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Ethnic fractionalisation and social cohesion: the relation between immigration, ethnic fractionalisation and potentials for civic, collective action in Germany

Schaeffer, M.

Publication date
2012

Citation for published version (APA):
Schaeffer, M. (2012). *Ethnic fractionalisation and social cohesion: the relation between immigration, ethnic fractionalisation and potentials for civic, collective action in Germany*. [Thesis, fully internal, Universiteit van Amsterdam].

Chapter 5

Statistical and Perceived Fractionalisation and Their Impact on Neighbourhood Social Cohesion in Germany[1]

Introduction

After having discussed the results of a (simple) meta-analysis (see Chapter 2) and regression analyses of innovative, promising fractionalisation indices (see Chapter 4), the association between ethnic fractionalisation and social cohesion is still unintelligible. Critics might still feel that the debate suffers from the wide variety of measures of ethnic, linguistic, racial, religious and other forms of fractionalisation that have been used as predictors, varying controls for other contextual as well as individual-level variables, and a great variety of measures of trust, solidarity, cohesiveness and cooperation as dependent variables (e.g. Portes and Vickstrom, 2011).

Nevertheless, the central claim of this study remains that these varying findings also suggest that the direction and strength of the relationship between fraction-

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[1]This chapter is partly based on an article that is co-authored with Ruud Koopmans. It differs from the article in three main regards. First, the article encompasses the whole EDCA-Survey, including the French and Dutch samples and based on these data we do find a direct negative effect of ethnic fractionalisation on neighbourhood problems. Secondly, the article uses the percent immigrants rather than an index of ethnic fractionalisation, because for the former there exist internationally comparable data sources. Thirdly, I am able to control for the local crime rate in the German sub-sample, which alters the findings concerning the local unemployment rate. Thirdly, we do not investigate the moderating role of inter-ethnic neighbourhood acquaintanceships in the article.

alisation and cooperation and trust may depend on the workings of mediating mechanisms and moderating conditions. Further advances in this debate will be achieved less by more demonstrations of one or the other relationship between one or the other measure of fractionalisation, trust, or cooperation, than by studies that analyse mediating and moderating variables. Pioneering studies that have already gone in this direction include Habyarimana et al;'s (2007) field-experiment that demonstrates ethnically homogeneous groups to diffuse information faster, and Miguel's (2004) study of the impact of nation-building efforts on local public goods production in ethnically heterogeneous regions in Kenya and Tanzania.

After having explored the potentials of promising and innovative fractionalisation indices in the last chapter, the current chapter explores a crucial individual-level mechanism that has, in spite of its theoretical appeal, rarely been analysed empirically, namely the role of perceptions of fractionalisation, both as mediators of statistical fractionalisation effects, and as predictors in their own right. I therefore take into account not only measures of statistical fractionalisation, but also five different measures of perceived fractionalisation. Because these measures tap different aspects of fractionalisation, they allow us to investigate the merits of theories on cognitive biases, asymmetric preference distributions, and coordination problems, and to analyse out-group perceptions along with linguistic, normative, and socio-economic diversity[2]. As dependent variables I investigate trust in neighbours and collective efficacy as indicators of cognitive social cohesion, and associational membership along with volunteering as behavioural indicators of social cohesion. Because ultimately the relevance of social cohesion lies in its presumed contribution to the resolution of public goods problems, and because the findings of the last chapter suggest that behavioural forms of social cohesion stand in a different association to ethnic fractionalisation than cognitive ones, I also look at perceptions of social problems in the neighbourhood and protest participation, which I argue are important for understanding the link between cognitive and behavioural forms of social cohesion.

Theoretical Background

Why should ethnically diverse communities hunker down in the first place? In Chapter 2 four explanations of the the negative effects of ethnic fractionalisation were discussed, three of which are being considered in this chapter. The majority of studies refers to theories on *cognitive biases* against out-group members (e.g. Alesina and La Ferrara, 2000). Next to these approaches, collective choice theories suggest that lower levels of public goods provision might be due to the *asymmetry*

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[2]Note that I use the term diversity rather than fractionalisation for these measures, because this reflects the items' wordings best.

of preferences in ethnically diverse communities (e.g. Page, 2008). Other theories emphasise *coordination problems* due to cultural differences and the associated lack of shared language, meanings and practices (e.g. Desmet et al., 2009).

All these are possible explanations of the macro-demographic ethnic fractionalisation effect on individuals' attitudes and actions. I believe, however, that what Alba et al. (2005) noted for the study of prejudice also holds for the study of trust and cooperation: "between the macro-sociological plane of demographic shift and the micro-level phenomenon of individual prejudice as registered in surveys lies perception" (Alba et al., 2005, 902). Accordingly, those aspects of ethnic heterogeneity that are actually perceived by actors are the ones most likely to have an impact on their attitudes and actions. These perceptions are more than just reflections of the environment as measured by public statistics for two reasons. First, statistical measures are aggregated at levels and using boundaries between geographical units, which only approximately reflect the actual fractionalisation of individuals' life worlds. Perceptions on the other hand, are based on the actual fractionalisation that persons experience in their everyday lives. Second, the innumeracy approach highlights that perceptions are a product of personal, highly selective, and unrepresentative experiences of one's environment (Wong, 2007; Sigelman and Niemi, 2001; Nadeau and Niemi, 1995), as well as media exposure and individual emotional set-ups (Herda, 2010). For these reasons, subjective perceptions cannot simply be inferred from statistical measures and might help to explain the heterogeneity of findings in previous studies.

Among students of out-group biases and prejudice, the role of perceptions has been widely acknowledged. Alba et al. (2005) find negative effects of perceived fractionalisation, but their findings are not related to any measures of statistical fractionalisation. Semyonov et al. (2008) and Semyonov et al. (2004) do control for the size of the immigrant population and find that the perception of larger immigrant shares is significantly related to feelings of ethnic threat and prejudices (see also Meuleman, 2010). Also in line with perceptions as an important mediating mechanism, Hopkins (2012, 2010) as well as Schlueter and Davidov (2011) have shown how the share of immigrants affects anti-immigrant attitudes only given negative mass media framings. The debate on social cohesion and cooperation has however hardly seen any discussion of perceptions. Partial exceptions are Laurence (2011) and Stolle et al. (2008), who employ measures based on respondents' indication whether none, the minority, the majority or all persons living in their neighbourhood were immigrants and show a negative impact on trust and social cohesion. Yet, they treat this as an alternative measure of statistical fractionalisation, and neither investigate in how perceptions mediate statistical fractionalisation nor in how far they are predictors in their own right.

Following the findings of these studies, my first and most general hypothesis is

that because of variations in actual diversity across people's life worlds, differential individual sensibilities to diversity, and varying exposure to environmental framing of diversity, e.g., by the media, *perceptions of ethnic and cultural diversity have an effect on measures of social cohesion and reported neighbourhood problems over and above that of statistical measures of diversity (H1).*

Beyond this general effect of perceptions, I develop three hypotheses on specific mechanisms that have been proposed by the theories discussed above. My second hypothesis is derived from theories of cognitive biases toward out-groups and emphasises the perceived contrast between the own identity and that of neighbours: *perceptions of a strong difference between oneself and other people in the neighbourhood are negatively associated with measures of social cohesion and positively with perceptions of neighbourhood problems (H2).* It should be noted that perceptions of overall diversity and perceptions of the difference between oneself and others in the neighbourhood need not coincide. An immigrant and a native living in a town that is strongly dominated by natives will both perceive their surroundings as relatively homogeneous, but whereas the native will also see few differences between herself and other townsfolk, the immigrant may perceive that difference to be very large. Likewise, people in neighbourhoods dominated by migrants may arrive at different evaluations of neighbours' difference from themselves, depending on the (perceived) sizes of their own group and of various out-groups.

My next hypothesis is derived from theories emphasising asymmetric preferences, and states that *perceptions of diversity regarding the values and norms that people in the neighbourhood hold are negatively associated with measures of social cohesion and positively with reported neighbourhood problems (H3).* Language is central to theories emphasising coordination problems, and therefore my fourth hypothesis is that *perceptions of linguistic diversity in the neighbourhood are negatively associated with measures of social cohesion and positively with reported neighbourhood problems (H4).* Because all these aspects of perceived diversity lie between macro-demographic characteristics of the environment and individual attitudes and behaviour, I additionally hypothesise that *perceptions mediate the effects of statistical ethnic diversity on measures of social cohesion and reported neighbourhood problems (H5).*

Finally, I follow up on the finding of the last chapter according to which ethnic residential segregation strengthens the association between ethnic fractionalisation and social cohesion. A couple of studies have already shown the attenuating role of inter-ethnic friendships, as was discussed in the theory chapter. To my knowledge, however, no one has yet investigated whether mere inter-ethnic neighbourhood acquaintanceships, i.e. weak ties, rather than intimate friendships exert the same moderating role. Yet, weak ties tend to bridge different groups (Granovetter, 1973), which characterises their special role in fostering integration into the neigh-

bourhood at large with its various types of inhabitants (Völker and Flap, 2007). If my inclination about ethnic residential segregation increasing fractionalisation effects because of limited opportunities to establish personal inter-ethnic ties is correct, I should find that *inter-ethnic neighbourhood acquaintanceships attenuate negative effects of perceived fractionalisation (H6)*.

Data and Methods

This chapter relies on the same dependent variables as the last one with the additional inclusion of reported neighbourhood problems and protest participation, which have all been introduced in more detail in Chapter 3. In addition to the predictor and control variables used in Chapter 4, the dependant variables are regressed on five measures of different aspects of perceived fractionalisation. The first, *perceived ethnic diversity*, is closest to my measure of statistical fractionalisation:

> What is your estimate of the number of persons with a migration background in your neighbourhood? By migration background I mean persons that were either born abroad or who have at least one parent who has been born abroad. Please tell me a number between zero and one hundred per cent[3]

This measure to some extent reflects actual ethnic fractionalisation better than my measure of statistical fractionalisation at the city or regional level, since this measure of perceived fractionalisation refers to a much more circumscribed life world, namely to the area within ten minutes walking distance from the respondents' home. Partly, of course, it may also reflect respondents' individual sensibility and exposure to media framing. For this combination of reasons the perceived ethnic diversity measure on the individual level correlates only modestly (.34; p<.001) with the contextual statistical fractionalisation measure. However, across contexts the respondents' average estimate turns out to be quite accurate, correlating very highly (.91; p<.001) with my statistical fractionalisation measure, the Hirschman-Hirfindahl index of ethnic diversity. This accuracy is also shown in Figure 5.1, which plots the respondents' estimates of the percentage of persons with a migration background in their neighbourhood against the percentage of persons with mi-

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[3]I do not ask for the perception of the number of foreign nationals as in the statistical fractionalisation measure because it is reasonable to assume that people have more reliable knowledge on the ethnicity than on the nationality of others in their neighbourhood. In the European context, skin colour and other physical features as well as the wearing of certain types of clothing are reliable indicators of immigrant origin, but, in the presence of a sizable second generation much less of nationality.

Figure 5.1: The Accuracy of Respondents' Average Estimates of the Percentage of Persons with a Migration Background
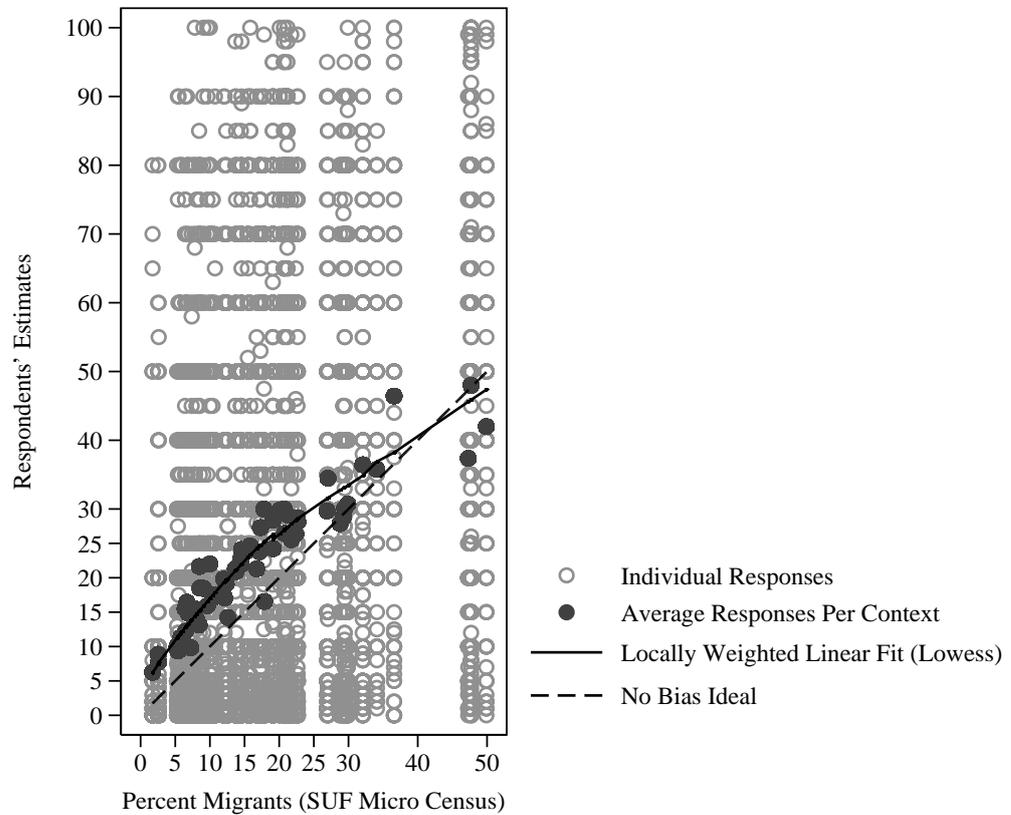
gration background as estimated from the Scientific Use File of the Micro Census.[4] The average responses per context stand in a rather accurate linear relationship to the statistical measure. There is a tendency of an upward bias of about 5 to 8 percent, which declines with growing number of migrants. This upward bias is not due to the oversamples of migrants, as can be seen from Figure D.1 on page 247 that shows the same plot for native respondents only. The reason rather seems to lie in the fact that only upwardly biased outliers are possible on this scale, because negative percentages are impossible. However the SUF microcensus files might also be biased downwards, because they do not include inregistered persons

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[4]These numbers are less reliable than the data on nationality from the Ausl'anderzentralregister (see Chapter 3 on contextual control variables), but in this case match the respondents' question better

with a migration background. In general, one can conclude that while people's individual sensibilities to fractionalisation may differ, there is little tendency to underestimate or overestimate ethnic fractionalisation in the aggregate.

My next three measures of fractionalisation refer to the three types of mechanisms that have been proposed in the literature on fractionalisation effects: outgroup biases, asymmetric preferences, and communication problems. As a measure of the first mechanism that can be uniformly applied across ethnic groups, I take *perceived otherness*, which I operationalise as the extent to which the respondent differentiates between the own identity and that of neighbours. Note that this item measures cognitive biases in general, but is not able to distinguish between either group threat or in-group favouritism. For natives the item might measure in-group favouritism, but from the minority perspective of migrants it probably measures group-threat. The item was measured on an eleven-point Likert scale:

> Everything taken together, how strongly do you differ from your neighbours?

Whereas the previous item focuses on the contrast between the self and others, the next two items refer to the diversity of others in the neighbourhood and measure respectively *perceived linguistic diversity* and *perceived value and norm diversity*:

> In some neighbourhoods people are very different from each other; in others they are very similar. Please indicate on a scale from zero to ten how strongly the inhabitants of your neighbourhood differ in the following respects:
>
> In the languages they speak in everyday life?
>
> In the values and norms they follow?

In order to control for possible confounding effects of socio-economic inequalities, I add a similar measure of *perceived socio-economic (income) diversity*:

> How strongly do the inhabitants of your neighbourhood differ in their income levels?

Table 5.1 shows the descriptive statistics of all four perception measures. The five perceived fractionalisation measures all correlate positively with each other, but only weakly to modestly so, ranging from .17 for the correlation between socio-economic (income) diversity and the estimated percentage of immigrants, to .53 for the one between socio-economic (income) and moral diversity (both p<.001). These modest correlations indicate that the measures pick up unique aspects of the perception of fractionalisation that cannot be reduced to one another. The correlation patterns among natives and immigrants are very similar, but somewhat lower among immigrants than among natives. This may be due to the fact that the cognitive categorisation of the neighbourhood environment has a more complex basic structure for immigrants, where it involves the own ethnic group, other

immigrants, and the natives. For natives, by contrast, the basic distinction is that between natives and immigrants, and differentiations among immigrant groups will be cognitively less salient than for immigrants.

Two of the five perceived fractionalisation measures, those referring to value and norm and income diversity have relatively high numbers of missing observations (18% and 17%, respectively) mainly due to "don't know" answers. That respondents found these variables difficult to answer may to be due to the fact that the norms and values of other people as well as others' incomes are difficult to observe. Respondents found the question on linguistic diversity followed by people in the neighborhood the easiest to answer (6% missing observations). I control for the possible influence of these missing observations in several ways in the analysis below, but find that my main findings are not affected.

Table 5.1: Descriptive Statistics of the Perceived Diversities

	Mean	SD	CV	Min	Max
Perceived Ethnic Diversity	26.62	25.15	0.94	0	100
Otherness	4.80	2.81	0.59	0	10
Linguistic Diversity	3.37	3.05	0.91	0	10
Value And Norm Diversity	4.71	2.57	0.54	0	10
SES Diversity	5.09	2.48	0.49	0	10

Besides the measures of perceptions, the only new predictor variable is the number inter-ethnic neighbourhood acquaintanceships that varies between zero and eleven. In general, the item parallels the GSS 2006 items analysed by DiPrete et al. (2011). A detailed description of this variable is given in Chapter 7, where it is analysed as dependent variable.

Results

Before I analyse the role of perceptions of fractionalisation, I first determine whether failures of public goods production in ethnically diverse neighbourhoods may explain the divergent results regarding cognitive and structural social cohesion indicators. On the one hand trust and a sense of collective efficacy are seen as lubricants for collective action and should therefore positively affect membership in associations, voluntary engagement and participation in protests. On the other hand, social problems in the neighbourhood may promote mobilisation to remedy them and therefore I expect them to be positively related to membership and protest.

To investigate the merits of this argument, I conducted regressions of associational membership and protest participation to which I added trust, collective efficacy, and disorder as predictors. In line with my argument, the two last columns

Table 5.2: Engagement, Trust and Neighbourhood Problems (Logisitc)

	A. Member	Volunteering	Protest
ED 09	0.789	1.723**	-0.351
	(0.535)	(0.507)	(0.570)
ΔED 07-09	1.000	1.309	3.328$^+$
	(0.865)	(0.964)	(1.746)
Trust	0.0552**	-0.0139	0.0431**
	(0.0168)	(0.0191)	(0.0146)
C. Efficacy	0.0285*	0.0590**	0.0303*
	(0.0140)	(0.0170)	(0.0144)
Nbh. Problems	0.0855*	-0.0648	0.107**
	(0.0351)	(0.0644)	(0.0366)
Observations	5010	3038	4982
Pseudo R^2	0.04	0.05	0.06
AIC	6641.86	3965.73	6444.58

Cluster-robust standard errors in parentheses
$^+$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$
Effects of **control variables** are shown in Table D.1 on page 248

of Table 5.2 show that all three variables have significant positive effects, indicating that cognitive social cohesion as well as the perception of neighbourhood problems promote collective action. Voluntary engagement differs, but because only voluntary engagement within the realm of associations was measured, a preselection of both volunteers and non-volunteers probably impacts on the results. This implies that (perceived) ethnic fractionalisation affects structural social cohesion along two countervailing paths: on the one hand, it erodes the mutual trust and sense of collective efficacy necessary for civic engagement, but on the other hand, the ensuing weakening of informal social control leads to increased social problems in the neighbourhood — or at least perceptions of them — which in turn spur mobilisation in civic associations and protest groups. This argument hinges on an association between ethnic fractionalisation and reported neighbourhood problems, which however Table 5.2 shows to be not significant. However, as the later analyses will show, perceptions of fractionalisation are significantly associated with reported neighbourhood problems and there is indeed a significantly positive indirect effect of statistically measured ethnic fractionalisation on reported neighbourhood problems that runs via these perceptions. I believe that this supports my interpretation of the link between cognitive and structural social cohesion and that this interpretation can account for the divergent effects of ethnic fractionalisation on indicators of structural social cohesion found in the literature. In my case, the countervailing effects of ethnic fractionalisation on associational membership and protest seem to cancel each other out, resulting in the absence of any significant relation between ethnic fractionalisation and behavioural social cohesion. In other cases, as in Putnam's (2007) study in the case of voting and charitable donations, the negative effects of fractionalisation may predominate.

And in other cases again, as in Putnam's (2007) study in the case of protest participation and membership of social and political reform groups, the net effect of fractionalisation on structural social cohesion may even be positive. In contrast to the elaborated argument on competitive collective action, however my results do not suggest that the increase in civic engagement has an ethno-centric nature and garnes for the attainment of particular group interests. Social problems may mobilise people to explicitly engage across ethnic lines or to disregard ethnicity altogether.

This argument finds further support in the effects of the local crime rate or socio-economic deprivation as measured by the local unemployment rate[5]. As Tables D.2, D.3, D.4 and D.5 in the appendix display, these two context-level variables also show a similar pattern of relations to the five dependent variables as statistical diversity and the latter is in addition positively associated with protest participation to a marginally significant degree. From a theoretical perspective it is plausible that, like ethnic fractionalisation, crime rate and economic deprivation lower cognitive social cohesion, but have ambivalent consequences for behavioural measures of social cohesion, because they also stir conflicts and feelings of discontent, which cause people to engage for social and political change. Regarding the other context-level predictors, I find that, net of composition effects, behavioural forms of social cohesion tend to be less widespread in urbanised regions.

Having established the relationship between statistical ethnic fractionalisation and my dependent variables, I now investigate how perceptions of fractionalisation can clarify the mechanisms behind statistical fractionalisation effects. To this end I add my five perceived fractionalisation measures to the regression models. The results are displayed in Table 5.3 for cognitive and Table 5.4 for behavioural indicators of social cohesion.

I find that perceived ethnic, preference, and linguistic diversity of the neighbourhood, as well as the perceived difference between the self and others in the neighbourhood all exert independent negative effects on cognitive social cohesion. In the case of perceived linguistic diversity, this effect is limited to collective efficacy, which is plausible in view of the fact that this variable taps perceived coordination problems, which most directly affect the expectation that one can successfully tackle common problems with neighbours. All four indicators moreover exert the

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[5]The missing values on the perceived diversity measures do not seem to alter the results regarding the questions of ethnic fractionalisation, as will be discussed below. However, they do have consequences for the estimates regarding the local crime and unemployment rates. If all observations are included in the analysis such as in Chapter 4 or the models based on the full information maximum likelihood estimator (FIML) discussed below, the crime rate is the critical measure. In the models with reduced observations due to the missing values on the perceived fractionalistion measures, the local unemployment rate takes over the effects. Assuringly, both outcomes support the principal conclusions.

Table 5.3: Cognitive Social Cohesion and Perceived Fractionalisation (OLS)

	Trust in Nbhs.		C. Efficacy		Nbh. Problems	
	(1) b/beta/se	(2) b/beta/se	(1) b/beta/se	(2) b/beta/se	(1) b/beta/se	(2) b/beta/se
ED 09	-1.295**	-0.807**	-0.905**	-0.332	-0.0343	-0.488**
	*-0.0583***	*-0.0363***	*-0.0395***	*-0.0145*	*-0.00468*	*-0.0665***
	(0.299)	(0.289)	(0.315)	(0.302)	(0.154)	(0.149)
ΔED 07-09	-4.520**	-4.067**	-0.980	-0.557	1.471**	1.141**
	*-0.0237***	*-0.0213***	*-0.00503*	*-0.00286*	*0.0234***	*0.0182***
	(0.783)	(0.736)	(0.702)	(0.661)	(0.241)	(0.248)
Perceived Ethnic Diversity		-0.00541**		-0.00609**		0.00564**
		*-0.0518***		*-0.0566***		*0.163***
		(0.00181)		(0.00215)		(0.000872)
Otherness		-0.135**		-0.0795**		0.0290**
		*-0.150***		*-0.0859***		*0.0981***
		(0.0122)		(0.0165)		(0.00538)
Linguistic Diversity		-0.0113		-0.0380*		0.0324**
		-0.0139		*-0.0453**		*0.121***
		(0.0147)		(0.0144)		(0.00445)
Value And Norm Diversity		-0.0526**		-0.0496*		0.0153*
		*-0.0551***		*-0.0504**		*0.0485**
		(0.0173)		(0.0236)		(0.00597)
SES Diversity		0.0606**		0.0325*		0.00799
		*0.0620***		*0.0324**		*0.0248*
		(0.0164)		(0.0161)		(0.00626)
Observations	5073	5073	5063	5063	5128	5128
R^2	0.116	0.146	0.0804	0.100	0.0861	0.166
AIC	22814.3	22647.5	23271.3	23171.7	11877.7	11419.9

Standardised β-coefficients in italics; Cluster-robust standard errors in parentheses
$^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$
Effects of **control variables** are shown in Tables D.2 on page 249, D.3 on page 250 and D.4 on page 251

expected positive influence on reported neighbourhood problems. For the behavioural dimension, by contrast, I mostly see no relation to these variables, with the exception of value and norm diversity, which is positively associated with associational membership, and linguistic diversity, which is negatively associated with protest participation. While this pattern does not exactly mirror the findings for statistical fractionalisation, it generally confirms that it is especially the cognitive dimension of social cohesion that is associated with fractionalisation in a clear and robust way.

In terms of my hypotheses this means that I find evidence for all three hypotheses (2-4) on the mechanisms linking fractionalisation to trust and cooperation: cognitive biases as measured by the perceived otherness measure, asymmetric preferences in the form of perceived normative and value differences, and coordination problems in the form of perceived linguistic diversity. However, this evidence is limited to the cognitive dimension of social cohesion — trust and collective efficacy — and to reported neighbourhood problems. Associational membership, volunteering and protest participation are largely unaffected by the different aspects of

Table 5.4: Structural Social Cohesion and Perceived Fractionalisation (Logistic)

	A. Member		Volunteering		Protest	
	(1) b/beta/se	(2) b/beta/se	(1) b/beta/se	(2) b/beta/se	(1) b/beta/se	(2) b/beta/se
ED 09	0.693	0.653	1.674**	1.684**	-0.455	-0.445
	0.153	*0.144*	*0.367***	*0.369***	*-0.100*	*-0.0980*
	(0.542)	(0.522)	(0.506)	(0.561)	(0.574)	(0.604)
ΔED 07-09	1.092	0.962	0.962	0.997	3.727*	3.688*
	0.0282	*0.0248*	*0.0254*	*0.0263*	*0.0955**	*0.0945**
	(0.866)	(0.846)	(0.948)	(0.959)	(1.782)	(1.783)
Perceived Ethnic Diversity		0.000715		0.000686		0.00195
		0.0335		*0.0316*		*0.0911*
		(0.00160)		(0.00189)		(0.00178)
Otherness		0.0124		-0.00127		-0.0108
		0.0677		*-0.00696*		*-0.0589*
		(0.0118)		(0.0157)		(0.0139)
Linguistic Diversity		-0.0150		-0.0116		-0.0302*
		-0.0908		*-0.0709*		*-0.182**
		(0.0170)		(0.0205)		(0.0154)
Value And Norm Diversity		0.0462**		0.00446		0.0112
		*0.238***		*0.0230*		*0.0577*
		(0.0115)		(0.0142)		(0.0142)
SES Diversity		0.0177		0.0114		0.0525**
		0.0890		*0.0570*		*0.264***
		(0.0143)		(0.0200)		(0.0128)
Observations	5131	5131	3100	3100	5102	5102
Pseudo R^2	0.03	0.04	0.05	0.05	0.06	0.07
AIC	6833.97	6817.23	4056.85	4065.89	6597.92	6586.07

Standardised β-coefficients in italics; Cluster-robust standard errors in parentheses
$^+$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$
Effects of **control variables** are shown in Table D.5 on page 252

perceived fractionalisation. This result generally parallels my results for statistical fractionalisation and can be understood when I take the role of perceived neighbourhood problems into account, which has a positive effect on associational and protest engagement.

Looking at the effect sizes, I can investigate the relative importance of the three mechanisms. My measure of cognitive biases, the perceived difference between the self and one's neighbours, turns out to be the strongest predictor of trust in neighbours and collective efficacy, with effect sizes that are two to three times as strong as those of the other perceived fractionalisation measures. An increase in one standard deviation of perceived otherness is associated with a 15 percent standard deviation decrease of trust in neighbours and a 8.5 percent standard deviation decrease in collective efficacy. For neighbourhood disorder linguistic diversity is the strongest predictor, followed closely by perceived otherness. An increase of one standard deviation in perceived linguistic diversity is associated with a 12 percent standard deviation increase in reported neighbourhood problems. These can be considered as socially significant effect sizes, given that all other

perceived diversities are held constant, which is highly unrealistic under normal circumstances.

Overall then, my results suggest that cognitive biases against out-groups are the most important mechanism behind ethnic fractionalisation effects, although preference and coordination mechanisms also play a significant and sometimes substantial role. This interpretation receives further support from the fact that my perceived ethnic diversity variable — measured by the estimated percentage of immigrants in the neighbourhood — exerts substantial and significant effects on trust, efficacy, and neighbourhood problems. A one standard deviation increase in perceived ethnic diversity is associated with a 5.2 percent decrease in trust, a 5.7 percent of a standard deviation decrease in efficacy and a 16.3 percent of a standard deviation increase in reported neighbourhood problems. Partly this perceived ethnic diversity measure reflects objective inter-individual variation in the ethnic composition of immediate life-worlds, but partly it also picks up under and over-estimations of the number of immigrants that are likely to be related to cognitive out-group biases.

In order to take into account the possibility that perceptions of ethnic and cultural diversity pick up effects that are actually related to a neighbourhood's level of socio-economic inequality, I have included perceptions of socio-economic (income) diversity as a control variable. The effects of all my perceived ethnic and cultural diversity effects remain when controlling for perceived socio-economic (income) diversity. Moreover, perceived income diversity is actually positively related to trust and collective efficacy, a result that parallels Putnam's (2007, 152) and Tolsma et al.'s (2009, 299) finding that a neighbourhood's income GINI coefficient positively predicts trust in neighbours. This finding does not contradict the negative effects that I and many other studies have found for unemployment rates because (perceived or actual) income diversity measures something theoretically different. What the evidence indicates is that economic circumstances that erode trust and collective efficacy are those associated with socio-economic deprivation, whereas income inequality implies that a neighbourhood includes people from different socio-economic statuses and hence also higher-status groups with the resources and cognitive capacities to invest in the production of neighbourhood collective goods. At any rate, these results for perceived socio-economic inequality show that the impact of ethnic fractionalisation is not a spurious effect caused by underlying economic inequalities as is sometimes claimed. My findings show that on the levels of, both statistical indicators, and individual perceptions ethnic and cultural diversity effects exist independent of effects of socio-economic deprivation and inequality.

Although I include the individual-level predictors only as control variables, I comment briefly on a few central findings. I find the well-known pattern that social

cohesion is positively related to socio-economic status: higher levels of education are associated with more trust, associational membership, volunteering and protest participation, and the employed, too, volunteer and protest more, have a stronger belief in collective efficacy and are in addition more often members of associations. Social integration is also strongly related to both cognitive and structural social cohesion. Married people trust their neighbours more and have a stronger sense of collective efficacy, and the same is true for persons who have lived longer in the neighbourhood, who in addition are more often associational members and volunteer more although they are also less engaged in protest. Home ownership is particularly strongly related to both cognitive and behavioural forms of social cohesion.
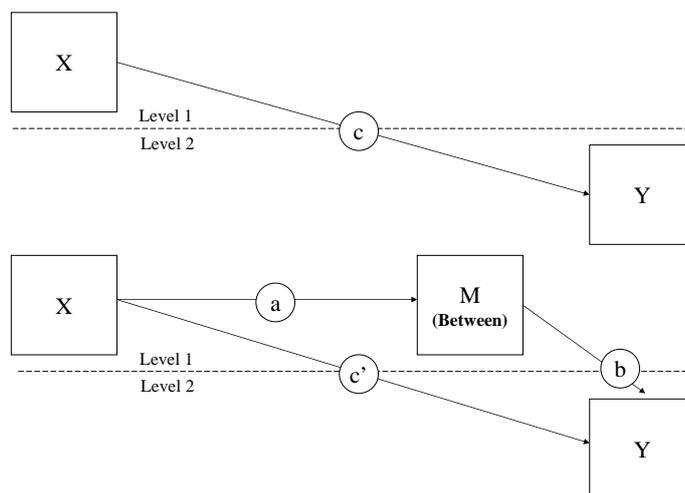
Also reflecting earlier findings, I find that social cohesion is positively associated with religious affiliation, particularly in the case of Protestants, but less so for Muslims. Having an immigrant background is also relevant: immigrants tend to be less trusting of their neighbours and less involved in volunteering and protest activities. The perception of neighbourhood problems is also related to some of the individual predictor variables, but in a less easily interpretable pattern: employed persons, home owners, immigrants and Muslims perceive fewer problems in their neighbourhoods, whereas persons who have been living in the neighbourhood for a longer period report more problems.

I now come the evaluation of hypotheses 1 and 5, which respectively stated that perceived diversities exert an independent effect over and above statistical ethnic fractionalisation, and that at the same time these perceptions mediate the effects of statistical fractionalisation. Hypothesis 1 can be firmly accepted, because the evidence shows that the inclusion of perceptions leads to a substantial improvement of the explanatory power of my models. The increase in explained variance is strongest for reported neighbourhood problems, where the R^2 increases from .09 to .17, but it is also notable for trust and efficacy. Further evidence in the form of fixed effects models is discussed below.

Evaluating hypothesis 5 is a bit more complex, however, because I am dealing here with a multi-level mediation — namely a context variable, statistical fractionalisation, which is mediated by an individual variable, perceived fractionalisation. Comparing the effect sizes and significance levels of the effects of statistical ethnic fractionalisation in Tables 5.3 and 5.4 shows that the inclusion of the perception variables leads to a reduction in the effect sizes of statistical fractionalisation in the regressions of trust and efficacy (with the latter effect becoming statistically insignificant) and a reducing effect on neighbourhood problems. While this suggests mediation effects of perceived fractionalisation, a more precise analysis is needed to establish this conclusion more firmly.

To this end, I built a combined perceived ethno-cultural fractionalisation score

Table 5.5: Multi-Level Mediation Analysis (OLS)

	M: Perc. Fract.	**Y**: Trust in Nbhs.		**Y**: C. Efficacy		**Y**: Nbh. Problems	
	Score (Between)	(1)	(2)	(1)	(2)	(1)	(2)
X: ED 09	1.695**	-1.418**	-0.317	-1.016**	0.574	0.0334	-0.332$^+$
	(0.221)	(0.300)	(0.436)	(0.328)	(0.482)	(0.154)	(0.196)
ΔED 07-09	0.746	-4.338**	-3.851**	-0.857	-0.142	1.358**	1.196**
	(0.494)	(0.813)	(0.800)	(0.732)	(0.720)	(0.244)	(0.256)
Perc. SES Diversity	0.00189$^+$	0.0565**	0.0589**	0.0303$^+$	0.0338*	0.000576	-0.000193
	(0.00101)	(0.0165)	(0.0164)	(0.0156)	(0.0153)	(0.00637)	(0.00634)
Perc. Fract.							
Score (Within)		-0.461**	-0.467**	-0.417**	-0.426**	0.253**	0.255**
		(0.0577)	(0.0577)	(0.0524)	(0.0522)	(0.0216)	(0.0214)
M: Perc. Fract.							
Score (Between)			-0.650**		-0.940**		0.216*
			(0.164)		(0.196)		(0.0826)
Observations	5131	5073	5073	5063	5063	5128	5128
R^2	0.84	0.14	0.14	0.10	0.10	0.16	0.16
AIC	-6923.04	22699.38	22695.06	23180.42	23170.52	11450.02	11445.37
Indirect Effects of X: ED 09							
$\beta_{IE} = \beta_a * \beta_b$		-1.102**		-1.594**		0.367**	
$SE_{Sobel} = \sqrt{(\beta_b^2 * SE_a^2) + (\beta_a^2 * SE_b^2)}$		(0.238)		(0.260)		(0.148)	
$SE_{Bootstrap}$		(0.460)		(0.422)		(0.130)	
$Ratio = \frac{\beta_{IE}}{\beta_c}$		0.777		1.569		10.981	

Cluster-robust standard errors in parentheses; $^+$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$
Effects of **control variables** are shown in Tables D.6 on page 253, D.2 on page 249, D.3 on page 250 and D.4 on page 251

on the basis of an exploratory factor analysis of my perceived fractionalisation measures. I excluded perceived socio-economic (income) diversity from this composite score, since it did not show the same relations to my dependent variables as the other perception variables. I then decomposed this score into a first part that varies between, and a second part that varies within localities. I used both the regional means and empirical Bayes estimates i.e. best linear unbiased predictors (BLUPs), but found virtually similar results. Here I report results based on the regional means; results based on empirical Bayes estimates are shown in Table D.7 on page 254. Only that part of perceived fractionalisation that systematically varies between but not within localities can mediate context-level variables (Zhang et al., 2009), which can lead to biased conclusions if ignored.

Both the between and within scores are displayed in Table 5.5 and show highly significant negative relations to trust, efficacy, and neighbourhood problems. A Sobel (1982) mediation analysis, which tests whether the ethnic fractionalisation index is a significant indirect predictor of social cohesion and neighbourhood problems once between-context scores of perceptions are taken into account, shows that large parts of the statistical fractionalisation effects are mediated by the perceived fractionalisation variable: 78 percent for trust in neighbours, the full 100 percent for collective efficacy and neighbourhood problems. These results are also supported by a mediation analysis that relies on bootstrapped standard errors (Hayes, 2009). I can therefore also confirm hypothesis 5, at least, as in the case of all the other hypotheses, in as far as the effects on cognitive social cohesion and reported neighbourhood problems are concerned. Given the fact that both the between and within-context effects of perceived ethno-cultural fractionalisation are statistically significant, I conclude that the inclusion of perceptions both provides an important mediating mechanism for contextual statistical fractionalisation effects, and provides additional leverage for the explanation of intra-individual differences in trust, collective efficacy, and perceived neighbourhood problems.

The final hypothesis follows up on the role of ethnic residential segregation in inhibiting personal neighbourhood contacts to people of other ethnicity. To do so, I interact the number of inter-ethnic neighbourhood acquaintances with the score of perceived ethno-cultural fractionalisation, which seems more feasible than testing each singular measure of perceived fractionalisation. In line with the interpretation of the last chapter, Table 5.6 shows inter-ethnic neighbourhood acquaintanceships to attenuate the effect of perceived ethno-cultural fractionalisation. Figure 5.2 visualises this relationship and shows a strong moderating impact of inter-ethnic neighbourhood acquaintances. The visualisation, however, also shows that even at maximum values, inter-ethnic neighbourhood acquaintanceships are not able to attenuate the effects of perceived ethno-cultural fractionalisation to such a degree that they would become insignificant.

Table 5.6: Cognitive Social Cohesion, Perceived Fractionalisation and I-E Nbh. Acquaintances

	Trust in Nbhs.	C. Efficacy	Nbh. Problems
ED 09	-0.702*	-0.374	-0.385**
	(0.288)	(0.295)	(0.143)
ΔED 07-09	-3.988**	-0.583	1.182**
	(0.729)	(0.666)	(0.241)
Perceived Fract.			
Score	-0.616**	-0.605**	0.286**
	(0.0719)	(0.0628)	(0.0241)
Perceived SES Diversity	0.0604**	0.0357*	-0.000484
	(0.0165)	(0.0153)	(0.00632)
I.E. Nbh. Acquaintances	0.0537**	0.0495**	-0.00449
	(0.0145)	(0.0118)	(0.00366)
Perceived Fract. Score*			
I.E. Nbh. Acquaintances	0.0256**	0.0307**	-0.00596*
	(0.00849)	(0.00801)	(0.00263)
Observations	5073	5063	5128
R^2	0.14	0.11	0.16
AIC	22655.50	23137.83	11439.94

Cluster-robust standard errors in parentheses; $^+$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$
Effects of **control variables** are shown in Tables D.8 on page 255

Figure 5.2: Interaction between Perceived Fract. and I-E Nbh. Acquaintances
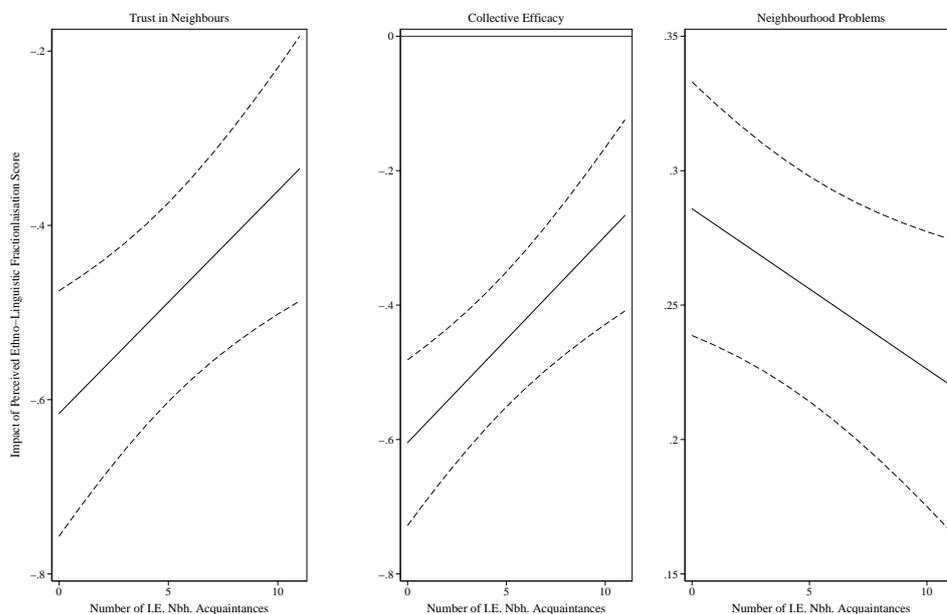
In sum, hypothesis 6 receives support and thereby further validates the finding on ethnic residential segregation: while mere inter-ethnic co-existence is a challenge to social cohesion, the inter-ethnic acquaintanceships that are being fostered by the opportunities to meet in the neighbourhood attenuate these negative fractionalisation effects.

Robustness Checks My findings are open to a number of potential criticisms and queries, most importantly related to the missing value problem affecting some of the perceived fractionalisation measures, the possibility for unobserved heterogeneity on the context level, and the consistency of results between natives and migrants. To deal with these issues, I performed a series of robustness tests.

Regarding the missing value problem, I recalculated the regressions of Tables 5.3 and 5.4 using structural equation modelling using the Full-Maximum Likelihood Estimator (FIML), which includes incomplete data records in the estimation procedure (Enders, 2010, chapter 4). This leads to virtually identical results, as can be seen in Table D.9 on page 256. The only exception, which however is irrelevant for any of my hypotheses or theoretical arguments, is that the coefficient of perceived socio-economic diversity on associational membership now becomes significant and positive.

Unobserved heterogeneity might affect my estimates of the effects of perceived fractionalisation because as a result of the limited availability of suitable context data, I could only control for a few central context variables (country, population density, and unemployment) next to statistical ethnic fractionalisation. Therefore, I also estimated fixed effects models, which centre all variables around the context-specific and also postal-code-specific mean (Rabe-Hesketh and Skrondal, 2008; Baltagi, 2008). Accordingly, fixed effects models not only control for the effects of statistical ethnic fractionalisation but also for other unobserved context variables, such as for instance the crime rate, income inequality or residential mobility. The results are displayed in Tables D.10 on page 257 and D.11 on page 258 and are regarding the perceived fractionalisation variables from these fixed effect models again highly similar to the ones I found in Tables 5.3 and 5.4.

A final important issue concerns the robustness of the results between natives and migrants. That the results should hold for migrants and natives alike does not a priori seem self-evident, because one may argue that in immigration societies fractionalisation is perceived differently by immigrant minorities, who are the main source of increased fractionalisation and may therefore view it as less threatening than the native majority. On the other hand, the theoretical mechanisms that are proposed in the literature do not refer specifically to minorities or majorities and I have operationalised them in such a way that they can be applied to both. To investigate possible differences I ran the regressions of Tables 5.3 and 5.4 separately

for migrants and natives, which is displayed in Tables D.12 on page 259 and D.13 on page 260. The results for natives are very similar to the overall results in Tables 5.3 and 5.4 although generally for the three dependent variables where fractionalisation effects are strong — trust, efficacy, and neighbourhood problems — with somewhat greater effect sizes and a higher overall explained variance (R^2 of .17, .14, and .22, respectively).

Table 5.7: Differences in the Coefficients of Migrants and Natives

	Trust in Nbhs.		C. Efficacy		Nbh. Problems	
	$\beta_{Nat.} - \beta_{Mig.}$	P-Value	$\beta_{Nat.} - \beta_{Mig.}$	P-Value	$\beta_{Nat.} - \beta_{Mig.}$	P-Value
ED 09	1.485	0.17	0.137	0.91	-0.388	0.09
ΔED 07-09	3.743	0.07	-4.248	0.16	1.080	0.03
Perceived Ethnic Diversity	-0.006	0.11	-0.007	0.03	0.004	0.01
Otherness	-0.058	0.10	-0.017	0.71	0.003	0.31
Linguistic Diversity	-0.009	0.77	-0.040	0.18	0.019	0.04
Value And Norm Diversity	-0.004	0.89	-0.006	0.83	0.001	0.90
Income Diversity	-0.035	0.28	-0.053	0.15	-0.008	0.41
	A. Member		Volunteering		Protest	
	$\beta_{Nat.} - \beta_{Mig.}$	P-Value	$\beta_{Nat.} - \beta_{Mig.}$	P-Value	$\beta_{Nat.} - \beta_{Mig.}$	P-Value
ED 09	-0.626	0.45	-0.613	0.50	-1.104	0.30
ΔED 07-09	2.635	0.33	4.705	0.04	-1.830	0.40
Perceived Ethnic Diversity	0.006	0.11	-0.000	0.93	-0.004	0.17
Otherness	-0.062	0.68	-0.017	0.44	-0.036	0.97
Linguistic Diversity	-0.051	0.04	-0.009	0.73	0.008	0.75
Value And Norm Diversity	-0.022	0.46	-0.050	0.24	-0.005	0.87
Income Diversity	0.032	0.27	0.073	0.11	0.037	0.24

The differences in coefficients relate to the results reported in Tables D.12 on page 259 and D.13 on page 260

Table 5.7 compares the coefficients of natives and migrants and tests with a Wald-test, whether they are significantly different from one another. It shows the differences in coefficients between natives and migrants, whereby positive differences indicate that migrants' coefficients are more negative and negative differences indicate that natives' coefficients are more negative. To give an example, the absolute difference in coefficients for the relation perceived ethnic diversity and collective efficacy is -0.007. This results from migrants having a coefficient of -0.00307 and natives a more negative one of -0.0103.

Overall, I find that results for migrants are quite similar to those in Tables 5.3 and 5.4. While the effects are in the same direction and are mostly not significantly different from those of natives, they generally have a smaller negative effect sizes, as can be seen from the negative differences in coefficients of Table 5.7. Together with the loss of statistical efficiency as a result of the reduced sample size, this in some cases has the consequence that they drop below the threshold of statistical significance, when we consider Tables D.12 and D.13 in the appendix. In particular, the effect of the perceived share of migrants is significantly less nagative for migrants in the cases of collective efficacy and neighbourhood problems. In the

case of neighbourhood problems and associational membership, this is also true for linguistic diversity.

A final thing to note in relation to Tables D.12 and D.13 in the appendix as well as their comparison in Table 5.7, is that the explained variance is for the three dependent variables where fractionalisation matters most much lower among immigrants than among natives. Above I have already hinted that the reason why my variables are less well able to explain social cohesion and problem perceptions among immigrants may be that the categorisation and evaluation of fractionalisation is more complex from the point of view of immigrant minorities than of the native majority. My measures of perceived ethnic fractionalisation only take the dichotomy immigrants versus natives into account. As we have learnt in Chapter 4, the same holds practically for statistical indices of ethnic fractionalisation too. Yet, for immigrants the size of the own ethnic group will be an additionally important, but in my models for reasons of data unavailability unmeasured, aspect of the social environment. This also impacts the other perceived fractionalisation measures. For instance, a single Italian living in a neighbourhood otherwise composed only of Germans and Turks may answer similarly to my question regarding the linguistic diversity of her neighbourhood as the Germans and Turks in that neighbourhood. Nevertheless, the evaluation and effect of that fractionalisation on attitudes and behaviour are likely to be different for the Turks, for whom this fractionalisation implies a neighbourhood with a large number of co-linguals, than for the lone Italian, who finds no speakers of her language in the neighbourhood.

Conclusion

In this chapter I have contributed to ongoing debates about the relationship between ethnic fractionalisation and social cohesion in several ways. First, I offer an explanation for these divergent results by pointing toward the mediating role of local social problems that result — at least in part — from failures of informal social control and cooperative norms in the community. I operationalise this by asking people about their estimates of the occurrence of social problems in the community, in particular disorderly waste disposal and verbal and physical harassment. I demonstrate that there are two countervailing paths along which ethnic fractionalisation affects behavioural social cohesion. On the one hand, the reduced trust and collective efficacy in diverse communities have a negative impact on associational membership and protest participation. But on the other hand, fractionalisation also leads to more reported social problems in the neighbourhood, and this in turn is associated with higher rates of associational membership and protest participation. Thus, whether or not, and in which direction ethnic fractionalisation affects civic engagement depends on the balance between these two

paths, and this may explain why some studies have like mine found no relationship, whereas others have found positive or negative effects, often depending on the precise nature of the behavioural indicator that is investigated. On a theoretical level, this explanation questions approaches that explain higher levels of civic engagement with ethno-centric movements caused by (perceived) inter-group conflicts. It seems more likely that people engage across ethnic lines to tackle their neighbourhood's social problems.

My second and in my view most important contribution is that I have gone beyond existing studies by investigating the cognitive mechanisms behind fractionalisation effects. Previous studies have always been vulnerable to the criticism that the relationships that were found between contextual fractionalisation and individual attitudes such as trust, or behaviours such as associational membership were not backed by evidence on individual-level mechanisms. I have argued that such mechanisms can be found in the form of individual perceptions of fractionalisation. Only to the degree that statistically measured levels of fractionalisation are actually perceived and experienced in everyday life, can ethnic fractionalisation affect outcomes such as trust, efficacy or associational membership. Moreover, the focus on perceptions allowed us to operationalise and test three different theoretical mechanisms that have been proposed in the literature as causing negative fractionalisation effects: the perception of others as out-groups, asymmetric preferences, and coordination problems due to cultural differences. I operationalised these mechanisms respectively by asking people to which degree they see themselves as different from their neighbours (perceived otherness), and how different the people in their neighbourhood are in terms of the norms and values they follow (perceived value and norm diversity), and the languages they speak in their everyday lives (perceived linguistic diversity). These measures correlate only modestly with one another, suggesting that they pick up distinct aspects of the perception of fractionalisation.

My results support the findings on statistical ethnic fractionalisation in that trust in neighbours and collective efficacy are negatively affected by high degrees of perceived ethno-cultural fractionalisation, whereas those who perceive high fractionalisation are more likely to report social problems in their neighbourhood. On the level of perceptions, too, I find no systematic relationship with behavioural social cohesion. By controlling for people's perception of socio-economic (income) inequality I show that the effects of perceived ethno-cultural fractionalisation are not a spurious result of underlying class inequalities. In fact, I show that perceived income inequality has effects that tend to be opposed to those of ethno-cultural fractionalisation, arguably because it implies the presence of higher-status groups who have the cognitive and material resources to raise a neighbourhood's capacity to act.

I find support for all three proposed theoretical mechanisms behind ethno-cultural fractionalisation effects but the strongest and most consistent effects are those of perceived otherness, suggesting that out-group biases are the most important mechanism driving negative fractionalisation effects. Importantly, this holds for natives and immigrants alike: immigrants who perceive their neighbours as very different are also likely to trust them less and to see their neighbourhood as more problem-ridden. However, perceived preference and linguistic differences also play an important role. Perceived linguistic diversity is even a stronger predictor of reported neighbourhood problems than perceived otherness.

Including perceptions in studies of ethnic fractionalisation is crucial for two reasons. First, perceptions of diversities mediate the effects of statistical fractionalisation: I demonstrated that between 78 (trust in neighbours) and 100 percent (reported problems in the neighbourhood) of the effects of statistical fractionalisation follow an indirect causal path mediated by perceptions of fractionalisation. As a result, after adding perceptions to my models, the effects of statistical fractionalisation were strongly reduced and, with the exception of trust in neighbours, became statistically insignificant. However, perceptions of fractionalisation are also important predictors in their own right, which to some extent vary independently of statistically measurable fractionalisation. Including perceptions led to substantial increases in the explained variance of trust in neighbours, collective efficacy, and reported neighbourhood problems.

This is an important result if one considers that perceptions can be more easily affected by policies, political mobilisation, and media coverage than the statistical composition of populations. This raises crucial questions for future research. Follow-up studies should investigate through which channels people experience and perceive their environments' fractionalisation. Moreover, we should tackle the question under which circumstances fractionalisation is experienced and perceived as enriching rather than conflictive. In this regard, I have shown personal inter-ethnic neighbourhood to matter. Following up on the finding of the last chapter according to which ethnic residential segregation increases the negative relation between ethnic fractionalisation and cognitive social cohesion, I could here show that weak ties in the form of inter-ethnic neighbourhood acquaintanceships attenuate the negative effects of perceived ethno-cultural fractionalisation. As mentioned in the introduction, however, it is unclear to which degree this effect might also be due to selection effects: people in favour of diversity might be more willing to entertain inter-ethnic contacts. At least, by focusing on weak neighbourhood ties, my results should be less prone to this selection bias than those studies that investigate the moderating impact of inter-ethnic friendships. Future research might be able to disentangle the two processes by relying on longitudinal data. This suggests integrated neighbourhoods and spaces of inter-ethnic encounters to

be important in dealing with the challenges of ethnic fractionalisation, even if this seems contradictory at first sight. Other promising routes one could take when investigating circumstances that foster enriching rather than conflictive are suggested by studies that show how the effects of statistically measured group sizes are shaped by media coverage (Schlueter and Davidov, 2011; Hopkins, 2012, 2010) or political mobilisation (Helbling et al., 2011).

Future research should also investigate differences between majority and minority ethnic groups in greater detail. Even though I could show that the basic patterns of my results hold across both groups, the explained variance of my models was much higher among natives, suggesting an under-specification of the relevant factors determining effects of fractionalisation on immigrants. In addition, I did find some differences between the results for migrants and natives, most importantly a positive effect of statistical ethnic fractionalisation on associational membership among immigrants, suggesting that in diverse localities a critical mass for the establishment of associations along ethnic lines is more easily established. I believe that both findings indicate that for minority groups we need to take into account the size of the own ethnic group in addition to the usual ethnic fractionalisation or percentage immigrants measures, which treat contextual fractionalisation as a factor that is constant across individuals and independent of membership in a particular group, and the place of that group within the local population. If there is one thing that my results on the importance of perceptions of fractionalisation teaches us, it is that we need to look in greater detail at why individuals experience similar statistical population compositions differently, among other things in relation to their group membership and their exposure to environmental influences such as media coverage and political mobilisation.