −9.63   |
| Employment status         |                              |         |                           |         |                             |         |
| Unemployed                | 0.08                         | 1.31    | 0.46***                   | 5.82    | 0.15                        | 1.59    |
| Student                   | 0.07                         | 1.04    | 0.00                      | 0.00    | −0.04                       | −0.35   |
| Retired                   | −0.03                        | −0.68   | −0.17**                   | −2.91   | 0.07                        | 0.97    |
| Other (Ref: employed)     | 0.02                         | 0.34    | −0.02                     | −0.28   | −0.04                       | −0.54   |
| Income levels             |                              |         |                           |         |                             |         |
| Middle                    | 0.05                         | 1.32    | −0.06                     | −1.23   | −0.17***                    | −2.81   |
| High                      | 0.08*                        | 1.98    | −0.10                     | −1.90   | −0.31***                    | −4.63   |
| Missing (Ref: low)        | −0.06                        | −1.45   | −0.13**                   | −2.46   | −0.13*                      | −2.04   |
| Religiosity               | 0.03***                      | 3.84    | −0.07***                  | −7.13   | 0.01                        | 0.71    |
| Random effects            | Param                        | Z value | Param                     | Z value | Param                       | Z value |
| Individual-level variance | 5.92***                      | 134.00  | 10.26***                  | 134.00  | 14.97***                    | 134.00  |
| Country-level variance    | 0.57***                      | 3.71    | 1.61***                   | 3.72    | 1.95***                     | 3.72    |

Entries represent the result of three separate multilevel multiple regression analyses

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

a postcommunist legacy. A context of a sizeable immigrant group or one of a Protestant tradition does not moderate the association between trust and social tolerance towards cultural minorities. Altogether, the results indicate that there are larger discrepancies between ‘trusters’ and ‘distrusters’ regarding their tolerance of cultural minorities in more developed societies. Put differently, in more developed societies, trusters are more outward reaching towards cultural groups than less developed societies.

Second, the difference between ‘trusters’ and ‘distrusters’ in how tolerant they are towards people with deviant behavior largely depends on an economic context. In wealthy societies, the association between trust and tolerance towards deviance is stronger, meaning that the difference between ‘trusters’ and ‘distrusters’ in how accepting they are towards deviance is larger in countries with a high gdp per capita. Also in equal societies, the differences are more pronounced than in countries with large income differentials. Last but not least, also in postcommunist societies, smaller gaps exist between trusters and

**Table 4** Cross-level interactions of country covariates on the association between generalized trust and social tolerance

|                              | Model 1: cultural minorities |         | Model 2: deviant behavior |         | Model 3: political ideology |         |
|------------------------------|------------------------------|---------|---------------------------|---------|-----------------------------|---------|
|                              | Param                        | T value | Param                     | T value | Param                       | T value |
| Model 1                      |                              |         |                           |         |                             |         |
| Generalized trust            | 0.20***                      | 2.85    | 0.64***                   | 6.89    | 0.39***                     | 3.53    |
| Aggregate trust              | 1.19                         | 1.65    | 0.76                      | 0.59    | −1.02                       | −0.72   |
| Agg trust * Gen'lized trust  | 0.83***                      | 4.84    | 0.13                      | 0.59    | −0.61*                      | −2.23   |
| Model 2                      |                              |         |                           |         |                             |         |
| Generalized trust            | 0.50***                      | 14.05   | 0.72***                   | 15.26   | 0.24***                     | 4.22    |
| Protestant tradition         | 0.30                         | 0.99    | −0.39                     | −0.76   | 0.28                        | 0.48    |
| Protestant * Gen'lized trust | 0.02                         | 0.36    | −0.10                     | −1.19   | −0.22*                      | −2.26   |
| Model 3                      |                              |         |                           |         |                             |         |
| Generalized trust            | 0.58***                      | 15.81   | 0.74***                   | 15.32   | 0.10                        | 1.69    |
| Postcommunist tradition      | −0.60*                       | −2.27   | −1.36***                  | −3.27   | 0.07                        | 0.13    |
| Postcomm * Gen'lized trust   | −0.19**                      | −3.20   | −0.15°                    | −1.90   | 0.19*                       | 2.00    |
| Model 4                      |                              |         |                           |         |                             |         |
| Generalized trust            | −0.72*                       | −2.35   | 0.46                      | 1.12    | 1.30**                      | 2.66    |
| Democracy                    | 0.31°                        | 1.99    | 0.52°                     | 1.94    | −0.20                       | −0.66   |
| Democracy * Gen. trust       | 0.15***                      | 4.02    | 0.03                      | 0.57    | −0.14*                      | −2.33   |
| Model 5                      |                              |         |                           |         |                             |         |
| Generalized trust            | 0.14                         | 1.42    | 0.39**                    | 2.94    | 0.65***                     | 4.04    |
| GDP/capita                   | 0.03*                        | 2.08    | 0.06**                    | 3.10    | −0.02                       | −0.70   |
| GDP/capita * Gen. trust      | 0.01***                      | 3.81    | 0.01*                     | 2.32    | −0.02**                     | −3.12   |
| Model 6                      |                              |         |                           |         |                             |         |
| Generalized trust            | 1.38***                      | 5.91    | 1.33***                   | 4.32    | 0.39                        | 1.04    |
| GINI                         | 0.02                         | 0.52    | 0.01                      | 0.11    | 0.04                        | 0.64    |
| GINI * Generalized trust     | −0.03***                     | −3.75   | −0.02*                    | −2.10   | −0.01                       | −0.60   |
| Model 7                      |                              |         |                           |         |                             |         |
| Generalized trust            | 0.46***                      | 7.60    | 0.72***                   | 9.03    | 0.44***                     | 4.56    |
| Share of foreigners          | 0.01                         | 0.48    | 0.09°                     | 2.03    | −0.06                       | −1.26   |
| Foreigners * Gen'lized trust | 0.01                         | 0.98    | −0.00                     | −0.46   | −0.03**                     | −3.22   |

The interaction parameters are added block-wise (main effect of generalized trust, main effect of country covariate, and cross-level interaction between the two) to the individual level models of Table 3

°  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

distrusters as for how inclusive they are towards people of deviant behavior. The absence of significant interaction terms for other national contexts implies that the radius of trust does not depend upon more cultural features of ethnocultural diversity or a Protestant tradition, and neither upon the level of democracy. Additionally, trusters and distrusters are also equally inclusive in societies with varying levels of trust, which contrasts the findings for the inclusion of cultural minorities (where trusters were more inclusive in societies where people tend to trust others more easily).

Third, the patterns for the inclusion of political extremists are opposite to the interactions on tolerance towards cultural minorities and deviance. In the first place, in more

**Table 5** Summary table of the postulated hypotheses and empirical outcomes

| Country characteristic | Hypothesis | Cultural minorities | Deviant behavior | Political ideology |
|------------------------|------------|---------------------|------------------|--------------------|
| Aggregate trust        | 0          | +                   | NS               | –                  |
| Protestantism          | +          | NS                  | NS               | –                  |
| Postcommunism          | –          | –                   | –                | +                  |
| Democracy              | +          | +                   | NS               | –                  |
| GDP/capita             | +          | +                   | +                | –                  |
| Gini                   | –          | –                   | –                | NS                 |
| Diversity              | –          | NS                  | NS               | –                  |

trusting societies, the gap between distrusters and trusters narrows, meaning that trusters are less inclusive towards political extremists in societies characterized by high levels of trust. What is more is that all other theoretical relevant context characteristics, with the exception of income inequality, determine the radius of trust. The radius is narrower in more democratic societies, countries with a higher gdp per capita, the share of foreigners, countries with a Protestant tradition; however, the radius is larger in postcommunist societies. Thus, in general, in more developed societies, differences between trusters and distrusters in how much they tolerate are small. What is interesting is that contextual-level diversity determines this association, too: trusters in more diverse contexts are less tolerant towards people who express intolerance.

Summarized, Table 5 presents the theoretically expected relations between context and the radius of trust, and the empirical outcomes. Whereas the effect of contextual features on the association between generalized trust and cultural minorities is largely in line with the theory, patterns are completely the opposite for the association with political ideologies. On the other hand, the context has only a limited effect on the relation between generalized trust and tolerance towards people of deviant behavior.

## 5 Conclusion

The aim of this paper was to disentangle cross-national differences in what Fukuyama has referred to as the ‘radius of trust,’ i.e. are ‘trusters’ as outward-reaching towards people that are different from them across a number of societies? Analyzing a Bogardus-esque scale, as obtained from the 2008 wave of the European Values Study, measuring social distance from or tolerance towards cultural minorities, people with deviant behavior, and political extremists yields that the evaluation of the radius of trust is rather complex. In general, ‘trusters’ are quite accepting towards other distant groups; more precisely, they endorse more tolerant stances towards cultural minorities and people of deviant behavior; yet, they also indicate skepticism over people with extreme political ideas, i.e. people who articulate distrust.

First of all, from a sociological perspective, too, these results are quite interesting, as tolerance towards marginal groups reflects a social hierarchy, with most tolerated groups those representing cultural distances. Thus, despite different worldviews, in a secularized Europe where religion has been relegated to the private realm, being of a different culture is not necessarily regarded as being intrusive to people’s individuality. This is different for tolerating people with deviant behavior, whose expressions of deviance might intrude in private realm as deviance is often associated with crime. Importantly, for tolerance towards cultural minorities and deviant behavior, it needs to be remembered that on average, the



level of tolerance towards cultural minorities expressed by ‘distrusters’ is higher than the level of tolerance towards people of deviant behavior expressed by ‘trusters.’ This qualification is important, as it shows that also ‘trusters’ are selective in who they tend to accept in their moral community, while on the other hand ‘distrusters’ are not necessarily opposed towards just any group at the margins of society.

Tolerance towards people with extreme political ideologies takes the middle ground in between tolerance towards cultural minorities and tolerance towards deviant behavior, as these opinions are less intrusive for the private realm: in contrast with culture, which has been relegated to the private realm, politics occupies the public sphere and aims at convert/influence people. Yet, the fact that there is no difference between ‘distrusters’ and ‘trusters’ in their tolerance towards extreme political voices shows that in this similar response towards these ideologies, the radius of trust has no room for opinions that want to foster distrust among the population. Put differently, because ‘trusters’ and ‘distrusters’ are equally (in-)tolerant towards extreme political opinions, the “out-groups” that reflect the radius of trust does not constitute necessarily include political extremism, unless, and this needs be qualified in future research, the motives for ‘trusters’ and ‘distrusters’ to be (in-)tolerant towards extremist opinions are different.

Yet while ‘trusters’ are selective in whom they include in their moral community, how inclusive they are depends also on the context they live in. Puzzling in this respect is that the country contexts that determines this inclusiveness are specific for the marginal group that is being evaluated. Nevertheless, most consistent, and in line with the Delhey et al. (2011) article, is that modernization, expressed by economic prosperity, determines the trust radius, while also a postcommunist legacy, distinguishing between Eastern and Western Europe, has a consistent effect in explaining the relationship between generalized trust and social tolerance. Nevertheless, whereas modernization makes ‘trusters’ more likely to include a wide range of ‘others’ in their moral community, it closes their horizon towards people who articulate distrust in others, namely extremist ideologies. For post-communist societies, we see that ‘trusters’ are on the other hand less inclusive towards ‘others’ but more accepting for dissent talk. What is more is that for the evaluation of cultural minorities (and only for the evaluation of this group), the radius of trust is a function of the level of trust, meaning that in societies where trust is given easily, cultural minorities are accepted more easily, too. This finding is puzzling, as research has found no consistent cross-national evidence between the relation of diversity on trust (Hooghe et al. 2009; Gesthuizen et al. 2009; Kesler and Bloemraad 2010). However, in more trusting societies, trust does more firmly relate to being accepting towards cultural minorities, even though diversity in itself does not widen the radius. This finding qualifies the analysis of aggregate trust measure, too, as at different ecological levels, trust plays different roles in accepting other people.

However, bringing the results of our study in relation with the advice of Delhey et al. (2011), the question is, while confirming that radiuses of trust differ across societies, whether a radius-adjusted trust-measure might be the ultimate solution, as the authors suggest. While their solution is optimal for a cross-national investigation of aggregate levels of trust, as it gives less weight to countries where residents exhibit high levels of trust in combination with a narrow trust radius, their adjustment nevertheless falls short in accounting for additional heterogeneity of two kinds. First of all, they fail to account for heterogeneity in the out-groups that are analyzed. While the authors have analyzed trust in people that are different from familiar people, out-groups nevertheless remain an abstract category that, as current research shows, is difficult to collapse in one factor. Second, by aggregating trust at the country level, the individual nature of trust is overlooked, as it is the “belief that others will not willingly or knowingly do you harm” (Newton 2007). While

Delhey et al. (2011) analyze whether across countries, people have a similar radius of trust, their study overlooks accounting for heterogeneity within countries, as the radius of trust might be wider or narrow for certain groups of ‘trustees.’ While our study did not touch upon this question either, as it is a different research question, aggregating individual data at the country-level makes it rather difficult to put this variation to the test.

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## Appendix

See Tables 6, 7, 8 and 9.

**Table 6** Individual-level continuous variables

| Variable                                       | Mean  | SD    |
|--|-------|-------|
| Tolerance of cultural minorities (0–10)        | 8.56  | 2.58  |
| Tolerance of people of deviant behavior (0–10) | 4.78  | 3.48  |
| Tolerance of political extremists (0–10)       | 7.06  | 4.15  |
| Age (16–108)                                   | 48.62 | 17.82 |
| Religious attendance (0–6)                     | 2.25  | 1.98  |

**Table 7** Individual-level categorical variables

| Variable          | Category                   | Percentage |
|-------------------|----------------------------|------------|
| Generalized trust | Most people can be trusted | 35.2       |
|                   | You cannot be too careful  | 64.8       |
| Gender            | Man                        | 44.9       |
|                   | Woman                      | 55.1       |
| Immigrant status  | Native                     | 86.3       |
|                   | Of foreign origin          | 13.7       |
| Marital status    | In a relationship          | 55.2       |
|                   | Divorced or separated      | 9.8        |
|                   | Widowed                    | 10.5       |
|                   | Single and never married   | 24.4       |
| Educational level | Lower                      | 32.4       |
|                   | Middle                     | 44.2       |
|                   | High                       | 23.4       |
| Work status       | Employed                   | 53.9       |
|                   | Unemployed                 | 5.3        |
|                   | Student                    | 5.4        |
|                   | Retired                    | 24.9       |
|                   | Other category             | 10.4       |
| Income            | Low                        | 26.5       |
|                   | Middle                     | 29.8       |
|                   | High                       | 23.7       |
|                   | Item nonresponse           | 20.0       |

**Table 8** Country-level variables

| Country | Trust | Protest | Postcom | Democr | GDPcap | Gini  | Foreign |
|---------|-------|---------|---------|--------|--------|-------|---------|
| AT      | 0.38  | 0       | 0       | 8.49   | 39.89  | 29.10 | 14.96   |
| BE      | 0.35  | 0       | 0       | 8.16   | 36.25  | 33.00 | 8.86    |
| BG      | 0.18  | 0       | 1       | 7.02   | 13.19  | 29.20 | 1.36    |
| CH      | 0.56  | 0       | 0       | 9.15   | 41.40  | 33.70 | 22.84   |
| CY      | 0.08  | 0       | 0       | 7.70   | 29.02  | 29.00 | 16.06   |
| CZ      | 0.32  | 0       | 1       | 8.19   | 25.19  | 25.80 | 4.40    |
| DE      | 0.39  | 1       | 0       | 8.82   | 35.67  | 28.30 | 13.02   |
| DK      | 0.76  | 1       | 0       | 9.52   | 37.38  | 24.70 | 8.40    |
| EE      | 0.33  | 1       | 1       | 7.68   | 20.33  | 36.00 | 14.16   |
| ES      | 0.35  | 0       | 0       | 8.45   | 30.86  | 34.70 | 12.74   |
| FI      | 0.64  | 1       | 0       | 9.25   | 36.21  | 26.90 | 3.84    |
| FR      | 0.27  | 0       | 0       | 8.07   | 34.18  | 32.70 | 10.66   |
| GB      | 0.38  | 1       | 0       | 8.15   | 36.08  | 36.00 | 10.12   |
| GR      | 0.22  | 0       | 0       | 8.13   | 29.98  | 34.30 | 9.58    |
| HU      | 0.21  | 0       | 1       | 7.44   | 19.41  | 30.00 | 3.54    |
| IE      | 0.37  | 0       | 0       | 9.01   | 41.83  | 34.30 | 3.54    |
| IS      | 0.51  | 1       | 0       | 9.65   | 40.79  | 28.00 | 9.82    |
| IT      | 0.32  | 0       | 0       | 7.98   | 30.41  | 36.00 | 6.52    |
| LT      | 0.30  | 0       | 1       | 7.36   | 19.14  | 35.80 | 4.32    |
| LV      | 0.24  | 1       | 1       | 7.23   | 17.19  | 35.70 | 15.64   |
| MT      | 0.22  | 0       | 0       | 8.39   | 24.71  | 26.00 | 3.44    |
| NL      | 0.62  | 0       | 0       | 9.53   | 41.32  | 30.90 | 10.54   |
| NO      | 0.75  | 1       | 0       | 9.68   | 52.87  | 25.80 | 9.20    |
| PL      | 0.27  | 0       | 1       | 7.30   | 17.60  | 34.90 | 2.20    |
| PT      | 0.18  | 0       | 0       | 8.05   | 23.09  | 38.50 | 8.04    |
| RO      | 0.18  | 0       | 1       | 7.06   | 12.64  | 31.50 | 0.60    |
| SE      | 0.72  | 1       | 0       | 9.88   | 37.80  | 25.00 | 13.38   |
| SK      | 0.13  | 0       | 1       | 7.33   | 22.00  | 25.80 | 2.36    |
| SI      | 0.25  | 0       | 1       | 7.96   | 29.68  | 31.20 | 8.22    |

**Table 9** Bivariate effects of context variables on social tolerance

|                       | Tolerance towards cultural groups |         | Tolerance towards deviant groups |         | Tolerance towards political extremists |         |
|-----------------------|-----------------------------------|---------|----------------------------------|---------|--|---------|
|                       | Param                             | T value | Param                            | T value | Param                                  | T value |
| Aggregated trust      | 1.61*                             | 2.26    | 0.83                             | 0.64    | −1.32                                  | −0.94   |
| Protestant tradition  | 0.31                              | 1.03    | −0.43                            | −0.85   | 0.18                                   | 0.31    |
| Postcomm heritage     | −0.66*                            | −2.48   | −1.41**                          | −3.39   | 0.13                                   | 0.24    |
| G'vnmnt effectiveness | 0.38*                             | 2.43    | 0.53°                            | 1.99    | −0.27                                  | −0.87   |
| GDP per capita        | 0.03*                             | 2.44    | 0.07**                           | 3.30    | −0.02                                  | −0.94   |

**Table 9** continued

|                     | Tolerance towards cultural groups |         | Tolerance towards deviant groups |         | Tolerance towards political extremists |         |
|---------------------|-----------------------------------|---------|----------------------------------|---------|--|---------|
|                     | Param                             | T value | Param                            | T value | Param                                  | T value |
| Gini coefficient    | 0.01                              | 0.21    | −0.00                            | −0.03   | 0.04                                   | 0.60    |
| Stock of immigrants | 0.01                              | 0.55    | 0.09°                            | 2.01    | −0.07                                  | −1.46   |

Entries are the result of seven independent multilevel multiple regression models, with each country level variable tested under control of the individual-level variables of Table 3

°  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

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