ORIGINAL RESEARCH

Rent-Free in Your Head? How Generalised Trust is Affected by the Trust and Salience of Outgroups

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Abstract

What is the relationship between people's trust in specified outgroups (such as 'French people' or 'immigrants') and their generalised trust? This relationship has never been empirically tested, which is troubling for the large body of research on the link between ethnic diversity and trust which seemingly assumes that outgroup trust does affect generalised trust. In this paper, I use individual-level survey data to examine how outgroup trust affects generalised trust in the United States and Croatia. Although the two types of trust are correlated, I find no evidence that people account for outgroup salience when translating outgroup trust into generalised trust, as previous theories have suggested. This raises the possibility that a different type of mechanism may be responsible instead, or perhaps that the association is non-causal and trust is a fixed personality trait which is not alterable by experience. In either case, it seems that the conventional explanation for how ethnic diversity reduces generalised trust—namely that it reduces outgroup trust which then feeds through into lower generalised trust—may need to be revised. I conclude by discussing limitations and some suggestions for further research.

Keywords Generalised trust · Outgroup trust · Ethnic diversity · Outgroup salience · United States · Croatia

1 Introduction

Generalised trust has become a topic of great interest to social scientists over the last two decades. The term refers to one's propensity to trust an unspecified 'other' and has been linked to a range of positive outcomes such as greater rates of donating to charity, greater confidence in political institutions, and a more robust 'civic culture' (Almond and Verba, 1963; Dinesen, 2012). Other studies have indicated that trust is also critical for economic development (Fukuyama, 1995) and post-conflict reconciliation (Herrera & Kydd, 2022), and states which rank highly for human development usually also display high levels of generalised trust (Ortiz-Ospina & Roser, 2016). Unsurprisingly, then, the possible

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determinants of generalised trust have received a great deal of attention from researchers. Some country-level factors which are believed to create generalised trust include a strong civil society, high-quality institutions, particular sets of cultural and religious values and low income inequality (Kawachi et al, 1997; Nannestad, 2008), while others have found that individual-level characteristics such as income (Alesina & La Ferrara, 2002), certain types of life experiences such as migration (Dinesen, 2012) and one's overall disposition or personality (Uslaner, 2002) may also play a role.

But one factor which has not been examined in detail as a determinant of generalised trust is 'outgroup trust'—one's trust in specified outgroups such as 'immigrants' or 'French people'. This is troubling, because a large body of existing research already assumes that outgroup trust *does* affect generalised trust. Since the early 2000s, a number of studies have found that ethnic diversity is negatively associated with generalised trust (Alesina & Ferrara, 2002; Costa & Kahn, 2003; Leigh, 2006; Putnam, 2007; Stolle et al., 2008; Gundelach & Traunmüller, 2013). Explanations for this trend typically invoke conflict theory, physical segregation of groups or social network density, and conclude that being surrounded by ethnic diversity causes individuals to distrust outgroups. But they do not explain how this low outgroup trust then creates the low generalised trust identified in these studies. They therefore conflate the two forms of trust—but does outgroup trust even affect generalised trust at all?

In recent years, some researchers have noted this assumption and attempted to explain how outgroup trust and generalised trust might be linked. Dinesen and Sønderskov (2015) suggest that social cues, namely physical proximity to the outgroup, translate outgroup trust into generalised trust by raising the salience of that outgroup. This paper tests that theory using two separate studies. First, I use data from the Social Capital Benchmark Survey (SCBS) to determine how generalised trust is affected by outgroup trust and outgroup salience in a sample of over 20,000 American respondents. Next, I perform a similar test by combining Croatian census data with information from the South-East European Social Survey Programme (SEESSP) to analyse how Croatians' generalised trust levels are affected by their outgroup trust in Serbs, Bosnians and Montenegrins as well as the salience of each of these groups. The results are surprising. While both studies find that outgroup trust is correlated with generalised trust, there is no evidence that respondents accounted for outgroup salience when translating outgroup trust into generalised trust. This is inconsistent with Dinesen and Sønderskov's (2015) theory, and casts doubt on the proposed causal link between outgroup and generalised trust. The fact that both studies yielded the same results despite being performed on separate datasets collected from different countries also increases our confidence in the validity of the results. In the final section of the paper, I discuss some possible explanations for these findings, including the possibility that the two forms of trust may not be causally linked and are instead merely the result of individuals' 'trusting personalities' (Uslaner, 2002). If this were correct, the implications for the literature on ethnic diversity and trust would be profound.

2 Generalised Trust, Outgroup Trust and Ethnic Diversity

Generalised trust has received an increasing amount of attention in the social sciences since the 1990s. This is likely because of its role as a component of 'social capital', a concept which rose to prominence in that same decade. High-trust societies are believed to be able to cooperate more effectively, while low-trust societies struggle to do so and

are consequently plagued by collective action problems and economic underdevelopment (Whiteley, 2000). Fukuyama (1995) argues that trust is crucial for economic growth because it enables the formation of large corporations, while Knack and Keefer (1997) find that trust fosters growth because it reduces transaction costs and encourages investment in both physical and human capital. But the benefits of generalised trust are not merely economic in nature. Knack (2002) found that trust was associated with improved government performance, while McAllister (2014) found that generalised trust was an important predictor of respondents' confidence in the government, public servants and political parties. It is argued to 'promote the virtues which underpin democratic government' and is also associated with other forms of prosocial behaviour such as donating to charity (Dinesen, 2012). Generalised trust is usually operationalised as a binary variable using the phrasing *"Generally speaking, would you say that most people can be trusted, or that you can't be too careful when dealing with people?"*, and although this has sometimes been criticised for a perceived lack of generalisability (Delhey et al., 2011), others highlight the advantages of its simplicity and long history of usage, as well as the absence of any clearly preferable alternatives (Uslaner, 2015).[1]

Given the myriad benefits of generalised trust, countless studies have attempted to determine the factors which generate it. Putnam (1993, 1995) popularized the idea that people learn trust from participating in voluntary organisations. A robust civil society may therefore be one factor which creates generalised trust, although evidence on this point is mixed (Nannestad, 2008). Other researchers found that generalised trust tends to thrive in conditions of low income inequality (Bjørnskov, 2007; Kawachi et al., 1997), and where the rule of law is strong (Knight, 2001), while others have identified an association between high trust and Protestant religious traditions, supposedly because of Protestantism's emphasis on equality and accountability to God (Delhey and Newton, 2005). The determinants of generalised trust may also differ between Western and non-Western countries (Freitag, 2003). Many of these studies fall into the 'experiential' school of trust scholarship, which highlights the role of life experiences in shaping individuals' generalised trust (Wu, 2020). But other scholars disagree that trust is the product of one's experiences at all—Uslaner (2002) contends that trust is best understood as a personality trait that one is either born with or which crystallises early in childhood, and does not change much in response to particular experiences. There is some evidence in favour of this view, such as Dawson (2019) and Stolle and Hooghe (2004), the latter of which notes that generalised trust shows 'a large degree of stability' over time. This view of trust has become known as the 'cultural' theory.

Putting theoretical debates to one side for the moment, there is one variable that has never been tested as a possible determinant of generalised trust: outgroup trust, which refers to one's trust in a specified outgroup such as 'French people' or 'immigrants'. Does having high trust in specific outgroups lead to higher generalised trust? Delhey, Newton and Welzel (2011) regressed outgroup trust onto generalised trust using data from the World Values Survey, but this was only in order to estimate the size of the 'trust radius', and the magnitude of the association between outgroup and generalised trust—if any—was not reported. Thomsen et al. (2021) considered the relationship between generalised trust and 'ethnic exclusionism', which bears some resemblance to the concept of outgroup trust, although it was the latter of these, not the former, which was positioned as the dependent

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[1] This phrasing appears in the European Social Surveys, World Values Survey and General Social Survey, among many others.

variable. Dinesen and Sønderskov (2015) come the closest to providing an answer, testing how outgroup exposure (but not outgroup trust) is linked to generalised trust in Denmark. The question of whether outgroup trust affects generalised trust therefore remains unanswered by empirical research.

This is actually something of a problem, because a large body of existing research seems to assume that outgroup trust *does* affect generalised trust. Since the early 2000s, a number of studies have identified a link between ethnic diversity and low generalised trust. Alesina and La Ferrara (2002) documented a negative link between ethnic diversity and generalised trust in the United States, and similar findings were reached by Costa and Kahn (2003), Putnam (2007) and Stolle et al. (2008). The negative link between diversity and trust appears particularly robust in North American settings, although other studies have found similar effects on cross-country samples (Delhey and Newton, 2005), on European data (Gundelach & Traunmüller, 2013) and in Australia (Leigh, 2006). But for present purposes, the critical point is that this empirical relationship between diversity and generalised trust is almost always explained with reference to *outgroup trust* instead of generalised trust itself. These authors tend to explain their findings by arguing that under conditions of ethnic diversity, individuals become distrustful of ethnic outgroups. Uslaner (2010) is a fine example: he argues that spatial segregation between racial groups partly explains the negative link between diversity and generalised trust. Spatial segregation allegedly prevents positive interracial attitudes from developing, and that is partly why ethnically diverse areas tend to have lower trust.[2] But hopefully readers can see that this explanation omits an important detail: a lack of interracial contact might prevent outgroup trust from developing, but it does not explain how low outgroup trust then feeds through into generalised trust, which is the outcome this study and many others actually seek to explain. Gundelach and Traunmüller (2013: 613) make a similar omission, explaining their results by noting that ethnic diversity must lead to a reduction in 'mutual trust across different groups'—i.e. outgroup trust. Once again, how this then feeds through into low generalised trust is not specified. In a subsequent paper Gundelach seems to acknowledge this shortcoming, noting that typical explanations for the negative effects of diversity really explain outgroup trust and not generalised trust (Gundelach, 2014: 126). But in general, this kind of analysis—where low generalised trust is conflated with low outgroup trust—is common in this literature (see also Habyarimana et al., 2007, Schaeffer, 2014, Buzasi, 2015 and Kumove, 2020).

3 The Outgroup Salience Theory

It is therefore clear that the body of research linking ethnic diversity to low trust makes a large but generally unstated assumption: that outgroup trust affects generalised trust. Fortunately, in the last few years some researchers have recognised this assumption and begun to flesh out the mechanisms through which outgroup trust might impact generalised trust, although empirical tests do not appear to have been conducted.[3] Dinesen and Sønderskov

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[2] This does not necessarily contradict Uslaner's (2002) view that trust is a fixed personality trait. It may be that being born or raised in an ethnically segregated environment results in a low level of generalised trust which is carried throughout one's life.

[3] Although Dinesen and Sønderskov (2015) do conduct empirical analysis, they focus on the question of whether micro-level exposure to ethnic outgroups affects generalised trust. The question of whether outgroup trust specifically is linked to generalised trust is left unaddressed. And while Delhey, Newton and
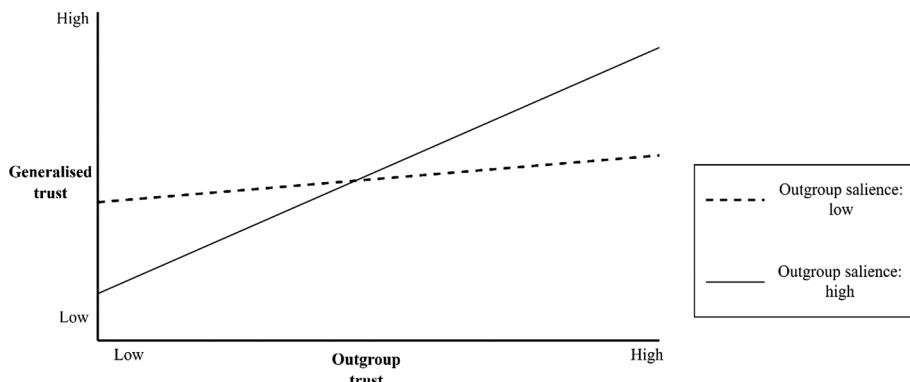
Fig. 1 Outgroup and generalised trust under high versus low outgroup salience. The dashed line representing low outgroup salience is not completely flat, because the salience is low but not zero. A low but non-zero level of salience may still cause that group to come to mind when imagining 'most people', so the level of trust in the group could still weigh upon generalised trust, albeit quite weakly

(2015) proposed what is, as far as I am aware, the only existing theory explicitly linking outgroup trust to generalised trust. In their account, one's exposure to outgroups determines whether outgroup trust translates into generalised trust. They write that

> …*being more heavily exposed to people of different ethnic background leads to lower levels of social trust because ethnic background functions as a social cue about the trustworthiness of specific others, which in turn affects the overall assessment of the generalized other.* (Dinesen & Sønderskov, 2015: 553).

They assume here that people display an innate distrust towards outgroups, but the mechanism proposed here should also apply even if outgroup trust is high. The key point is that the *degree of exposure* to relevant outgroups is the mechanism which determines whether outgroup trust feeds through into generalised trust. They expand upon this further in a subsequent paper, arguing that 'people evaluate the trustworthiness of the generalised other partly based on what they experience locally', and that that outgroup distrust, when combined with exposure to those outgroups, results in low generalised trust (Dinesen et al., 2020). The generalised trust question, after all, asks respondents to estimate their trust in 'most people'. If the respondent is regularly exposed to a distrusted outgroup, then that outgroup will be highly salient when the respondent imagines 'most people', spurring them to lower their estimate of generalised trust. Figure 1 illustrates the empirical implications of this mechanism.

The idea is that outgroup trust can affect one's generalised trust, but only when a sufficient degree of exposure makes that outgroup highly salient. You might distrust a particular outgroup, but if that outgroup is not present in your environment, then it should have little impact on your generalised trust. Conversely, if you encounter that group daily, then

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Footnote 3 (continued)

Welzel (2011) placed outgroup trust as an independent variable in their model affecting generalised trust, this relationship was not the focus of their analysis and the exact strength of the association between them, if any, was not stated.

they will be highly salient when answering the survey, which will then spur you to lower your generalised trust—which, of course, is based on your estimation of the trustworthiness of 'most people'.

Although this particular mechanism was proposed by Dinesen and Sønderskov (2015), the idea that attitudes towards outgroups influence generalised trust has a somewhat longer history. Delhey, Newton and Welzel's (2011) work on the 'radius' of generalised trust suggested that survey respondents think of outgroups when imagining 'most people'. Their results also suggested that this tendency varies across countries. Sturgis and Smith (2010) also found evidence that generalised trust was based on perceptions of other people whom one encounters in daily life—they asked respondents to 'think out loud' when answering the generalised trust question, and found that a substantial number of people thought about individuals they knew or has encountered when formulating their answer. There is also evidence that other types of 'domain trust', such as trust in neighbours and store workers, influences respondents' levels of generalised trust (Glanville & Paxton, 2007). The idea that physical proximity to outgroups raises their salience and affects political behaviour has also received support from Dinesen and Sønderskov (2015) and Spater (2022), the latter of whom demonstrated that residential proximity to outgroups 'heightens the salience of ethnicity' and increases coethnic voting preferences (Spater, 2022: 303). Finally, because of its emphasis on everyday experiences—namely proximity and exposure to outgroups—on generalised trust, this theory falls firmly into the 'experiential' camp of trust scholarship.[4]

3.1 Empirical Implications

Dinesen and Sønderskov's theory, where heightened outgroup salience arising from physical proximity triggers the translation of outgroup trust into generalised trust, therefore seems the best explanation currently available for how outgroup trust and generalised trust might be linked. Fortunately, it is also relatively straightforward to test empirically. If the theory is correct, then any link between outgroup trust and generalised trust should become stronger as that outgroup becomes more salient. This is an interaction effect: outgroup salience acts as the moderating variable which changes the strength of the relationship between outgroup trust and generalised trust. In a regression model with generalised trust as the outcome, an interaction term between trust in a particular outgroup and the salience of that outgroup should be both positive and statistically significant. These expectations are expressed in the following hypothesis:

H1: The relationship between outgroup trust and generalised trust will be stronger when outgroup salience is higher.

Conversely, if the strength of the relationship did not change in response to outgroup salience, this would serve as evidence against the outgroup salience theory. Because some degree of outgroup salience is required for the theorised mechanism to operate, this is therefore a boundary condition of the theory.

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[4] This does not necessarily imply that 'cultural' factors such as one's upbringing do not play a role in trust. The cultural and experiential theories are not mutually exclusive, and suggesting that generalised trust is affected by the interaction of outgroup trust and outgroup salience does not preclude the possibility that culture and other early-life factors also influence trust levels.

4 Data and Measures

Testing this hypothesis requires data on at least three variables: individuals' levels of generalised trust, their levels of trust toward at least one outgroup, and an indicator of the salience of the outgroup to each individual. One dataset which includes the requisite variables is the Social Capital Benchmark Survey (SCBS) which was conducted in 2000 and is the largest-ever survey on social capital and civic engagement in the United States. It contains over 26,000 individual responses from respondents in 42 communities across 29 states, as well as a nationally representative sample of 3,000. It has formed the basis for numerous influential studies of trust and social capital, perhaps most notably Putnam's (2007) paper establishing a negative link between diversity and trust. This provides an important benefit for the present study, as we know that we are already working in an environment where a negative association between diversity and trust exists. The concepts were operationalised as follows:

- Generalised trust is measured by the question which asks respondents "Whether most people can be trusted". Answers are measured on a three-point ordinal scale and can be either "You can't be too careful" (0), "It depends" (1) or "Most people can be trusted" (2).
- Outgroup trust was measured towards four different groups—Whites, Hispanics, Asian-Americans and African-Americans. The scores are measured on a four-point ordinal scale ranging from 0 (trust them "not at all") to 3 (trust them "a lot"). In the analysis below, I separate the respondents by their stated race, so that the model for Whites only includes outgroup trust variables for Asian-Americans, African-Americans and Hispanics. Separating respondents by race ensures that ingroup trust variables can be excluded from the analysis for each group. If the respondents were all analysed as a single group, the variables would not properly reflect outgroup trust because "trust in Hispanics", for instance, would mean outgroup trust for some respondents but ingroup trust for others.
- Outgroup salience was measured using two different specifications. First, I use the percentage of people in the respondent's community who are from each outgroup. This acts as a proxy for how salient each outgroup appears in the social environment of each respondent. I also include an individual-level measure which asks whether the respondent has a 'personal friend' from the outgroups in question. If one has a friend from a certain outgroup, it seems likely that the outgroup is more salient to them compared to someone who does not have a friend from that group. This functions as a robustness check.
- In addition, I included control variables for age, gender, education and income, as well as fixed effects for the respondent's state of residence. Additional models, contained in Online Appendix D, also add controls for employment status and political orientation.

I also test the hypothesis using a second dataset from Croatia. This is the South-East European Social Survey Programme (SEESSP), which was conducted in 2003 and 2004 and originally sampled over 20,000 people across the former Yugoslavia and Albania (Simkus, 2007). However only the Croatian respondents were asked about generalised trust, so the sample used here is limited only to respondents from Croatia who provided information about outgroup and generalised trust ($N = 968$).

The Croatian data also offers an alternative way of operationalising outgroup salience. The three outgroups whom respondents are asked about—Serbs, Bosniaks and Montenegrins—likely exhibit a great deal of variation in their level of salience to Croat respondents. Serbs are by far the largest ethnic minority in the country (4.5% of the population in 2001) and the violent conflict between Serbs and Croats during the 1990s means that Serbs loom large in the Croatian public consciousness.[5] There was of course also fighting between Croats and Bosniaks during the 1990s, but Bosniaks in Croatia are far smaller in number than Serbs (0.5% of the population in 2001). Finally, not only are Montenegrins a tiny minority in Croatia (0.1% of the population in 2001), but there was very little fighting between Croats and Montenegrins in the 1990s.[6] The idea that outgroup size affects salience is consistent with previous work in conflict theory (Quillian, 1995), while negative intergroup contact—of which ethnic war is almost the most extreme form imaginable—has also been shown to increase outgroup salience (Paolini et al. 2010). There should therefore be a clear gradient in terms of the salience of each of these three outgroups to Croats: Serbs are the most salient, followed by Bosniaks, followed by Montenegrins. If H_1 is correct, then we might therefore expect the link between outgroup trust and generalised trust to be strongest when the outgroup is Serbs, and weakest when the outgroup is Montenegrins. Of course, I also use salience data based on population proportions in each county, similar to the community-level measurement of salience in the US dataset.

The concepts are operationalised as follows:

- Generalised trust is operationalised using the question "Generally speaking, would you say that majority of people can be trusted, or that man is never careful enough regarding other people?". The original binary outcome was recoded so that responses are classed as either "most people can be trusted" (1) or "you can never be too careful" (0).
- Outgroup trust was measured with regard to three specified outgroups: Serbians, Bosnians and Montenegrins. This means that there are three separate outgroup trust variables. The question was phrased as follows: "I trust many of the people in neighbouring [Serbia/Bosnia/Montenegro] and it is time to improve our cooperation with them". The original five-point scale was recoded so that 5 equals high trust and 1 is low.
- Outgroup salience was measured using external data from the 2001 Croatian census (Croatian Bureau of Statistics, 2001). This provides data on the number of people in each Croatian county who are ethnically Serb, Bosniak or Montenegrin, which were converted into proportions for use here.[7] These variables measure the proportion of people in each respondent's county of residence who are ethnically Serb, Bosniak or Montenegrin.[8] This is taken as an indicator of the salience of each group. Because the

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[5] These figures are derived from the 2001 Croatian census. See Croatian Bureau of Statistics (2001) in the reference list.

[6] Although some Montenegrins did serve in the Yugoslav National Army (JNA), the Croatian War of Independence was generally conceptualised as a conflict against Serbs. See Friedman (1997) and Kecmanovic (2012) for examples, the former of which refers to it only as a 'Croat-Serb conflict'.

[7] Although Zagreb is technically considered a separate entity and not one of Croatia's counties, I am treating it as such here for convenience's sake.

[8] One limitation of this data is that Bosnians and Bosniaks are not quite the same thing. "Bosnian" usually refers to anyone who is from Bosnia and Herzegovina, even if they are from the Serb or Croat ethnic minorities there. "Bosniak" refers specifically to Muslim Bosnians. Since the outgroup trust question asks about "Bosnia", there is therefore a slight risk that respondents may be imagining Bosnian Croats – i.e. someone from their own ethnic ingroup – when answering this question, which was intended to capture outgroup trust.

proportions were sometimes extremely small (particularly for Montenegrins), standardised scores were used for these variables. As mentioned above, I also apply an alternative approach to salience by assuming that Serbs are more salient in general than Bosniaks, and Bosniaks more salient than Montenegrins.

- Four control variables were used: sex, age, total number of years in full-time education, and total personal monthly income. All of these could plausibly confound the relationship between outgroup trust and generalised trust. In Online Appendix D there are additional models with controls for political orientation and occupation.[9]

5 Empirical Findings: United States

The initial set of results for the United States are displayed in Table 1. Each of the four models corresponds to one of the four subsamples for Whites, Blacks, Asians and Hispanics. Ordered logit estimation was used due to the ordinal nature of the dependent variable. The first thing to note is that outgroup trust and generalised trust do appear to be associated with each other. In the White subsample, trust in all three racial outgroups is positively associated with generalised trust at a very high level of statistical significance. The same is trust in the Black, Hispanic and Asian samples, although only one outgroup reaches significance in each of those models—Hispanics in the Black sample, Asians in the Hispanic sample, and Blacks in the Asian sample. But the test for the outgroup salience theory comes from the interaction terms between outgroup salience and outgroup trust. Recall from Sect. 3 that if this theory is true, then the interaction terms should be positive and statistically significant. But this does not appear to be the case. None of the interaction terms between outgroup trust and outgroup salience reached statistical significance.

What does this mean? The lack of statistical significance on the interaction terms suggests that the effect of Americans' outgroup trust on their generalised trust does not depend on the salience of the group in question. These results are therefore inconsistent with H_1, which requires that outgroup trust affects generalised trust more strongly when the outgroup is more salient. The same was largely true when I switched to the other measure of outgroup salience, namely whether the respondent had a personal friend from the outgroup in question (see Table 2). In that case, one interaction term did reach significance. Hispanics' trust in Whites was more strongly linked to generalised trust when they had a personal friend who was White, but this was only at the $p < 0.05$ threshold. Given the large number of interaction terms being tested in these tables, it is perhaps to be expected that one might reach $p < 0.05$ simply by chance. None of the other interaction terms in Table 3 reached significance, although the first-order terms for outgroup trust were often strongly and significantly linked to higher generalised trust. In any case, since one's close friends are usually highly salient in our daily lives, whether the respondent has a personal friend from a given outgroup may be a fairly accurate indicator of outgroup salience. The finding that having a personal friend from an outgroup also does not affect the link between outgroup and generalised trust is therefore rather damning for H_1. There is no evidence here for the outgroup salience theory.

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[9] The models with occupation and political orientation are run separately and placed in the Online Appendix because not all respondents answered these questions. Including them in the initial models would lead to a substantial reduction in sample size.

These results are also reflected visually in Figs. 2, 3, 4, 5, 6 and 7.[10] These are interaction plots which show how the effect of outgroup trust on generalised trust differs according to the salience of the outgroup. The dashed lines show the effect when outgroup salience is held at its highest level, while the solid lines represent outgroup salience held at its lowest level. Each figure is essentially shown twice—first without confidence intervals, then again with 95 per cent confidence intervals added. For instance Fig. 3 is identical to Fig. 2, except that the confidence intervals are now added to the graph. If an interaction effect really does exist, we would expect to see that the high-salience dashed line should rise more steeply than the low-salience solid line as outgroup trust increases. This would mean that the link between outgroup trust and generalised trust is stronger when outgroup salience is high. Only the White subsample (model 1 in Table 2) was used to generate these graphs as this offered by far the largest sample size. However, as readers can see from all six of these graphs, there is no evidence for an interaction effect. Nowhere do the high-salience lines appear to rise more steeply than the low-salience lines, which indicates that the relationship between outgroup trust and generalised trust is no stronger when outgroup salience is high.

6 Empirical Findings: Croatia

The United States results presented above indicate that individuals do not account for outgroup salience when formulating their generalised trust. But we should not be too hasty in drawing conclusions from one set of results, because previous research into generalised trust indicates that the extent to which outgroups affect generalised trust may differ between countries. Delhey et al.'s (2011) work on the 'radius of trust' indicates that respondents' conceptions of who is included within 'most people' varies across the world, and so the outgroup salience mechanism might operate differently—or perhaps not at all—in locations where the radius of generalised trust is very narrow.[11] Generally speaking, outgroups seem to weigh most heavily on generalised trust in wealthy Western nations such as Switzerland and Italy, while for less-developed nations like Thailand and Morocco, 'most people' is more likely to connote ingroup members instead (Delhey et al. 2011: 793). To ensure that Sect. 4 results are not due to the United States possessing an unusually small radius of trust, I test the theory again using the second dataset from Croatia. This also acts as a robustness check to ensure that the Sect. 4 results are not spurious or merely an artifact arising from particular methods of measurement, data collection or analysis.

The results are shown in Table 3. A logit estimator was used in all models due to the binary nature of the outcome variable. Sample weights were also used in accordance with guidance provided in the SEESSP codebook. Turning first to models (1), (2) and (3), one notable result is that higher outgroup trust is again associated with higher generalised trust in all three models. Respondents who displayed higher trust in either Serbs, Bosnians or Montenegrins tended to report higher generalised trust, with p-values indicating a high level of statistical significance.

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[10] To make the plots easier to read, the three-level dependent variable was recoded to a binary variable. 0 and 1 were recoded to 0, and 2 ("Most people can be trusted") was recoded to 1.

[11] A lengthy discussion of the 'trust radius' is beyond the scope of this paper, but the basic idea is that a narrow trust radius means that people interpret the 'most people' from the generalised trust question as referring mainly to ingroups, such as family members, neighbours and coethnics. A wide trust radius means that people interpret 'most people' as also including strangers and members of ethnic outgroups.

Table 1 Dependent variable is generalised trust. All models estimated via ordered logit

Independent variable	(1) White subsample	(2) Black subsample	(3) Hispanic subsample	(4) Asian subsample
Trust in Whites		−0.029	−0.036	0.820
		(0.370)	(0.336)	(0.742)
Trust in Blacks	0.646***		0.107	0.709*
	(0.073)		(0.139)	(0.293)
Trust in Hispanics	0.421***	0.769***		0.147
	(0.065)	(0.149)		(0.418)
Trust in Asians	0.374***	0.147	0.471***	
	0.065)	(0.126)	(0.113)	
Individual-level variables	Y	Y	Y	Y
State fixed effects	Y	Y	Y	Y
Outgroup salience variables	Y	Y	Y	Y
Trust in Whites*Salience of Whites		0.636	0.717	−0.711
		(0.557)	(0.523)	(1.325)
Trust in Blacks*Salience of Blacks	0.132		0.142	−2.554
	(0.340)		(0.784)	(1.506)
Trust in Hispanics*Salience of Hispanics	−0.159	−1.291		0.600
	(0.443)	(1.102)		(1.803)
Trust in Asians*Salience of Asians	0.241	0.338	1.147	
	(0.643)	(1.505)	(1.055)	
N	15,516	2,598	1,837	515

Standard errors in parentheses

*$p < 0.05$, **$p < 0.01$, *** $p < 0.001$

Turning to the outgroup salience theory, there once again appears to be little support. The interaction terms toward the bottom of Table 3 are the relevant terms for testing H_1, but just like in the American study, none of them reach significance. Evidently, Croatians are not responsive to the proportion of outgroup members in their community when translating their level of trust in that outgroup into generalised trust. This holds true in all six models and for all three outgroups. The expected results, where the interaction terms are positive and significant, simply never materialised. Nor is there any evidence for the outgroup salience theory when we consider, as outlined above, that Serbs are likely more salient in general to Croats than Bosniaks, and Bosniaks more salient than Montenegrins. If the theory was true then we would expect the coefficient for trust in the high-salience group to be larger than for the lower-salience groups, reflecting a stronger impact on generalised trust, but this is not the case. The coefficients for trust in Serbs, Bosniaks and Montenegrins are all very similar in size, indicating that trust in a very visible and salient minority (Serbs) does not impact generalised trust any more than trust in a far smaller and less salient minority (Montenegrins). Again, this is hard to reconcile with H_1 and the outgroup salience theory.

These results are also reflected visually in Figs. 8, 9, 10, 11, 12 and 13. If Croats really did use high outgroup salience as a 'cue' to transfer their outgroup trust into generalised trust, we would expect the Croatian counties with the highest proportion of a given outgroup to also be those where the link between outgroup trust and generalised trust is the strongest. But this is not evident in the maps. For example, most of the counties with the highest correlation between generalised trust and trust in Serbs are located in the east of the country. But these are not the counties with the highest proportion of Serbs in their

Table 2 Dependent variable is generalised trust. All models estimated via ordered logit

Independent variable	(1) White subsample	(2) Black subsample	(3) Hispanic subsample	(4) Asian subsample
Trust in Whites		0.401* (0.169)	0.128 (0.145)	0.423 (0.351)
Trust in Blacks	0.672*** (0.072)		0.042 (0.116)	0.540* (0.270)
Trust in Hispanics	0.413*** (0.061)	0.583*** (0.134)		0.207 (0.241)
Trust in Asians	0.361*** (0.066)	0.107 (0.121)	0.468*** (0.112)	
Individual-level variables	Y	Y	Y	Y
State fixed effects	Y	Y	Y	Y
Outgroup salience variables ('Personal friend' measure)	Y	Y	Y	Y
Trust in Whites*Salience of Whites ('Personal friend' measure)		−0.058 (0.185)	0.374* (0.166)	0.005 (0.397)
Trust in Blacks*Salience of Blacks ('Personal friend' measure)	−0.015 (0.073)		0.216 (0.146)	−0.467 (0.349)
Trust in Hispanics*Salience of Hispanics ('Personal friend' measure)	−0.017 (0.069)	0.120 (0.164)		0.444 (0.325)
Trust in Asians*Salience of Asians ('Personal friend' measure)	0.048 (0.075)	0.253 (0.175)	0.172 (0.163)	
N	15,437	2,587	1,831	515

Standard errors in parentheses

*$p<0.05$, **$p<0.01$, *** $p<0.001$

Table 3 Dependent variable is generalised trust. All models estimated via logit

Independent variable	(1)	(2)	(3)	(4)	(5)	(6)
Trust in Serbs	0.257*** (0.071)			0.251*** (0.071)		
Trust in Bosnians		0.270** (0.082)			0.270** (0.082)	
Trust in Montenegrins			0.243** (0.075)			0.256** (0.076)
Control variables	Y	Y	Y	Y	Y	Y
Outgroup salience variables	Y	Y	Y	Y	Y	Y
Trust in Serbs* Serb salience				-0.020 (0.066)		
Trust in Bosnians* Bosniak salience					0.084 (0.081)	
Trust in Montenegrins* Montenegrin salience						0.120 (0.075)
N	968	968	968	968	968	968

Standard errors in parentheses

*$p<0.05$, **$p<0.01$, *** $p<0.001$. Sample weights (stdwt) applied in all models

population, which are instead mostly located in the centre of the country and include the counties of Karlovac, Sisak-Moslavina and Lika-Senj. Conversely, some of the counties which have the fewest Serbs also have relatively strong positive correlations, such as the City of Zagreb and Krapina-Zagorje. Even more damningly, many counties show correlations which do not appear to change much depending on the outgroup: for instance, the counties of Istria and Sisak-Moslavina shows negative correlations for all outgroups, while Zagreb City shows a fairly strong positive correlation for all groups. This suggests that the relationship between outgroup and generalised trust is due to location- or population-specific factors rather than being related to the salience of the outgroup in question.

As with the United States study, visual confirmation of these results is also provided in a series of interaction plots. Just like before, each plot is essentially shown twice, first without confidence intervals and then again with them added. And once again, an interaction effect would be evident if the high-salience (dashed) line rises more steeply than the low-salience (solid) line. The plots for Serbs, Bosnians and Montenegrins are based on models (4), (5) and (6) in Table 3 respectively. If an interaction effect really does exist, we would expect to see that the high-salience dashed line should rise more steeply than the low-salience solid line as outgroup trust increases. This would mean that the link between outgroup trust and generalised trust is stronger when outgroup salience is high. Although there is absolutely no evidence for this in Fig. 14—where both lines seem to rise at the same rate—Figs. 15 and 16 provide pause for thought. In those cases, the high-salience line does seem to rise much more steeply, providing *prima facie* evidence for an interaction effect. But when the confidence intervals are added in Figs. 17, 18 and 19 it becomes clear that this effect is not statistically significant: the shaded areas, which represent the confidence intervals for each line, overlap heavily with each other at all levels of outgroup trust. This reflects the lack of significance of the corresponding interaction terms in models (4), (5) and (6) in Table 3.

Overall, the Croatian results are strikingly similar to those from the United States. Once again, generalised trust is strongly associated with trust in a range of different outgroups, but the strength of that relationship does not seem to change depending on the salience of the outgroup. There is no evidence for H_1, which casts further doubt on the outgroup salience theory. Generalised trust is clearly related to outgroup trust in some way, consistent with previous findings such as Delhey et al. (2011), but there is no evidence that outgroup salience moderates the strength of this relationship. This was true regardless of how outgroup salience was operationalised—the 'personal friend' measure in Sect. 5, the 'gradient of salience' in Sect. 6, or as the proportion of outgroup members in the community/county which was used in both Sects. 5 and 6. The fact that the same results were obtained despite using different datasets, from different countries, collected in different years, also strengthens our confidence in the generalisability and validity of the results.

7 Additional Robustness Checks

One possible limitation in the previous analyses concerns the potential for collinearity. Interaction terms are often highly correlated with their own first-order terms, and this data is no exception. In the Croatia study, the variance inflation factors (VIFs) for the interaction terms ranged as high as 12. This raises the possibility that their lack of significance could simply be due to the model's inability to separate the effects of the

Fig. 2 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Sample is white respondents, outgroup is black respondents

Predicted gen. trust (sample=whites, outgroup=blacks)

Predicted generalised trust

Outgroup trust score

—— Lowest salience --- Highest salience
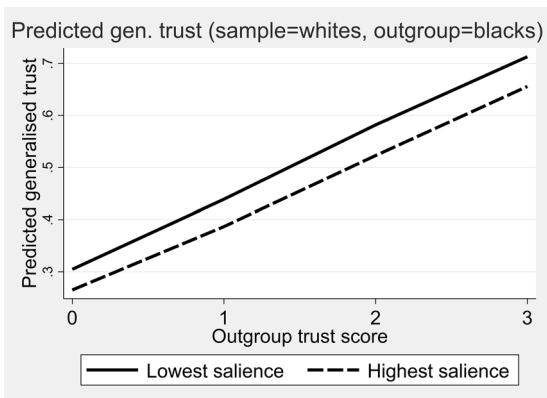
Fig. 3 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. White sample, black outgroup. 95% CIs included

Pred. trust (smpl=whites, outgrp=blacks) w/ 95% CIs

Predicted generalised trust

Outgroup trust score

—— Lowest salience --- Highest salience
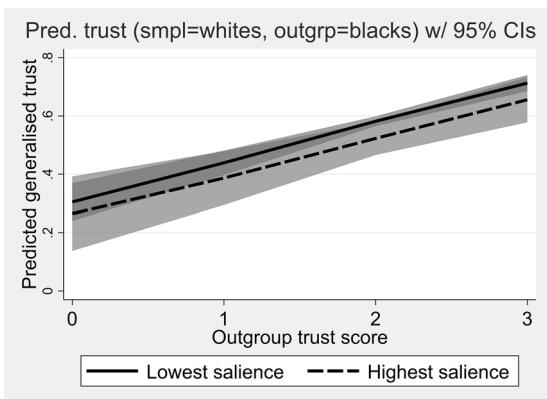
Fig. 4 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Sample is white respondents, outgroup is Hispanic respondents

Pred. gen. trust (sample=whites, outgroup=hispanics)

Predicted generalised trust

Outgroup trust score

—— Lowest salience --- Highest salience
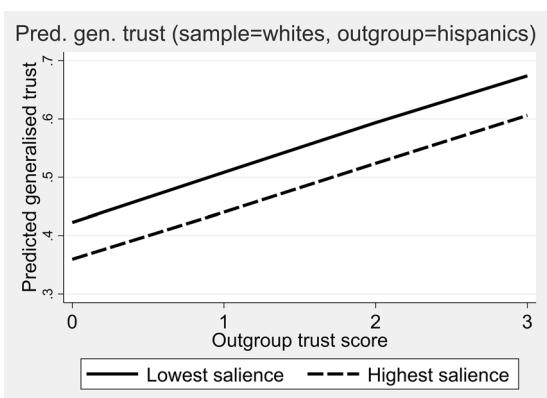
Fig. 5 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. White sample, Hispanic outgroup. 95% CIs included

Pred. trust (smpl=whites, ogrp=hispanics) w/ 95% CIs
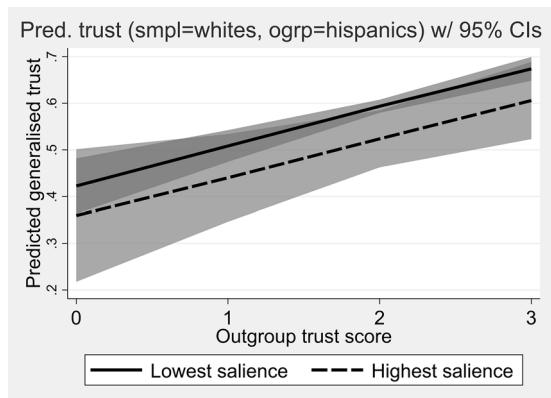
Fig. 6 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Sample is white respondents, outgroup is Asian respondents

Predicted gen. trust (sample=whites, outgroup=asians)
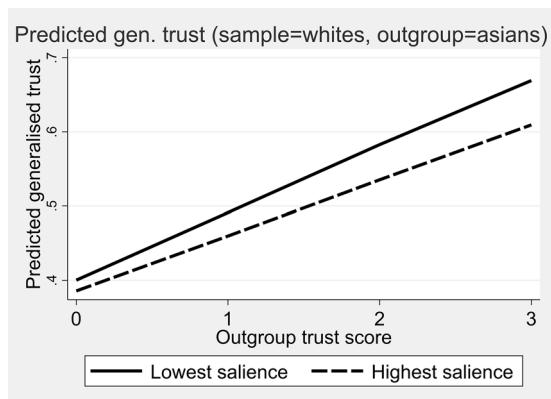
Fig. 7 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. White sample, Asian outgroup. 95% CIs included

Pred. trust (smpl=whites, outgrp=asians) w/ 95% CIs
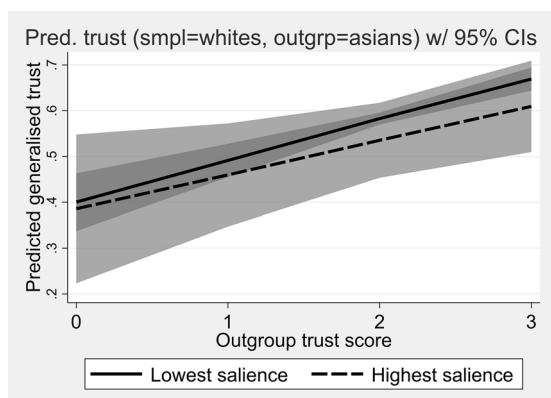
interaction terms from the first-order terms, rather than the interaction term genuinely having no effect on generalised trust. The same issue occurs in the United States data. In the White subsample, the VIFs for the interaction terms range between 13 and 16, while

the control variables, which do not form part of any interaction term, show relatively normal VIFs only slightly higher than 1. The result of these collinearity issues is that we cannot yet be fully certain that the lack of significance for the interaction terms truly reflects a lack of association with generalised trust. With the variance of these terms so highly inflated, it is possible that the logit algorithm cannot correctly estimate the marginal effect of these terms on the dependent variable.

One way of overcoming this problem could be to drop one of the first-order terms from the model, although this is typically inadvisable. A better method is to perform subsample analysis (Kam & Franzese, 2007: 104). This means that rather than using explicit interaction terms, we instead split the data into subsamples with low, medium and high levels of outgroup salience. If the interaction effect really exists, the magnitude and significance of the relationship between outgroup trust and generalised trust should increase as we move from low, to medium and then to high levels of outgroup salience. The subsample analysis is contained in Online Appendix B. The results show little evidence for any interaction effects: the association between outgroup trust and generalised trust was generally no stronger in the high-salience subsamples. This supports the findings in Tables 1, 2 and 3 and indicates that the lack of significance for the interaction terms was not merely an artifact arising due to collinearity.

As a second additional robustness check, I also ran all the models in Tables 1, 2 and 3 again using OLS instead of logit or ordered logit. Since the logit link function is already interactive, this can complicate the interpretation of interaction terms in logit models (Kam & Franzese, 2007: 112). But the OLS results proved to be almost exactly the same as the logit results, with mostly the same variables reaching the same levels of significance. The OLS versions of the analyses are included in Online Appendix C.

8 Discussion

The results paint a consistent picture—there is no evidence for H_1. Higher outgroup trust is usually associated with higher generalised trust in both the United States and Croatia, but there is no evidence that the strength of that relationship is affected by the salience of the relevant outgroup. To be as generous as possible to the outgroup salience theory, I operationalised salience using three different specifications: the proportion of members of the respondent's county or community from the outgroup, whether the respondent has a 'personal friend' from the outgroup (in the US study), and the assumption that there is a descending 'gradient' of salience where Serbs are generally the most salient outgroup to Croats, and Montenegrins the least salient. But outgroup salience did not have the anticipated effect in *any* of these specifications.

The implications of this for the literature on ethnic diversity and trust are potentially quite significant. In Sect. 2, I noted that this literature typically explains the negative link between diversity and generalised trust by postulating that diversity aggravates intergroup tensions, or at least prevents intergroup relations from improving, and this is what leads to low outgroup trust in ethnically diverse environments (Habyarimana et al, 2007; Uslaner, 2010; Gundelach & Traunmüller, 2013; Schaeffer, 2014; Buzasi, 2015; Kumove, 2020). It is generally assumed that this low outgroup trust then causes the low generalised trust observed in these studies, with individuals using the high salience of the outgroup—often generated by physical proximity—as a cue to translate their low outgroup trust into low

Fig. 8 Prop. of Serbs in Croatian
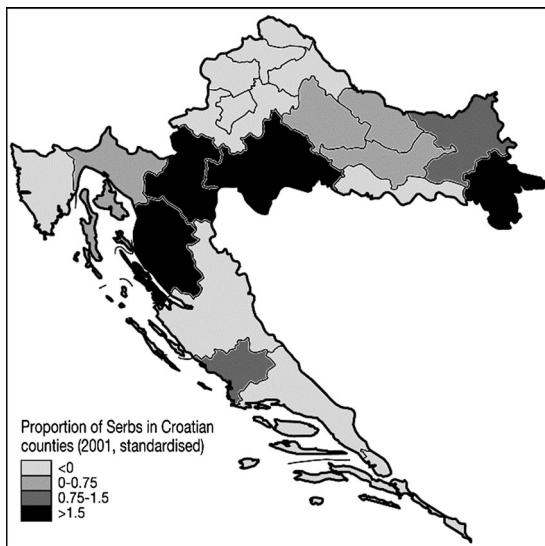
Proportion of Serbs in Croatian
counties (2001, standardised)
<0
0-0.75
0.75-1.5
>1.5

Fig. 9 Correlations between trust
in Serbs and generalised trust in
each county

Pairwise correlations between
trust in Serbs and generalised trust,
SEESSP (2003-2004)
<0
0-0.15
0.15-0.2
>0.2

21-301_KP CartoGIS SIS ANU
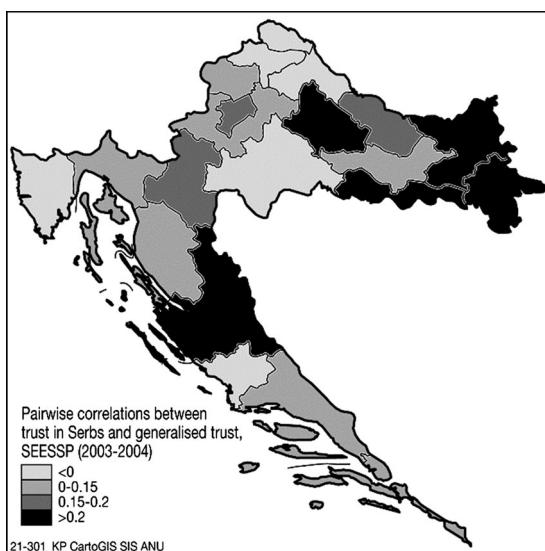
generalised trust (Dinesen & Sønderskov, 2015). But the results in this paper are inconsistent with this mechanism.

If people do not use the outgroup salience mechanism to translate low outgroup trust into low generalised trust, then how else can we explain the negative association between ethnic diversity and generalised trust? I contend that there are two other possibilities. First, some other psychological process might be responsible for controlling the translation of outgroup trust into generalised trust. Perhaps certain emotions such as *fear* of the outgroup, rather than merely perceiving them as salient, are required for outgroup trust to affect generalised trust. Previous studies have shown that intergroup fear 'motivates desire to move

Fig. 10 Prop. of Bosniaks in Croatian counties
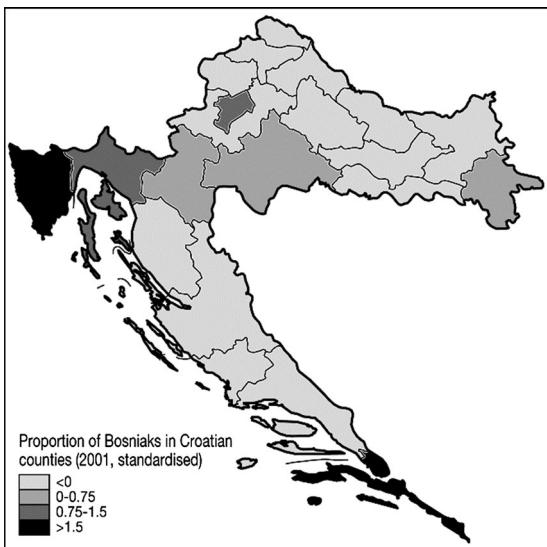
Fig. 11 Correlations between trust in Bosnians and generalised trust in each county
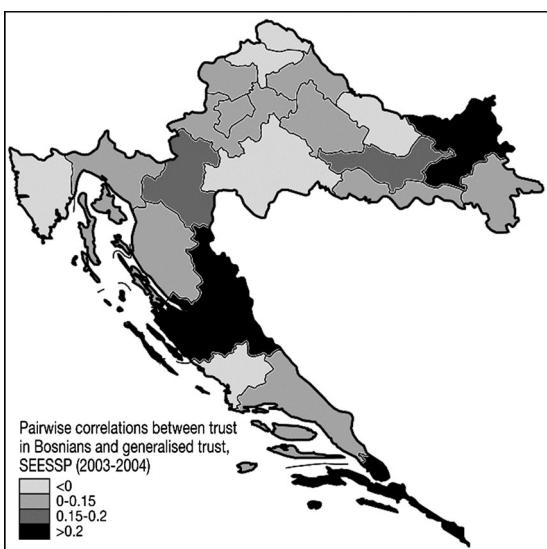
away from an outgroup' (Mackie et al., 2008), and putting distance between oneself and the outgroup would make it more difficult to express the willingness to cooperate that lies at the heart of the concept of high generalised trust (van Hoorn, 2015: 269–270). It could therefore be that low outgroup trust only causes low generalised trust when accompanied by sufficiently high levels of outgroup fear or threat perceptions. Such a process need not completely exclude the salience mechanism: it could also be that a three-way interaction exists, where affective mechanisms such as fear are more effective when outgroups are more salient. This would be a fruitful topic for future research.

Fig. 12 Prop. of Montenegrins in Croatian counties
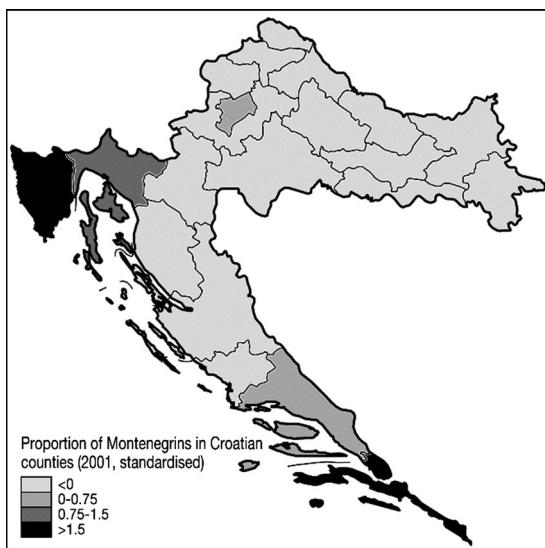
Fig. 13 Correlations between trust in Montenegrins and gen. trust in each county
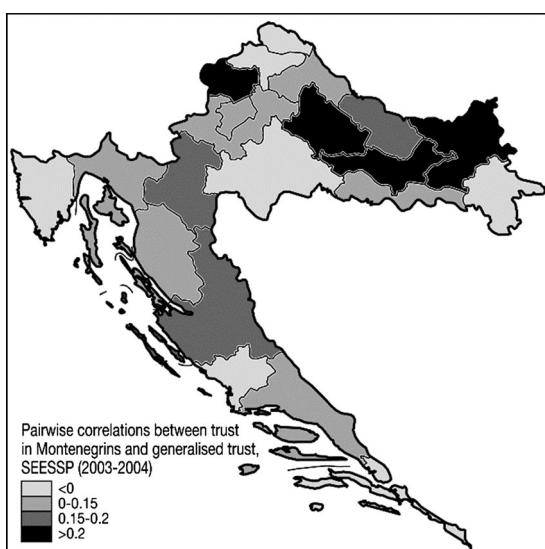
A second possibility is that outgroup trust and generalised trust might not be causally linked at all. As noted above, one strand of trust research rejects the idea that trust is a product of one's experiences or changes in the social environment. Uslaner (2002) views trust as a 'personality trait' which does not change much over the course of one's life, similar to other personality traits such as optimism (with which Uslaner alleges it is closely related). The debate over whether trust is fixed or malleable remains ongoing, with some work supporting Uslaner's view (Dawson, 2019; Stolle & Hooghe, 2004) and other studies finding experiences can affect trust (Glanville & Paxton, 2007; Dinesen, 2012; Thomsen et al., 2021).

Fig. 14 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Outgroup is Serbs
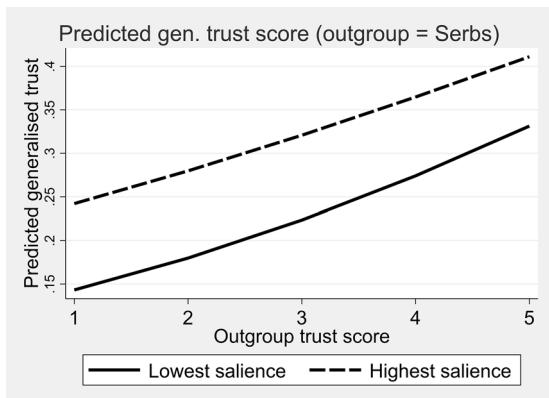
Fig. 15 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Outgroup is Serbs. 95% CIs included
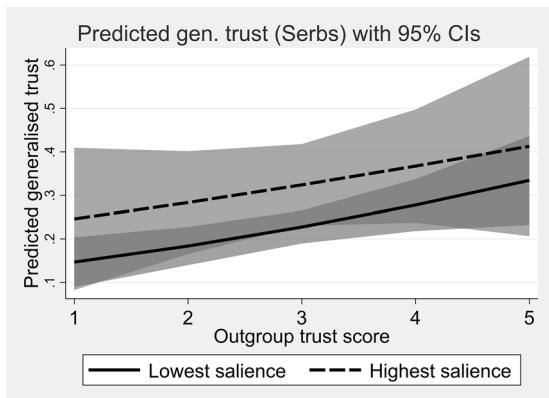
Another way to interpret the present findings is therefore as evidence for the 'cultural' view that trust is largely fixed throughout one's life. Although this remains somewhat speculative, some people might simply have 'trusting personalities' which lead them to express high generalised trust and high outgroup trust simultaneously. One need not cause the other. This would explain why outgroup trust and generalised trust are correlated in this paper, as well as why individuals do not account for outgroup salience. If generalised trust is not a product of experiences or social context, then they would not use the outgroup salience mechanism, or any other mechanism, to translate outgroup trust into generalised trust. This would also be consistent with Abascal and Baldassari's (2015) contention that the negative diversity-trust association is merely a 'compositional artifact' arising from low-trust individuals happening to live in ethnically heterogeneous environments. Future researchers may wish to investigate these possibilities further, perhaps using an experimental design where researchers can manipulate outgroup salience across treatment and control groups. If outgroup trust were conclusively found to have no causal effect on generalised trust, this would of course severely undermine the conventional explanation for the negative association between diversity and generalised trust described in Sect. 2. As it stands, the results in this paper cast doubt on the only causal mechanism yet proposed which links outgroup trust to generalised trust—the outgroup salience mechanism. It remains unclear what causal mechanism, if any, links outgroup trust to generalised trust.

Fig. 16 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Outgroup is Bosnians
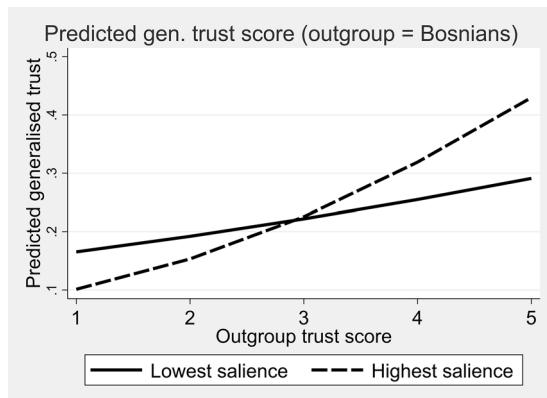

Fig. 17 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Outgroup is Bosnians. 95% CIs included
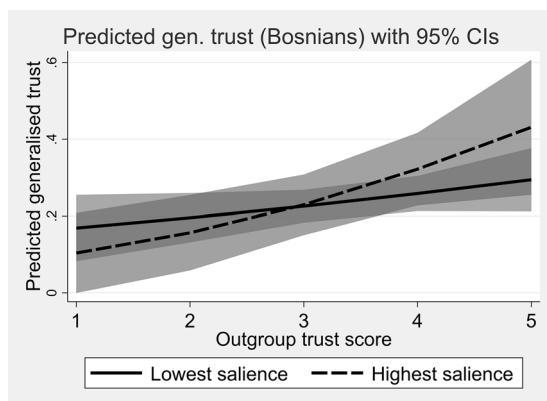
Fig. 18 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Outgroup is Montenegrins
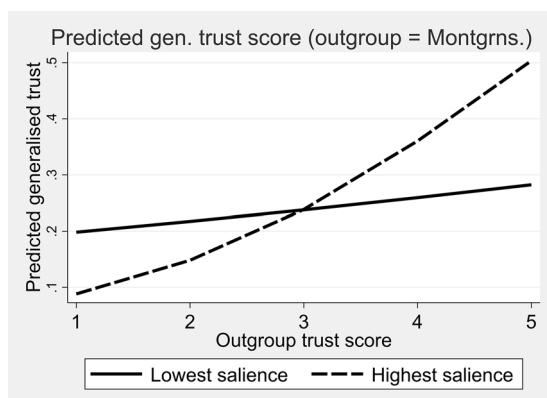
Moreover, although these results are inconsistent with Dinesen and Sønderskov's version of the outgroup salience mechanism which was presented in Sect. 3, this does not necessarily mean that outgroup salience has no role to play in shaping generalised trust. The

Fig. 19 Relationship between outgroup trust and predicted generalised trust for low and high levels of salience. Outgroup is Montenegrins. 95% CIs included
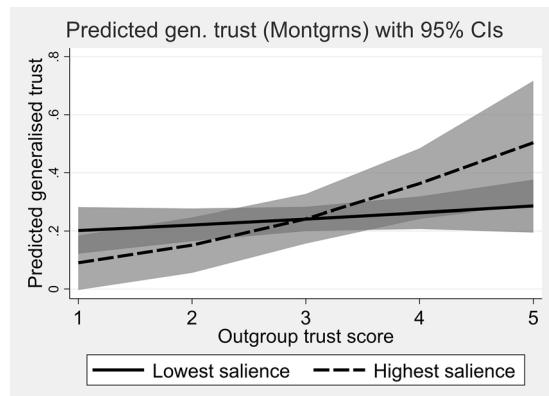
role of outgroup salience could itself be conditional on experiential or cognitive factors, such as pleasant or unpleasant intergroup contact experiences, or affective factors such as outgroup fear. Threshold effects could also be involved where salience must be very high before it begins to affect the translation of outgroup trust into generalised trust. While the findings of this paper are inconsistent with the simple interactive model presented in Sect. 3, the sources of generalised trust are famously complex and future researchers may wish to examine the role of outgroup salience in conjunction with the other factors mentioned above. For example, it could be that outgroup salience plays a greater role during ethnic conflicts when intergroup fear is presumably at a very high level.

The results in this paper also come with some limitations. Both the United States and Croatia studies are based on observational data, and this comes with the usual caveats regarding model specification and the elimination of possible confounders. Future researchers may wish to test the outgroup salience mechanism using an experimental design which offers an even higher level of internal validity. Another possible limitation concerns the operationalisation of key concepts. One of the measures for outgroup salience was the proportion of the population in the respondent's community or county who are from the outgroup in question. A potential criticism could be that this measure may not truly reflect the salience of that group to the respondent, since respondents might possess ethnically segregated social networks where they rarely have contact with outgroup members, even in locations where those outgroups are fairly numerous. On the other hand, 'contact' is not the same as 'exposure'—the former refers to face-to-face interactions, while the latter may involve only 'casually observing' outgroup members (Dinesen & Sønderskov, 2015: 553). In an ethnically diverse Croatian county or American community, it seems unlikely that a respondent could completely avoid being exposed to outgroup members, because 'interethnic exposure is essentially unavoidable' in ethnically diverse environments (Dinesen & Sønderskov, 2015: 554). Since it is exposure, rather than contact, which is theorised to raise outgroup salience, this limitation should not unduly affect the validity of this outgroup salience measure. I also used an individual-level measure of outgroup salience in Sect. 4—whether the respondent has a 'personal friend' from the outgroup in question. The fact that this yielded the same results provides further reassurance that these findings are not merely due to peculiarities with the group-level measures of outgroup salience.

Lastly, is it possible that these findings are merely the result of the United States and Croatia possessing unusually small trust radiuses? As noted above, Delhey et al.'s (2011)

work argues that the extent to which survey respondents include outgroups in their conception of 'most people' differs across countries. In a country with a very narrow trust radius, their findings suggest, respondents will not think about outgroup members when answering the generalised trust question. If the United States and Croatia were two such countries, might this explain why the outgroup salience mechanism fails to operate there? This is unlikely. Delhey et al. (2011) conceptualise the trust radius as the difference between the regression coefficients for ingroup and outgroup trust. But the present paper has already demonstrated that the first-order coefficient for outgroup trust is strongly linked to generalised trust, suggesting a wide trust radius in both the United States and Croatia under Delhey, Newton and Welzel's own definition. Their own results also indicated a wide trust radius for the United States.[12]

9 Conclusion

This paper has tested the link between outgroup trust and generalised trust using data from both the United States and Croatia. Dinesen and Sønderskov (2015) suggested that individuals transfer their outgroup trust into generalised trust by accounting for outgroup salience, but the results here provide no evidence that this occurs. Although outgroup trust and generalised trust are associated with each other, the strength of the relationship does not appear to vary in response to outgroup salience. It could be that a different mechanism is responsible for turning outgroup trust into generalised trust, perhaps one where outgroup salience still plays some role. Alternatively, the relationship could be non-causal, and 'trusting personalities' lead individuals to express both high outgroup trust and generalised trust simultaneously.

In either case, these results pose problems for the existing literature which links ethnic diversity to low generalised trust. That literature tends to explain the link by postulating that ethnic diversity aggravates tensions, reducing outgroup trust, which is then assumed to feed through into low generalised trust. If the interpretation of the present findings is correct, this explanation will need to be revised. At minimum, a new mechanism may need to be proposed and tested to explain how low outgroup trust translates into the low generalised trust observed in those studies. The relationship between diversity and trust is clearly complex, and further research is still required to discern the exact nature of the relationship between ethnic diversity, outgroup trust and generalised trust.

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[12] If the trust radius here is wide and outgroups are therefore involved in respondents' conceptualisation of 'most people', doesn't this undermine the findings of this paper? Not so. The fact that the first-order terms for outgroup trust are strongly linked to generalised trust indicates that outgroups could weigh upon generalised trust in some way, and therefore that the trust radius is wide. The main finding of this paper is merely that the 'salience' mechanism is not responsible for any such link.

Declarations

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