Intergroup Relationships, Discrimination, and Prejudice in Germany and Europe

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Nora Huth-Stöckle
aus Aachen
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Erstbetreuer: Prof. Dr. Elmar Schlüter, Justus-Liebig-Universität Gießen

Zweitbetreuer: Prof. em. Dr. Peter Schmidt, Justus-Liebig-Universität Gießen

Drittgutachterin: Prof. Dr. Simone Abendschön, Justus-Liebig-Universität Gießen

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1. Introduction

It is a pressing issue to understand what predicts outgroup prejudice, a negative evaluation of an outgroup and its members based primarily on their group membership (Crandall & Eshleman, 2003). While an overall decline in anti-immigrant attitudes has been observed in many European societies over the past decades, the level and development of public anti-immigrant attitudes highly vary between countries (e.g., Caughey et al., 2019; Claassen & McLaren, 2022). Up to today, a substantial portion of the population still holds negative attitudes towards immigrants, as evidenced by the 2021 Eurobarometer report, in which 16 percent of the EU population reported discomfort about having immigrants as neighbors (European Union, 2022). Additionally, the 2019 Eurobarometer report revealed that nearly six in ten respondents believe that discrimination based on ethnic origin or skin color remains widespread in their respective countries (European Union, 2019). Such negative attitudes towards outgroups can have profound consequences for the social cohesion of ethnically diverse societies. Not only do they potentially hinder intergroup interactions and the social integration of different social groups (Binder et al., 2009), but they also promote discriminatory and violent behavior with far-reaching consequences for the targeted groups (Schütz & Six, 1996). Hence, unveiling the mechanisms behind outgroup prejudice is crucial to enhancing intergroup relations and social cohesion. Understanding outgroup prejudice is likely to become an even more pressing issue in the context of increasing forced migration movements due to the climate crisis and violent conflicts.

For decades, scholars researching intergroup relations have argued that perceptions of group threat are one of the most important predictors of outgroup prejudice (Esses, 2021; Riek et al., 2006). Perceived group threat refers to the subjective concerns or beliefs held by individuals that members of another group may harm them or their ingroup in some way (Stephan et al., 2008). Several theoretical approaches put group threats at the center of their theoretical frameworks, such as '*Realistic Group Conflict Theories'* (Bobo, 1983; LeVine & Campbell, 1972), Blalock's '*Theory of Minority-group Relations*' (Blalock, 1967), and Blumer's '*Race Prejudice as a Sense of Group Position'* (Blumer, 1958; see related Quillian, 1995). Similarly, '*Intergroup Threat Theory'*, the key theoretical framework for this dissertation, argues that the source of outgroup prejudice is perceived group threat (Stephan & Stephan, 2017). The central tenet of this theoretical framework is that people respond with prejudice when they perceive

that an outgroup threatens the welfare, culture, or other interests of their ingroup. A large number of empirical studies have examined how threat perceptions affect prejudice towards immigrants and perceived threats have become one of the most studied drivers of outgroup prejudice (Esses, 2021, p. 506). In short, previous research suggests that when people perceive more group threats, they hold more negative outgroup attitudes (Riek et al., 2006) and express stronger support for restrictions on civil liberties (Carriere et al., 2022). These relationships have been found for different forms of perceived group threats, such as perceived group competition or conflicting values between groups.

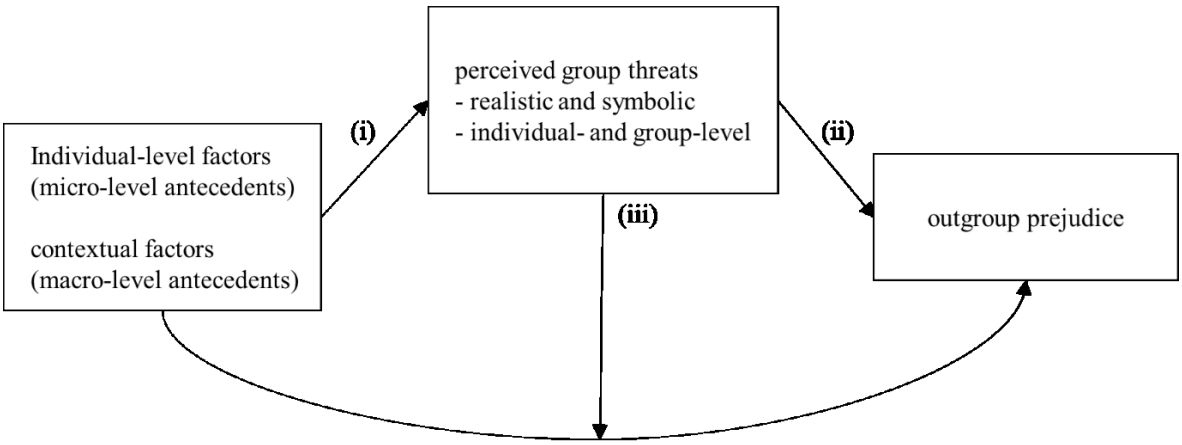
Despite the extensive literature on perceived group threats, more research is needed to further our understanding of both the causes and consequences of group threats. Although the individual studies in this dissertation draw from different theories, Intergroup Threat Theory (Stephan & Stephan, 2017) provides the main theoretical framework for this dissertation due to its generic nature. Intergroup Threat Theory integrates different forms of perceived threats, including perceived threats to group values and beliefs and perceived group competition for scarce resources. This allows for a broader application of this approach to various intergroup relationships and intergroup contexts compared to other theoretical approaches that focus on one type of threat (e.g., Bobo, 1983). Furthermore, while other approaches focus exclusively on the perceived threats among dominant groups who hold social privileges and feelings of entitlement to those privileges (e.g., Blumer, 1958), the broad definition of threats in Intergroup Threat Theory allows for application to the perspective of minority groups, as minority-specific threats can be easily integrated into the theoretical framework. In addition, Intergroup Threat Theory focuses on *perceptions* of threats and not necessarily on actual or objective threats. Unlike perceived threats, objective threats between groups are often difficult to identify (e.g., determining whether threats to group status are indisputably caused by outgroup actions or by other processes unrelated to the outgroup) or occur only in specific situations (e.g., violent conflicts between groups), and thus cannot be studied using standard social science methods such as surveys or experiments.

This dissertation consists of four separate studies that all focus on intergroup relations between the native majority of a European country and its immigrant minorities. Although the exact definition varies between studies (see Table 1.2 for more details), immigrant minorities are broadly defined as all persons who themselves and whose parents were born in a country different from where they permanently reside. The native majority includes persons who are

citizens of the country they permanently reside in or who themselves and whose parents were born in this country.

The four studies in this dissertation are associated with different steps of the group threat model (see Figure 1.1). The studies address research questions related to (i) the link between individual-level and contextual factors and perceived group threats, (ii) the link between perceived group threats and outgroup prejudice, and (iii) the mediating or moderating role of perceived group threats in the relationship between other individual-level and contextual factors and outgroup prejudice. Section 1.2 provides a more detailed discussion of the specific research questions of this dissertation.

Figure 1.1. Overview of the studies and their position in the group threat model.



Note. This figure is adapted from Stephan and Stephan (2016, p. 132).

Ch2 Chapter 2 investigates the link between individual-level and contextual factors and perceived group threats (i).

Ch3 Chapter 3 investigates the link between individual-level and contextual factors and perceived group threats (i).

Ch4 Chapter 4 investigates the link between perceived group threats and outgroup prejudice (ii), and the moderating role of perceived group threats in the relationship between individual-level factors and outgroup prejudice (iii).

Ch5 Chapter 5 investigates the link between perceived group threats and outgroup prejudice (ii), and the mediating role of perceived group threats in the relationship between contextual factors and outgroup prejudice (iii).

Examining (i) the link between explanatory variables and perceived group threats may help to understand what causes individuals to perceive outgroups as threatening and what conditions are likely to trigger perceptions of group threats. Examining (ii) the link between perceived group threats and outgroup prejudice focuses on the consequences of perceived group threats for intergroup relations. This may help to understand which forms of threat perceptions are particularly prone to promote prejudice and identify the types of outgroup prejudice for which this relationship holds. Additionally, by examining (iii) the mediating or moderating role of perceived group threats in the relationships between other variables and outgroup prejudice, I address the question of why these other variables are related to outgroup prejudice and whether this relationship is generalizable or has boundary conditions. Addressing these questions aims to contribute to a deeper understanding of the complex processes that result in prejudice between groups.

Before I turn to each of the studies, I briefly discuss the concept of group threats and how it relates to outgroup prejudice with a focus on Intergroup Threat Theory. Following this, I provide an overview of the studies that are part of this dissertation, including the research questions, methods, and data information. Chapters 2 to 5 comprise the studies of this dissertation. Finally, Chapter 6 summarizes the findings and scientific contribution of each study.

1.1. Group threats and outgroup prejudice

Intergroup Threat Theory, along with its preceding versions labeled Revised Threat Theory (Stephan et al., 2002) and Integrated Threat Theory (Stephan & Stephan, 2000), postulates that the perception of an outgroup as a threat fosters prejudice towards that outgroup.

While perceived threats can occur in a variety of settings and forms, they can be broadly distinguished between realistic and symbolic threats. Realistic threats are the perception of an outgroup "to pose a threat of tangible harm to the ingroup" (Stephan & Stephan, 2016, p. 131 f.). This type of threat is related to realistic group conflict theories (Bobo, 1983; LeVine & Campbell, 1972; Stephan et al., 2002; Stephan & Stephan, 2000). In its original conception, realistic threats primarily encompassed group competition for scarce resources as a source of group threat and the fear of losing (perceived) prerogatives over these resources. However, according to the broader conception of the Intergroup Threat Theory, realistic threats can manifest in various other ways. Realistic threats include, for example, concerns about economic

harm from the outgroup (Stephan & Stephan, 2016, p. 132; see Chapters 2 to 4) or concerns about being the target of discrimination and prejudice (ibid.; see Chapter 5). Symbolic threats, on the other hand, include the perception of less tangible harm, such as threats to the ingroup's values, beliefs, and norms (ibid.; see Chapter 4), and consist of concerns about the ingroup's worldviews, religion, culture, or value systems (Stephan et al., 2008). It is important to note that such threats do not need to be real in order to have consequences for intergroup relations (Stephan et al., 2016, p. 258). The mere *perception* of a group as threatening, whether based on real or imagined factors, can influence outgroup prejudice. This line of reasoning is by no means unique to Intergroup Threat Theory. Blumer argues that the feeling or fear that the outgroup threatens the ingroup's position is essential to racial prejudice (Blumer, 1958, p. 4). A similar argument can be found in Realistic Group Conflict Theory (Bobo, 1983, p. 1999 f.) and Quillian's discussion of Group Threat Theory (Quillian, 1995).

Perceived realistic and symbolic threats are often highly correlated and the perception of an outgroup to pose a threat frequently refers to both realistic and symbolic dimensions (Rios et al., 2018; Stephan et al., 2016). However, some situations or outgroups may be predominantly associated with one of the two threat types (Rios et al., 2018, p. 215 f.), suggesting that realistic and symbolic threats differ in the context in which they arise. For instance, Hellwig and Sinno (2017) show that attitudes toward different types of immigrants and minority groups are associated with different types of perceived threats (for a detailed discussion, see Chapter 4; see also Rios et al., 2018). Economic concerns, a form of realistic threat, affect attitudes towards Eastern Europeans, whereas symbolic threats, such as cultural concerns, affect attitudes towards Muslim immigrants more strongly (Hellwig & Sinno, 2017; see also Jedinger & Eisentraut, 2020).

Furthermore, Intergroup Threat Theory distinguishes between individual-level (personal) and group-level (sociotropic) threats (Stephan et al., 2016, p. 258). Personal group threats involve (perceived) threats to individual members of a group (see Chapter 5), for example, when an individual believes that an outgroup poses a threat to their personal financial well-being or values. Thus, this type of threat relates to people's self-interests. Conversely, group-level or sociotropic threats involve (perceived) threats to the entire ingroup (see Chapters 2 to 3), for example, when a person feels that an outgroup poses a threat to the general welfare of their country, the national economic situation, or the values and belief system of their ingroup. Thus, this type of threat relates to people's concerns about their ingroup's interests. Previous research suggests that perceived group-level threats and competition are more relevant in predicting

outgroup prejudice than self-interest considerations (Esses, 2021, p. 506 f.; Hainmueller & Hopkins, 2014; Dražanová, 2022; but see Ceobanu & Escandell, 2010; and Dražanová et al., 2023).

Perceived group threats can have severe consequences for intergroup relations; since they can trigger negative emotional, cognitive, and behavioral responses towards outgroups (Stephan & Stephan, 2017). Such responses can be subsumed under the phenomenon of outgroup rejection. In this work, I focus specifically on the form of outgroup rejection of prejudice, conceptualized as "a negative evaluation of a social group or a negative evaluation of an individual that is significantly based on the individual's group membership" (Crandall & Eshleman, 2003, p. 414). Some definitions include actual behavior and discrimination as part of prejudice. For example, the APA Dictionary of Psychology states that "prejudices include […] a behavioral component (negative behaviors, including discrimination and violence)" (https://dictionary.apa.org/prejudice; see also Brown, 2010, p. 7). However, similar to Allport (1954; see also Verkuyten et al., 2020, p. 243), I consider discriminatory behavior and prejudice to be distinct concepts and understand attitudes towards discriminatory behaviors, such as support for discriminatory policies, as a form of prejudice. Prejudicial attitudes, however, can lead to negative and violent actions against outgroups with varying degrees of intensity, ranging from the expression of one's prejudicial attitudes to discriminatory behavior and, in the most terrible form, the extermination of outgroup members (Allport, 1953, p. 14f.).

Work guided by the group threat framework has provided evidence that people indeed develop more prejudice toward an outgroup when they perceive an outgroup as threatening (Esses, 2021; Rios et al., 2018). In a meta-analysis, Riek and colleagues (2006) have found a moderate correlation between perceived group threats and outgroup attitudes (realistic threat: $r = .42$, symbolic threat: $r = .45$; Riek et al., 2006, p. 342). Furthermore, Carriere and colleagues (2022) have found meta-analytic evidence that perceived group threats increase support for restrictions on civil liberties, with moderate to large effect sizes (realistic threat: $b = .25$; symbolic threat: $b = .30$; Carriere et al., 2022, p. 260).

Having discussed the principles of Intergroup Threat Theory, I now turn to the studies that constitute this dissertation. The following section provides an overview of the studies, including the main research questions and a brief description of the analyses and methods used.

1.2. Overview of the studies

This dissertation aims to expand our understanding of perceived group threats and their role in intergroup relations between native majorities and immigrant minorities (see Figure 1.1). Thus, the intergroup relations examined in the following studies are limited to those between different groups of immigrants and the native majority population of different countries. Between 2019 and 2024, I and my co-authors conducted four studies, three that have been published in peer-reviewed journals and a fourth that is currently under review. The studies either investigate the intergroup relations in a cross-country comparison across Europe or focus on Germany. Tables 1.1 and 1.2 provide an overview of the studies.

The first study (Chapter 2) focuses on the association between contextual factors and perceptions of an outgroup as a threat to the ingroup. The second study (Chapter 3) examines the consequences of a novel contextual determinant - the COVID-19 pandemic - for (a) perceptions of an outgroup as a threat to the ingroup and (b) outgroup prejudice. Third (Chapter 4), we investigate whether group threats operate as a moderator for the relationship between individual-level factors and outgroup prejudice. Finally (Chapter 5), we examine the association between majority and minority groups' prejudice and the mediating role of the perception of the majority group as a personal threat among minority groups.

Table 1.1. Overview of studies: research questions, theoretical constructs.

Ch.	Title	Research Question	Main theoretical constructs	
			Outcome(s)	*(Main) predictors*
2	Economic conditions and perceptions of immigrants as an economic threat in Europe: Temporal dynamics and mediating processes	To what extent do temporal dynamics in the country's economy, political landscape, and migration patterns affect perceived group threats? To what extent does an individual's perception of their country's economy mediate the association	perceived group-level threat	national economic, political, and migration situation; perception of national economic situation

Ch.	Title	Research Question	Main theoretical constructs	
			Outcome(s)	*(Main) predictors*
		between the objective national economic situation and their perceived group threats?		
3	The nexus between attitudes towards migration and the COVID-19 pandemic: Evidence from 11 European countries.	To what extent do pandemic-related challenges and concerns affect perceived group threats (outgroup prejudice)? To what extent does the severity of the pandemic affect perceived group threats (outgroup prejudice)?	perceived group-level threats; outgroup prejudice	Pandemic-related concerns; national severity of the COVID-19 pandemic; foreign population share
4	Are there limits to empathy? A survey experiment on empathic concern and perspective-taking as bases for attitudes towards different groups of refugees.	To what extent do empathic competences affect outgroup prejudice? To what extent do group threats moderate these associations?	outgroup prejudice	empathic concern, perspective taking; group threats as a moderator
5	Explaining immigrants' social distance towards natives: A multilevel mediation approach across immigrant groups in Germany	To what extent do differences in German natives' prejudice towards outgroups affect these groups' prejudice towards Germans? To what extent do perceived threats mediate this association?	outgroup prejudice	German natives' social distance towards immigrants; perceived personal threats as a mediator

The studies in Chapters 3 to 5 examine and compare different forms of prejudice. In Chapter 3, we examine a form of prejudice related to the cognitive dimension of prejudice: the belief that

immigrants are driving the COVID-19 pandemic. In Chapters 4 and 5, we focus on social distance, which indicates the degree of intimacy that ingroup members are inclined to establish with outgroup members (Bogardus, 1959; Park, 1924; Samelson, 1978; Weaver, 2008) (Chapters 4 and 5) and relates to the affective component of prejudice. In Chapter 4, we additionally examine opposition to granting rights to outgroup members.

(1) Study 1 (Chapter 2): Economic conditions and Perceptions of Immigrants as an Economic Threat in Europe: Temporal dynamics and mediating processes

The first study (Chapter 2) focuses on the link between contextual factors and perceived group threats ((i), Figure 1.1.). The point of departure for this study is the notion that actual threatening and competitive circumstances influence outgroup prejudice via perceived group threats (Blalock, 1967; Bobo, 1983; Quillian, 1995). Thus, it is assumed that *perceived* group threats are influenced by *actual* threatening and competitive circumstances (Ceobanu & Escandell, 2010, p. 318; Bobo, 1983, p. 1200; see also Quillian, 1995). However, the mechanisms by which contextual factors affect perceived group threats are not yet sufficiently understood. In this study, we argue that objectively threatening or competitive circumstances, such as economic crises, trigger perceived group threats only when people perceive the contextual circumstances as threatening. Previous research on the effects of outgroup size on perceived group threats has provided initial indications of the association between real and perceived circumstances. A study conducted in Germany found that the *perceived* size of the immigrant population, rather than the *actual* size of the immigrant population, predicted perceived group threats and outgroup attitudes (Semyonov et al., 2004). Moreover, in the Dutch context, Schlueter and Scheepers (2010) found that *perceived* outgroup size indeed mediates the association between *actual* outgroup size and perceived group threat.

These findings raise questions about (a) the transferability of these mechanisms to other contextual dimensions, such as economic threats, and (b) whether these mechanisms are consistent across countries. To address these gaps in the literature, we investigate how *actual* economic conditions and individual's economic *perceptions* of the country in which they live affect perceived group threats.

The first research question reads as follows:

1. *To what extent do temporal dynamics in the country's economy, political landscape, and migration patterns affect perceived group threats? To what extent does an individual's perception of their country's economy mediate the association between the actual national economic situation and their perceived group threats?*

Specifically, the first study called "*Economic conditions and perceptions of immigrants as an economic threat in Europe: Temporal dynamics and mediating processes*" (Chapter 2, co-authored with Boris Heizmann) investigates how economic downturns and perceptions thereof affect the perception of immigrants as a threat to the national economy, i.e., a realistic group-level threat. This study uses multilevel mediation modeling based on the European Social Survey from 2002 to 2017 (ESS, 2018) combined with official statistics on the national economy, immigration figures, and political party positions on cultural diversity. Thus, we take a longitudinal cross-national perspective within the scope of Europe and differentiate between countries' long-term economic, migration, and political situations and short-term changes within countries.

(2) Study 2 (Chapter 3): The nexus between attitudes towards migration and the COVID-19 pandemic: Evidence from 11 European countries.

Similar to the first study, the second study (Chapter 3) examines the impact of contextual factors on perceived group threats (i, Figure 1.1.) and outgroup prejudice. The central premise motivating this study is that threatening circumstances promote negative intergroup relations. Previous research has provided insights into the effects of context-level factors on both perceived group threats (e.g., Heizmann & Huth, 2021, Chapter 2; Schlueter & Scheepers, 2010) and outgroup prejudice (Ceobanu & Escandell, 2010; Dražanová, 2022; Esses, 2021; Hainmueller & Hopkins, 2014), with a particular focus on economic circumstances and outgroup size.

More recently, the emergence of the COVID-19 pandemic has introduced new potential contextual threats that may affect intergroup relations. Yet so far, our understanding of how the pandemic may promote perceived group threats and outgroup prejudice is limited, leading to calls for cross-national research on this topic (Esses & Hamilton, 2021, p. 256). Similar to other contextual factors, such as economic recessions, the COVID-19 pandemic threatens not only

people's health but also national and global economies and may have fostered feelings of threat and competition (see Esses & Hamilton, 2021). In line with the Intergroup Threat Theory, these feelings may increase perceived group threats and outgroup prejudice (Stephan et al., 2016).

This study addresses the effects of the COVID-19 pandemic on intergroup relations and examines the extent to which the pandemic exacerbates perceptions of group threats (i, Figure 1.1.) and outgroup prejudice. Therefore, we investigate the impact of both individual-level and contextual factors related to the pandemic.

The second research question reads as follows:

2. *To what extent do pandemic-related challenges and concerns affect perceived group threats (outgroup prejudice)? To what extent does the national severity of the pandemic affect perceived group threats (outgroup prejudice)?*

Specifically, the second study, entitled "*The nexus between attitudes towards migration and the COVID-19 pandemic: Evidence from 11 European countries*" (Chapter 3, co-authored with Boris Heizmann) examines at the individual level whether pandemic-related challenges and concerns are associated with group-level threat perceptions and anti-immigrant prejudice. More specifically, the group-level threats in this study focus on the perception that immigrants pose a threat to the country, and the anti-immigrant prejudice focuses on the belief that immigrants are driving the pandemic. At the country level, the study examines the relationship between the national severity of the pandemic and these two outcomes. The study takes a cross-national perspective and uses data from an original survey conducted in Europe in late 2020 (Katsanidou et al., 2021), combined with country-level figures on the national foreign-born population share and the COVID-19 death rate.

(3) Study 3 (Chapter 4): Are there limits to empathy? A survey experiment on empathic concern and perspective-taking as bases for attitudes towards different groups of refugees.

In the third study (Chapter 4), we examine the extent to which group threats function as a moderator of the relationship between individual-level factors and outgroup prejudice (iii, Figure 1.1.). Specifically, study 3 focuses on empathic competences as an important individual-level factor. Existing research suggests that empathic competences can foster positive attitudes towards outgroups. However, scholars have also noted possible limits to empathy and suggest

that the inclination to engage in empathy is influenced by the contextual situation alongside perceived cognitive and emotional costs of engaging in empathy (Cameron, Conway, et al., 2022; Cameron, Scheffer, et al., 2022; Ferguson et al., 2020). Consequently, empathic competences may not always reduce outgroup prejudice. In this study, we argue that empathizing with outgroups that are perceived as more threatening may be more challenging emotionally and cognitively, thereby diminishing the prejudice-reducing effects of empathy for these groups.

This study seeks to answer the following research question:

3. *To what extent do empathic competences affect outgroup prejudice? To what extent do group threats moderate these associations?*

Study 3, "*Are there limits to empathy? A survey experiment on empathic concern and perspective-taking as bases for attitudes towards different groups of refugees*" (Chapter 4, co-authored with Boris Heizmann), investigates the relationship between empathy and prejudice towards refugees. This study further examines whether empathy affects attitudes towards different refugee groups to similar degrees. We varied the cultural and socioeconomic characteristics of refugees in a between-subjects vignette experiment to delve into the extent to which realistic and symbolic threats moderate the association between empathy and outgroup prejudice. The vignette experiment was integrated into the GESIS Panel, a panel survey conducted in Germany (GESIS, 2020). Using Structural Equation Modeling, we investigate two components of empathy - empathic concern and perspective-taking - and distinguish between two forms of outgroup prejudice - social distance towards refugees and willingness to grant rights to refugees.

(4) Study 4 (Chapter 5): Explaining immigrants' social distance towards natives: A multilevel mediation approach across immigrant groups in Germany

The starting point of the fourth study (Chapter 5) is the notion that the premises of Intergroup Threat Theory are also applicable to explaining outgroup prejudice among minority group members. Stephan and colleagues state that "the same threats that create negative attitudes toward minority groups also should create negative attitudes toward majority groups" (Stephan et al., 2002, p. 1243). While the previous studies investigated intergroup relations from the perspective of the majority group, this study takes up the perspective of minority groups.

Although existing research on group threats concentrates primarily on explaining outgroup prejudice among majority group members, members of minority or disadvantaged groups may also develop prejudicial attitudes towards outgroups (see Allport, 1954, p. 153 f.; Crandall & Eshleman, 2003, p. 415; Dovidio et al., 2010, p. 6). In this context, it is important to note that the prejudice of the majority group or advantaged groups can have more profound societal and political consequences (Crandall & Eshleman, 2003, p. 415) because they are endowed with the power and resources to act systematically on their prejudice, which can lead to institutional or cultural discrimination (see Dovidio et al., 2010). Nevertheless, understanding the mechanisms that lead to prejudice in the context of both majority and minority groups is important for improving intergroup relations in increasingly diverse societies.

To advance the limited knowledge of the relationship between group threats and outgroup prejudice among minority groups, study 4 examines the following research question:

4. *To what extent do differences in German natives' prejudice towards outgroups affect these groups' prejudice towards Germans? To what extent do perceived group threats mediate this association?*

Specifically, the fourth study, called "*Explaining immigrants' social distance towards natives: A multilevel mediation approach across immigrant groups in Germany"* (Chapter 5, co-authored with Elmar Schlueter)*,* takes into account both the majority and minority group perspectives by examining the association between majority groups' (i.e., German natives) and minority groups' (i.e., immigrant groups) outgroup prejudice. In particular, the study focuses on the impact of German natives' social distance towards immigrant groups on these groups' social distance towards Germans, and the mediating role of perceived discrimination as a distinct form of perceived personal threat (Stephan et al., 2016, p. 132). This study draws on secondary survey data from 38 immigrant groups in Germany in 2014 (Presse- und Informationsamt der Bundesregierung, 2016), combined with original survey data on German natives' social distance towards these immigrant groups (Huth-Stöckle & Schlueter, 2021).

1.3. Methods

Before we turn to the studies, we briefly describe the methods we use in our analyses. Each method addresses another issue in the quantitative data analyses. Table 1.2 provides an overview of the methods and data used in the studies.

Table 1.2. Overview of studies: research design, data, methods, and scope.

Ch.	Research Design	Data	Method	Scope
2	Multilevel Design	*Individual-level data*: Repeated cross-national; nationally representative general population samples: European Social Survey (ESS, 2018: waves 1 – 8: 2002-2017); cases: 225,791 respondents with citizenship of the respective survey country, and respondents who themselves and their parents were born in the survey country; nested in 260 country-years across 26 countries *Country-level data*: GDP per capita (OECD, 2019b); unemployment rate (Eurostat, 2019c); public debt (Eurostat, 2019b; OECD, 2019a); immigration rates (Eurostat, 2019a); aggregated political party positions on cultural diversity (Volkens et al., 2020)	Three-level random intercept and slope models; Multilevel mediation modeling	Europe (26 countries)
3	Multilevel design	*Individual-level data*: Original cross-national survey data: Everyday life in Germany and Europe 2020 (Solikris) (Katsanidou et al., 2021); quota sample: national representative distribution for age, gender, and education; collected by respondi (October - December 2020); cases: 6,561 respondents who were born in the survey country, nested in 11 European countries *Country-level data*: total of COVID-19 deaths in the country obtained from WHO and Johns Hopkins University; national foreign	Multilevel modeling: Restricted Maximum Likelihood (REML) multilevel modeling and REML-like multilevel binary logit modeling; Bayesian multilevel modeling (Robustness checks)	Europe (11 countries)

Ch.	Research Design	Data	Method	Scope
		population share obtained from Eurostat		
4	Experimental Design	*Individual-level data*: Cross-sectional; general population sample: GESIS-Panel (GESIS, 2020); cases: 4,449 respondents with German citizenship or who were born in Germany	Between-subject survey experiment, Structural Equation Modeling with latent interactions, Multiverse analysis	Germany
5	Multilevel Design	*Individual-level data*: Cross-sectional; representative sample of immigrant population: People with Migration Background in Germans 2014 (Presse- und Informationsamt der Bundesregierung, 2016); cases: 1,789 1st and 2nd generation immigrants from 38 countries of origin *Group-level data*: Cross-sectional representative sample of general population in Germany: German micro census 2014 (Forschungsdatenzentren der Statistischen Ämter des Bundes und der Länder, 2019); Cross-sectional sample of German natives: German natives' average social distance towards 40 immigrant groups (Huth-Stöckle & Schlueter, 2021)	Multilevel mediation modeling, Multiverse analysis	Germany, 38 countries of origin

Multiverse Analysis

Multiverse analyses can be described as a systematic and transparent robustness check that addresses both the issue related to model uncertainty and the lack of transparency of empirical analyses (Simonsohn et al., 2020; Steegen et al., 2016; Young & Holsteen, 2017). When researchers present results from a single model, they leave a critical question unanswered: How

robust are these results when subjected to alternative, reasonable model specifications? Multiverse analyses provide a systematic approach to examining the robustness of one's findings across the multiverse of alternative reasonable model specifications (Auspurg & Brüderl, 2021; Simonsohn et al., 2020; Steegen et al., 2016; Young & Holsteen, 2017). This can include study-centric (e.g., exclusion criteria), variable-centric (e.g., variable coding), and model-centric decisions (e.g., model choice) (Rijnhart et al., 2022). Thus, multiverse analyses go beyond conventional robustness checks, which usually test only a few alternative models. In addition, reporting the results of multiverse analyses in specification curves (Simonsohn et al., 2020) or influence regressions (Young & Holsteen, 2017) fosters a more transparent communication of the data analytical decisions underlying a study. We apply this methodological approach in Chapters 4 and 5.

Survey Experiment

Survey experiments, such as vignettes or conjoint experiments, find wide popularity in the social sciences (Mize & Manago, 2022) because they combine the strengths of both survey methodology and experimental designs (Atzmüller & Steiner, 2010). Survey experiments have high external validity due to a representative survey sample and bring the advantages of experimental designs, such as high internal validity (Auspurg et al., 2009). Additionally, vignette survey experiments correspond well to real-world behavior (Hainmueller et al., 2015). In vignette experiments, respondents are presented with a short paragraph describing a fictitious scenario that randomly varies in one or more characteristics, such as personas or situational circumstances (see Wallander, 2009). In conjoint experiments, respondents are presented with a table that includes the different characteristics of a fictitious social object, e.g., the characteristics of a person applying for asylum. In between-subjects designs, each respondent evaluates a single vignette or conjoint profile, whereas in within- or mixed-subjects designs, respondents evaluate a set of several fictitious objects which may also differ between respondents (see Atzmüller & Steiner, 2010). In Chapter 4, we implement a vignette experiment in the GESIS panel survey in a between-subjects design (GESIS, 2020), and use secondary data from a conjoint experiment in a mixed-subject design (Hainmueller, 2016).

Multilevel Mediation Models

In Chapters 2 and 5, we use multilevel mediation models to obtain unconflated estimates of indirect effects (Preacher et al., 2010), which allows us to differentiate between within-cluster and between-cluster variance (e.g., countries or immigrant groups). Since the independent variables in Chapters 2 and 5 vary strictly between clusters, their effect can only be mediated by another between-cluster variable and affect the between-cluster variance of the dependent variable. Thus, we need to model the mediation process on the between-cluster level. In both studies, we center the mediator variables on the cluster means. We then use the within-cluster components as the individual-level variables and the cluster means as our cluster-level mediators (Enders & Tofighi, 2007). To account for the asymmetric nature of the sampling distribution of the indirect effect and to obtain accurate confidence intervals, we apply Monte Carlo methods using R (Preacher et al., 2010; Selig & Preacher, 2008).

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2. Economic conditions and perceptions of immigrants as an economic threat in Europe: Temporal dynamics and mediating processes

Boris Heizmann (GESIS – Leibniz Institute for the Social Sciences, Germany) &
Nora Huth (GESIS – Leibniz Institute for the Social Sciences, Germany)

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Abstract

This article addresses the extent to which economic downturns influence the perception of immigrants as an economic threat and through which channels this occurs. Our primary objective is an investigation of the specific mechanisms that connect economic conditions to the perception of immigrants as a threat. We therefore also contribute to theoretical discussions based on group threat and realistic group conflict theory by exposing the dominant source of competition relevant to these relationships. Furthermore, we investigate whether people react more sensitive to short-term economic dynamics within countries than to the long-term economic circumstances. Our database comprises all waves of the European Social Survey from 2002 to 2017. The macro-economic indicators we use include GDP per capita, unemployment, and national debt levels, covering the most salient economic dimensions. We furthermore control for the country's migration situation and aggregate party positions toward cultural diversity. Our results show that the dynamic short-term developments of the economy and migration within countries are of greater relevance for perceived immigrant threat than the long-term situation. In contrast, the long-term political climate appears to be more important than short-term changes in the aggregate party positions. Further mediation analyses show that objective economic conditions influence anti-immigrant attitudes primarily through individual perceptions of the country's economic performance and that unemployment rates are of primary importance.

Keywords

Comparative sociology, economy, Europe, immigration attitudes, mediation

2.1. Introduction

The economic developments after 2007 had an enormous impact across the world. Numerous countries faced a diverse and shifting set of economic challenges, and only some of them have thus far fully recovered. Since roughly the same time, several types of societal pressures seem to increase. An upsurge in right-wing populist party presence across many countries (Dennison & Geddes, 2019), various public debates about immigration, and increasingly hostile attitudes toward immigrants in several European countries (Isaksen, 2019; Turner & Cross, 2015) exemplify such societal pressures. However, whether such societal pressures are related to economic downturns taking place within those countries or whether they develop independently of these remains open for scrutiny. We approach this issue by focusing on the perception of immigrants as an economic threat and ask the following research questions: Are perceptions of immigration being bad for the economy a reaction to countries' economic conditions? If so, through which channels does this relationship unfold?

Migration is a lasting demographic trend, and denigration directed toward immigrants has become a primary challenge for the social cohesion and solidarity within European countries. Given our focus on economic developments since 2002, we will specifically investigate whether perceiving immigrants as an economic threat is related to objective measures of economic developments in a macro-longitudinal perspective. In doing so, we aim to contribute to the literature in various ways.

First, our focus on a specific type of perceived threat contributes to the nascent subfield of investigating and sometimes comparing different types of perceived immigrant threat (Callens & Meuleman, 2017; Ceobanu, 2011; Heizmann, 2015; Stephan et al., 2005; Stephan & Stephan, 2000), restrictiveness toward immigration (Ben-Nun Bloom et al., 2015; Green, 2009; Heizmann, 2016), far-right party success (Halikiopoulou & Vlandas, 2020), and outgroup attitudes (Meuleman et al., 2019) rather than using broad and general composite indicators of immigration attitudes per se (Ceobanu & Escandell, 2010; Van Setten et al., 2017). The general lesson from this literature is that different types of threat indeed have divergent causes and consequences. This is in line with theoretical models like the Intergroup Threat Theory (Stephan & Stephan, 2000) and other approaches distinguishing realistic and symbolic threat such as group threat and realistic group conflict (Blalock, 1967; Blumer, 1958; Bobo, 1983; LeVine & Campbell, 1972). On a more conceptual level, a focus on specific indicators serves as an important complementary perspective to the equally important investigations of general forms

of anti-immigrant animus that still dominate the literature. Such a perspective also has a high societal relevance, as immigration debates also usually focus on specific topics such as economic consequences or security issues.

Second, we investigate whether perceived immigrant threat relates to short-term changes or long-term circumstances by modeling dynamic changes in the country's economic and financial situation. Whereas many previous studies in this field used cross-sectional data, longitudinal designs are scarce (Bobo, 1983; Meuleman et al., 2009; Meuleman et al., 2018; Semyonov et al., 2006; Van Setten et al., 2017; Wright, 2011). This appears to mirror the general state of affairs in quantitative-comparative sociology (Giesselmann & Schmidt-Catran, 2019). Even fewer studies looked at differentiated types of perceived immigrant threats as outcomes across time (Meuleman et al., 2018). Previous studies mainly compared the effects of the overall level and contextual changes regarding the immigrant population's share (Czymara, 2020a; Kaufmann, 2017; Newman & Velez, 2014). However, their findings suggest that the population reacts more sensitively to changes within contexts than to the general long-term contextual situation. Therefore, our study's second analytical aspect refers to the temporal dynamics of the national economic and financial situation[1], for which we use year-to-year measures on the country level. We investigate GDP per capita, unemployment, and public debt developments. The latter is another crisis-related indicator that receives considerable political and public attention in recent years but less scholarly consideration so far (Van Setten et al., 2017). We therefore also contribute to a broader view of economic factors and their potential relationship with economic immigration-related attitudes.

Finally, we will identify mediating factors using stepwise multilevel modeling and multilevel Structural Equation Modeling (SEM) techniques. These analyses will expose to what extent other factors such as socioeconomic background and individual evaluations of the country's economy channel the link between macro-economic dynamics and perceiving immigrants as an economic threat. This investigation provides further insights into the cognitive mechanisms that

[1] Most macro-longitudinal empirical analyses employ yearly or survey-round data when operationalizing economic and other factors. To a large extent, this may be a simple matter of data availability. However, some of the recent literature on terrorist events and anti-immigrant attitudes (Jungkunz et al., 2019; Legewie, 2013) and another study on the effect of the most recent U.S. presidential election on Euroscepticism (Minkus et al., 2019) suggest that respondents in surveys are aware of what has happened right before their interview or completion of the questionnaire. In an early phase of the project, we also investigated the possibility of using quarterly figures assigned to the quarter in which the respective survey interview took place. However, the correlation between yearly and quarterly figures of the indicators we investigate here had ranged between .863 and .989, which implies that quarterly fluctuations add little information over and above year-to-year dynamics. We therefore chose to focus solely on yearly averages.

translate macro-level economic strain into individual perceptions. Therefore, our study contributes to group threat and realistic group conflict theory in that we show through which channels the objective factors emphasized in those theories influence corresponding immigrant threat perceptions.

Our SEM mediation models reveal that individual evaluations of the country's economy indeed mediate how macro-economic fluctuations influence perceived economic threat. Furthermore, the results show that the national populations investigated here are more sensitive to developments in the labor market than to developments of the general economy or the country's debt.

2.2. Theory and literature review

2.2.1. Economic conditions and perceived immigrant threat

Objective competition, conceptualized and measured as economic scarcity or immigrant presence, figures as a prominent contextual driver of animosity toward outgroups both in the theoretical and the empirical literature on anti-immigrant or outgroup attitudes (Blalock, 1967; Blumer, 1958; Ceobanu & Escandell, 2010; Gorodzeisky, 2011; Kuntz et al., 2017; Olzak, 1994; Quillian, 1995, 1996; Scheepers et al., 2002). While these aspects are part of a long research tradition (Ceobanu & Escandell, 2010), there is a renewed interest in economic implications as just witnessed during a period of widespread economic anxiety and notable economic downturns (Czymara & Schmidt-Catran, 2017; Kuntz et al., 2017; Meuleman et al., 2018). Events and circumstances that threaten the social order, such as economic crises, foster the feeling that one's group position is threatened and pose a breeding ground for scapegoating, and eventually prejudice (Blumer, 1958; Quillian, 1995). Moreover, other approaches emphasize the competitive aspect of such environments and view perceived threat as an outcome of struggles over scarce resources between in- and outgroups (Blalock, 1967; Olzak, 1994; Scheepers et al., 2002).

Several theoretical approaches suggest that anti-immigrant attitudes are multidimensional and differentiate between divergent types of perceived immigrant threats. For instance, the integrated threat theory (Stephan et al., 2008; Stephan & Stephan, 2000) distinguishes realistic and symbolic types of threats, which relates to earlier formulations of realistic group conflict theory (Bobo, 1983; LeVine & Campbell, 1972). They furthermore suggest that these types of

threats arise from different antecedents (Stephan et al., 2016). Accordingly, scholars usually map these distinct threats to empirical indicators of economic and cultural concerns about immigration. Given our focus on the economic developments across Europe, these macro- and micro-level theories taken together suggest that such economic anxiety is primarily related to economic concerns about immigration, as the economy is the salient context under pressure in such circumstances. We build on this theoretical approach and take a distinct perspective on economic factors regarding individual-level threat perceptions of immigration to investigate its underlying mechanisms in detail.

In addition to the literature mentioned above, studies differentiating these types of concerns use them both as outcome measures (Heizmann, 2015; Meuleman, 2011; Meuleman et al., 2018; Pichler, 2010) as well as predictors of other, more action-oriented indicators such as social distance or policy preferences (Ben-Nun Bloom et al., 2015; Bridges & Mateut, 2014; Callens & Meuleman, 2017; Heizmann, 2016; Van Setten et al., 2017). From these studies, we can infer that individuals take a somewhat nuanced view on different immigration-related arguments, suggesting distinct results for economic situation indicators. In sum, based on the contextual theories mentioned above, we suggest that a decreasing GDP, growing unemployment, and growing public debt are associated with individual perceptions of immigration having negative consequences for the economy.

However, through which mechanisms are economic developments related to perceived economic threat? We can suggest at least three channels that potentially link objective economic circumstances with subjective perceptions. One is a direct linkage in the form of a competitive or threatening environment generating the perception of immigrants as an economic threat, as the competition and conflict theories mentioned above suggest. A potential psychological mechanism may unfold, for example, through a form of scapegoating (Allport, 1954; Becker et al., 2011; Glick, 2005). This mechanism implies that adverse economic conditions may lead people to search for targets to blame for the frustrating situation and lead to the perception that immigrants are responsible for these conditions. Previous experimental studies provide evidence that macro-economic threats may increase ethnic prejudice (Becker et al., 2011; Butz & Yogeeswaran, 2011), and anti-Semitism (Becker et al., 2011). Accordingly, the public can perceive an economic crisis per se as a problem that broadly leads to exclusive tendencies toward immigration (Goldstein & Peters, 2014).

Besides such a direct effect, there may also be simultaneously operating processes of mediation. Therefore, a second potential mechanism operates through the material consequences of such economic developments. Financial insecurity in the household and individual unemployment episodes may be more prevalent in times of economic downturns. Both are primary individual-level factors related to anti-immigrant sentiments (e.g., Heizmann, 2015, 2016; Kunovich, 2004; Polavieja, 2016; Schneider, 2007). The samples that form the empirical basis for our analyses would also reflect this higher prevalence. For example, country-year samples with a high unemployment rate may feature higher numbers of respondents reporting to be unemployed. In other words, an influence of macro-economic factors may merely be due to compositional differences between the countries concerning these socioeconomic factors, with the latter serving as mediators between macro-economic factors and perceiving immigrants as an economic threat (Jetten et al., 2017). However, economic downturns may not only lead to more unemployment episodes, but they can also lead to moving to a lower level on the labor market or being confronted with income difficulties. The psychological underpinnings of such individual socioeconomic changes mandate the inclusion of several potential sources of composition effects regarding economic anxiety (Billiet et al., 2014; Heizmann, 2015; Kunovich, 2004; Schneider, 2007): Personal economic anxiety and personal helplessness due to job losses or fear of falling down the social ladder can lead to compensatory responses such as derogating outgroups and exclusionary immigrant attitudes (Fritsche & Jugert, 2017). Psychologically, such a response to personal economic anxiety may stem from coping strategies in reaction to a threatened sense of control and self-esteem (Bukowski et al., 2017; Fritsche et al., 2017). Searching for simplified causes for the anxious situation can be viewed as a strategy to regain certainty in threatening situations and restore personal self-esteem and a sense of control.

Finally, a third mechanism may operate via the individual perception and assessment of the country's economy. In times of an economic crisis, such an assessment should be more negative, even if certain downturns may not directly implicate the economy's functioning, for instance, when it comes to the national debt level. One important channel through which such a perception can emerge is news media, which extensively and continuously report on various economic conditions and indicators, which is so even when the development of these indicators is positive. Therefore, we can suspect a strong linkage between objective conditions and subjective perceptions of the national economy. A negative perception of the national economy, in turn, may act as a mediator and generate perceptions of immigrants being bad for the

economy. This argument can be related to theoretical models that focus on group-level deprivation rather than personal disadvantage, as the economy is a form of collective societal asset (Blumer, 1958; Bobo, 1983; Sears & Kinder, 1985). However, we know little about the corresponding mechanisms regarding the perceived economic situation and objective measurements of the economy. Only a fraction of studies investigated perceptions versus objective economic measures (Kuntz et al., 2017). Therefore, we will test to what extent the perception of the country's economy mediates the different aspects of the economic situation covered here.

These three mechanisms need not be mutually exclusive. They can all generate country-level differences across time. By conducting stepwise analyses, we will first provide an approximate test of these mechanisms. This approach also allows us to examine the relative importance of objective vs. subjective indicators of the economic situation. In a second step, we additionally calculate several multilevel SEM mediation models regarding the strongest identified mediating process.

2.2.2. Additional contextual factors: immigrant presence and the political climate

Besides economic factors, other theoretical approaches suggest further predictors that influence public attitudes toward immigrants and need to be considered as controls. First, a crucial macro-level influence that we need to account for is immigration numbers, that is, immigrant stocks. Here we can name two divergent mechanisms of how immigration numbers may translate into public attitudes toward immigrants. The first mechanism relates to the intergroup threat approaches mentioned above (Blalock, 1967; Blumer, 1958; Bobo, 1983; Ceobanu & Escandell, 2010). These approaches state that a higher level of immigrant presence is associated with anti-immigrant attitudes and, therefore, potentially with perceived economic threat.

In contrast, the so-called contact hypothesis (Allport, 1954; Pettigrew, 1998) assumes that a higher level of immigrant presence reduces perceived economic threat through familiarization and more opportunities for direct positive contact. The empirical approaches for assessing this hypothesis differ strongly, as scholars originally conceptualized contact as an individual-level phenomenon and only later on applied it to aggregate levels. Previous studies that focus on the country level provide a mixed picture, but more often they report results in line with the threat assumptions (Ceobanu & Escandell, 2010; Heizmann, 2015, 2016; Heizmann et al., 2018; Heizmann & Ziller, 2020; Quillian, 1995; Schlueter et al., 2008; Schneider, 2007; Semyonov

et al., 2006, 2008). However, the situation is different for lower levels of analysis, where there tend to be more findings that are in line with the contact hypothesis (Weber, 2015a, 2015b, 2019). In this vein, the meta-analysis performed by Pettigrew and Tropp (2006) focuses on empirical approaches dealing with actual contact.[2] They identify overall evidence in favor of the original contact hypothesis. Furthermore, there is evidence that both contact and conflict mechanisms can act in a simultaneous or complementary fashion. For example, Weber (2015b) reports findings in line with the conflict hypothesis for the country level and simultaneously a negative effect in line with contact theory on the regional level. Similarly, Schlueter and Wagner (2008) identify both contact and group threat effects on the regional level. Finally, there is evidence that the size of immigrant proportion and changes in this proportion have different effects on public attitudes toward immigrants (Kaufmann, 2017). Citizens tend to be more sensitive to drastic changes in the local immigrant population size than to the general level of the immigrant population (Newman & Velez, 2014). In his analysis for the United Kingdom, Kaufmann (2017) shows that rapid ethnic changes increase anti-immigration attitudes, whereas diversity levels have a threat-reducing effect.

In sum, although studies show a mixed picture, the general pattern of results at the country level suggests that the immigrant population size relates to higher levels of perceived immigrant threat. At lower levels of analysis such as the regional level, the contact effect appears more dominant (Weber, 2015b). Since our focus lies on economic factors and our contextual factors are restricted to an over-time investigation at the country level only, immigration stock changes are merely a control dimension. Therefore, we cannot attempt to adjudicate between both aspects; yet the available evidence for the country level suggests that rising immigration stocks will be associated with rising perceived economic threats.[3]

The second control dimension we include here is the country's political climate.[4] Especially in times of social challenges, such as during economic tensions, the political rhetoric influences the extent to which the public sees immigrants as a threat and the source of the problematic situation (Blumer, 1958). The boundary-making approach provides the theoretical reasoning behind this, where institutional factors provide a framing of boundary-related issues of

[2] At lower levels of analysis, issues of prejudice-driven self-selection into neighborhoods or friendships become more pertinent, which makes the causal relationship between contact and threat more ambiguous (e.g., Maxwell, 2019).
[3] There is also evidence that individual contact can moderate the influence of personal economic situations (Thomsen & Birkmose, 2015). Since we lack appropriate indicators for this for most of our country-years, we cannot include this perspective here.
[4] We thank an anonymous reviewer for the suggestion to include Manifesto Project data in our analyses.

immigration (Wimmer, 2013). Political elites, such as political parties, have the power and public reach to influence the public discussion and its framing. This framing may reflect on individual-level processes and perceptions (Heizmann, 2016; Schlueter et al., 2013; Wimmer, 2013).

To address the political climate, we employ data from the Manifesto Project Database (Volkens et al., 2020), which captures party policy positions based on the parties' electoral manifestos. More specifically, we employ a measure related to the stance parties take on diversity issues. The aggregate view on the country provides an estimate of the overall political landscape across the timespan covered in our analyses. The prior empirical record regarding the influence of these manifestos on public attitudes is mixed. Some studies do find that political party rhetoric influences the formation of national identities (Helbling et al., 2016) and attitudes toward immigration in general (Bohman, 2015), toward specific immigrant groups (Czymara, 2020b), and toward climate change (Sohlberg, 2016). Some studies find no (Steele & Abdelaaty, 2019) or only partial support for such an influence (Abdelaaty & Steele, 2020; Hadler & Flesken, 2018). Taken together, we hypothesize that a more negative stance toward diversity is associated with a higher perceived immigrant threat. Moreover, due to these manifestos' discursive and public character, they arguably also have the power to shape other aspects of public discourse (see also Note 14). Therefore, we will also investigate whether the political climate moderates the influence of macro-economic factors on perceiving immigrants as an economic threat.

2.3. Data and methods

2.3.1. Data

To test our theoretical assumptions, we draw on data from eight rounds of the European Social Survey 2002–2017 (ESS, 2018). This data set has several advantages for our study. First, the European Social Survey (ESS) is a high-standard multi-country survey covering 36 predominantly European countries. This property of the data set enables us to investigate how between-country differences in their economic and financial situation can explain public attitudes toward immigrants. Second, the data set covers several years before and after the 2007 global economic and financial crisis. This additionally allows us to examine economic upturns and downturns within countries. Third, in each of these countries, respondents were explicitly

asked whether they perceive immigrants as an economic threat or as beneficial for the national economy—our dependent variable of interest.

Since we are interested in the majority group's attitudes toward immigrants, we excluded non-nationals and respondents with a migration background (who were themselves or whose parents were born in another country). We restricted the sample to countries with the necessary macro-level information on the economic and migration situation. Furthermore, we excluded the outliers Luxembourg and Switzerland due to their particular characteristics regarding foreign population and GDP, and Ireland from 2015 onward due to its particular GDP development.[5] We used listwise deletion of missing cases, as we suspect that most instances of missing values are not missing at random (Pepinsky, 2018). The final data set for our analysis consists of 26 countries, 260 country-years, and 225,791 respondents. Tables A2.5 and A2.6 in the Online Appendix present the list of countries and further information on the analysis sample.

In line with the theoretical approaches discussed above, we seek to quantify the relationships of different country-level variables instead of providing an in-depth description of individual countries. Put differently, we take a comparative interest in the properties of countries rather than the countries themselves. Nonetheless, we also take a broader comparative view by illustrating our descriptive findings by referring to exemplary countries.

2.3.2. Measurements

For our dependent variable, respondents rated the extent to which they see immigrants as an economic threat or as a valuable contribution to the country's economy.[6] To facilitate the interpretation, we reverse coded the 11-point scale of the original question. Accordingly, the value 10 indicates the strong perception of immigrants as an economic threat, and the value 0 indicates the strong perception of immigrants as beneficial for the national economy.

To investigate whether an influence of macro-economic factors is due to compositional differences of the countries' socioeconomic characteristics, we incorporate both the

[5] As a robustness check, we re-estimated the models based on the sample including these outlier countries (Tables A2.1–A2.4 in the Online Appendix). However, the results are similar to the results discussed in this article. One deviation that needs to be pointed out on the macro level is that the between-component of the GDP shows stronger effects in the robustness check than in the models presented here. Moreover, the effect of the between-component of the foreign population turns negative and significant, which underlines the outlier status of the excluded countries regarding this variable. Apart from this, the effect sizes only slightly differ at both the macro and micro level. The overall substantive picture therefore remains identical.

[6] This dependent variable is based on responses to the following question: "Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries?"

respondents' labor force status and financial situation. We include the individual financial situation in our model using the respondents' feelings about their household's income.[7] The indicator ranges from 1 "Living comfortably on present income" to 4 "very difficult on present income." To assess the respondents' labor force status, we distinguished respondents currently in education, unemployed persons, respondents in paid work, and an additional category covering retired persons, disabled persons, and homemakers. We additionally divided employed respondents into three subcategories using the European socioeconomic classification (Harrison & Rose, 2006): "higher occupations," "intermediate occupations," and "lower occupations." The European socioeconomic classification is an occupation-based measure of the socioeconomic position using the International Standard Classification of Occupations (ISCO) and additional information regarding employment status, the number of employees, and whether a worker is a supervisor. Therefore, this coding also addresses vertical labor market stratification.

We coded the respondents' personal view of the national economy on an 11-point scale. The value 0 indicates extreme dissatisfaction and the value 10 extreme satisfaction with the national economy's present state.

Besides these primary individual-level predictors, we included several control variables in our models: the respondent's age (grand-mean centered), gender (0 "female" and 1 "male"), and educational level based on the International Standard Classification of Education 97 (ISCED) with following categories: (1) "Less than lower secondary education (ISCED 0-1)," (2) "Lower secondary education completed (ISCED 2)," (3) "Upper secondary education completed (ISCED 3)," (4) "Post-secondary non-tertiary education completed (ISCED 4)," and (5) "Tertiary education completed (ISCED 5-6)."

As immigration is a politicized issue in many European countries and people's attitudes toward immigration usually differ between the political left and the political right (Ceobanu & Escandell, 2010), we include the respondents' political orientation. This also introduces an element of cultural identity, as left-right-distinctions also carry an identity component, especially regarding fundamental societal issues and worldviews.[8] A specific challenge of the

[7] We decided against the operationalization of personal financial situation based on the household's net income due to missing value issues. Whereas 18 percent of the full sample refused to indicate or were uninformed about their household's income, only 1.5 percent did not rate their satisfaction with the household's income.

[8] One anonymous reviewer suggested going further in the form of controlling for cultural threat. However, this would be difficult, as it would introduce endogeneity problems with respect to our dependent variable: Perceived threat is a causal antecedent to a host of other outgroup-related attitudes and behaviors (Blumer, 1958; Bogardus, 1925; Stephan & Stephan, 2000), and different forms of threat have, to the best of our knowledge, not been aligned

political orientation is the notable level of missing values for this variable due to the category "Don't know" with 12.3 percent of the full sample. Furthermore, our dependent variable's response patterns suggest that non-response on the left-right scale correlates with anti-immigrant attitudes. To avoid losing so many respondents and introducing bias in our analysis due to excluding these cases, we added a category that subsumes these missing cases. Accordingly, we coded the original 11-point left-right scale into a 4-point indicator. Thus, the variable of political orientation comprises the categories 1 "left," 2 "middle," 3 "right," and 4 "don't know." Since there is evidence that the effect of people's political orientation on interethnic attitudes differs between countries (Citrin & Sides, 2008), that is, left and right may have different meanings across countries, we include random slopes for the political orientation (Heisig et al., 2017).

In addition to these individual-level explanatory factors, our study focuses on how dynamics in the country's economic context affect the perception of immigrants as an economic threat. We include three yearly measured macro-economic variables provided by the Organization for Economic Co-operation and Development (OECD)[9] and the statistical office of the European Union (Eurostat)[10]: the GDP per capita (current purchasing power parities) provided by the OECD (2019b), the unemployment rate (as a percentage of the labor force) provided by Eurostat (2019d), and the public debt (general government debt as a share of the GDP) provided by both Eurostat (2019b) and OECD (2019a). Since Eurostat does not provide information on Norway's government debt, we supplemented Eurostat's missing information with OECD information. Furthermore, we operationalized immigration as the number of foreign immigrants per 1,000 inhabitants (provided by Eurostat (2019a, 2019c) and the OECD (2019c)). In the Online Appendix (Tables A2.11–A2.14), we provide detailed information about which source we used for which year.

in a causal sequence with each other. However, as a robustness check, we re-estimated the models M1 to M4 including the personal motivational values Conservation and Universalism that are closely related to immigrant attitudes (Davidov et al., 2020; Davidov & Meuleman, 2012). Values are of a more foundational nature and thus do not entail the same problems of reverse causality that other types of perceived immigrant threat have. According to Sagiv and Schwartz (1995), conservation describes the need to maintain the status quo and is composed of the subordinate values of security, tradition, and conformity. Universalism is composed of tolerance, the concern for others' well-being, and understanding also for people with diverging beliefs. However, the results are similar to the results discussed in this article. Although the effect sizes differ slightly at both the macro and micro level, the overall picture of the effects of interest remains identical. In the Online Appendix, we provide the models' full results including the values Universalism and Conservation (Online Appendix Tables A2.7–A2.10).

[9] https://data.oecd.org/

[10] https://ec.europa.eu/eurostat/data/database

We operationalized the political party positions on cultural diversity analogously to Helbling et al. (2015). For each country and election year, we collapsed the positive and negative party positions regarding the dimensions of multiculturalism and the national way of life. We created a ratio indicator that measures the difference between the share of anti-diversity and pro-diversity mentions of all diversity-related mentions.[11] Accordingly, the indicator measures the average party positions toward cultural diversity with negative values indicating pro-diversity manifestos and positive values indicating anti-diversity manifestos. This means that our measure is an aggregate of anti-diversity party positions. We obtained the information from the Manifesto Project Dataset (Volkens et al., 2020). The project covers party positions on various issues based on party manifestos related to national election campaigns in over 50 countries. The variables needed are available for all countries and at several points in time (election years) (see Online Appendix Table A2.15). We filled in the missing data points using linear inter- and extrapolation.

2.3.3. Methods

In consideration of the hierarchical structure of the data and to investigate both country differences and dynamic within-country change, we apply a three-level random intercept and slope model (respondents nested within country-years nested within countries (Schmidt-Catran & Fairbrother, 2016)) plus random slopes for left-right self-placement (see above) plus a time trend (Fairbrother, 2014). As the European Social Survey (ESS) is a cross-sectional survey conducted in several years, we can examine changes over time on the country level only. Although the ESS is a two-yearly survey, the fieldwork period of a given wave covers both the first and second year of the ESS wave (e.g. ESS round 2006 covers interviews in 2006 and 2007). Accordingly, we have observations for each year and can examine yearly changes over time. Using the interview date, we include the yearly indicators of the country's current financial and economic situation. Thus, we assess the annual country situation of the respondents and the temporal development of the circumstances.[12]

[11] Anti-diversity indicators include the enforcement or encouragement of cultural integration, appeals for cultural homogeneity in society, and favorable mentions of the manifesto country's nation, history, and general appeal. Pro-diversity indicators include opposition to patriotism, nationalism and other national ideas, and favorable mentions of cultural diversity and cultural plurality within domestic societies.

[12] Since we divide the data set of the country-waves with a field period spanning over the turn of the year, one might argue whether respondent's completion of the survey earlier or later in the field period is correlated with specific respondents' characteristics. These characteristics, in turn, could be correlated with our dependent variables. Thus, we include an additional variable for the specific time of the field period in which the interview

We country-mean-centered the macro indicators regarding the countries' economic, financial, migration, and political situations to differentiate between within- and between-country effects (Fairbrother, 2014; Rabe-Hesketh & Skrondal, 2012, p. 152 ff.). The decomposition of the within- and between-variance allows us to investigate whether the yearly contextual changes within countries or whether the long-term differences between countries are more relevant for anti-immigrant sentiments (Schmidt-Catran, 2016). Accordingly, we consider the overall long-term economic and immigration level of a country and its overall political party positions on cultural diversity. At the same time, we also consider the short-term temporal dynamics within countries regarding these macro-level indicators. To ease the comparison of the effects for each macro-level variable, we rescaled the macro indicators to a scale ranging from 0 to 1.

According to the variance partition coefficients (VPCs), the major part of the response variance regarding the dependent variable lies at the individual level (91.3%). Furthermore, 6.4% of the total response variance lies between countries, and 2.3% of the variance lies at the country-year-level. All three variance components are statistically significant.

To test the mediation hypothesis and gain unconflated estimates of the indirect effects, we use the multilevel mediation model introduced by Preacher et al. (2010). As the complexity necessary for three-level mediation models leads to convergence problems, we apply a two-level model with country dummies accounting for time-constant differences across countries for this analytical step. This mediation model enables us to simultaneously estimate direct and indirect relationships within a multilevel framework (Preacher et al., 2010, 2011). Because the economic indicators strictly vary on the macro level, we model the mediation process on the country-year level. Therefore, we differentiate between the variance on the individual level and country-year level of the mediator variable and the dependent variable. To consider the asymmetric nature of the indirect effect's sampling distribution and obtain accurate confidence intervals for the indirect effect, we apply the Monte Carlo method using R (Preacher et al., 2010, 2011; Selig & Preacher, 2008).

We conduct our models in four steps and introduce the following individual-level variables in a stepwise fashion: in the baseline model (M1), we control for time effects, the respondents' demographics, and political orientation (including a random slope on the country level). In our second model (M2), we also control for the respondents' labor force status. Model (M3)

was conducted (month 1 to month 7), and thereby control for a possible bias in our database related to whether a person was reached early or late in the respective country's field period.

additionally includes the respondents' feelings about the household's income. In the full model (M4), we additionally control for the respondents' satisfaction with the national economic situation. Finally, we test whether, and to what degree, the satisfaction with the national economy mediates the effect of the countries' economic situation on perceiving immigrants as an economic threat (M5A–M5D), as this variable emerged as the most important potential mediator.

The analyses of these models are based on 26 countries. Hence, we keep the models parsimonious at higher levels of analysis. Therefore, we first examine a series of models within each step (M1–M4): we control for the stock of foreign population, and the aggregate political party positions on cultural diversity, and additionally test the within- and between-effects of each economic indicator for one indicator at a time.

2.4. Empirical results

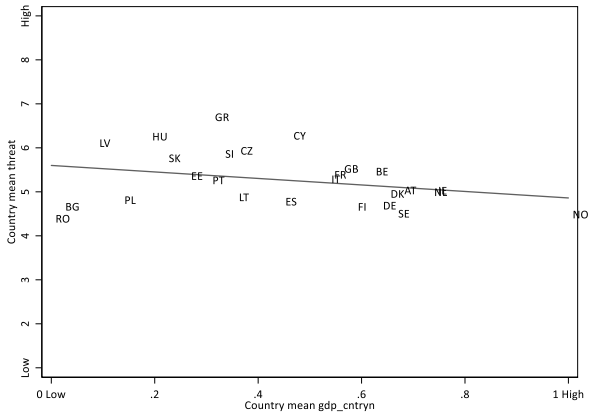
2.4.1. Descriptive results

Before we turn to the multilevel analyses, we first display the country-level associations between the three economic indicators, the macro control variables, and perceived economic threat aggregated for countries and country-years.

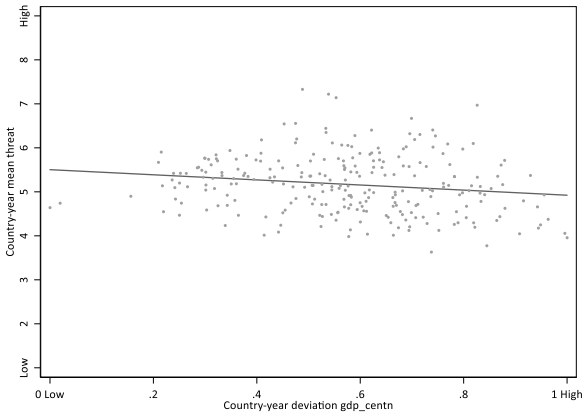
Figure 2.1 shows the association between perceived economic threat and the three macro-economic indicators, and the macro control variables of the foreign population share and aggregate party positions toward cultural diversity. On the left-hand side, the time-constant between-portion of the respective indicator is visible. On the right-hand side, we display the same relationship for the yearly within-deviations.

Figure 2.1. Associations between macro indicators and perception of immigrants as an economic threat.

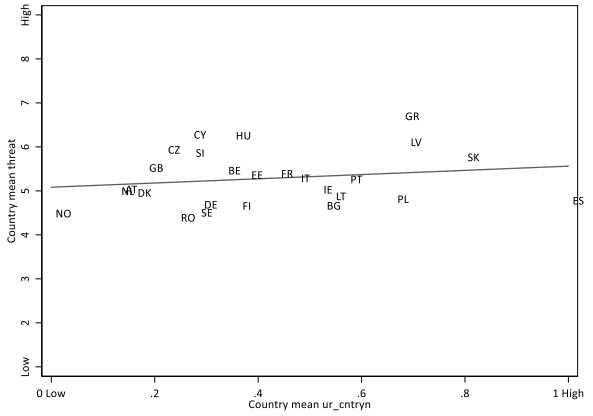
(a) Country mean: GDP per capita



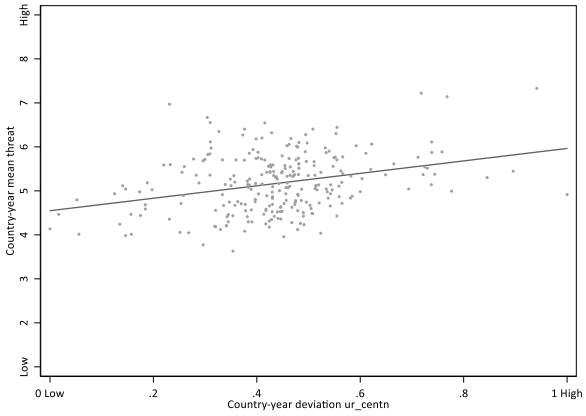
Country-year deviation: GDP per capita



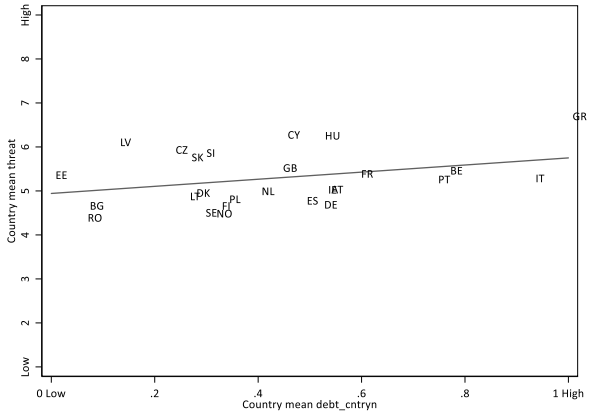
(b) Country mean: Unemployment Rate



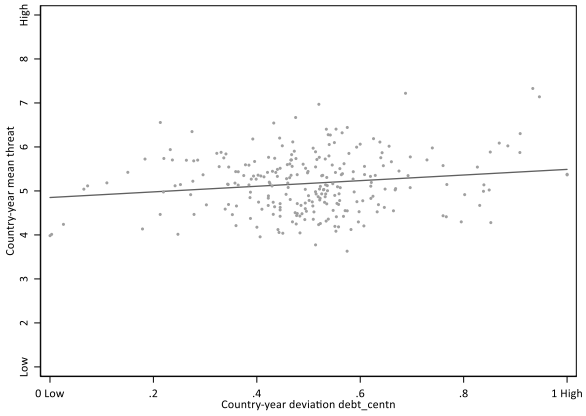
Country-year deviation: Unemployment Rate



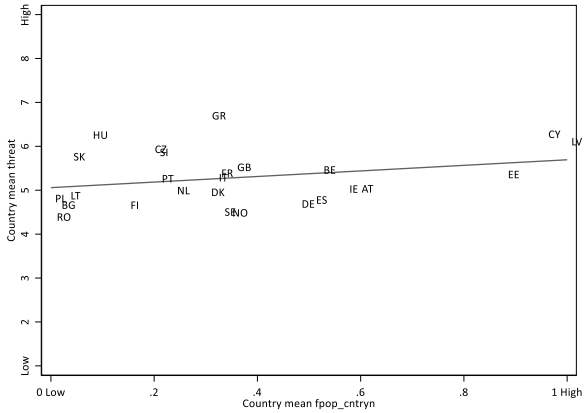
(c) Country mean: Public Debt



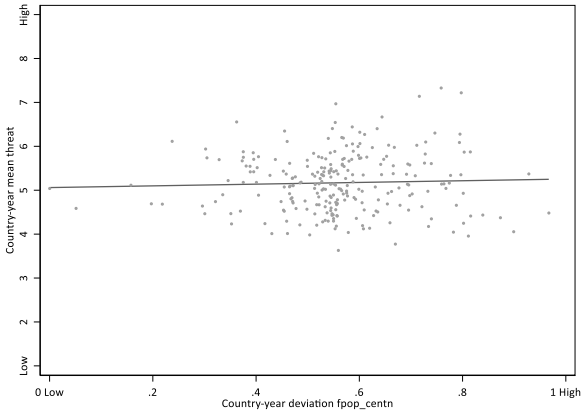
Country-year deviation: Public Debt



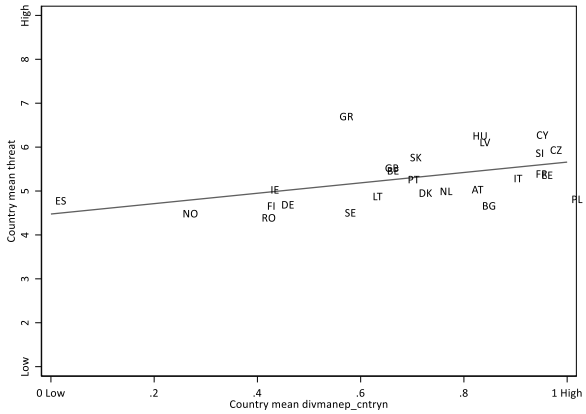
(d) Country mean: Foreign Population



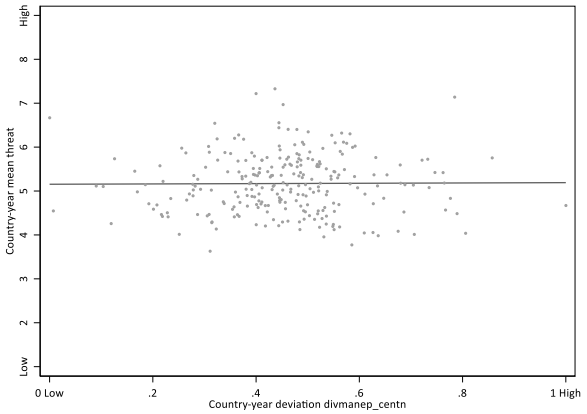
Country-year deviation: Foreign Population



(e) Country mean: Party position



Country-year deviation: Party position



Note. Associations between the perception of immigrants as an economic threat (solid line), and country's mean (on the left) and country-year deviation (on the right) of (a) the GDP per capita, (b) the unemployment rate, (c) public debt, (d) stock of foreign population, and (e) party position, respectively.

The regression line in Figure 2.1(a) suggests a negative relationship between GDP and perceived economic threat for both the country-level (right-hand side) and the temporal changes within a country (left-hand side). The difference in aggregated perceived threat for the highest and lowest point of the regression line equals −.74 (country means) and −.58 (country-year deviation) scale points. Thus, perceiving immigrants as an economic threat tends to be less pronounced in countries and in times with a higher GDP per capita. Similarly, the regression lines for the country's unemployment rate (b) and public debt (c) suggest that perceived immigrant threat is less pronounced in countries and times with better labor markets and financial conditions. We find a minimum-maximum point difference for perceived threat of .48 (country means) and 1.42 (country-year deviation) scale points for the unemployment rate. For government debt, the minimum-maximum point difference equals .81 for the country perspective and .64 for the country-year deviation. Accordingly, in countries and in times with

a high unemployment rate or high public debt, the population tends to perceive immigrants more strongly as a threat to the economy. The population in economically prosperous times and places is inclined to evaluate the economic impact of immigration on the country more positively.

Furthermore, in countries with a higher foreign population stock (d), the perception of immigrants as an economic threat tends to be more pronounced (minimum-maximum point difference of .64). However, the regression line on the right does not show a similar pattern for the country-year deviation (minimum-maximum point difference of .19).

Finally, a more negative framing of cultural diversity (e) seems to correlate with higher anti-immigrant attitudes (minimum-maximum point difference of 1.18). However, the regression line on the right-hand side does not suggest an association between temporal changes of the political framing within countries and public attitudes toward immigrants (minimum-maximum point difference of .04).

As Figure 2.1 shows, European countries differ in their economic, financial, and migration situation; their party positions toward cultural diversity (x-axis); and how the population views immigrants (y-axis). When we take a closer look at the mean attitudes toward immigrants' impact on the economy (y-axis), we see that the mean attitudes toward immigrants appear to be relatively positive. However, some country differences are apparent: Greece, Hungary, and Cyprus report higher mean scores on immigration being bad for the economy than other European countries. On average, Sweden, Norway, and Romania reported the lowest perception of immigrant threat.

Whereas some countries, exemplified by Norway and the Netherlands, show a relatively good economic condition and relatively modest debt levels, other countries report higher unemployment levels and lower GDP levels, exemplified by Latvia and Poland. Besides, the countries also differ in their political framing of cultural diversity. While party manifestos in Spain tend to frame cultural diversity positively, parties in Eastern European countries, such as Poland and the Czech Republic, tend to be more critical of cultural diversity (Figure 2.1(e)). Overall, the countries show a heterogeneous picture regarding the macro-indicators, which underlines the necessity for the joint analysis we will perform below.

Despite these country differences, the regression lines and the minimum-maximum point differences indicate systematic relationships between the countries' economic, migration, and political situation and the public attitudes toward immigrants: a poor economic situation in a

country indeed correlates with a higher mean perception of threat. However, these descriptive analyses do not take additional individual-level variables into account, leaving open questions of potential composition effects that may overlay these bivariate relationships. Therefore, and also to investigate mediation processes, we next turn to our multivariate analyses.

2.4.2. The macro level

Earlier in the article, we expected that contextual economic factors are related to perceived economic threat, and we presumed this happens via various channels. To investigate this, we first trace the effect of the national economic situation and its temporal dynamics across various model specifications. To do this, we use the country's GDP per capita (Table 2.1, models M1A–M4A), unemployment rate (Table 2.1, models M1B–M4B), and public debt (Table 2.1, models M1C–M4C) as macro-level indicators.[13] We additionally take the country's stock of foreign population and the level of anti-diversity party positions into account as control variables. Table 2.1 shows the macro-level results for the different modeling steps (M1–M4). For a better understanding of the modeling steps, the information below the footer of Table 2.1 and the individual-level results in Table 2.2 show the individual-level characteristics taken into account in the respective model.

On the macro level, we see that the national economic situation is relevant to the perception of immigrants as an economic threat in various ways. In general, it appears that the temporal dynamics of the economic situation within the countries are indeed more important than the time-constant overall differences in the economic levels between the countries. Accordingly, we find more significant effects for the within-components than for the between-components of the macro indicators across the various model specifications (Table 2.1). This finding suggests that economic shifts rather than the country's general economic situation lead to macro-level differences in the perception of immigrants as an economic threat.

[13] We re-estimated the models M1 to M4 as fixed-effects models including country dummies in our analysis. The results of these fixed-effects models are similar to the results of the three-level models based on annual data. On the individual level, we find some minor deviations in the effect sizes regarding age and political orientation. On the macro level (within-country component), we find some minor deviations in the effect sizes. Please consult the Online Appendix to view the full results of the fixed-effects models (Online Appendix Tables A2.16–A2.19).

Table 2.1. Country-level results of the multilevel models - the perception of immigrants as an economic threat.

Perceived economic threat		M1	M2	M3	M4
A	GDP per capita (between)	-1.199*	-1.107*	-.681	-.077
	GDP per capita (within)	-1.787***	-1.75***	-1.594***	-.477+
	Foreign population (between)	.646	.603	.563	.457
	Foreign population (within)	.754**	.739**	.677**	.166
	Party position (between)	.911+	.962+	.989+	1.033+
	Party position (within)	-.015	-.003	.007	-.025
B	Unemployment (between)	.722	.641	.377	-.308
	Unemployment (within)	1.04***	1.024***	.894***	.133
	Foreign population (between)	.353	.33	.383	.419
	Foreign population (within)	.398+	.389+	.369+	.115
	Party position (between)	1.544**	1.547**	1.372**	1.04*
	Party position (within)	-.118	-.104	-.082	-.044
C	Debt (between)	-.101	-.104	.009	-.224
	Debt (within)	.983***	.96***	.844***	.180
	Foreign population (between)	.314	.294	.352	.435
	Foreign population (within)	.644**	.632**	.582**	.144
	Party position (between)	1.44**	1.455**	1.327**	1.069*
	Party position (within)	.011	.022	.029	-.023

Note. Models are based on 26 countries, 260 country-years, and 225,791 individuals. Model 1 individual-level variables: age, male, education, self-placement on left-right scale (+ RE country level), time trend, fieldwork period. Model 2 individual-level variables: M1 + labor force status. Model 3 individual-level variables: M1 + M2 + household income. Model 4 individual-level variables: M1 + M2 + M3 + satisfaction with country's economy. †p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

Model 1 (A, B, and C) includes only standard controls, political orientation, and technical variables. The model shows the macro-level effects before accounting for compositional differences between the countries and country-years. Therefore, our substantive interpretation begins with the models that include the respondents' labor force status (Model 2), and their financial situation (Model 3). In model M2A and M3A, the significant negative effects of the between- and within-components of the country's wealth (GDP per capita) suggest that the perception of immigrants as an economic threat is less pronounced in wealthier countries (between-component) and the economic improvement within a country reduces this perceived threat (within-component). In addition to the countries' wealth, the results suggest a significant impact of unemployment (M2B and M3C) and government debt (M2C and M3C) dynamics within countries. An increasing unemployment rate leads respondents to evaluate the impact of immigration on the national economy more negatively.

Similarly, an increasing government debt within a country is associated with a higher perception of immigrants as an economic threat. The macro-level results of models M2 and M3 suggest that the influence of macro-economic factors is not solely due to compositional differences in the socio-economic characteristics of the countries' population. Although the coefficients (especially the between-component of GDP) decrease when controlling for the socioeconomic variables, these macro-level effects remain statistically significant (except the between-component of GDP).

Furthermore, the results reveal that the migration stock's temporal changes have a robust and significant threat-increasing effect in the models controlling for the GDP per capita (M1A–M3A), and government debt (M1C–M3C). Controlling for the unemployment rate, changes in the foreign population are marginally statistically significant (M1B–M3B). This finding is in line with the group threat theory: More immigration leads to a stronger perception of competition and, therefore, to a higher perceived threat due to immigration. Besides, the results show that party landscapes with more negative positions toward cultural diversity lead to a stronger perception of immigrants as an economic threat (M1–M4). The perception of immigrants as an economic threat is more likely to emerge in countries with a more prevalent anti-diversity party rhetoric (between-effect only).[14] This finding suggests that differences in public attitudes toward immigrants can be explained by long-term differences in the political framing of ethnic diversity, not by short-time changes of party positions within countries.

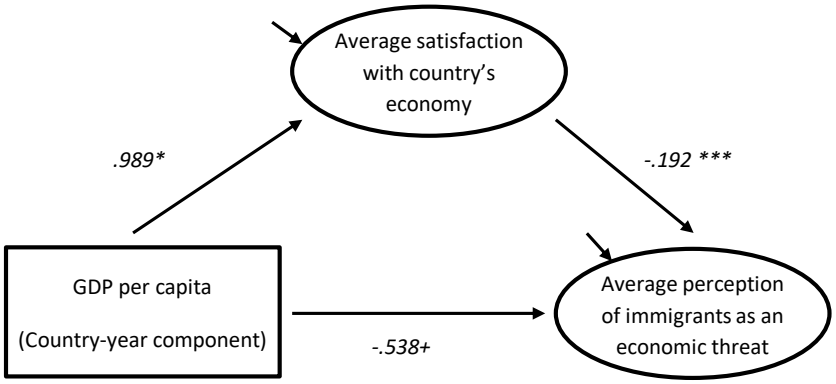
In the models M4 (A, B, and C), we introduce the respondents' satisfaction with the national economy. This leads to insignificant macro effects of most economic indicators (with the exception of the within-component of GDP). The changes from significant to insignificant effects may indicate that the evaluation of the country's economic situation strongly mediates the relationship between the objective economic situation and the subjective evaluation of immigrants.

To address this more directly, we investigate the relationship between the country's economic situation, the subjective evaluation of the national economic situation, and the perception of immigrants as an economic threat in greater detail in the following section. More specifically,

[14] As suggested by one anonymous reviewer, we also investigated the interaction between party positions and the macro-economic indicators (M3A–M3C). In line with the scapegoating hypothesis, it can be argued that in countries with a negative political framing of migration and cultural diversity, the economic situation more strongly translates into anti-immigrant attitudes of the population. As the model results in the Online Appendix (Table A2.20) suggest, all interaction terms tested turned out to be statistically insignificant. However, due to increasing model complexity, we could not test all interactions. For GDP and government debt, only the models including the interaction on the country-year level converged (within components).

we test the assumption that the respondents' perception of how well the country performs economically mediates the relationship between the country's economic situation and perceived economic immigrant threat. For this purpose, as noted above, we apply multilevel mediation modeling in an SEM framework.

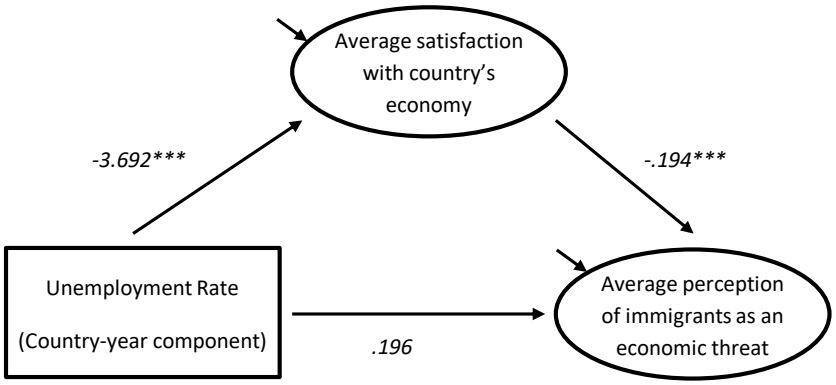
Figure 2.2. Path diagram M5A of the multilevel SEM (country-year level).



Indirect effects:
GDP per capita → threat: -.190*

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals. All variables of model M4 are included on the individual level (not shown); we additionally included country dummies. In addition included variables on the country-year-level: stock of foreign population and party positions on cultural diversity (within-components) plus covariances with the respective economic indicator of the model. Confidence intervals for the indirect effects are based on the Monte Carlo method.
†p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

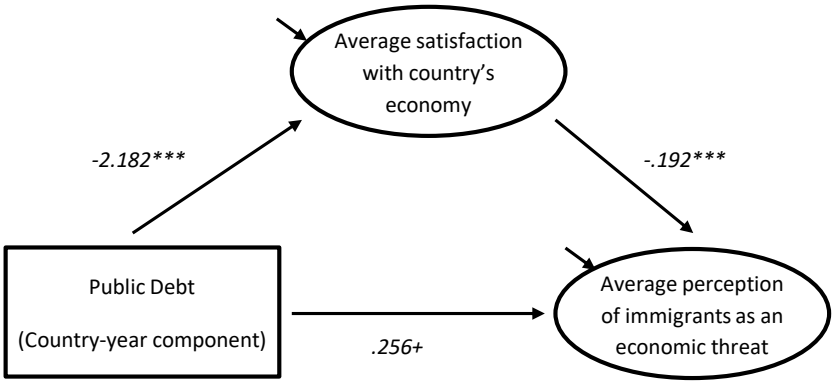
Figure 2.3. Path diagram M5B of the multilevel SEM (country-year level).



Indirect effects:
Unemployment Rate→ threat: .714***

Note. Models are based on 26 countries, 260 country-years, and 225,791 individuals. All variables of model M4 are included on the individual level (not shown); we additionally included country dummies. Additionally included variables on the country-year-level: stock of foreign population and party positions on cultural diversity (within-components) plus covariances with the respective economic indicator of the model. Confidence intervals for the indirect effects are based on the Monte Carlo method.
†p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

Figure 2.4. Path diagram M5C of the multilevel SEM (country-year level).

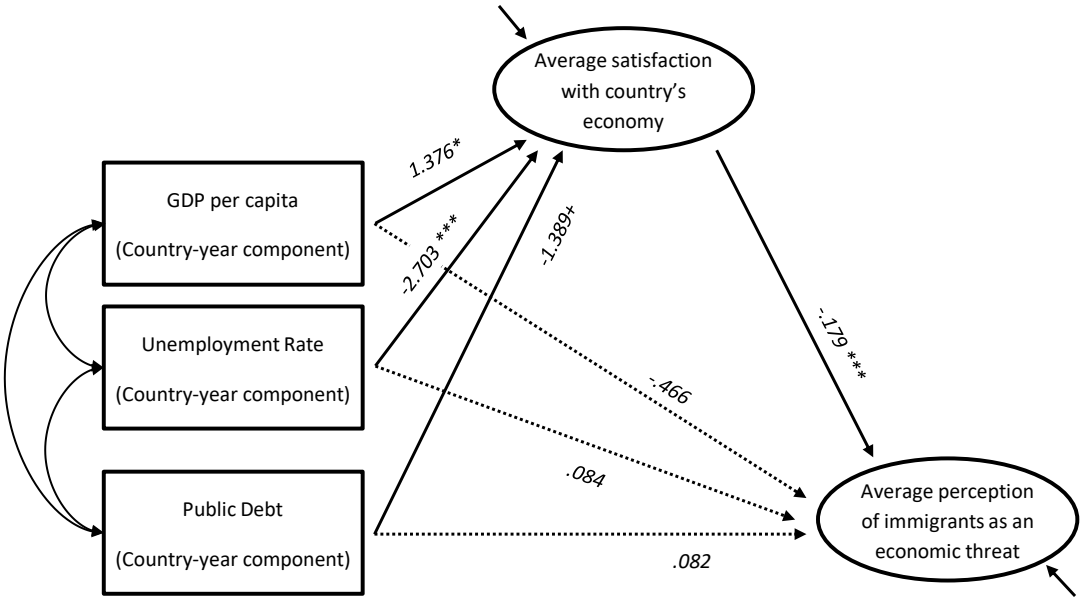


Indirect effects:
Public Debt → threat: .419***

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals. All variables of model M4 are included on the individual level (not shown); we additionally included country dummies. Additionally included variables on the country-year-level: stock of foreign population and party positions on cultural diversity (within-components) plus covariances with the respective economic indicator of the model. Due to convergence problems, we did not control for the fieldwork period in this model. Confidence intervals for the indirect effects are based on the Monte Carlo method.
†p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

Figures 2.2–2.4 show the mediation models for each macro indicator separately (M5A, M5B, and M5C). Model M5A reveals that a higher level of GDP per capita (relative to the country-average) is associated with a more positive average satisfaction with the national economy, which decreases the average perception of immigrants as an economic threat. Similarly, M5B and M5C show an indirect path from unemployment and public debt to the perception of immigrants as a threat. A more negative average evaluation of the country's economic situation mediates both effects. Furthermore, the direct effects' coefficients and significances suggest that economic satisfaction strongly mediates the influence of the respective economic indicator. The indirect effects suggest that unemployment rates have the strongest bearing on perceived economic threat, followed by public debt and GDP per capita.

Figure 2.5. Path diagram M5D of the multilevel SEM (country-year level).



Indirect effects:
GDP per capita → threat: -.246+
Unemployment Rate→ threat: .483***
Public Debt → threat: .248+

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals. All variables of model M4 are included on the individual level (not shown); we additionally included country dummies. Additionally included variables on the country-year-level: stock of foreign population and party positions on cultural diversity (within-components) including covariances with GDP per capita, unemployment rate, and public debt. Confidence intervals for the indirect effects are based on the Monte Carlo method.
†p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

To investigate the people's sensitivity toward different aspects of the national economy simultaneously, we run a joint mediation analysis for the three macro indicators (Model M5D in Figure 2.5). The path diagram (Figure 2.5) shows the mediating paths on the country-year level. We can see that the people's evaluation of the national economic situation fully mediates the effects of changes in the country's economy on perceived economic threat. However, whereas we find statistically significant paths from GDP per capita and the unemployment to the mediator variable, the corresponding path of public debt is only marginally significant. Comparing these coefficients indicates that the population is most sensitive to the country's labor market situation: The unemployment rate has the strongest impact on the average evaluation of the national economy. Furthermore, the indirect effects support our hypothesis that the subjective satisfaction with the country's economy mediates the effects of temporal changes in GDP per capita and unemployment rate.

Overall, our analyses reveal that the subjective evaluation of the country's economy mediates the effect of short-time changes in GDP per capita and the unemployment rate. Although this relationship is less pronounced for the country's financial performance, we can conclude that a better economic performance indeed predicts a more positive perception of the country's economy among the national population. This shows that the public is indeed sensitive to economic developments, but not so much to public debt changes. This subjective economic evaluation, in turn, influences the public evaluation of immigration as an economic threat.

2.4.3. The individual level

We now briefly turn to the individual-level results in Table 2.2, which displays our individual-level findings without the addition of macro-level variables.[15] Here we see that the personal economic situation is statistically significantly related to evaluating immigration's impact on the national economy. More specifically, individuals in a more challenging economic situation or a lower occupational position are more likely to view immigrants as economically threatening. Model 3 also suggests that some labor force status effects flow from feelings about the household income. The results show that respondents with difficulties living on their current household income are more likely to hold negative immigrant views. The effects are also substantively important. For instance, in Model 3, the overall income effect is larger than is the difference between respondents self-identifying as politically right vs. those identifying as left.

Model 4 finally adds satisfaction with the country's economy as a predictor. The labor market position's effect is more pronounced for individuals in lower occupations than for unemployed individuals. This finding suggests that a lower level occupation correlates with job insecurity, which triggers fears of increasing competition on the labor market due to immigration (Heizmann, 2015). Several previous studies also show labor market position effects (Kunovich, 2004; Schneider, 2007). However, as Hainmueller and Hopkins (2014) suggest, such a finding may not be due to labor market competition as a cognitive mechanism but express other types of insecurities. In any event, these results underline the importance of including a differentiated measurement of labor market participation.

[15] Table A2.21 in the Online Appendix shows the final model M4 when we consider the different macro-level variables. However, the individual-level results are robust and do not change when the macro-level indicators are included at the higher levels.

Table 2.2. Individual-level results of the multilevel models - perception of immigrants as an economic threat.

Perceived economic threat	M1	M2	M3	M4
Individual-level variables				
Age	.34***	-.298***	-.218***	-.207***
Male	-.227***	-.23***	-.206***	-.166***
Education				
ISCED 0-1	Ref.	Ref.	Ref.	Ref.
ISCED 2	-.235***	-.24***	-.199***	-.225***
ISCED 3	-.494***	-.545***	-.470***	-.498***
ISCED 4	-.756***	-.776***	-.69***	-.708***
ISCED 5-6	-1.377***	-1.268***	-1.132***	-1.124***
Self-Placement on left-right scale				
Left	Ref.	Ref.	Ref.	Ref.
Middle	.145+	.150+	.177*	.280***
Right	.373**	.384**	.435**	.586***
Don't know	.633***	.628***	.623***	.667***
Labor force status (ESeC)				
Paid work: Higher occupations		Ref.	Ref.	Ref.
Paid work: Intermediate occupations		.274***	.245***	.217***
Paid work: Lower occupations		.526***	.463***	.420***
Unemployed		.660***	.412***	.332***
Education		-.321***	-.307***	-.238***
Retired, Housework, disabled, and so on.		.432***	.34***	.322***
Feelings about household's income				
Living comfortably on present income			Ref.	Ref.
Coping on present income			.336***	.220***
Difficult on present income			.647***	.401***
Very difficult on present income			.947***	.583***
Satisfaction with country's economy				-.214***
Intercept	5.686***	5.561***	5.135***	6.102***
Random Effects				
Intercept Variance (country level)	.53 (.157)	.513 (.152)	.431 (.128)	.401 (.119)
Variance (left-right scale: middle)	.146 (.044)	.145 (.044)	.144 (.043)	.145 (.044)
Variance (left-right scale: right)	.535 (.155)	.506 (.147)	.487 (.142)	.447 (.130)
Variance (left-right scale: Don't know)	.282 (.089)	.277 (.087)	.268 (.084)	.27 (.084)
Intercept Variance (country-year-level)	.118 (.013)	.114 (.012)	.105 (.011)	.074 (.008)
Residual Variance	4.938 (.015)	4.882 (.015)	4.831 (.014)	4.659 (.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals. For random effects: standard errors are provided in brackets. Additionally included variables: time trend, fieldwork period. ISCED: International Standard Classification of Education. ESeC: European Socioeconomic Classification.
†p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

Besides the individual financial and employment situation, we can see that the satisfaction with the country's economy also strongly correlates with the perception of immigrants as an economic threat. Individuals with a more positive view of the national economy are less likely to develop such negative perceptions of immigrants. The variable's influence is also substantively very strong, with a maximum effect of more than two scale points between the most positive and negative evaluation of the economy even after controlling for a host of other socioeconomic factors.

In sum, the individual-level findings indicate that various aspects of what can be called an adverse individual economic situation lead to a stronger perception of immigrants as an economic threat. As noted above, this may be due to the hardships and insecurities these positions entail, rather than direct labor market competition. At the same time, the strong association between the individual's satisfaction with the country's economic state and perceived economic threat suggests that, in addition to the individual economic situation, the perception of the country's economic situation plays an essential role.

2.5. Discussion

Following our research objectives, a first aspect to note is that focusing on a particular type of threat clearly is beneficial when theorizing and analyzing the influence of specific types of societal strains such as economic ones. This is not only suggested by public debates on immigration issues, in which the purported positive or negative effects of immigration are discussed extensively for specific contexts. It is also evident when looking at prior theorizing and research (e.g., Meuleman, 2011; Meuleman et al., 2019; Stephan & Stephan, 2000; Van Setten et al., 2017). The relevance of economic issues is also evident across the analytical levels of our analyses: on the macro level, we clearly see expected results for the perception of immigrants as an economic threat, and it is also evident when looking at the influence of individual-level factors, where we find economic factors to have large coefficients. These strong associations suggest that research on attitudes toward immigrants would be well-advised to take more interest in these and other sub-facets of individual expressions.

Regarding the types of economic aspects investigated here, our addition of public debt as a further indicator yielded the insight that this dimension also can play a role in attitudes toward migration, even though its final net effect was only marginally statistically significant. Nevertheless, the overall results suggest that this readily available indicator could augment

future analyses of anti-immigrant animus. This is especially the case when the country context involves a large set of countries experiencing this type of economic hardship, as has been the case in various places in recent years. For instance, it may well be that levels of debt are more influential when it comes to public opinion toward redistributing welfare resources toward immigrants: high levels of debt may increase welfare chauvinism, that is, the idea that immigrants should not partake from welfare resources (Heizmann et al., 2018; Kitschelt, 1995; Reeskens & Van Oorschot, 2012), because debt itself may pose a strain on public finances. Again, such a focus on more concrete outcomes and policy issues can be beneficial because it allows us to articulate the theoretical links much more precisely than is the case with composite indices of immigration-related sentiments.

Furthermore, our results confirm earlier findings which indicate that it is crucial to investigate changes within contexts compared with the long-term contextual situation (Czymara, 2020a; Kaufmann, 2017; Patana, 2020). Rather than the baseline level of the national economic and financial situation, it is the shifts in these contexts that shape differences in public attitudes.

Our investigations into the mechanisms linking economic developments and the perception of immigrants as an economic threat revealed that material consequences of economic downturns explain only a fraction of their relationship to our outcome variable: When we enter labor market position and respondents' household income evaluation, we still find an influence of our macro-level indicators. However, once we also control for respondents' appraisal of the economy's state, these relationships disappear. This strongly suggests that objective economic effects have a notable perceptual component regarding their linkages to perceived economic threat. To address this issue more directly, we performed a multilevel mediation analysis in an SEM framework to see to what extent satisfaction with the country's economy mediates the net relationships between the macro-economic indicators and the perception of immigrants as an economic threat. These results show that satisfaction with the national economic situation is an important mediator between objective economic conditions and perceived economic threat. These findings imply that group threat and realistic group conflict theory provide an excellent explanatory model of perceived economic threat. Our investigation of the mechanisms behind this suggests that the competition presumed by this theory is more strongly related to collective rather than individual resources: The assessment of the country's economy as the decisive mediating factor is a dominant competitive aspect at play in the formation of perceived economic threat.

Besides this, we found that the unemployment rate is the most important factor when it comes to these mechanisms. The second strongest statistically significant path emerged for GDP per capita, while the results for public debt are less clear. This suggests that unemployment and GDP per capita, and only to a lesser extent the national government debt levels, are salient and therefore matter for public opinion. It appears that the aggregate party position does not moderate these relationships, which implies that the competitive mechanisms proposed in group threat and realistic group conflict theories are independent of such political factors. However, the political climate of a country can be measured in various ways, so the question of political moderators of intergroup conflict represents an opportunity for further research.

Furthermore, we can say that perceived threat appears to originate in a notable part from perceptions relating to the economy, which is clearly a collective asset. Together with our macro-level results, this finding is in line with Quillian's (1995) conceptual assertion that group threat emerges and operates on the collective level. However, this not only applies to the relationship between perceived threat and prejudice but also to the formation of perceived threat itself.

2.6. Conclusion

The economic crises of recent years left a notable legacy in many ways. Tensions within countries persist, and new social and economic insecurities emerge throughout the world as the current economic situation appears fragile in many places. With our analysis, we provide a view of the consequences that different and salient types of economic developments have for an important aspect of social cohesion: The perception that immigration is bad for the economy is not only an important indicator for measuring anti-immigrant attitudes, it is also a hallmark of public and political discussion when it comes to arguments about regulating immigration. By juxtaposing this indicator with decidedly (socio)economic factors on both the country and the individual level, we were able to arrive at several important findings. In contrast to employing more general outcome measures such as preferences for many or few immigrants, we could formulate a conceptually clear mediation model, focusing on objective economic conditions and subjective economic perceptions. This would hardly be possible when it comes to general composite attitudes. Taken together, this also underlines that taking a distinct perspective on the economy can be fruitful, as it enabled an investigation of concordant perceptual channels in the first place.

However, further issues remain open for future investigations, as there are limitations to the analysis presented above. One is that our data are not individual-level panels, so that our longitudinal investigations are restricted to the macro levels of analysis. Second, an even larger time frame would be necessary to be sure of any crisis-attitude relationship, as we arguably cannot claim to have a sufficient database to capture a fully realized post-crisis-rebound in attitudes across a large set of countries. Finally, while we were able to capture a significant portion of structural and political aspects, we do not investigate whether there are social policies or other institutions that may mitigate some or all of these relationships (Careja & Andreß, 2013; Crepaz & Damron, 2009; Heizmann, 2015, 2016; Nagayoshi & Hjerm, 2015; Schlueter et al., 2013; Weldon, 2006). Given the complexities and dimensions of the various social and economic policies that could be relevant here, such an investigation is clearly beyond the scope of the present article. Transcending the issue of economic downturns, future research should investigate whether other cross-nationally varying phenomena such as the current COVID-19 pandemic have implications for attitudes toward immigrants as well. To what extent these go beyond the pandemic's concurrent economic effects can only be settled once such additional data are collected.

In conclusion, we can say that a notable and important link exists between objective economic downturns and perceived economic threat. At the same time, the subjective individual perception of strain in the country's economy seems to matter most in producing these relationships, which shows that economic upheavals have societal consequences beyond their more direct material implications (Goldstein & Peters, 2014). This exemplifies the advantage of moving beyond general composite outcome measures such as broad immigration preferences or general prejudice: When we focus on a specific societal aspect or institution, the opportunities for spelling out precise conceptual linkages and testing such linkages increase considerably. Such a perspective is also much more aligned with the arguments put forward in societal discourse about immigration. These arguments usually circle around the purported consequences of immigration for several different aspects of society, and the economy is one of the most pertinent of these aspects.

We are witnessing a growth of political actors seeking to capitalize on such dynamics of many other immigration-related popular perceptions, for example, perceived cultural threat. Further investigations of such processes thus are of utmost importance for the social sciences and beyond.

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2.8. Appendix

Table A2.1. Results of the multilevel models M1A-M1C: Including outliers.

Perceived economic threat	M1A outlier	M1B outlier	M1C outlier
Individual level variables			
Age	0.31***	0.31***	0.31***
Male	-0.23***	-0.23***	-0.23***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.24***	-0.24***	-0.24***
ISCED 3	-0.50***	-0.50***	-0.50***
ISCED 4	-0.76***	-0.76***	-0.76***
ISCED 5-6	-1.39***	-1.39***	-1.39***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.16*	0.17*	0.17*
Right	0.41**	0.41**	0.41**
Don't know	0.65***	0.65***	0.65***
Macro level variables			
GDP per capita (between)	-1.83**		
GDP per capita (within)	-1.61***		
Unemployment (between)		1.01	
Unemployment (within)		1.06***	
Debt (between)			0.22
Debt (within)			0.99***
Foreign population (between)	0.00	-1.21	-1.53*
Foreign population (within)	0.79***	0.43	0.69**
Party positions (between)	0.75	1.51*	1.39*
Party positions (within)	-0.04	-0.12	0.01
Intercept	5.80***	3.86***	4.25***
Random Effects			
Intercept Variance (country-level)	.42 (.13)	.50 (.15)	.56 (.17)
Variance (left-right scale: middle)	.14 (.04)	.15 (.04)	.15 (.04)
Variance (left-right scale: right)	.53 (.15)	.53 (.15)	.53 (.15)
Variance (left-right scale: Don't know)	.28 (.09)	.28 (.08)	.28 (.08)
Intercept Variance (country-year-level)	.10 (.01)	.09 (.01)	.09 (.01)
Residual Variance	4.93 (.02)	4.93 (.02)	4.93 (.02)

Note. Models are based on 28 countries, 274 country-years and 232,794 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. *p<0.05; **p<0.01; ***p<0.001

Table A2.2. Results of the multilevel models M2A-M2C: Including outliers.

Perceived economic threat	M2A outlier	M2B outlier	M2C outlier
Individual level variables			
Age	-0.32***	-0.32***	-0.32***
Male	-0.24***	-0.24***	-0.24***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.24***	-0.24***	-0.25***
ISCED 3	-0.55***	-0.55***	-0.55***
ISCED 4	-0.78***	-0.78***	-0.78***
ISCED 5-6	-1.28***	-1.28***	-1.28***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.17*	0.17*	0.17*
Right	0.41**	0.42**	0.42**
Don't know	0.65***	0.65***	0.65***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	0.27***	0.27***	0.27***
Paid work: Lower occupations	0.52***	0.52***	0.52***
Unemployed	0.66***	0.66***	0.66***
Education	-0.32***	-0.32***	-0.32***
Retired, Housework, disabled, etc.	0.42***	0.42***	0.42***
Macro level variables			
GDP per capita (between)	-1.71**		
GDP per capita (within)	-1.57***		
Unemployment (between)		0.92	
Unemployment (within)		1.04***	
Debt (between)			0.21
Debt (within)			0.97***
Foreign population (between)	-0.06	-1.20	-1.50*
Foreign population (within)	0.77***	0.42	0.68**
Party positions (between)	0.81	1.51**	1.40*
Party positions (within)	-0.03	-0.10	0.02
Intercept	5.60***	3.78***	4.13***
Random Effects			
Intercept Variance (country-level)	.41 (.12)	.48 (.15)	.53 (.16)
Variance (left-right scale: middle)	.15 (.04)	.15 (.04)	.15 (.04)
Variance (left-right scale: right)	.50 (.14)	.50 (.14)	.50 (.14)
Variance (left-right scale: Don't know)	.27 (.08)	.27 (.08)	.27 (.08)
Intercept Variance (country-year-level)	.10 (.01)	.09 (.01)	.09 (.01)
Residual Variance	4.88 (.01)	4.88 (.01)	4.88 (.01)

Note. Models are based on 28 countries, 274 country-years and 232,794 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. *p<0.05; **p<0.01; ***p<0.001

Table A2.3. Results of the multilevel models M3A-M3C: Including outliers.

Perceived economic threat	M3A outlier	M3B outlier	M3C outlier
Individual level variables			
Age	-0.24***	-0.24***	-0.24***
Male	-0.21***	-0.21***	-0.21***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.20***	-0.20***	-0.20***
ISCED 3	-0.48***	-0.48***	-0.48***
ISCED 4	-0.69***	-0.69***	-0.69***
ISCED 5-6	-1.14***	-1.14***	-1.14***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.20**	0.20**	0.20**
Right	0.46***	0.46***	0.47***
Don't know	0.64***	0.64***	0.64***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	0.24***	0.24***	0.24***
Paid work: Lower occupations	0.46***	0.46***	0.46***
Unemployed	0.41***	0.41***	0.41***
Education	-0.31***	-0.31***	-0.31***
Retired, Housework, disabled, etc.	0.33***	0.33***	0.33***
Feelings about household's income			
Living comfortably on present income	Ref.	Ref.	Ref.
Coping on present income	0.34***	0.34***	0.34***
Difficult on present income	0.65***	0.65***	0.65***
Very difficult on present income	0.95***	0.95***	0.95***
Macro level variables			
GDP per capita (between)	-1.24*		
GDP per capita (within)	-1.45***		
Unemployment (between)		0.65	
Unemployment (within)		0.91***	
Debt (between)			0.30
Debt (within)			0.85***
Foreign population (between)	-0.17	-1.03	-1.21
Foreign population (within)	0.71**	0.40	0.63**
Party positions (between)	0.83	1.34*	1.28*
Party positions (within)	-0.02	-0.08	0.03
Intercept	5.00***	3.60***	3.76***
Random Effects			
Intercept Variance (country-level)	.38 (.12)	.42 (.13)	.44 (.13)
Variance (left-right scale: middle)	.15 (.04)	.15 (.04)	.15 (.04)
Variance (left-right scale: right)	.48 (.14)	.48 (.13)	.48 (.13)
Variance (left-right scale: Don't know)	.27 (.08)	.26 (.08)	.26 (.08)
Intercept Variance (country-year-level)	.09 (.01)	.08 (.01)	.09 (.01)
Residual Variance	4.82 (.01)	4.82 (.01)	4.82 (.01)

Note. Models are based on 26 countries, 259 country-years and 219,452 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. *p<0.05; **p<0.01; ***p<0.001

Table A2.4. Results of the multilevel models M4A-M4C: Including outliers.

Perceived economic threat	M4A outlier	M4B outlier	M4C outlier
Individual level variables			
Age	-0.22***	-0.22***	-0.22***
Male	-0.17***	-0.17***	-0.17***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.23***	-0.23***	-0.23***
ISCED 3	-0.50***	-0.50***	-0.50***
ISCED 4	-0.71***	-0.71***	-0.71***
ISCED 5-6	-1.13***	-1.13***	-1.13***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.30***	0.30***	0.30***
Right	0.62***	0.62***	0.62***
Don't know	0.68***	0.68***	0.68***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	0.21***	0.21***	0.21***
Paid work: Lower occupations	0.42***	0.42***	0.42***
Unemployed	0.33***	0.33***	0.33***
Education	-0.24***	-0.24***	-0.24***
Retired, Housework, disabled, etc.	0.31***	0.31***	0.31***
Feelings about household's income			
Living comfortably on present income	Ref.	Ref.	Ref.
Coping on present income	0.22***	0.22***	0.22***
Difficult on present income	0.40***	0.40***	0.40***
Very difficult on present income	0.59***	0.59***	0.59***
Satisfaction with country's economy	-.214***	-.214***	-.214***
Macro level variables			
GDP per capita (between)	-0.52		
GDP per capita (within)	-0.41		
Unemployment (between)		-0.07	
Unemployment (within)		0.15	
Debt (between)			0.02
Debt (within)			0.18
Foreign population (between)	-0.33	-0.77	-0.76
Foreign population (within)	0.20	0.14	0.18
Party positions (between)	0.86	1.02	1.03*
Party positions (within)	-0.04	-0.05	-0.03
Intercept	5.75***	5.44***	5.37***
Random Effects			
Intercept Variance (country-level)	.40 (.12)	.41 (.12)	.41 (.12)
Variance (left-right scale: middle)	.15 (.04)	.15 (.04)	.15 (.04)
Variance (left-right scale: right)	.44 (.12)	.44 (.12)	.44 (.12)
Variance (left-right scale: Don't know)	.27 (.08)	.26 (.08)	.26 (.08)
Intercept Variance (country-year-level)	.07 (.01)	.07 (.01)	.07 (.01)
Residual Variance	4.65 (.01)	4.65 (.01)	4.65 (.01)

Note. Models are based on 26 countries, 259 country-years and 219,452 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. *p<0.05; **p<0.01; ***p<0.001

Table A2.5. Summary statistics of the perception of immigrants as an economic threat per country.

	perception of immigrants as an economic threat		
Country	$\bar{x}$	SD total	SD years
Austria	5.06	2.45	0.37
Belgium	5.47	2.19	0.28
Bulgaria	4.77	2.80	0.33
Cyprus	6.24	2.50	0.76
Czech Republic	5.98	2.27	0.29
Germany	4.80	2.38	0.55
Denmark	4.96	2.29	0.35
Estonia	5.28	2.21	0.32
Spain	4.78	2.32	0.34
Finland	4.67	2.14	0.17
France	5.42	2.37	0.21
United Kingdom	5.56	2.40	0.50
Greece	6.68	2.44	0.33
Hungary	6.28	2.32	0.44
Ireland	5.05	2.52	0.63
Italy	5.30	2.63	0.53
Lithuania	4.93	2.29	0.26
Latvia	5.90	2.41	0.43
Netherlands	4.98	1.94	0.31
Norway	4.49	2.06	0.30
Poland	4.80	2.37	0.49
Portugal	5.23	2.31	0.45
Romania	4.35	2.51	0.37
Sweden	4.51	2.21	0.38
Slovenia	5.87	2.38	0.27
Slovakia	5.78	2.30	0.28
Total	5.21	2.39	0.67

Note. Only clusters with a minimum size of 10 respondents included, unweighted data, ESS 2002-2017.

Table A2.6. Summary statistics of the dependent and independent variables.

	Percent	Mean	Std. Dev.	Min	Max
Individual-level variables					
Economic Threat	-	5.21	2.39	0	10
Satisfaction with national economy	-	4.50	2.47	0	10
Highest level of education					
ISCED 0-1	12.61	-	-	-	-
ISCED 2	18.50	-	-	-	-
ISCED 3	38.87	-	-	-	-
ISCED 4	4.08	-	-	-	-
ISCED 5-6	25.94	-	-	-	-
Left-right scale					
Left	9.94	-	-	-	-
Middle	68.37	-	-	-	-
Right	13.61	-	-	-	-
Don't know	8.08	-	-	-	-
Feelings about household's income					
Living comfortably on present income	30.45	-	-	-	-
Coping on present income	46.65	-	-	-	-
Difficult on present income	17.02	-	-	-	-
Very difficult on present income	5.89	-	-	-	-
Labor force status (ESeC)					
Paid work: Higher occupations	19.78	-	-	-	-
Paid work: Intermediate occupations	10.00	-	-	-	-
Paid work: Lower occupations	21.17	-	-	-	-
Unemployed	5.30	-	-	-	-
Education	8.05	-	-	-	-
Retired, Housework, disabled, etc.	35.71	-	-	-	-
Age (grand-mean-centered)	-	0.32	0.17	0	1
Female	52.24	-	-	-	-
Country-level variables					
Unemployment rate	-	8.21	3.67	2.7	26.1
Public debt	-	59.83	29.24	3.8	172.1
GDP	-	34646.87	10916.53	11780.6	66956.3
Stock of foreign population	-	63.06	43.28	1.08	200.03
Party positions on ethnic diversity		.35	.42	-.94	1

Note. Summary statistics are based on 26 countries, 260 country-years, and 225,791 individuals, unweighted data, ESS 2002-2017.

Table A2.7. Results of the multilevel models M1A-M1C: Conservation and Universalism.

Perceived economic threat	M1A - Values	M1B - Values	M1C - Values
Individual level variables			
Age	-0.10**	-0.10**	-0.10**
Male	-0.26***	-0.26***	-0.26***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.19***	-0.19***	-0.19***
ISCED 3	-0.42***	-0.42***	-0.42***
ISCED 4	-0.64***	-0.64***	-0.64***
ISCED 5-6	-1.19***	-1.19***	-1.19***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.04	0.04	0.04
Right	0.20	0.20	0.20
Don't know	0.49***	0.50***	0.50***
Conservation: averaged	0.42***	0.42***	0.42***
Universalism: averaged	-0.43***	-0.43***	-0.43***
Macro level variables			
GDP per capita (between)	-0.58		
GDP per capita (within)	-1.76***		
Unemployment (between)		0.38	
Unemployment (within)		1.03***	
Debt (between)			0.19
Debt (within)			0.98***
Foreign population (between)	0.63	0.47	0.43
Foreign population (within)	0.70**	0.32	0.57**
Party positions (between)	0.90+	1.26**	1.23**
Party positions (within)	-0.02	-0.11	0.01
Intercept	5.68***	4.37***	4.42***
Random Effects			
Intercept Variance (country-level)	.309 (.100)	.306 (.098)	.312 (.100)
Variance (left-right scale: middle)	.098 (.030)	.097 (.030)	.097 (.030)
Variance (left-right scale: right)	.385 (.113)	.382 (.112)	.381 (.112)
Variance (left-right scale: Don't know)	.207 (.067)	.205 (.067)	.204 (.066)
Intercept Variance (country-year-level)	.086 (.010)	.079 (.009)	.085 (.010)
Residual Variance	4.794 (.015)	4.794 (.015)	4.794 (.015)

Note. Models are based on 26 countries, 259 country-years and 219,452 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A2.8. Results of the multilevel models M2A-M2C: Conservation and Universalism.

Perceived economic threat	M2A - Values	M2B - Values	M2C - Values
Individual level variables			
Age	-0.60***	-0.60***	-0.60***
Male	-0.26***	-0.26***	-0.26***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.20***	-0.20***	-0.20***
ISCED 3	-0.47***	-0.47***	-0.47***
ISCED 4	-0.66***	-0.66***	-0.66***
ISCED 5-6	-1.10***	-1.10***	-1.10***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.05	0.05	0.05
Right	0.22+	0.22+	0.22+
Don't know	0.50***	0.50***	0.50***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	0.24***	0.24***	0.24***
Paid work: Lower occupations	0.47***	0.47***	0.47***
Unemployed	0.65***	0.65***	0.65***
Education	-0.28***	-0.28***	-0.28***
Retired, Housework, disabled, etc.	0.37***	0.37***	0.37***
Conservation: averaged	0.41***	0.41***	0.41***
Universalism: averaged	-0.42***	-0.42***	-0.42***
Macro level variables			
GDP per capita (between)	-0.52		
GDP per capita (within)	-1.72***		
Unemployment (between)		0.32	
Unemployment (within)		1.01***	
Debt (between)			0.17
Debt (within)			0.95***
Foreign population (between)	0.59	0.44	0.40
Foreign population (within)	0.68**	0.31	0.56**
Party positions (between)	0.95+	1.28**	1.25**
Party positions (within)	-0.01	-0.10	0.03
Intercept	5.50***	4.27***	4.30***
Random Effects			
Intercept Variance (country-level)	.305 (.099)	.301 (.096)	.304 (.098)
Variance (left-right scale: middle)	.099 (.031)	.098 (.030)	.098 (.030)
Variance (left-right scale: right)	.367 (.108)	.364 (.107)	.363 (.107)
Variance (left-right scale: Don't know)	.210 (.068)	.209 (.067)	.208 (.067)
Intercept Variance (country-year-level)	.083 (.009)	.077 (.009)	.083 (.009)
Residual Variance	4.749 (.014)	4.749 (.014)	4.749 (.014)

Note. Models are based on 26 countries, 259 country-years and 219,452 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A2.9. Results of the multilevel models M3A-M3C: Conservation and Universalism.

Perceived economic threat	M3A - Values	M3B - Values	M3C - Values
Individual level variables			
Age	-0.53***	-0.53***	-0.53***
Male	-0.24***	-0.24***	-0.24***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.16***	-0.16***	-0.16***
ISCED 3	-0.40***	-0.40***	-0.40***
ISCED 4	-0.58***	-0.58***	-0.58***
ISCED 5-6	-0.97***	-0.97***	-0.97***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.08	0.08	0.08
Right	0.27*	0.27*	0.27*
Don't know	0.49***	0.49***	0.49***
Feelings about household's income			
Living comfortably on present income	Ref.	Ref.	Ref.
Coping on present income	0.32***	0.32***	0.32***
Difficult on present income	0.64***	0.64***	0.64***
Very difficult on present income	0.93***	0.93***	0.93***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	0.22***	0.22***	0.22***
Paid work: Lower occupations	0.40***	0.41***	0.41***
Unemployed	0.40***	0.40***	0.40***
Education	-0.26***	-0.26***	-0.26***
Retired, Housework, disabled, etc.	0.28***	0.28***	0.28***
Conservation: averaged	0.41***	0.41***	0.41***
Universalism: averaged	-0.41***	-0.41***	-0.41***
Macro level variables			
GDP per capita (between)	-0.10		
GDP per capita (within)	-1.57***		
Unemployment (between)		0.06	
Unemployment (within)		0.88***	
Debt (between)			0.28
Debt (within)			0.83***
Foreign population (between)	0.55	0.50	0.47
Foreign population (within)	0.62**	0.30	0.51*
Party positions (between)	0.97*	1.10*	1.13**
Party positions (within)	0.00	-0.08	0.03
Intercept	4.87***	4.10***	3.95***
Random Effects			
Intercept Variance (country-level)	.288	.272	.266
	(.093)	(.088)	(.086)
Variance (left-right scale: middle)	.098	.097	.096
	(.030)	(.030)	(.030)
Variance (left-right scale: right)	.347	.346	.344
	(.102)	(.102)	(.101)
Variance (left-right scale: Don't know)	.199	.199	.197
	(.064)	(.064)	(.064)
Intercept Variance (country-year-level)	.078	.075	.079
	(.009)	(.008)	(.009)
Residual Variance	4.699	4.699	4.699
	(.014)	(.014)	(.014)

Note. Models are based on 26 countries, 259 country-years and 219,452 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A2.10. Results of the multilevel models M4A-M4C: Conservation and Universalism.

Perceived economic threat	M4A - Values	M4B - Values	M4C - Values
Individual level variables			
Age	-0.52***	-0.52***	-0.52***
Male	-0.20***	-0.20***	-0.20***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.19***	-0.19***	-0.19***
ISCED 3	-0.42***	-0.42***	-0.42***
ISCED 4	-0.59***	-0.59***	-0.59***
ISCED 5-6	-0.96***	-0.96***	-0.96***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.18**	0.18**	0.18**
Right	0.42***	0.42***	0.42***
Don't know	0.53***	0.53***	0.53***
Feelings about household's income			
Living comfortably on present income	Ref.	Ref.	Ref.
Coping on present income	0.20***	0.20***	0.20***
Difficult on present income	0.39***	0.39***	0.39***
Very difficult on present income	0.57***	0.56***	0.56***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	0.19***	0.19***	0.19***
Paid work: Lower occupations	0.36***	0.36***	0.36***
Unemployed	0.32***	0.32***	0.32***
Education	-0.19***	-0.19***	-0.19***
Retired, Housework, disabled, etc.	0.26***	0.26***	0.26***
Satisfaction with country's economy	-0.22***	-0.22***	-0.22***
Conservation: averaged	0.41***	0.41***	0.41***
Universalism: averaged	-0.42***	-0.42***	-0.42***
Macro level variables			
GDP per capita (between)	0.52		
GDP per capita (within)	-0.44+		
Unemployment (between)		-0.64	
Unemployment (within)		0.12	
Debt (between)			0.05
Debt (within)			0.17
Foreign population (between)	0.45	0.54	0.55
Foreign population (within)	0.09	0.04	0.07
Party positions (between)	1.02*	0.76+	0.86+
Party positions (within)	-0.03	-0.04	-0.02
Intercept	5.51***	6.00***	5.62***
Random Effects			
Intercept Variance (country-level)	.300 (.096)	.284 (.091)	.308 (.099)
Variance (left-right scale: middle)	.097 (.030)	.098 (.030)	.098 (.030)
Variance (left-right scale: right)	.305 (.090)	.307 (.091)	.307 (.091)
Variance (left-right scale: Don't know)	.195 (.063)	.196 (.063)	.196 (.063)
Intercept Variance (country-year-level)	.065 (.007)	.066 (.007)	.066 (.007)
Residual Variance	4.522 (.014)	4.522 (.014)	4.522 (.014)

Note. Models are based on 26 countries, 259 country-years and 219,452 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A2.11. Source of the macro indicator: government debt.

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AT		Eurostat		Eurostat		Eurostat							Eurostat	Eurostat	Eurostat	
BE	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat
BG								Eurostat	Eurostat	Eurostat		Eurostat				
CY					Eurostat		Eurostat			Eurostat	Eurostat	Eurostat				
CZ	Eurostat	Eurostat	Eurostat					Eurostat		Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	
DE	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
DK	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat		
EE					Eurostat	Eurostat	Eurostat	Eurostat			Eurostat	Eurostat	Eurostat		Eurostat	Eurostat
ES	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat		Eurostat		Eurostat		Eurostat
FI	Eurostat		Eurostat		Eurostat		Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
FR					Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
GB	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
GR		Eurostat		Eurostat				Eurostat		Eurostat						
HU	Eurostat			Eurostat	Eurostat	Eurostat		Eurostat	Eurostat		Eurostat	Eurostat		Eurostat		Eurostat
IE	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat			
IT		Eurostat			Eurostat							Eurostat				Eurostat
LT										Eurostat		Eurostat		Eurostat		Eurostat
LV						Eurostat		Eurostat								
NL	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
NO	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD
PL	Eurostat		Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat
PT	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat
RO						Eurostat	Eurostat	Eurostat								
SE	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
SI	Eurostat		Eurostat		Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat
SK			Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat				

Note. Eurostat (2019), Government deficit/surplus, debt and associated data, annual (Code: gov_10dd_edpt1). http://ec.europa.eu/eurostat/web/government-finance-statistics/data/database (Accessed on 03 December 2019); OECD (2019), General government debt (indicator). doi: 10.1787/a0528cc2-en (Accessed on 03 December 2019).

Table A2.12. Source of the macro indicator: Gross domestic product (GDP).

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AT		OECD		OECD		OECD							OECD	OECD	OECD	
BE	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD
BG								OECD	OECD	OECD		OECD				
CY					OECD		OECD			OECD	OECD	OECD				
CZ	OECD	OECD	OECD					OECD		OECD		OECD	OECD	OECD	OECD	
DE	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
DK	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD		
EE					OECD	OECD	OECD	OECD			OECD	OECD	OECD		OECD	OECD
ES	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD		OECD		OECD		OECD
FI	OECD		OECD		OECD		OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD	OECD
FR					OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD
GB	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
GR		OECD		OECD				OECD		OECD						
HU	OECD			OECD	OECD	OECD		OECD	OECD		OECD	OECD		OECD		OECD
IE	OECD	OECD		OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD	OECD			
IT		OECD			OECD							OECD				OECD
LT										OECD		OECD		OECD		OECD
LV						OECD		OECD								
NL	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
NO	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD
PL	OECD		OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD
PT	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD
RO						OECD	OECD	OECD								
SE	OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
SI	OECD		OECD		OECD		OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD
SK			OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD				

Note. OECD (2019), Gross domestic product (GDP) (indicator). doi: 10.1787/dc2f7aec-en (Accessed on 03 December 2019).

Table A2.13. Source of the macro indicator: Unemployment rate.

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AT		Eurostat		Eurostat		Eurostat							Eurostat	Eurostat	Eurostat	
BE	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat
BG								Eurostat	Eurostat	Eurostat		Eurostat				
CY					Eurostat		Eurostat			Eurostat	Eurostat	Eurostat				
CZ	Eurostat	Eurostat	Eurostat					Eurostat		Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	
DE	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
DK	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat		
EE					Eurostat	Eurostat	Eurostat	Eurostat			Eurostat	Eurostat	Eurostat		Eurostat	Eurostat
ES	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat		Eurostat		Eurostat		Eurostat
FI	Eurostat		Eurostat		Eurostat		Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
FR					Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
GB	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
GR		Eurostat		Eurostat				Eurostat		Eurostat						
HU	Eurostat			Eurostat	Eurostat	Eurostat		Eurostat	Eurostat		Eurostat	Eurostat		Eurostat		Eurostat
IE	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat			
IT		Eurostat			Eurostat							Eurostat				Eurostat
LT										Eurostat		Eurostat		Eurostat		Eurostat
LV						Eurostat		Eurostat								
NL	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
NO	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat
PL	Eurostat		Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat
PT	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat
RO						Eurostat	Eurostat	Eurostat								
SE	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat
SI	Eurostat		Eurostat		Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat		Eurostat	Eurostat	Eurostat	Eurostat
SK			Eurostat		Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat	Eurostat				

Note. Eurostat (2019), Unemployment rate: Percentage of active population: annual average (Code: une_rt_a). http://ec.europa.eu/eurostat/web/lfs/data/database# (Accessed on 03 December 2019).

Table A2.14. Source of the macro indicator: Stock of foreign population.

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AT		OECD		OECD		OECD							OECD	OECD	OECD	
BE	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD
BG								OECD	OECD	OECD		OECD				
CY					Eurostat		Eurostat			Eurostat	Eurostat	Eurostat				
CZ	OECD	OECD	OECD					OECD		OECD		OECD	OECD	OECD	OECD	
DE	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
DK	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD		
EE					Eurostat	Eurostat	Eurostat	Eurostat			OECD	OECD	OECD		OECD	OECD
ES	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD		OECD		OECD		OECD
FI	OECD		OECD		OECD		OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD	OECD
FR					OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD
GB	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
GR		OECD		OECD				OECD		OECD						
HU	OECD			OECD	OECD	OECD		OECD	OECD		OECD	OECD		OECD		OECD
IE	Eurostat	OECD		Eurostat	Eurostat	OECD		OECD	OECD	OECD	OECD	OECD	OECD			
IT		OECD			OECD							OECD				OECD
LT										OECD		OECD		OECD		OECD
LV						OECD		OECD								
NL	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
NO	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD
PL	Eurostat		Eurostat		Eurostat	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD
PT	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD		OECD	OECD	OECD
RO						OECD	OECD	OECD								
SE	OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD
SI	Eurostat		Eurostat		Eurostat		Eurostat	Eurostat	OECD	OECD	OECD		OECD	OECD	OECD	OECD
SK			OECD		OECD	OECD	OECD	OECD	OECD	OECD	OECD	OECD				

Note. OECD (2019), Stock of foreign-born population by country of birth (total), International migration database (Code: forpop_oecd). https://stats.oecd.org/Index.aspx?QueryId=48877# (Accessed on 04 December 2019); Eurostat (2019): Foreign country and stateless population on 1 January, total (Code: forpop_eurostat). https://ec.europa.eu/eurostat/de/web/population-demography-migration-projections/data/database (Accessed on 04 December 2019); Eurostat (2019): Population on 1 January (Code: demo_pjan). http://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-data/database (Accessed on 03 December 2019).

Table A2.15. Source of the macro indicator: Political party positions.

Country	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
AT	MPD			MPD				MPD		MPD					MPD				MPD		
BE	MPD				MPD				MPD			MPD				MPD					MPD
BG			MPD				MPD				MPD				MPD	MPD			MPD		
CY			MPD					MPD					MPD					MPD			
CZ				MPD				MPD				MPD			MPD				MPD		
DE				MPD			MPD				MPD				MPD				MPD		
DK			MPD				MPD		MPD				MPD				MPD				
EE	MPD				MPD				MPD				MPD				MPD				
ES		MPD				MPD				MPD			MPD				MPD	MPD			MPD
FI	MPD				MPD				MPD				MPD				MPD				MPD
FR				MPD					MPD					MPD					MPD		
GB			MPD				MPD					MPD					MPD		MPD		MPD
GR		MPD				MPD			MPD		MPD			MPD			MPD				
HU				MPD				MPD				MPD				MPD					
IE				MPD					MPD				MPD					MPD			
IT			MPD					MPD		MPD					MPD					MPD	
LT		MPD				MPD				MPD				MPD				MPD			
LV				MPD				MPD				MPD	MPD			MPD				MPD	
NL				MPD	MPD			MPD				MPD		MPD					MPD		
NO			MPD				MPD				MPD				MPD				MPD		
PL			MPD				MPD		MPD				MPD				MPD				
PT	MPD			MPD			MPD				MPD		MPD				MPD				
RO		MPD				MPD				MPD				MPD				MPD			
SE				MPD				MPD				MPD				MPD				MPD	
SI		MPD				MPD				MPD			MPD			MPD				MPD	
SK				MPD				MPD				MPD		MPD				MPD			

Note. Manifesto Project Dataset (MPD): Volkens, Andrea / Burst, Tobias / Krause, Werner / Lehmann, Pola / Matthieß Theres / Merz, Nicolas / Regel, Sven / Weßels, Bernhard / Zehnter, Lisa (2020): The Manifesto Data Collection. Manifesto Project (MRG/CMP/MARPOR). Version 2020a. Berlin: Wissenschaftszentrum Berlin für Sozialforschung (WZB). https://doi.org/10.25522/manifesto.mpds.2020a; Variables used for the extrapolation and to build the party position index: per601 per608 per602 per607

Table A2.16. Fixed Effects Model: without macro indicators.

Perceived economic threat	Model 1	Model 2	Model 3	Model 4
Individual level variables				
Age	0.38***	-0.27***	-0.19***	-0.18***
Male	-0.22***	-0.23***	-0.20***	-0.16***
Education				
ISCED 0-1	Ref.	Ref.	Ref.	Ref.
ISCED 2	-0.23***	-0.23***	-0.19***	-0.22***
ISCED 3	-0.49***	-0.54***	-0.47***	-0.50***
ISCED 4	-0.76***	-0.78***	-0.69***	-0.71***
ISCED 5-6	-1.39***	-1.28***	-1.14***	-1.13***
Self-Placement on left-right scale				
Left	Ref.	Ref.	Ref.	Ref.
Middle	0.19***	0.20***	0.22***	0.32***
Right	0.41***	0.42***	0.47***	0.62***
Don't know	0.64***	0.64***	0.63***	0.67***
Labor force status (ESeC)				
Paid work: Higher occupations		Ref.	Ref.	Ref.
Paid work: Intermediate occupations		0.28***	0.25***	0.22***
Paid work: Lower occupations		0.54***	0.47***	0.43***
Unemployed		0.67***	0.42***	0.33***
Education		-0.32***	-0.30***	-0.24***
Retired, Housework, disabled, etc.		0.45***	0.35***	0.34***
Feelings about household's income				
Living comfortably on present income			Ref.	Ref.
Coping on present income			0.34***	0.22***
Difficult on present income			0.65***	0.41***
Very difficult on present income			0.96***	0.59***
Satisfaction with country's economy				-0.215***
Intercept	5.44***	5.33***	4.99***	6.16***
Random Effects				
Intercept Variance (country-year-level)	0.118 (0.013)	0.114 (0.012)	0.105 (0.011)	0.075 (0.008)
Residual Variance	4.973 (0.015)	4.915 (0.015)	4.863 (0.014)	4.689 (0.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period, country dummies. * p < 0.05, ** p < 0.01, *** p < 0.001

Table A2.17. Fixed Effects Model: GDP.

Perceived economic threat	Model 1	Model 2	Model 3	Model 4
Individual level variables				
Age	0.38***	-0.27***	-0.19***	-0.18***
Male	-0.22***	-0.23***	-0.20***	-0.16***
Education				
ISCED 0-1	Ref.	Ref.	Ref.	Ref.
ISCED 2	-0.23***	-0.24***	-0.19***	-0.22***
ISCED 3	-0.50***	-0.54***	-0.47***	-0.50***
ISCED 4	-0.76***	-0.78***	-0.69***	-0.71***
ISCED 5-6	-1.40***	-1.28***	-1.14***	-1.13***
Self-Placement on left-right scale				
Left	Ref.	Ref.	Ref.	Ref.
Middle	0.19***	0.20***	0.22***	0.32***
Right	0.41***	0.42***	0.47***	0.62***
Don't know	0.64***	0.64***	0.63***	0.67***
Labor force status (ESeC)				
Paid work: Higher occupations		Ref.	Ref.	Ref.
Paid work: Intermediate occupations		0.28***	0.25***	0.22***
Paid work: Lower occupations		0.54***	0.47***	0.43***
Unemployed		0.67***	0.42***	0.33***
Education		-0.32***	-0.30***	-0.24***
Retired, Housework, disabled, etc.		0.45***	0.35***	0.34***
Feelings about household's income				
Living comfortably on present income			Ref.	Ref.
Coping on present income			0.34***	0.22***
Difficult on present income			0.65***	0.41***
Very difficult on present income			0.96***	0.59***
Satisfaction with country's economy				-0.214***
Macro level variables				
GDP per capita (within)	-1.78***	-1.74***	-1.59***	-0.46
Foreign population (within)	0.74**	0.72**	0.66**	0.15
Party positions (within)	-0.01	0.01	0.02	-0.02
Intercept	5.67***	5.55***	5.19***	6.25***
Random Effects				
Intercept Variance (country-year-level)	0.097	0.094	0.088	0.075
	(0.011)	(0.010)	(0.010)	(0.008)
Residual Variance	4.973	4.915	4.863	4.689
	(0.015)	(0.015)	(0.015)	(0.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period, country dummies. * p < 0.05, ** p < 0.01, *** p < 0.001

Table A2.18. Fixed Effects Model: Unemployment rate.

Perceived economic threat	Model 1	Model 2	Model 3	Model 4
Individual level variables				
Age	0.38***	-0.27***	-0.19***	-0.18***
Male	-0.22***	-0.23***	-0.20***	-0.16***
Education				
ISCED 0-1	Ref.	Ref.	Ref.	Ref.
ISCED 2	-0.23***	-0.23***	-0.19***	-0.22***
ISCED 3	-0.49***	-0.54***	-0.47***	-0.50***
ISCED 4	-0.76***	-0.78***	-0.69***	-0.71***
ISCED 5-6	-1.39***	-1.28***	-1.14***	-1.13***
Self-Placement on left-right scale				
Left	Ref.	Ref.	Ref.	Ref.
Middle	0.19***	0.20***	0.22***	0.32***
Right	0.41***	0.42***	0.47***	0.62***
Don't know	0.64***	0.64***	0.63***	0.67***
Labor force status (ESeC)				
Paid work: Higher occupations		Ref.	Ref.	Ref.
Paid work: Intermediate occupations		0.28***	0.25***	0.22***
Paid work: Lower occupations		0.54***	0.47***	0.43***
Unemployed		0.67***	0.42***	0.33***
Education		-0.32***	-0.30***	-0.24***
Retired, Housework, disabled, etc.		0.45***	0.35***	0.34***
Feelings about household's income				
Living comfortably on present income			Ref.	Ref.
Coping on present income			0.34***	0.22***
Difficult on present income			0.65***	0.40***
Very difficult on present income			0.96***	0.59***
Satisfaction with country's economy				-0.215***
Macro level variables				
Unemployment rate (within)	1.03***	1.02***	0.88***	0.12
Foreign population (within)	0.39	0.38	0.36	0.11
Party positions (within)	-0.11	-0.09	-0.07	-0.04
Intercept	4.90***	4.79***	4.51***	6.09***
Random Effects				
Intercept Variance (country-year-level)	0.091 (0.010)	0.088 (0.01)	0.085 (0.009)	0.076 (0.008)
Residual Variance	4.973 (0.015)	4.915 (0.015)	4.863 (0.015)	4.689 (0.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period, country dummies. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2.19. Fixed Effects Model: Debt.

Perceived economic threat	Model 1	Model 2	Model 3	Model 4
Individual level variables				
Age	0.38***	-0.27***	-0.19***	-0.18***
Male	-0.22***	-0.23***	-0.20***	-0.16***
Education				
ISCED 0-1	Ref.	Ref.	Ref.	Ref.
ISCED 2	-0.23***	-0.24***	-0.19***	-0.22***
ISCED 3	-0.50***	-0.54***	-0.47***	-0.50***
ISCED 4	-0.76***	-0.78***	-0.69***	-0.71***
ISCED 5-6	-1.40***	-1.28***	-1.14***	-1.13***
Self-Placement on left-right scale				
Left	Ref.	Ref.	Ref.	Ref.
Middle	0.19***	0.20***	0.22***	0.32***
Right	0.41***	0.42***	0.47***	0.62***
Don't know	0.64***	0.64***	0.63***	0.67***
Labor force status (ESeC)				
Paid work: Higher occupations		Ref.	Ref.	Ref.
Paid work: Intermediate occupations		0.28***	0.25***	0.22***
Paid work: Lower occupations		0.54***	0.47***	0.43***
Unemployed		0.67***	0.42***	0.33***
Education		-0.32***	-0.30***	-0.24***
Retired, Housework, disabled, etc.		0.45***	0.35***	0.34***
Feelings about household's income				
Living comfortably on present income			Ref.	Ref.
Coping on present income			0.34***	0.22***
Difficult on present income			0.65***	0.40***
Very difficult on present income			0.96***	0.59***
Satisfaction with country's economy				-0.215***
Macro level variables				
Debt (within)	0.98***	0.96***	0.84***	0.17
Foreign population (within)	0.64**	0.63**	0.57**	0.13
Party positions (within)	0.02	0.03	0.04	-0.02
Intercept	4.83***	4.73***	4.45***	6.06***
Random Effects				
Intercept Variance (country-year-level)	0.096 (0.011)	0.093 (0.010)	0.089 (0.010)	0.075 (0.008)
Residual Variance	4.973 (0.015)	4.915 (0.015)	4.863 (0.015)	4.689 (0.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period, country dummies. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A2.20. Results of the multilevel models: interaction of party positions and macro-indicators.

Perceived economic threat	Model: Interaction GDP - Party position (within)	Model: Interaction Unemployment - Party position (between)	Model: Interaction Unemployment - Party position (within)
Individual level variables			
Age	-0.22***	-0.22***	-0.22***
Male	-0.21***	-0.21***	-0.21***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-0.20***	-0.20***	-0.20***
ISCED 3	-0.47***	-0.47***	-0.47***
ISCED 4	-0.69***	-0.69***	-0.69***
ISCED 5-6	-1.13***	-1.13***	-1.13***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	0.17*	0.18*	0.18*
Right	0.43**	0.43**	0.43**
Don't know	0.62***	0.62***	0.62***
Feelings about household's income			
Living comfortably on present income	Ref.	Ref.	Ref.
Coping on present income	0.34***	0.34***	0.34***
Difficult on present income	0.65***	0.65***	0.65***
Very difficult on present income	0.95***	0.94***	0.94***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	0.24***	0.25***	0.25***
Paid work: Lower occupations	0.46***	0.46***	0.46***
Unemployed	0.41***	0.41***	0.41***
Education	-0.31***	-0.31***	-0.31***
Retired, Housework, disabled, etc.	0.34***	0.34***	0.34***
Macro level variables			
Party positions (between)	0.96+	1.97*	1.39**
Party positions (within)	0.73	-0.08	-0.60
GDP (between)	-0.67		
GDP (within)	-1.01*		
GDP X Party positions (within)	-1.26		
Unemployment Rate (between)		0.96	0.34
Unemployment Rate (within)		0.89***	0.34
Unemployment Rate X Party positions (between)		-1.19	
Unemployment Rate X Party positions (within)			1.20
Debt (between)			
Debt (within)			
Debt X Party positions (within)			
Foreign population (between)	0.58	0.30	0.38
Foreign population (within)	0.61**	0.37+	0.39+
Intercept	4.46***	3.16***	3.68***
Random Effects			
Intercept Variance (country-level)	.332 (.107)	.351 (.114)	.339 (.108)
Variance (left-right scale: middle)	.145 (.043)	.144 (.043)	.143 (.043)
Variance (left-right scale: right)	.490 (.143)	.486 (.141)	.487 (.142)
Variance (left-right scale: Don't know)	.272 (.085)	.27 (.085)	.269 (.085)
Intercept Variance (country-year-level)	.085 (.009)	.085 (.009)	.085 (.009)
Residual Variance	4.831 (.014)	4.831 (.014)	4.831 (.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals; for random effects: standard errors are provided in brackets

Additionally included variables: time trend, fieldwork period. +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A2.20. Results of the multilevel models: interaction of party positions and macro-indicators (continued).

Perceived economic threat	Model: Interaction Unemployment - Party position (within & between)	Model: Interaction Debt - Party position (within)
Individual level variables		
Age	-0.22***	-0.22***
Male	-0.21***	-0.21***
Education		
ISCED 0-1	Ref.	Ref.
ISCED 2	-0.20***	-0.20***
ISCED 3	-0.47***	-0.47***
ISCED 4	-0.69***	-0.69***
ISCED 5-6	-1.13***	-1.13***
Self-Placement on left-right scale		
Left	Ref.	Ref.
Middle	0.18*	0.18*
Right	0.43**	0.43**
Don't know	0.62***	0.62***
Feelings about household's income		
Living comfortably on present income	Ref.	Ref.
Coping on present income	0.34***	0.34***
Difficult on present income	0.65***	0.65***
Very difficult on present income	0.94***	0.95***
Labor force status (ESeC)		
Paid work: Higher occupations	Ref.	Ref.
Paid work: Intermediate occupations	0.25***	0.24***
Paid work: Lower occupations	0.46***	0.46***
Unemployed	0.41***	0.41***
Education	-0.31***	-0.31***
Retired, Housework, disabled, etc.	0.34***	0.34***
Macro level variables		
Party positions (between)	1.97*	1.36**
Party positions (within)	-0.58	-0.82
GDP (between)		
GDP (within)		
GDP X Party positions (within)		
Unemployment Rate (between)	0.91	
Unemployment Rate (within)	0.36	
Unemployment Rate X Party positions (between)	-1.15	
Unemployment Rate X Party positions (within)	1.17	
Debt (between)		0.02
Debt (within)		0.07
Debt X Party positions (within)		1.62
Foreign population (between)	0.30	0.34+
Foreign population (within)	0.39+	0.68**
Intercept	3.38***	3.94***
Random Effects		
Intercept Variance (country-level)	.348 (.113)	.342 (.109)
Variance (left-right scale: middle)	.144 (.043)	.143 (.043)
Variance (left-right scale: right)	.486 (.141)	.486 (.141)
Variance (left-right scale: Don't know)	.269 (.084)	.269 (.084)
Intercept Variance (country-year-level)	.085 (.009)	.088 (.01)
Residual Variance	4.831 (.014)	4.831 (.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals; for random effects: standard errors are provided in brackets

Additionally included variables: time trend, fieldwork period. +p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table A2.21. Final multilevel models M4A-M4C - perception of immigrants as an economic threat.

Perceived economic threat	M4A	M4B	M4C
Individual level variables			
Age	-.207***	-.207***	-.207***
Male	-.166***	-.166***	-.166***
Education			
ISCED 0-1	Ref.	Ref.	Ref.
ISCED 2	-.225***	-.225***	-.225***
ISCED 3	-.498***	-.498***	-.498***
ISCED 4	-.708***	-.708***	-.708***
ISCED 5-6	-1.125***	-1.125***	-1.125***
Self-Placement on left-right scale			
Left	Ref.	Ref.	Ref.
Middle	.279***	.28***	.278***
Right	.585***	.585***	.584***
Don't know	.666***	.666***	.666***
Labor force status (ESeC)			
Paid work: Higher occupations	Ref.	Ref.	Ref.
Paid work: Intermediate occupations	.217***	.217***	.217***
Paid work: Lower occupations	.420***	.420***	.420***
Unemployed	.332***	.332***	.332***
Education	-.239***	-.239***	-.239***
Retired, Housework, disabled, etc.	.322***	.322***	.322***
Feelings about household's income			
Living comfortably on present income	Ref.	Ref.	Ref.
Coping on present income	.220***	.220***	.220***
Difficult on present income	.401***	.401***	.401***
Very difficult on present income	.582***	.582***	.582***
Satisfaction with country's economy	-.214***	-.214***	-.214***
Macro level variables			
GDP per capita (between)	-.077		
GDP per capita (within)	-.477+		
Unemployment (between)		-.308	
Unemployment (within)		.133	
Debt (between)			-.224
Debt (within)			.180
Foreign population (between)	.457	.419	.436
Foreign population (within)	.166	.115	.144
Party positions (between)	1.033+	1.040*	1.069*
Party positions (within)	-.025	-.044	-.023
Intercept	5.362***	5.303***	5.221***
Random Effects			
Intercept Variance (country-level)	.355 (.122)	.349 (.111)	.350 (.111)
Variance (left-right scale: middle)	.145 (.043)	.144 (.043)	.145 (.044)
Variance (left-right scale: right)	.448 (.130)	.447 (.130)	.449 (.131)
Variance (left-right scale: Don't know)	.271 (.085)	.270 (.084)	.271 (.085)
Intercept Variance (country-year-level)	.074 (.008)	.075 (.008)	.075 (.008)
Residual Variance	4.659 (.014)	4.659 (.014)	4.659 (.014)

Note. Models are based on 26 countries, 260 country-years and 225,791 individuals; for random effects: standard errors are provided in brackets; additionally included variables: time trend, fieldwork period. +p<0.1; *p<0.05; **p<0.01; ***p<0.001

2.9. Data note

The survey data of the first eight rounds of the European Social Survey that support the findings of this study are available at https://www.europeansocialsurvey.org/, study numbers ESS1-8e01, ESS1e06_6, ESS2e03_6, ESS3e03_7, ESS4e04_5, ESS5e03_4, ESS6e02_4, ESS7e02_2, ESS8e02_1.

The macro data of the GDP that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources available in the public domain: OECD, Gross Domestic Product (GDP) (indicator). doi: 10.1787/dc2f7aec-en (Accessed on 03 December 2019).

The macro data of the foreign population share that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources available in the public domain: OECD, Stock of foreign-born population by country of birth (total), International migration database (Code: forpop_oecd). https://stats.oecd.org/Index.aspx?QueryId=48877# (Accessed on 04 December 2019); and Eurostat: Foreign country and stateless population on 1 January, total (Code: forpop_eurostat). https://ec.europa.eu/eurostat/de/web/population-demography-migration-projections/data/database, (Accessed on 04 December 2019); and Eurostat: Population on 1 January (Code: demo_pjan). http://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-data/database (Accessed on 03 December 2019).

The macro data of the unemployment rate that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources available in the public domain: Eurostat, Unemployment rate: Percentage of active population: annual average (Code: une_rt_a). http://ec.europa.eu/eurostat/web/lfs/data/database# (Accessed on 03 December 2019).

The macro data of the government debt that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources available in the public domain: Eurostat, Government deficit/surplus, debt and associated data, annual (Code: gov_10dd_edpt1). http://ec.europa.eu/eurostat/web/government-finance-statistics/data/database (Accessed on 03

December 2019); and OECD, General government debt (indicator). doi: 10.1787/a0528cc2-en (Accessed on 03 December 2019).

The macro data of the party positions that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the Manifesto Proect Dataset available at: Note. Manifesto Project Dataset (MPD): Volkens, A., Burst, T., Krause, W., Lehmann, P., Matthieß, T., Merz, N., Regel, S., Weßels, B., Zehnter, L. (2020): The Manifesto Data Collection. Manifesto Project (MRG/CMP/MARPOR). Version 2020a. Berlin: Wissenschaftszentrum Berlin für Sozialforschung (WZB). https://doi.org/10.25522/manifesto.mpds.2020a; Variables used for the extrapolation and to build the party position index: per601 per608 per602 per607.

The Stata scripts for the data preparation and analyses that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3.

3. The nexus between attitudes towards migration and the COVID-19 pandemic: evidence from 11 European countries

Boris Heizmann (GESIS – Leibniz Institute for the Social Sciences, Germany) &
Nora Huth-Stöckle (University of Wuppertal, Germany)

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Abstract

The COVID-19 pandemic has a profound impact on the everyday lives of people around the world. This includes economic issues, social isolation and anxieties directly related to the coronavirus. Some of these phenomena relate to social disintegration, which in turn has been linked to negative outgroup sentiments. However, the tenuous connection between pandemic developments and international migration processes calls into question whether a link between pandemic concomitants and immigration-related attitudes exists empirically. Arguments based on political cues and media effects even suggest that the widespread focus on the COVID-19 pandemic suppresses the issue salience of immigration and negative immigration sentiments. To test these propositions, we employ data from a newly collected cross-sectional study carried out in November and December 2020 in 11 European countries. We distinguish between general migration-related threats and blaming the pandemic on immigration as outcome variables. The results suggest that pandemic-related concerns increase both threat perceptions and perceptions that immigration is driving the pandemic, but more clearly so for the latter. On the macro level, we find that where the pandemic is more severe, respondents are less likely to blame immigrants. This suggests that a country-level suppression of salience of immigration is indeed taking place.

Keywords: COVID-19, attitudes, Europe, comparative, coronavirus

3.1. Introduction

The COVID-19 pandemic has strongly affected many countries throughout the world. The effects on individuals have been both direct in the form of infections, hospitalizations and fatalities, but there are also widespread indirect effects: Due to repeated large-scale lockdowns and other restrictive interventions into the everyday lives of virtually everyone, there were significant economic, social and psychological costs for many persons around the world (Bhattacharjee & Acharya, 2020; Naumann et al., 2020; Rossi et al., 2020; Shanahan et al., 2022). As the pandemic continuously enters new phases, it is likely that these issues also continue to evolve.

The magnitude of these processes suggests that pandemic strains may have a myriad of further attitudinal consequences, an issue that is beginning to receive more and more research attention (Boberg et al., 2020; Brubaker, 2021; Hartman et al., 2021; Naumann et al., 2020; Politi et al., 2021; Wondreys & Mudde, 2022). As such attitudinal consequences in turn can call into question social cohesion and solidarity between societal groups such as natives and immigrants (Borkowska & Laurence, 2021; Federico et al., 2021; Gandenberger et al., 2023; Larsen & Schaeffer, 2021; Schaeffer & Larsen, 2023), these issues are of utmost urgency. E.g. for the Danish context, the findings of Larsen and Schaeffer indicate less solidarity with COVID-19 patients who recently immigrated (Larsen & Schaeffer, 2021). For the Israeli context, Adler and colleagues show that exposure to COVID-19 predicts a lower willingness to aid outgroups that are perceived as related to COVID-19 threats (Adler et al., 2022). However, there are relatively few investigations into ethnic, racial or migration-related issues in conjunction with COVID-19 in Europe (Drouhot et al., 2021; Esses & Hamilton, 2021; Fernández-i-Marín et al., 2021; Hartman et al., 2021; Larsen & Schaeffer, 2021; Reeskens et al., 2021) with ambivalent results regarding the question whether COVID-19 has an influence on migration-related attitudes: Some studies on specific immigrant groups or that were conducted during the very early phase of the pandemic tend to imply no such relationship (Drouhot et al., 2021; Fernández-i-Marín et al., 2021) in contrast to findings based on data produced at later stages. A main focus of the literature so far has documented anti-Asian racism and discrimination in the US (Chen et al., 2020; Schild et al., 2020; Wu et al., 2021) and elsewhere (Dollmann & Kogan, 2021; Wang et al., 2021; Zagefka, 2021), including xenophobia within China against Wuhan residents (She et al., 2022). However, there is further experimental evidence for similar dynamics for other groups, for example, Italian citizens in Italy in comparison to British citizens

(Van Assche et al., 2020). Comparative research into COVID-19 and immigration attitudes is still scarce. Our contribution seeks to work towards closing this gap by focusing on attitudes towards immigration in Europe.

Employing unique cross-sectional data collected during the end of 2020 in 11 countries, we can approach this issue in a comparative manner. On the individual level, our primary theoretical arguments are focused on disintegration theory (Anhut & Heitmeyer, 2000; Heitmeyer & Anhut, 2008), which posits that a lack of social integration into various pertinent societal contexts can lead to negative outgroup sentiments. As we will show, the COVID-19 pandemic arguably had several such disintegrative effects. On the country level, our primary interest lies in investigating the relationship between the country's pandemic extent and individual migration-related attitudes. Conventional theories of threat, conflict and other mechanisms based on scapegoating (Blalock, 1967; Blumer, 1958; Ceobanu & Escandell, 2010) would suggest more negative attitudes towards immigrants where the pandemic is severe. However, we will argue that the weak link between COVID-19 and immigration and the pervasive dominance of COVID-19 as a public media issue can lead to the opposite relationship (Dennison & Geddes, 2020): The pandemic appears to 'crowd out' the migration issue from mass media coverage and also from the broader public attention and individual-level opinion, which implies that a more severe situation regarding COVID-19 at the macro level is associated with less pronounced immigration concerns at the micro level.

We will approach these issues by looking at two outcome measures in our analyses: A general measure of perceived immigrant threat that is unrelated to the pandemic, and a specific item regarding immigration being a driver of the pandemic. Through this comparison we will get additional insights into how factors related to the pandemic are linked to attitudes towards immigration when these attitudes are (not) related to the pandemic itself.

3.2. Theoretical framework and state of the art

The pandemic continues to have a deep reach into the daily lives of many people, introducing economic but also social constraints on individual everyday routines and perspectives throughout the world. Therefore, we need to start with a theory that systematically specifies such constraints and the potential attitudinal consequences of them. The so-called disintegration theorem (Anhut & Heitmeyer, 2000; 2009; Heitmeyer & Anhut, 2008) appears particularly suited to the current pandemic developments, because it describes in detail the several types of

social disintegration that are primary drivers of a variety of negative intergroup sentiments. This conceptual framework, therefore, allows us to approach diverse aspects of the pandemic in a more direct way than would be possible via more general conventional approaches such as self-interest or identity-related approaches (Ceobanu & Escandell, 2010).

The primary domains of disintegration refer to (I) socio-economic, (II) political and (III) emotional integration processes. Socio-economic integration refers to an individual's participation in the wealth of a society, whereas political integration refers to participation in the democratic political process. Finally, emotional integration can be seen as the establishment and maintenance of meaningful social relationships which entail socio-emotional support. It is therefore a very broad conceptualization that covers a large part of Weberian Vergesellschaftung (socio-economic and political integration) and Vergemeinschaftung (emotional integration) (Anhut & Heitmeyer, 2000, p. 47).

For each of these three domains, the authors diagnose a secular macro-level process of diminished societal integration capacities: First, long-term economic polarization processes result in a structural crisis which threatens socio-economic integration. Second, the diminished capability of governments to counter these economic polarizations results in a regulatory crisis, which in turn threatens political integration by fostering apoliticism. Finally, starting from the Durkheimian concept of Anomie (Durkheim, 2005), ambivalent processes of individualization that weaken the social fabric of a society (Teymoori et al., 2017) and threaten traditional sources of integration also are at the core of these developments (Anhut & Heitmeyer, 2000; Bohle et al., 1997). Less stable family ties, more occupational and residential mobility and the waning relevance of public associations such as clubs and labor unions exemplify these atomizing processes. This diagnosis can be related to Putnam's assertions on a purported decline of social capital in the United States (Putnam, 2000). In sum, these developments call into question many traditional sources of integration. One result is an individualization of economic and social risks, and there is a risk for a decline of institutions of civil society (Anhut & Heitmeyer 2000; Beck, 1986).

As noted above, these macro-level processes threaten individual integration: First, for the economic dimension, socio-economic status differences and financial distress are most strongly affected by economic polarization and widening inequalities. Second, political disintegration in the form of low government trust, low political interest and similar aspects of non-participation can be seen as a direct consequence of dwindling regulatory capacities and of political

polarizations. Finally, the aforementioned decline of many traditional sources of emotional integration can increase individual risks for loneliness, alienation, low generalized trust and similar aspects. These aspects of disintegration in turn open the door for compensatory strategies such as ethnicization and discrimination of outgroups (Anhut & Heitmeyer, 2000, pp. 50 ff.).

This approach subsumes a number of dimensions that have received broad support in the empirical literature on anti-immigrant attitudes, although many of these studies have not explicitly based their arguments on social disintegration. Socio-economic factors of deprivation undoubtedly play a role in anti-immigrant attitudes (Ceobanu & Escandell, 2010; Heizmann, 2015; Heizmann, 2016; Heizmann & Huth, 2021; Kunovich, 2004; Ortega & Polavieja, 2012; Schneider, 2007), although this is not necessarily based on labor market competition (Hainmueller et al., 2015). Political disintegration also was identified as meaningful (Heizmann, 2015; Heizmann, 2016; Heizmann & Ziller, 2020; Klein & Heitmeyer, 2011; Macdonald, 2021; Sides & Citrin, 2007), while for the emotional part, measurements usually are scarce, but factors of social trust have also been found to be important predictors (Heizmann, 2016; Sides & Citrin, 2007; Van Der Linden et al., 2017).

3.3. The pandemic and its impact on individuals – consequences for immigration attitudes?

What can be said about the pandemic regarding these individual-level aspects? For each of these factors, one can observe that the pandemic quite clearly poses a strain on the respective domain of social integration. While we cannot empirically test these strains and merely employ them conceptually as bridge assumptions in our framework, the literatures referred to in the introduction and in the following paragraphs have exposed the broad impacts of the pandemic.

First, socio-economic hardships due to furloughs or firms shutting down are the most clearly visible aspect (Li & Mutchler, 2020). Such factors also have been found relevant for individual well-being and the adherence to COVID-19-related policy measures (Kachanoff et al., 2021).

Second, the direct challenge the pandemic posits for political leadership may also lead to changes in political trust and related factors (Davies et al., 2021), not least because of the many contentious political decisions that need to be taken. However, there is some nuance to this: In

some countries, a transitory 'Rally round the flag'-effect has been observed (Kritzinger et al., 2021), which implies that government trust can benefit from the pandemic at least initially.

Finally, emotional disintegration can most clearly be exemplified by contact restrictions, mask mandates and other regulations that inhibit or weaken interactions with others, and the greatly reduced options for social contacts in one's free time may also contribute to this socio-emotional strain (Rossi et al., 2020; Silveira et al., 2022).

In line with these arguments, there is also evidence for the importance of individual COVID-related attitudes for outgroup attitudes: Evidence from the UK and Ireland suggests that individual concerns about COVID-19 invigorate the authoritarian foundation of nationalism and anti-immigrant sentiments (Hartman et al., 2021). Similarly, Larsen and Schaeffer (2021) show that there are chauvinistic tendencies regarding immigrants and their COVID-19-related healthcare access in a survey experiment in Denmark.

In sum, the pandemic can lead to numerous challenges for individual social integration and cohesion, and disintegration theory suggests that these challenges bear heavily on a range of outgroup attitudes, including immigration attitudes.[16] In our view, the empirical record outlined above and the alignment of this concept to the pandemic's consequences both underline the usefulness of this concept for our study. However, since immigration also is a macro-level phenomenon and a political issue, we must turn to the question of whether and how immigration and COVID-19 can be linked together. We therefore now turn to the comparative part of our study.

3.4. Immigration and COVID-19 – an ambivalent relationship

Although the pandemic and immigration are international phenomena, the relationship between the former and attitudes towards immigration is not straightforward. We start with conventional threat-based models and then turn to more recent arguments relating to immigration's salience in media and public discourse, and recent empirical evidence regarding changes in policy

[16] It is important to note that our analysis is based primarily on concepts and arguments from sociology and political science and only to some extent social psychology. Our starting point is therefore focused on the broad consequences the pandemic has for individual-level every-day lives. In other disciplines such as public health, psychology, and related applied fields, concepts like germ aversion, pathogen avoidance, and various types of disease threats also provide useful starting points. However, these perspectives are focused more directly on the disease itself, rather than economic, social and emotional corollaries of interest to us (Ahorsu et al., 2022; Freitag & Hofstetter, 2022; Green et al., 2010; Mertens et al., 2021). Given our focus and the lack of such measures in our data, we cannot incorporate these concepts into our study.

agendas, public discourse and migration attitudes. As we shall see, both topics can be seen as competing for public, social and psychological attention.

A long tradition of research on contextual drivers of intergroup attitudes focuses on threat, conflict and scapegoating processes. For example, approaches like the group threat and realistic group conflict as well as the corresponding evidence (Blalock, 1967; Blumer, 1958; Ceobanu & Escandell, 2010; LeVine & Campbell, 1972; Quillian, 1995; Scheepers et al., 2002; Schneider, 2007; Semyonov et al., 2008) argue that crisis-like developments such as economic downturns and large-scale immigration have a threatening character that fosters negative outgroup attitudes.[17] This suggests that in countries with a particularly severe pandemic, immigrants will become a target of derogation (Politi et al., 2021). Pandemic strength in our sense refers to COVID-19-related deaths in the country, which is continuously reported on and can therefore be assumed to have significant societal salience. Furthermore, based on these threat-based approaches, we also account for the immigrant presence within the countries.

However, based on the nascent literature on the pandemic and its societal and political framing, this supposed relationship is not self-evident. Although the virus itself appears to have propagated across national boundaries primarily through international travels, migration defined as long-term movements does not figure strongly as a causal driver of the pandemic in public debates, with the notable exception of arguments put forward by far-right parties (Wondreys & Mudde, 2022).

A first point to note is that the extent of the pandemic should be much more present psychologically than immigration. This assertion derives from several theoretical approaches and some empirical evidence which suggest that immigration as a topic of public opinion depends to a considerable extent on its media coverage. It also derives from evidence that this topic is currently being overshadowed by the pandemic.

For example, due to their focus on the pandemic, the political arena and the media provide lower amounts of elite-based cueing regarding immigration (Hellwig & Kweon, 2016; Steenbergen et al., 2007). This implies a crowding-out of the topic of immigration in politics,

[17] Regarding immigrant presence on the macro level, based on the contact hypothesis (Allport, 1954; Pettigrew, 1998; Pettigrew & Tropp, 2006) one can posit that immigration can lead to more tolerant attitudes because of a familiarisation with and a normalisation of the migration issue. However, the occurrence of such an effect greatly depends on the analytical level (Weber, 2015), and evidence for such an effect on the country level appears limited to specific types of immigrants and immigration-related attitudes (Ceobanu & Escandell, 2010; Green, 2009; Heizmann, 2016).

as Knill and Steinebach (2022) have shown for the policy agenda in Germany. In this vein also, Dennison and Geddes (2020) suggest that the implication of the pandemic for the topic of immigration may be 'a period of 'quieter' immigration politics' (Dennison & Geddes, 2020, p. 1). There are similar arguments that COVID-19 has detrimental effects for far-right parties because of a decline in the salience of immigration as a political issue (Wondreys & Mudde, 2022).

The importance of such public cueing is evident in the analyses by Schlueter and Davidov (2013). They observe a close relationship between the presence of immigration as a news item and the development of negative migration-related sentiments, and there is similar evidence for Germany (Czymara & Dochow, 2018). Media coverage also is reflected in individual social media sentiment expressions, as Menshikova and van Tubergen (2022) show for Twitter users in the UK. Social media can therefore be seen to act as a multiplier.

As the space for issues in the public sphere is limited, whenever one topic such as COVID-19 gains strong salience, this will be at a cost for other topics like immigration, as exemplified by Boberg et al. (2020) and Quandt et al. (2020) who studied Facebook activity in Germany. They find immigration to be of comparatively lower salience (Boberg et al., 2020) or almost no salience (Quandt et al., 2020) due to a shift in focus towards the pandemic.

But also the psychological salience of the immigration issue appears to decline when new and complex crisis formations emerge. This is pertinent to our study, as immigration also is a complex issue that is not easily represented in citizens' minds (Hellwig & Kweon, 2016). For example, there are arguments and evidence for a limited capacity to simultaneously process several crisis phenomena (Sisco et al., 2020; E. U. Weber, 2006). A study based on Dutch panel data corroborates this line of reasoning, finding that anti-immigrant prejudice was lower during the pandemic than before (Reeskens et al., 2021), while there are studies conducted in earlier phases or on specific immigrant groups such as EU immigrants that find no such changes (Drouhot et al., 2021; Fernández-i-Marín et al., 2021).

However, investigating regional-level factors across six countries instead of country-level factors, Freitag and Hofstetter (2022) find that regional-level COVID deaths increase outgroup hostility. This is especially so for those reacting with anger, but for those reacting with fear, COVID deaths decrease outgroup hostility. While we cannot approach such psychological mechanisms, it is important to note that divergent geographic scales also imply divergent comparative perspectives and attendant within-country mechanisms. These in turn may well

lead to divergent results when both perspectives are taken simultaneously (e.g., H. Weber, 2015). Since we lack regional indicators, we can only speak to the country level of analysis. Nonetheless, our theoretical arguments and the attitudinal indicators we use are largely based on the national level, e.g. most of the media-based arguments presented above focus on the national frame rather than a regional or local one. Therefore, we argue that countries are an appropriate comparative focus for our research objectives.

In sum, the relationship between COVID-19 and migration-related attitudes has some ambiguities. As outlined above, conventional threat-based approaches lead us to the hypothesis that the severity of the pandemic is related positively to anti-immigrant attitudes, as we also expect for the individual-level factors of pandemic-related stressors. On the other hand, the unprecedented media presence of COVID-19 together with its rather tenuous direct relationship with immigration implies a sort of crowding-out of the immigration issue wherever the pandemic has a strong dynamic. The hypothesis that follows this rationale is that the severity of the pandemic is related negatively to anti-immigrant attitudes.[18]

3.5. Data and analytical approach

3.5.1. Data

The empirical analyses are based on an original cross-sectional online survey of the population in eleven European countries carried out between October and December 2020 (Katsanidou et al., 2021). The countries covered are Austria, France, Germany, Greece, Hungary, Italy, Netherlands, Poland, Spain, Sweden and the United Kingdom. The national field phase lengths vary from one to four weeks. A separate quota sample of 1000 respondents was drawn for each country based on a representative distribution for the characteristics age, gender and education. The data was collected by respondi.[19] Due to the cross-sectional nature of the data, we do not investigate the effect of within-country developments on attitudes towards immigrants. Our

[18] One reviewer suggested to investigate the labour market presence of immigrants in the health and care sectors or to approach potentially divergent infection and mortality rates for immigrants when compared to natives. While these are undoubtedly of interest, we would argue that they would require another article: Both would require extensive additional theorising beyond our scope, and some of the required data may not be readily available.
[19] https://www.respondi.com/.

analyses rather focus on how individual-level predictors and differences between countries relate to anti-immigrant attitudes.[20]

The survey is particularly well suited to address our research questions for three reasons. First, the survey was designed to cover the impact of the COVID-19 pandemic on the respondents' opinions, feelings and various aspects of everyday life. It furthermore includes several types of attitudes towards immigrants and pandemic-related stressors. Second, the comparative nature of the data enables us to investigate between-country differences in addition to individual-level explanatories of anti-immigrant attitudes. Third, the net field phases of all countries comprised November and December 2020. Due to this short field phase across countries, the country samples are comparable regarding the global stage of the pandemic.

3.5.2. Country-level variables

On the country level, we take into account the extent of the COVID-19 pandemic and the foreign-population share. We operationalized the overall extent of the COVID-19 pandemic via the total of all deaths in the country up to shortly before the interview date by including the totals derived from the preceding Saturday. We took the average of the figures published by the WHO[21] and Johns Hopkins University.[22] We calculated the COVID-19 death rate per 100.000 persons and used the per-country mean over the respective field phase. This results in one value per country, i.e. a two-level data structure. However, as detailed in the robustness checks section below, we will also run additional three-level models that use the weekly values. The information of the national foreign-population share was provided by Eurostat.[23] For better comparability, we min–max standardized both country-level variables to range from 0 to 1.[24]

[20] Although it would be of interest to investigate how general attitudes towards immigrants changed due to the pandemic, comparing cross-sectional data surveyed before and during the pandemic is a difficult undertaking. Due to the pandemic, many repeated cross-sectional surveys face major organisational and methodological challenges in their fieldwork (e.g. changing from face-to-face data collection to telephone-based interviews or online self-completion questionnaires); For individual-level panel data the situation is similar, with the added potential complication of changing attrition and mortality patterns (for an overview see the special issue in the journal Survey Research Methods (Kohler, 2020)). Finally, asking about the pandemic situation within the country would not make sense to respondents in pre-pandemic societies. Our second dependent variable and some predictor variables would therefore not be feasible to field in such a setting. While telephone surveys are less affected by the pandemic, we are not aware of a survey that provides the measures needed for our research questions while providing pre- and post-pandemic measurements (time points) across several countries.

[21] https://covid19.who.int/.

[22] https://ourworldindata.org/coronavirus-data-explorer.

[23] https://ec.europa.eu/eurostat/databrowser/view/tps00157/default/table?lang=en For the EU countries, we used the 2020 figures, whereas we used the 2019 figures for the UK.

[24] It would also be worthwhile to also investigate the macro-economic situation. However, given the recency of the data and the wide-ranging political compensations for the affected economies, such a perspective cannot be

3.5.3. Outcome variables

We have two dependent variables: the first refers to the general attitudes towards immigrants, the second variable refers to immigrant attitudes related to the current pandemic.

Our first dependent variable, perceived immigrant threat, was measured with three items asking respondents to rate to what extent they perceive immigrants as a cultural, economic or general threat. As an example, one question reads as follows: 'In general, would you say it is good or bad for the [country]'s economy when immigrants come here to live?' (answer categories range from 0 to 10). These three indicators mirror the respective measurements available in the European Social Survey.[25] We combined the three items to one factor ranging from 0 to 10, with higher factor scores indicating a higher perceived immigrant threat. The Cronbach's alpha of .9 indicates good reliability.

Our second dependent variable, blaming immigrants for the pandemic, was assessed by the question to what extent 'the development of the COVID-19 pandemic in [country] is caused by immigrants' (answer categories ranging from 0 'Not at all' to 10 'Completely'). Table A3.1 in the appendix presents the question wording and answer categories and Table A3.2 the unweighted descriptive statistics for the employed variables. As we can see, the second outcome variable exhibits notable skewness. About one-third of the respondents chose 'Not at all' as the answer category, and 50 percent chose category two or below (i.e. including 'Not at all'). However, all other categories are sufficiently populated. We dichotomize the variable at the median, which results in two similarly sized groups, but we also take several alternative approaches which are detailed in the robustness checks section below.

3.5.4. Explanatory variables

We include the pandemic's perceived effect on the respondents' socio-economic, political and emotional integration as predictors. Where feasible and expedient, we phrased the item in relation to the pandemic itself. For the socio-economic integration, respondents rated the pandemic threat for their financial situation on an 11-point Likert scale (0 'not threatening' to 10 'very threatening'). The pandemic's effect on the respondents' emotional integration was

feasibly integrated at the time of writing. For example, government programmes that counter immediate economic consequences may mask the real macro-economic consequences of this pandemic. These consequences will probably get visible only later on, so that we are currently not in a position to address this properly.

[25] https://www.europeansocialsurvey.org/.

measured with a question asking, 'to what extent have you felt lonely in the last week?' (1 'never or almost never', 2 'sometimes', 3 'mostly', 4 'always or almost always'). For this, we furthermore asked whether this was 'less often', 'equally often' or 'more often' than before the pandemic.[26] The respondents' political integration was measured with a question asking about the respondents' government trust (ranging from 1 'not at all' to 7 'fully trust') and political interest (1 'very interested', 2 'quite interested', 3 'not very interested' and 4 'not interested at all'). The perceived adequacy of the region's pandemic measures was measured with the question: Do you think the COVID-19 measures in your region are appropriate?' (1 'appropriate', 2 'somewhat appropriate', 3 'somewhat not appropriate', 4 'not at all appropriate').

We also took several control indicators related to the pandemic into account: the perceived pandemic threat to health, and to the future national situation. For the health-related indicator, respondents answered whether they are concerned about their relatives' health (0 'No' and 1 'Yes'). The perceived national threat was measured on a 5-point Likert scale, answering the question 'how much are you concerned about the future of [country] due to the COVID-19 pandemic?'.

Additionally, we controlled for the respondents' age, gender, education, standard of living, political orientation and we excluded foreign-born respondents. Our final data set comprises 6.561 respondents in 11 countries. For the question wordings, answer categories and descriptive statistics, please refer to Tables A3.1 and A4.2 in the appendix.

3.5.5. Analytic strategy and robustness checks

To take the hierarchical structure of the data into account (respondents nested in countries), we employ multilevel models. Due to the relatively small number of countries, we keep the second level of our model parsimonious. For each dependent variable, we run one model with the COVID-19 death rate as the level-2 variable (models M1a and M1b) and another model with the foreign-population share included as the level-2 variable (models M2a and M2b). The analyses of the metric dependent variable, general attitudes towards immigrants, are carried out via Restricted Maximum Likelihood (REML) multilevel modelling with appropriate

[26] In theory, one could field such an additional retrospective item for virtually all aspects. Restrictions on questionnaire length led us to the approach taken here: We asked for the pandemic effects directly where feasible, with the exception of feeling lonely, where it seemed important to augment measuring current loneliness with the corresponding pre-pandemic tendencies.

adjustments outlined by Elff et al. (2021). The analyses of the binary dependent variable, blaming the pandemic on immigrants, are carried out in the REML-like multi-level binary logit framework (ibid.).

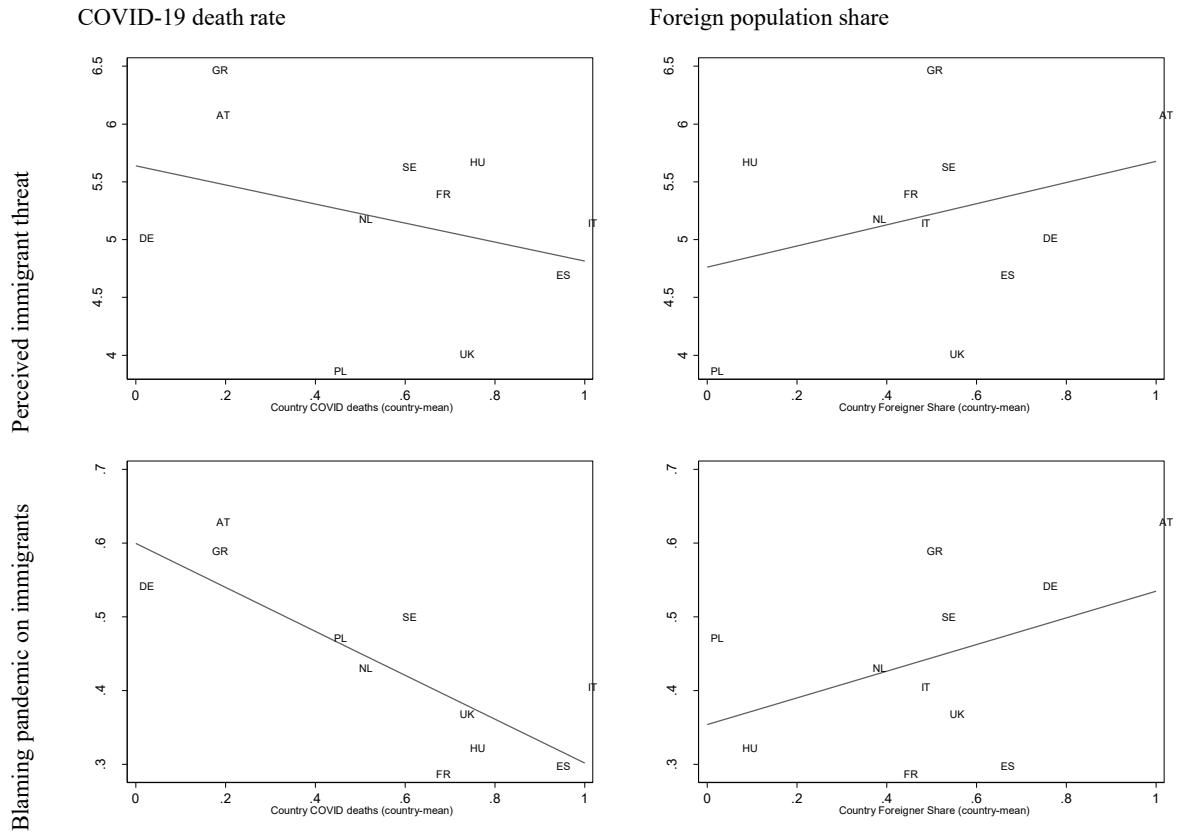
Due to the relatively small number of countries and the skewness of the second dependent variable, we performed several robustness checks. Please refer to the results section Robustness Checks for a detailed discussion of these additional checks. The findings of the additional checks are essentially the same as those of our main analyses presented below.

3.6. Empirical analyses

3.6.1. Descriptive results

We begin our investigation with a series of scatterplots on the country level. The upper-left graph in Figure 3.1 shows that the population in countries that are more affected by COVID-19 tends to feel slightly less threatened by immigrants. The lower-left graph shows the country-mean association between blaming the pandemic on immigrants and the national COVID-19 situation. We can see that blaming the COVID-19 pandemic on immigrants is less pronounced in countries that are more affected by the pandemic. This could be a first indication for the crowding-out effect described above: Due to the pandemic's severity, the migration issue is crowded out of the public debate and thus less salient. The graphs on the right-hand side show that the population in countries with a higher proportion of foreigners tends to more strongly perceive immigration as a threat and to blame immigrants for the pandemic, although both graphs suggest a less clear-cut relationship.

Figure 3.1. Scatterplots of anti-immigrant attitudes, COVID-19 death rates, and foreign-population share.



3.6.2. Multilevel results

We now turn to our findings based on the multilevel analyses. In columns 1 and 2 of Table 3.1, we show the models for perceived immigrant threat and in columns 3 and 4 for blaming the pandemic on immigrants. For better clarity and to focus on the key results, we show the results in Table 3.1 in abbreviated form; Table A3.3 in the appendix shows the results for the full models including all control variables.

We first turn to the effects of the disintegration dimensions. Regarding political disintegration, the results confirm that higher political trust in the government is strongly associated with lower anti-immigrant attitudes (b = –.21, SE = .02), but we find no evidence for an effect on blaming the pandemic on immigrants (average marginal effect (AME) = .01, SE = .00). For the second item related to the political disintegration, the respondents' political interest, we find statistically significant positive effects for both dependent variables.

Table 3.1. Multilevel results.

	Perceived immigrant threat[a]				Blaming the pandemic on immigrants			
	M1a		M2a		M1b		M2b	
	Coef.	SE	Coef.	SE	dy/dx[b]	SE	dy/dx[b]	SE
Individual-level variables								
COVID-19 measures *(Ref.: Appropriate)*								
Somewhat appropriate	-0.097	0.076	-0.097	0.076	0.035*	0.014	0.035*	0.014
Somewhat not appropriate	0.188	0.096	0.188	0.096	0.049**	0.018	0.049**	0.018
Not at all appropriate	0.399***	0.117	0.400**	0.117	0.009	0.022	0.009	0.022
Political trust in the government	-.214***	0.018	-.215***	0.018	0.005	0.003	0.005	0.003
General trust	-0.325***	0.045	-0.326***	0.045	-0.004	0.009	-0.005	0.009
Political interest *(Ref. Very interested)*								
Quite interested	0.436***	0.081	0.436***	0.081	0.016	0.015	0.016	0.015
Not very interested	0.744***	0.096	0.742***	0.096	0.090***	0.018	0.089***	0.018
Not at all interested	1.206***	0.160	1.204***	0.160	0.135***	0.031	0.134***	0.031
Feeling lonely *(Ref.: never or almost never)*								
Sometimes	-0.020	0.071	-0.020	0.071	0.033*	0.014	0.033*	0.013
Mostly	-0.234*	0.109	-0.233*	0.109	0.107***	0.021	0.106***	0.021
Always or almost always	-0.038	0.143	-0.037	0.143	0.030	0.027	0.029	0.027
Feeling lonely compared to pre-pandemic *(Ref.: less often)*								
Equally often	-0.037	0.069	-0.038	0.069	-0.002	0.013	-0.003	0.013
More often	-0.149	0.104	-0.151	0.104	0.033	0.020	0.031	0.020
Concern for family's health (Ref.: No)	0.023	0.077	0.024	0.077	-0.005	0.015	-0.005	0.015
COVID-19 threat for personal financial situation	-0.020	0.011	-0.020	0.011	0.016***	0.002	0.016***	0.002
COVID-19 threat for future of country	0.168***	0.033	0.167***	0.033	0.017**	0.006	0.016*	0.006
Country- level variables								
COVID-19 death rate (0/1)	-1.123	0.773			-0.345***	0.057		
Share of foreign population (0/1)			1.376	0.872			0.212	0.120
Intercept	5.531***	0.541	4.277***	0.545				
Random Effects								
Intercept Variance (country-level)	0.606	0.291	0.586	0.281				
Residual Variance	5.804	0.102	5.804	0.102				

Note. Models are based on 11 countries and 6,561 individuals; a: DF method: Satterthwaite, fit model via restricted maximum likelihood; b: Average marginal effects; Additional control variables: Age, sex, education, political orientation, standard of living; *p<0.05; **p<0.01; ***p<0.001.

Thus, political disintegration in the sense of losing interest in the political situation predicts a higher perception of immigrants as threatening (e.g. not at all politically interested vs. very politically interested: b = 1.21, SE = .16) and blaming the pandemic on them (e.g. not at all politically interested vs. very politically interested: AME = .14, SE = .03). Furthermore, perceiving the regional measures as appropriate to control the COVID-19 pandemic predicts perceived immigrant threat. Greater discontent with the political measures is positively related to stronger anti-immigrant attitudes (e.g. COVID-19 measures are not at all appropriate vs. appropriate: b = .40, SE = .12). The high coefficients for the political integration predictors indicate a relatively strong impact, especially on perceived immigrant threat. The coefficient estimates of the perceived emotional disintegration aspects are less clear. Whereas we find some evidence that feeling lonely predicts blaming immigrants for COVID-19, we find no or a reverse association with perceived immigrant threat. Further, people never and people always feeling lonely do not differ in their immigrant attitudes. We only find substantial differences in the middle categories. This finding may be explained by the fact that the group with the strongest loneliness is relatively small. There may also be further contravening social or psychological underpinnings of extensive loneliness and isolation that we cannot address with these data. These may explain why lonely persons are less likely to view immigration per se as a threat, while the same group is inclined to blame the pandemic on immigrants.

In a similar vein, we find that the perceived COVID-19 threat for one's financial situation does not statistically significantly increase the perception of immigrant threat (b = –.02, SE = .01), but is positively associated with blaming the pandemic on immigrants (AME = .02, SE = .00). At the same time, anticipating negative consequences for the country's future increases both immigrant threat (b = .17, SE = .03) and blaming (AME = .02, SE = .01).

In sum, the results regarding social disintegration suggest that primarily political (dis)integration is of high significance for immigration attitudes. However, issues of political and general trust are more relevant for general migration attitudes than for the blaming-immigrants item. Conversely, only the latter is decisively influenced by COVID-19's threat to the personal financial situation, and the effect of loneliness also is more extensive here. Taken together, this suggests that blaming immigrants is more strongly related to individual risk-based mechanisms while general immigration threat is better explained by perceptions of collective societal and political aspects. Furthermore, one curious result is that persons deeming the regional COVID-19 measures to be 'not at all appropriate' do not appear to blame the pandemic

on immigrants. A likely explanation is that these persons also may tend not to perceive the pandemic as a large problem per se, and therefore also tend not to blame it on immigrants.

To investigate differences in these anti-immigrant attitudes between countries, we now turn to the country-level results. First, we tested the impact of the foreign-population share on the perceived immigrant threat and blaming the pandemic on immigrants. However, this country-level effect on the two outcomes was not significant (see models M2a and M2b in Table 3.1 for both outcomes). We also investigated the implications of the severity of the COVID-19 pandemic for national differences in anti-immigrant attitudes (see models M1a and M1b). Whereas our results imply a negative association between the pandemic's severity and anti-immigrant attitudes for both outcomes (perceived immigrant threat: b = −1.12, SE = .77), the coefficient was only statistically significant for blaming the pandemic on immigrants (AME = −.35, SE = .06). This is in line with the graphical inspection of the scatter plots presented above, where this also was the most clear-cut relationship. However, in both cases, the negative coefficients speak strongly against the threat-based notion that the severity of COVID-19 as measured by us results in more negative attitudes towards immigration. Thus, our results suggest that the COVID-19 pandemic crowds out the immigration issue, rather than fostering negative public opinion on immigration.

3.6.3. Robustness checks

In addition to these analyses, we performed a series of robustness checks regarding the country-level variables. First, we made sure that our macro-level findings are not driven by a single country by re-running our models excluding one country at a time (Figures A3.1 to A4.4 in the appendix).[27] While for all variants there are instances where the relationship turns statistically significant, it is only the relationship between COVID-19 deaths and 'Blaming the pandemic on immigrants' that is consistently statistically significant across all country subsamples. These additional analyses suggest that this relationship is not driven by a single country, but robust across the various subsamples of countries. It is also robust against including the foreign-population share (Model A4).

Furthermore, we check the robustness of the country-level effects using Bayesian multilevel modelling with weakly informative priors (Gelman et al., 2008) (see Tables A3.5 to A4.8 in the

[27] To create the figures, we modified the Stata script for specification curves provided by Simonsohn, Simmons, and Nelson (2020).

appendix). The country-level results of the Bayesian multilevel models are similar to our results presented above: the results indicate no association between the foreign-population share and the two dependent variables (M2a: b = .14 Std. Dev = .09; M2b: b = .43 Std. Dev = .42). The model results again suggest that the severity of the COVID-19 pandemic is negatively associated with blaming the pandemic on immigrants (M1a: b = −.11 Std. Dev. = .10; M1b: b = −1.01 Std. Dev = .21). The aforementioned result for this indicator also is evident when looking at models based on extended quasi-likelihood (EQL) estimation presented in appendix Table A3.9. Finally, for both the Bayesian and the EQL models, the finding for COVID-19 deaths also does not change substantially when excluding individual countries (Tables A3.10 and A4.11 in the appendix).

We also investigated the association between COVID-19 deaths and anti-immigrant attitudes using the weekly figures of the COVID-19 deaths and applying a three-level model (6561 respondents nested in 33 country-weeks nested in 11 countries). The findings are essentially the same, which can be explained by the strong correlation of .97 of the weekly values and their averages (Table A3.12 in the appendix).

We further run additional models to check the robustness of our findings across different strategies to address the skewness of the second dependent variable ‘blaming the pandemic on immigrants’. First, we used the log- and the square-root transformation to alleviate the non-normality issue (Tables A3.13 and A4.14 in the appendix). We employed REML multilevel models for these additional models. Second, we rerun the analyses with the untransformed dependent variable using negative binomial models, as suggested by one Reviewer. Treating the outcome variable as a count variable may be problematic, since the data-generating process behind this attitudinal dimension arguably does not follow a count process, and the distribution also is somewhat bimodal regarding the midpoint of the scale. Nonetheless, we included this robustness check in our analysis (Table A3.15 in the online appendix). The results presented for these models also do not change the focal implications of our primary analysis. For the other indicators, the only exception is that the indicators for assessing the regional COVID-19 measures as appropriate are less significant for these three models. In sum, these additional analyses further support our conclusion that a more severe pandemic on the country level is associated with less blame being put on immigrants.

3.7. Discussion and conclusion

The COVID-19 pandemic has left a considerable mark on the everyday lives of people across the world. While the pandemic itself has moved to a stage of partially being kept at bay through vaccinations, the continuous emergence of new virus variants suggests that the pandemic is not over in summer 2022. This underlines that research on the societal repercussions of the pandemic still is of high relevance, also because some data collected during the pandemic are not available yet. With our study we were able to make two primary contributions to the nascent literature on this topic: Firstly, we shed light on the potential consequences of individual pandemic perceptions for attitudes towards immigrants, and secondly, our comparative database and approach made it possible to investigate country-level factors of the pandemic severity alongside immigrant presence.

Regarding the indicator of the COVID-19 pandemic being caused by immigration, the first issue to note is its skewed distribution. This already hints at the fact that the attitude measured here is of a somewhat extreme nature, which is in line with previous arguments and evidence mentioned above that suggests a rather tenuous connection between migration and COVID-19. However, the multivariate results are more clearly in line with the theoretical arguments formulated than is the case for conventional migration-related attitudes. This suggests that this is a particularly prejudicial indicator that is well-explained by the individual-level model presented above. It also suggests that the pandemic may have notable consequences for pandemic-related immigration attitudes beyond the ones we covered, and potentially also for other types of intergroup attitudes or solidarities. Nevertheless, we demonstrated that several aspects of the pandemic also have an impact on the more general question of perceived immigrant threat.

On the individual level, there is clear evidence that pandemic-related perceptions and appraisals are associated with both outcome variables, but with important variations. While viewing the pandemic as a threat to the country's future is important for both outcomes, issues of political and general trust are more important for general immigration threat perceptions. In contrast, individual aspects of emotional and socio-economic integration are only associated with blaming the pandemic on immigrants.

It thus appears that specific personal aspects of the pandemic activate a specific scapegoating mechanism of sorts, rather than resulting in an articulation of broad perceptions of threat. In

contrast, the assessments of politics as embodied by political trust and of the general trustworthiness of society refer to more distal aspects, which appear to be foundational for the broader issue of perceived immigrant threat. Put differently, distal measures overall are more important for the more general outcome, while the more proximate issues are overall more important for pandemic-related outcome. This pattern of relationships exemplifies how such a comparison of outcome variables enables additional insights especially when the empirical background setting is as novel as is the case with this pandemic.

On the country level, we find that the extent of the pandemic is related negatively only to the indicator of blaming the pandemic on immigration. The direction contradicts conventional approaches related to macro-level threats. Instead, it is in line with arguments and evidence from previous research we presented above which show that immigration as a topic largely has been displaced by the pandemic: Where the pandemic situation is most dire, the pandemic itself becomes the salient field of political action. Because these attitudes have been shown to be strongly affected by political, public and social media discourses, such a shift of attention away from immigration leads to comparatively favorable attitudes towards immigrants. In contrast, where the pandemic was less pernicious, blaming the pandemic on immigrants is more common. This seemingly contradicts the individual-level findings for pandemic-related perceptions, but it is important to bear in mind both result sets come from different analytical levels: At the individual level, immediate threats and the socio-emotional underpinnings thereof appear to be a profound stressor that increases negative attitudes towards immigrants, while on the country level, the pandemic eclipses the topic of immigration as a focus of societal attention.

An immediate limitation of the survey data employed is that it only includes 11 countries at one point in time so that we cannot draw firm causal conclusions. All our results, therefore, indicate correlative relations only. However, we sought to circumvent the issue of the low number of countries by performing numerous robustness checks. Based on these models and the graphical evidence regarding the country-level factors, the results strongly point towards a negative relationship between pandemic severity and blaming the pandemic on immigrants. Moreover, even if one remains skeptical regarding this substantive conclusion, it still appears highly unlikely that COVID-19 death rates are actually driving anti-immigrant sentiments, i.e. that there really is a positive relationship instead of the negative one visible above for the eleven countries investigated here. We argue that even this reduced and more cautious interpretation is an important country-level implication of our study that applies to both outcome variables. Furthermore, we could not address the potential roles of differences in government

compositions, political party positions and actual migration- or pandemic-related policies. We would argue that our controlling for the left-right-dimension at least captures a part of the country-level compositional variance of this dimension. Nonetheless, these factors clearly warrant a more direct approach in future research, once the respective macro-level data are available for a sufficient set of countries. Finally, with our data, we are not able to compare pre- and post-pandemic situations. This would be desirable in order to be on firmer ground regarding the causality of the reported individual-relationships and to investigate potential mediation mechanisms. It would also allow to separate more clearly long-term structural disintegration from situational pandemic-related changes in disintegration for all individual-level variables. We could only do this for a limited set of variables by asking about pandemic-related developments. However, as noted above, such an approach would entail additional conceptual and methodological challenges directly related to the pandemic situation, such as necessary item formulation deviations or divergent fieldwork procedures, or a pre-pandemic survey being incidentally pandemic-compatible while including the relevant items at all time points. To our knowledge, such a survey does not exist.

When taken together, the overall conclusion of our results is that the currently low salience of the immigration issue should not be taken as indicative of relaxed public opinion per se. On the country-level, there may well be a rebound once the pandemic is over or at least sufficiently contained. But even more urgent are the implications derived from our individual-level findings: It is evident that several pandemic-related factors are notably associated with negative attitudes towards immigrants despite the rather tenuous link between both. This exemplifies the divisive potential of the pandemic. This also constitutes a broad potential since it applies to individual perceptions in the form of economic fears, but also collective perspectives such as agreement to policies and worries about the future of the country. Future research should therefore apply a wide lens when it comes to societal consequences of the pandemic: It appears that marginalized groups can easily become scapegoats, and this may be true for many other social cleavages as well, as evidenced by the literature on the situation of Asian-Americans during the pandemic. A more policy-related implication is that officials should be keenly aware of the dangers inherent in the current situation, but also of the potentials of turning the collective threat of the pandemic into a collective source of inclusion (Vollhardt & Staub, 2011). The pandemic created a stress test for social cohesion that must not be left unchecked even when the pandemic itself may have subsided.

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3.9. Appendix

Table A3.1. Question wording and answer categories.

Variable	Question Wording	Answer categories
Blaming the pandemic on immigrants	How much do you think the COVID-19 pandemic in the [country] is caused by immigrants?	0 Not at all … 10 Completely
Perceived economic immigrant threat	Would you say it is generally bad or good for the [country]'s economy that people come to live here from other countries?	0 Bad for the economy … 10 Good for the economy
Perceived cultural immigrant threat	Still speaking generally, would you say that the [country]‘s cultural life is generally undermined or enriched by people coming to live here from other countries?	0 Cultural life is undermined … 10 Cultural life is enriched
Perceived general immigrant threat	Still generally speaking, is the [country] made a worse or a better place to live by people coming to live here from other countries?	0 Made a worse place to live … 10 Made a better place to live
Gender	What is your gender?	1 Male 2 Female 3 Diverse
Age	How old are you?	
Political Orientation: left-right scale	In politics one sometimes speaks of “left“ and “right“. Where on the scale would you rate yourself if 0 stood for “left” and 10 for “right”?	0 Left … 10 Right
Political trust in the government	How much do you trust the following political institutions?	1 Not at all … 7 Fully trust
General trust	Please indicate the extent to which you agree with the following statement: In general, people can be trusted.	1 Strongly disagree 2 Disagree 3 Agree 4 Strongly agree
Political interest *(Ref. Very interested)*	How interested are you in politics?	1 Very interested 2 Quite interested 3 Not very interested 4 Not interested at all
COVID-19 measures	Do you think that the measures taken in the region where you live are appropriate to control COVID-19?	1 Appropriate 2 Somewhat appropriate 3 Somewhat not appropriate 4 Not at all appropriate
COVID-19 threat for future of country	And how concerned are you about the future of the [country] because of the COVID-19 pandemic?	1 Very concerned 2 Concerned 3 Somewhat concerned 4 Not very concerned 5 Not at all concerned
Feeling lonely	To what extent have you felt lonely in the last week?	1 Never or almost never 2 Sometimes

Variable	Question Wording	Answer categories
		3 Mostly 4 Always or almost always
Feeling lonely compared to pre-pandemic	If you think of a typical week before the pandemic, would you say that you felt lonely less often, equally often or more often back then?	1 Less often 2 Equally often 3 More often
Household's standard of living	All in all, what is the standard of living in your household? Please answer on a scale from 1 to 7. How do you rate your household?	1 Poor household … 7 Rich household
COVID-19 threat for personal financial situation	People perceive the danger of the COVID-19 virus very differently. Please indicate: how threatening is the pandemic for your own financial situation?	0 Not threatening at all … 10 Very threatening

Table A3.2. Descriptive statistics.

	Mean/ Share	SD	Min.	Max.
Dependent variables				
Perceived immigrant threat	5.243	2.862	0	10
Blaming the pandemic on immigrants (Dummy)	0.442	0.497	0	1
Blaming the pandemic on immigrants	2.920	3.086	0	10
Individual-level variables				
COVID-19 measures				
Appropriate (Ref.)	0.263	0.440	0	1
Somewhat appropriate	0.448	0.497	0	1
Somewhat not appropriate	0.186	0.389	0	1
Not at all appropriate	0.103	0.305	0	1
Political trust in the government	3.589	1.959	1	7
General trust	2.567	0.693	1	4
Political Interest				
Very interested (Ref.)	0.194	0.396	0	1
Quite interested	0.520	0.500	0	1
Not very interested	0.240	0.427	0	1
Not interested at all	0.045	0.208	0	1
Feeling lonely				
Never or almost never (Ref.)	0.485	0.500	0	1
Sometimes	0.357	0.479	0	1
Mostly	0.105	0.307	0	1
Always or almost always	0.054	0.225	0	1
Feeling lonely compared to pre-pandemic				
Less often (Ref.)	0.388	0.487	0	1
Equally often	0.497	0.500	0	1
More often	0.115	0.319	0	1
Perceived COVID-19 threat: financial situation	5.182	2.997	0	10
Perceived COVID-19 threat: future of country	2.693	1.039	0	4
Control variables				
Concerned about family health (Ref. Not concerned)	0.759	0.428	0	1
Male (Ref.: Female)	0.541	0.498	0	1
Age	44.671	14.200	18	69
Educational Attainment				
ISCED <=1	0.019	0.136	0	1
ISCED 2 (Ref.)	0.103	0.303	0	1
ISCED 3	0.489	0.500	0	1
ISCED 4	0.074	0.261	0	1
ISCED >=5	0.313	0.464	0	1
Other	0.003	0.054	0	1
Political orientation: Left-Right-Scale	5.108	2.539	0	10
Household‘s standard of living	4.028	1.257	1	7
Country-level variables				
Weekly COVID-19 deaths (per 100k): country-mean	63.435	28.958	14.286	107.000
Share of foreign population	8.512	4.192	0.944	16.561

Note. 6,561 individuals.

Table A3.3. Multilevel results M1a, M1b, M2a, M2b – full models.

	Perceived immigrant threat[a]				Blaming the pandemic on immigrants			
	M1a		M2a		M1b		M2b	
	Coef.	SE	Coef.	SE	dy/dx[b]	SE	dy/dx[b]	SE
Individual-level variables								
Gender (Ref.: female)	-0.037	0.062	-0.037	0.062	-0.000	0.012	-0.001	0.012
Age	0.074***	0.011	0.074***	0.011	-0.004	0.002	-0.004	0.002
Education *(Ref. ISCED 2)*								
ISCED <=1	0.3997	0.238	0.397	0.238	-0.001	0.045	-0.002	0.045
ISCED 3	-0.348**	0.106	-0.344**	0.106	-0.076***	0.020	-0.074***	0.021
ISCED 4	-0.649***	0.148	-0.645***	0.148	-0.123***	0.028	-0.121***	0.028
ISCED>=5	-0.771***	0.111	-0.768***	0.111	-0.162***	0.022	-0.159***	0.022
Other	-0.4198	0.563	-0.418	0.563	-0.073	0.108	-0.072	0.108
Political Orientation	0.426***	0.012	0.426***	0.012	0.045***	0.002	0.045***	0.002
Standard of living	-0.253***	0.027	-0.253***	0.027	0.015**	0.005	0.014**	0.005
COVID-19 measures *(Ref.: Appropriate)*								
Somewhat appropriate	-0.097	0.076	-0.097	0.076	0.035*	0.014	0.035*	0.014
Somewhat not appropriate	0.188	0.096	0.188	0.096	0.049**	0.018	0.049**	0.018
Not at all appropriate	0.399***	0.117	0.400**	0.117	0.009	0.022	0.009	0.022
Political trust in the government	-.214***	0.018	-.215***	0.018	0.005	0.003	0.005	0.003
General trust	-0.325***	0.045	-0.326***	0.045	-0.004	0.009	-0.005	0.009
Political interest *(Ref. Very interested)*								
Quite interested	0.436***	0.081	0.436***	0.081	0.016	0.015	0.016	0.015
Not very interested	0.744***	0.096	0.742***	0.096	0.09***	0.018	0.09***	0.018
Not at all interested	1.206***	0.160	1.204***	0.160	0.135***	0.031	0.134***	0.031
Feeling lonely *(Ref.: never or almost never)*								
Sometimes	-0.020	0.071	-0.0199	0.071	0.033*	0.014	0.033*	0.013
Mostly	-0.234*	0.109	-0.233*	0.109	0.107***	0.021	0.106***	0.021
Always or almost always	-0.038	0.143	-0.037	0.143	0.03	0.027	0.029	0.027
Feeling lonely compared to pre-pandemic *(Ref.: less often)*								
Equally often	-0.037	0.069	-0.038	0.069	-0.002	0.013	-0.003	0.013
More often	-0.149	0.104	-0.151	0.104	0.033	0.02	0.032	0.02
Concern for family's health (Ref.: No)	0.023	0.077	0.024	0.077	-0.005	0.015	-0.005	0.015
COVID-19 threat for personal financial situation	-0.020	0.011	-0.0196	0.011	0.016***	0.002	0.016***	0.002
COVID-19 threat for future of country	0.168***	0.033	0.167***	0.033	0.017**	0.006	0.016*	0.006
Country- level variables								
COVID-19 death rate (0/1)	-1.123	0.773			-0.345***	0.057		
Share of foreign population (0/1)			1.376	0.872			0.212	0.12
Intercept	5.531***	0.541	4.277***	0.545				
Random Effects								
Intercept Variance (country-level)	0.606	0.291	0.586	0.281				
Residual Variance	5.804	0.102	5.804	0.102				

Note. Models are based on 11 countries and 6,561 individuals; a: DF method: Satterthwaite, fit model via restricted maximum likelihood; b: Average marginal effects; **p<0.05; **p<0.01; ***p<0.001*.

Table A3.4. Multilevel results: COVID-19 death rates and share of foreign population.

	Perceived immigrant threat[a]		Blaming the pandemic on immigrants	
	M3a		M3b	
	Coef.	SE	dy/dx[b]	SE
Individual-level variables				
Gender (Ref.: female)	-.037	.062	-.001	.012
Age	.074***	.011	-.004	.002
Education *(Ref. ISCED 2)*				
ISCED <=1	.398	.238	-.003	.045
ISCED 3	-.346**	.106	-.075***	.021
ISCED 4	-.647***	.148	-.122***	.028
ISCED>=5	-.769***	.111	-.161***	.022
Other	-.419	.563	-.072	.108
Political Orientation	.426***	.012	.045***	.002
Standard of living	-.253***	.027	.015**	.005
COVID-19 measures *(Ref.: Appropriate)*				
Somewhat appropriate	-.096	.076	.036*	.015
Somewhat not appropriate	.188	.097	.0498**	.019
Not at all appropriate	.400**	.117	.0099	.022
Political trust in the government	-.215***	.018	.005	.003
General trust	-.326***	.045	-.004	.009
Political interest *(Ref. Very interested)*				
Quite interested	.436***	.081	.016	.016
Not very interested	.743***	.096	.09***	.018
Not at all interested	1.205***	.160	.134***	.031
Feeling lonely *(Ref.: never or almost never)*				
Sometimes	-.020	.071	.033*	.014
Mostly	-.233*	.109	.107***	.021
Always or almost always	-.038	.143	.03	.027
Feeling lonely compared to pre-pandemic *(Ref.: less often)*				
Equally often	-.037	.069	-.002	.013
More often	-.149	.104	.033	.0198
Concern for family's health (Ref.: No)	.024	.077	-.004	.015
COVID-19 threat for personal financial situation	-.020	.011	.016***	.002
COVID-19 threat for future of country	.167***	.033	.016*	.006
Country- level variables				
COVID-19 death rate (0/1)	-.820	.802	-.318***	.056
Share of foreign population (0/1)	1.070	.919	.095	.068
Intercept	4.858***	.786		
Random Effects				
Intercept Variance (country-level)	.583	.297		
Residual Variance	5.804	.102		

Note. Models are based on 11 countries and 6,561 individuals; a: DF method: Satterthwaite, fit model via restricted maximum likelihood; b: Average marginal effects; *p<0.05; **p<0.01; ***p<0.001.

Table A3.5. Bayesian multilevel results: M1a - Perceived immigrant threat.

Perceived immigrant threat	Mean	Std. Dev.	MCSE	Median	Equal-tailed [95% Cred. Interval]	
Sex (Ref.: female)	-0.007	0.011	0.001	-0.007	-0.029	0.014
Age	**0.072**	0.011	0.000	0.072	0.051	0.093
Education *(Ref. ISCED 2)*						
ISCED <=1	0.069	0.042	0.001	0.069	-0.013	0.151
ISCED 3	**-0.061**	0.019	0.000	-0.061	-0.098	-0.025
ISCED 4	**-0.113**	0.026	0.001	-0.113	-0.164	-0.062
ISCED>=5	**-0.135**	0.019	0.001	-0.135	-0.173	-0.097
Other	-0.076	0.102	0.004	-0.074	-0.277	0.121
Political Orientation	**0.378**	0.011	0.000	0.378	0.357	0.399
Standard of living	**-0.111**	0.012	0.001	-0.111	-0.135	-0.087
Political interest *(Ref. Very interested)*						
Quite interested	**0.076**	0.015	0.001	0.076	0.047	0.104
Not very interested	**0.129**	0.017	0.001	0.129	0.096	0.165
Not at all interested	**0.210**	0.029	0.001	0.210	0.153	0.266
COVID-19 measures *(Ref.: Appropriate)*						
Somewhat appropriate	-0.017	0.013	0.000	-0.017	-0.043	0.009
Somewhat not appropriate	0.033	0.017	0.000	0.033	-0.001	0.065
Not at all appropriate	**0.069**	0.021	0.000	0.070	0.029	0.110
Political trust in the government	**-0.147**	0.012	0.000	-0.147	-0.171	-0.123
General trust	**-0.079**	0.011	0.000	-0.079	-0.100	-0.058
Feeling lonely *(Ref.: never or almost never)*						
Sometimes	-0.004	0.012	0.000	-0.004	-0.028	0.020
Mostly	**-0.041**	0.019	0.000	-0.041	-0.077	-0.003
Always or almost always	-0.007	0.025	0.001	-0.007	-0.056	0.042
Feeling lonely compared to pre-pandemic *(Ref.: less often)*						
Equally often	-0.007	0.012	0.000	-0.007	-0.030	0.017
More often	-0.026	0.018	0.000	-0.026	-0.061	0.010
Concern for family's health (Ref.: No)	0.004	0.014	0.000	0.004	-0.022	0.031
COVID-19 threat for personal financial situation	-0.020	0.012	0.000	-0.020	-0.044	0.003
COVID-19 threat for future of country	**0.061**	0.012	0.000	0.061	0.037	0.085
COVID-19 death rate	-0.114	0.096	0.010	-0.111	-0.323	0.067
_cons	**-0.007**	0.045	0.005	-0.008	-0.097	0.079
var_0	**5.744**	4.174	1.166	5.919	0.007	12.456
var_country	**0.302**	0.575	0.148	0.050	0.001	2.055
Intercept Variance (country-level)	**0.026**	0.015	0.000	0.022	0.010	0.066
Residual Variance	**0.177**	0.003	0.000	0.177	0.171	0.183

Note. Boldface coefficients indicate that the 95% credible intervals do not include zero. Models are based on 11 countries and 6,561 individuals.

Table A3.6. Bayesian multilevel results: M2a - Perceived immigrant threat.

Perceived immigrant threat	Mean	Std. Dev.	MCSE	Median	Equal-tailed [95% Cred. Interval]	
Sex (Ref.: female)	-0.007	0.011	0.000	-0.006	-0.028	0.015
Age	**0.072**	0.011	0.000	0.072	0.051	0.094
Education *(Ref. ISCED 2)*						
ISCED <=1	0.071	0.042	0.002	0.071	-0.012	0.151
ISCED 3	**-0.060**	0.019	0.001	-0.060	-0.097	-0.023
ISCED 4	**-0.113**	0.026	0.001	-0.113	-0.164	-0.061
ISCED>=5	**-0.135**	0.020	0.001	-0.135	-0.173	-0.096
Other	-0.071	0.102	0.008	-0.072	-0.273	0.131
Political Orientation	**0.378**	0.011	0.000	0.378	0.358	0.399
Standard of living	**-0.111**	0.012	0.000	-0.111	-0.134	-0.089
Political interest *(Ref. Very interested)*						
Quite interested	**0.076**	0.014	0.001	0.076	0.049	0.102
Not very interested	**0.130**	0.017	0.001	0.130	0.097	0.162
Not at all interested	**0.209**	0.028	0.001	0.209	0.155	0.264
COVID-19 measures *(Ref.: Appropriate)*						
Somewhat appropriate	-0.017	0.013	0.000	-0.017	-0.043	0.010
Somewhat not appropriate	**0.033**	0.017	0.000	0.033	0.000	0.066
Not at all appropriate	**0.070**	0.021	0.000	0.070	0.030	0.110
Political trust in the government	**-0.147**	0.012	0.000	-0.147	-0.171	-0.124
General trust	**-0.079**	0.011	0.000	-0.079	-0.100	-0.057
Feeling lonely *(Ref.: never or almost never)*						
Sometimes	-0.003	0.012	0.000	-0.003	-0.027	0.020
Mostly	**-0.040**	0.019	0.000	-0.040	-0.078	-0.004
Always or almost always	-0.007	0.025	0.001	-0.007	-0.054	0.044
Feeling lonely compared to pre-pandemic *(Ref.: less often)*						
Equally often	-0.007	0.012	0.000	-0.007	-0.030	0.017
More often	-0.026	0.018	0.000	-0.026	-0.062	0.010
Concern for family's health (Ref.: No)	0.004	0.013	0.000	0.004	-0.022	0.030
COVID-19 threat for personal financial situation	-0.021	0.012	0.000	-0.021	-0.044	0.003
COVID-19 threat for future of country	**0.060**	0.012	0.000	0.060	0.037	0.084
Share of foreign population	0.139	0.085	0.008	0.138	-0.024	0.312
_cons	-0.010	0.052	0.008	-0.007	-0.132	0.088
var_0	**5.741**	4.171	1.166	5.919	0.007	12.426
var_country	**0.302**	0.575	0.148	0.050	0.001	2.055
Intercept Variance (country-level)	**0.026**	0.016	0.001	0.021	0.009	0.068
Residual Variance	**0.177**	0.003	0.000	0.177	0.171	0.183

Note. Boldface coefficients indicate that the 95% credible intervals do not include zero. Models are based on 11 countries and 6,561 individuals.

Table A3.7. Bayesian multilevel results: M1b - Blaming the pandemic on immigrants.

Blaming the pandemic on immigrants	Mean	Std. Dev.	MCSE	Median	Equal-tailed [95% Cred. Interval]	
Sex (Ref.: female)	-0.005	0.056	0.002	-0.004	-0.119	0.105
Age	-0.094	0.056	0.002	-0.093	-0.203	0.015
Education *(Ref. ISCED 2)*						
ISCED <=1	0.020	0.204	0.011	0.016	-0.382	0.421
ISCED 3	**-0.347**	0.096	0.002	-0.347	-0.533	-0.164
ISCED 4	**-0.572**	0.135	0.004	-0.570	-0.842	-0.311
ISCED>=5	**-0.754**	0.101	0.002	-0.753	-0.951	-0.559
Other	-0.294	0.494	0.024	-0.284	-1.291	0.672
Political Orientation	**1.089**	0.059	0.001	1.089	0.972	1.205
Standard of living	**0.169**	0.061	0.003	0.169	0.049	0.286
Political interest *(Ref. Very interested)*						
Quite interested	0.076	0.075	0.002	0.077	-0.073	0.222
Not very interested	**0.422**	0.086	0.002	0.425	0.252	0.586
Not at all interested	**0.635**	0.145	0.004	0.635	0.347	0.923
COVID-19 measures *(Ref.: Appropriate)*						
Somewhat appropriate	**0.168**	0.069	0.001	0.168	0.028	0.302
Somewhat not appropriate	**0.235**	0.090	0.002	0.235	0.058	0.412
Not at all appropriate	0.040	0.108	0.002	0.041	-0.173	0.246
Political trust in the government	0.092	0.062	0.001	0.092	-0.028	0.215
General trust	-0.027	0.056	0.001	-0.027	-0.135	0.083
Feeling lonely *(Ref.: never or almost never)*						
Sometimes	**0.155**	0.064	0.002	0.155	0.025	0.280
Mostly	**0.499**	0.096	0.002	0.498	0.310	0.688
Always or almost always	0.138	0.126	0.003	0.138	-0.107	0.387
Feeling lonely compared to pre-pandemic *(Ref.: less often)*						
Equally often	-0.009	0.062	0.001	-0.010	-0.134	0.112
More often	0.156	0.093	0.002	0.156	-0.029	0.340
Concern for family's health (Ref.: No)	-0.022	0.070	0.001	-0.021	-0.159	0.117
COVID-19 threat for personal financial situation	**0.459**	0.063	0.001	0.459	0.334	0.582
COVID-19 threat for future of country	**0.164**	0.062	0.001	0.163	0.041	0.285
COVID-19 death rate	**-1.008**	0.214	0.010	-1.013	-1.426	-0.567
_cons	**-0.281**	0.102	0.006	-0.282	-0.482	-0.078
var_0	**6.205**	9.331	2.401	.721	0.002	29.212
var_country	**49.338**	87.605	14.206	3.016	0.005	301.914
Intercept Variance (country-level)	**0.126**	0.083	0.002	0.105	0.042	0.328

Note. Boldface coefficients indicate that the 95% credible intervals do not include zero. Models are based on 11 countries and 6,561 individuals.

Table A3.8. Bayesian multilevel results: M2b - Blaming the pandemic on immigrants.

Blaming the pandemic on immigrants	Mean	Std. Dev.	MCSE	Median	Equal-tailed [95% Cred. Interval]	
Sex (Ref.: female)	-0.005	0.059	0.004	-0.004	-0.121	0.107
Age	-0.094	0.055	0.002	-0.094	-0.199	0.015
Education *(Ref. ISCED 2)*						
ISCED <=1	-0.002	0.208	0.011	0.001	-0.415	0.404
ISCED 3	**-0.343**	0.095	0.004	-0.342	-0.528	-0.158
ISCED 4	**-0.565**	0.136	0.004	-0.565	-0.830	-0.302
ISCED>=5	**-0.746**	0.101	0.003	-0.745	-0.946	-0.549
Other	-0.306	0.495	0.027	-0.309	-1.285	0.671
Political Orientation	**1.090**	0.058	0.001	1.090	0.975	1.204
Standard of living	**0.171**	0.061	0.003	0.170	0.056	0.291
Political interest *(Ref. Very interested)*						
Quite interested	0.079	0.075	0.002	0.078	-0.069	0.225
Not very interested	**0.426**	0.087	0.003	0.425	0.260	0.600
Not at all interested	**0.632**	0.146	0.004	0.630	0.348	0.921
COVID-19 measures *(Ref.: Appropriate)*						
Somewhat appropriate	**0.165**	0.069	0.001	0.165	0.028	0.301
Somewhat not appropriate	**0.231**	0.089	0.002	0.230	0.058	0.407
Not at all appropriate	0.036	0.106	0.002	0.034	-0.175	0.245
Political trust in the government	0.088	0.062	0.002	0.088	-0.033	0.209
General trust	-0.031	0.057	0.001	-0.031	-0.142	0.081
Feeling lonely *(Ref.: never or almost never)*						
Sometimes	**0.159**	0.063	0.001	0.160	0.039	0.283
Mostly	**0.500**	0.098	0.002	0.500	0.304	0.692
Always or almost always	0.139	0.127	0.002	0.137	-0.114	0.387
Feeling lonely compared to pre-pandemic *(Ref.: less often)*						
Equally often	-0.014	0.063	0.002	-0.014	-0.135	0.110
More often	0.150	0.091	0.001	0.148	-0.029	0.329
Concern for family's health (Ref.: No)	-0.022	0.069	0.001	-0.023	-0.157	0.112
COVID-19 threat for personal financial situation	**0.459**	0.062	0.001	0.459	0.336	0.584
COVID-19 threat for future of country	**0.159**	0.063	0.001	0.160	0.035	0.286
Share of foreign population	0.434	0.418	0.040	0.446	-0.441	1.285
_cons	-0.304	0.185	0.016	-0.304	-0.688	0.048
var_0	**2.107**	4.086	.751	175	0.002	14.852
var_country	**28.827**	60.832	9.512	1.047	0.002	231.989
Intercept Variance (country-level)	**0.416**	0.272	0.011	0.347	0.146	1.117

Note. Boldface coefficients indicate that the 95% credible intervals do not include zero. Models are based on 11 countries and 6,561 individuals.

Table A3.9. Multilevel results EQL: M1b, M2b - Blaming the pandemic on immigrants.

Blaming the pandemic on immigrants	M1b		M2b	
	Coef.	SE	Coef.	SE
Sex (Ref.: female)	-0.002	0.062	-0.002	0.062
Age	-0.017	0.011	-0.017	0.011
Education *(Ref. ISCED 2)*				
ISCED <=1	-0.006	0.232	-0.008	0.232
ISCED 3	-0.352***	0.106	-0.342**	0.106
ISCED 4	-0.575***	0.148	-0.567***	0.148
ISCED>=5	-0.7599***	0.112	-0.747***	0.112
Other	-0.338	0.555	-0.333	0.555
Political Orientation	0.213***	0.013	0.214***	0.013
Standard of living	0.070**	0.027	0.068*	0.027
Political interest *(Ref. Very interested)*				
Quite interested	0.078	0.082	0.078	0.082
Not very interested	0.424***	0.096	0.422***	0.096
Not at all interested	0.634***	0.160	0.629***	0.160
COVID-19 measures *(Ref.: Appropriate)*				
Somewhat appropriate	0.169*	0.076	0.166*	0.076
Somewhat not appropriate	0.233*	0.097	0.231*	0.097
Not at all appropriate	0.045	0.118	0.041	0.118
Political trust in the government	0.024	0.018	0.023	0.018
General trust	-0.018	0.045	-0.022	0.045
Feeling lonely *(Ref.: never or almost never)*				
Sometimes	0.156*	0.071	0.157*	0.071
Mostly	0.500***	0.109	0.500***	0.109
Always or almost always	0.140	0.142	0.138	0.142
Feeling lonely compared to pre-pandemic *(Ref.: less often)*				
Equally often	-0.009	0.069	-0.014	0.069
More often	0.157	0.103	0.149	0.103
Concern for family's health (Ref.: No)	-0.022	0.076	-0.022	0.077
COVID-19 threat for personal financial situation	0.077***	0.012	0.077***	0.011
COVID-19 threat for future of country	0.079*	0.033	0.076*	0.033
COVID-19 death rate (0/1)	-1.633***	0.323		
Share of foreign population (0/1)			1.010	0.643
Intercept	-1.582***	0.328	-2.913***	0.446

Note. Logit coefficients (AMEs not available). Models are based on 11 countries and 6,561 individuals; *p<0.05; **p<0.01; ***p<0.001;

Table A3.10. Bayesian multilevel results: M2b - Blaming the pandemic on immigrants, effect of COVID-19 death rate after excluding individual countries.

	Effect of COVID-19 death rates					
Excluded Country	Mean	Std. Dev.	MCSE	Median	Equal-tailed [95% Cred. Interval]	
Hungary	**-1.019**	0.269	0.019	-1.024	-1.511	-0.486
Spain	**-0.946**	0.269	0.016	-0.947	-1.484	-0.407
Sweden	**-1.066**	0.229	0.012	-1.073	-1.500	-0.601
Poland	**-1.057**	0.285	0.022	-1.064	-1.600	-0.424
Netherlands	**-1.066**	0.262	0.014	-1.072	-1.565	-0.509
Italy	**-1.085**	0.223	0.011	-1.085	-1.559	-0.648
Greece	**-0.999**	0.280	0.020	-0.996	-1.557	-0.439
Austria	**-0.911**	0.228	0.012	-0.911	-1.376	-0.470
France	**-1.015**	0.215	0.014	-1.009	-1.487	-0.591
United Kingdom	**-1.036**	0.262	0.016	-1.040	-1.549	-0.522
Germany	**-0.976**	0.275	0.018	-0.987	-1.502	-0.420

Note. Boldface coefficients indicate that the 95% credible intervals do not include zero.

Table A3.11. Multilevel results EQL: M2b - Blaming the pandemic on immigrants, effect of COVID-19 death rate after excluding individual countries.

	Effect of COVID-19 death rates	
Excluded Country	Coef.	SE
Hungary	-1.592***	0.339
Spain	-1.602***	0.369
Sweden	-1.654***	0.307
Poland	-1.637***	0.344
Netherlands	-1.640***	0.338
Italy	-1.861***	0.353
Greece	-1.624***	0.368
Austria	-1.465***	0.334
France	-1.552***	0.262
United Kingdom	-1.633***	0.350
Germany	-1.782***	0.402

Note: Logit coefficients (AMEs not available). *p<0.05; **p<0.01; ***p<0.001.

Table A3.12. Multilevel results: M1a, M2a, M1b, M2b - 3-level models.

	Perceived immigrant threat[a]				Blaming the pandemic on immigrants			
	M1a		M2a		M1b		M2b	
	Coef.	SE	Coef.	SE	dy/dx[b]	SE	dy/dx[b]	SE
Individual-level variables								
Gender (Ref.: female)	-.0399	.062	-.041	.062	.000	.012	-.000	.012
Age	.07***	.011	.0697***	.011	-.004	.002	-.004	.002
Education *(Ref. ISCED 2)*								
ISCED <=1	.396	.238	.394	.238	-.000	.046	-.000	.045
ISCED 3	-.354**	.106	-.351**	.106	-.078***	.021	-.075***	.021
ISCED 4	-.631***	.148	-.630***	.148	-.119***	.029	-.117***	.029
ISCED>=5	-.773***	.112	-.772***	.112	-.161***	.022	-.158***	.022
Other	-.395	.562	-.398	.562	-.069	.109	-.069	.108
Political Orientation	.425***	.012	.425***	.012	.045***	.002	.045***	.002
Standard of living	-.254***	.027	-.254***	.027	.015**	.005	.014**	.005
COVID-19 measures *(Ref.: Appropriate)*								
Somewhat appropriate	-.093	.076	-.094	.076	.035*	.015	.033*	.015
Somewhat not appropriate	.196*	.097	.196*	.097	.049**	.019	.048*	.019
Not at all appropriate	.3997**	.117	.399**	.117	.008	.023	.007	.022
Political trust in the government	-.215***	0.018	-.215***	0.018	.005	.003	.005	.003
General trust	-.326***	0.045	-.327***	0.045	-.003	.009	-.004	.009
Political interest *(Ref. Very interested)*								
Quite interested	.438***	.081	.437***	.081	.017	.016	.017	.015
Not very interested	.743***	.096	.741***	.096	.093***	.019	.092***	.019
Not at all interested	1.201***	.160	1.198***	.160	.138***	.031	.136***	.031
Feeling lonely *(Ref.: never or almost never)*								
Sometimes	-.019	0.071	-.019	0.071	.033*	.014	.033*	.014
Mostly	-.234*	0.109	-.233*	0.109	.107***	.021	.106***	.021
Always or almost always	-.039	0.142	-.039	0.142	.0297	.027	.029	.027
Feeling lonely compared to pre-pandemic *(Ref.: less often)*								
Equally often	-.037	.069	-.038	.069	-.003	.013	-.004	.013
More often	-.148	.104	-.148	.104	.032	.0199	.031	.0198
Concern for family's health (Ref.: No)	.025	.077	.026	.077	-.003	.015	-.004	.015
COVID-19 threat for personal financial situation	-.0195	.011	-.019	.011	.016***	.002	.016***	.002
COVID-19 threat for future of country	.1695***	.033	.169***	.033	.016*	.006	.016*	.006
Country-week- level variables								
COVID-19 death rate (0/1)	-.882	.66			-.319***	.06		
Country- level variables								
Share of foreign population (0/1)			1.288	0.872			.191	.116
Intercept	5.407***	.483	4.346***	.545				
Random Effects								
Intercept Variance (country-level)	.565	.275	.567	.281				
Intercept Variance (country-week-level)	.048	.031	.042	.0297				
Residual Variance	5.787	0.102	5.788	.102				

Note. Models are based on 11 countries, 33 country-weeks and 6,561 individuals; a: DF method: Satterthwaite, fit model via restricted maximum likelihood; b: Average marginal effects; *p<0.05; **p<0.01; ***p<0.001.

Table A3.13. Multilevel results: M1b, M2b - Blaming the pandemic on immigrants (log transformation).

Blaming the pandemic on immigrants (log)	M1b		M2b	
	Coef.	SE	Coef.	SE
Individual-level variables				
Gender (Ref.: female)	-.005	.020	-.005	.020
Age	-.004	.004	-.004	.004
Education *(Ref. ISCED 2)*				
ISCED <=1	.0799	.078	.079	.078
ISCED 3	-.135***	.035	-.133***	.035
ISCED 4	-.195***	.048	-.193***	.049
ISCED>=5	-.266***	.037	-.263***	.037
Other	-.199	.185	-.197	.185
Political Orientation	.091***	.004	.091***	.004
Standard of living	.020*	.009	.020*	.009
COVID-19 measures *(Ref.: Appropriate)*				
Somewhat appropriate	.043	.025	.042	.025
Somewhat not appropriate	.0698*	.032	.069*	.032
Not at all appropriate	-.020	.039	-.022	.039
Political trust in the government	.0098	.006	.009	.006
General trust	-.009	.015	-.010	.015
Political interest *(Ref. Very interested)*				
Quite interested	.047	.027	.047	.027
Not very interested	.154***	.031	.154***	.031
Not at all interested	.243***	.053	.242***	.053
Feeling lonely *(Ref.: never or almost never)*				
Sometimes	.073**	.023	.073**	.023
Mostly	.191***	.036	.191***	.036
Always or almost always	.069	.047	.068	.047
Feeling lonely compared to pre-pandemic *(Ref.: less often)*				
Equally often	-.017	.023	-.018	.023
More often	.054	.034	.051	.034
Concern for family's health (Ref.: No)	-.012	.025	-.012	.025
COVID-19 threat for personal financial situation	.029***	.004	.029***	.004
COVID-19 threat for future of country	.035**	.011	.035**	.011
Country- level variables				
COVID-19 death rate (0/1)	-.7497***	.123		
Share of foreign population (0/1)			.424	.287
Intercept	.652***	.113	.056	.179
Random Effects				
Intercept Variance (country-level)	.015	.007	.063	.030
Residual Variance	.625	.011	.625	.011

Note. Models are based on 11 countries, and 6,561 individuals; DF method: Satterthwaite, fit model via restricted maximum likelihood; *p<0.05; **p<0.01; ***p<0.001.

Table A3.14. Multilevel results: M1b, M2b - Blaming the pandemic on immigrants (square root transformation).

Blaming the pandemic on immigrants (square root)	M1b Coef.	SE	M2b Coef.	SE
Individual-level variables				
Gender (Ref.: female)	-.008	.026	-.008	.026
Age	-.004	.005	-.004	.005
Education *(Ref. ISCED 2)*				
ISCED <=1	.110	.099	.110	.099
ISCED 3	-.172***	.044	-.1695***	.044
ISCED 4	-.246***	.062	-.243***	.062
ISCED>=5	-.335***	.046	-.331***	.047
Other	-.262	.235	-.260	.235
Political Orientation	.116***	.005	.116***	.005
Standard of living	.026*	.011	.026*	.011
COVID-19 measures *(Ref.: Appropriate)*				
Somewhat appropriate	.049	.032	.048	.032
Somewhat not appropriate	.086*	.040	.084*	.040
Not at all appropriate	-.028	.049	-.0297	.049
Political trust in the government	.012	.007	.011	.007
General trust	-.012	.019	-.013	.019
Political interest *(Ref. Very interested)*				
Quite interested	.058	.034	.059	.034
Not very interested	.193***	.04	.193***	.040
Not at all interested	.308***	.067	.306***	.067
Feeling lonely *(Ref.: never or almost never)*				
Sometimes	.093**	.0295	.093**	.0295
Mostly	.242***	.046	.242***	.046
Always or almost always	.091	.0595	.0897	.0595
Feeling lonely compared to pre-pandemic *(Ref.: less often)*				
Equally often	-.021	.029	-.023	.029
More often	.071	.043	.068	.043
Concern for family's health (Ref.: No)	-.016	.032	-.016	.032
COVID-19 threat for personal financial situation	.037***	.005	.037***	.004
COVID-19 threat for future of country	.046**	.014	.045**	.014
Country- level variables				
COVID-19 death rate (0/1)	-.960***	.156		
Share of foreign population (0/1)			.542	.366
Intercept	.841***	.144	.079	.229
Random Effects				
Intercept Variance (country-level)	.023	.012	.104	.0497
Residual Variance	1.012	.018	1.012	.018

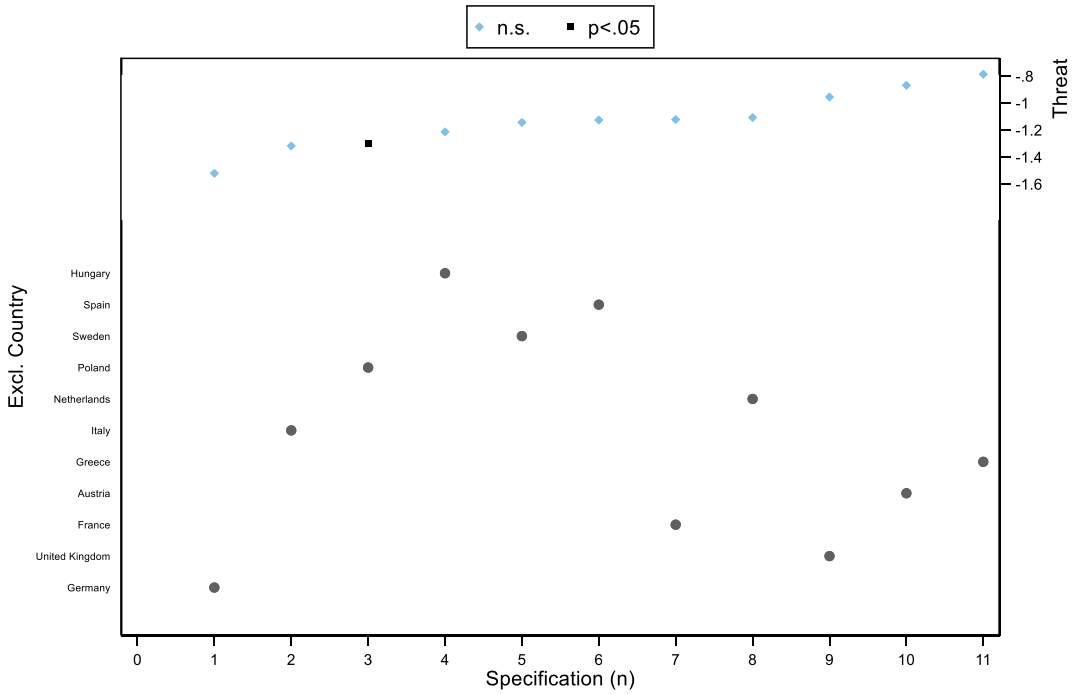
Note. Models are based on 11 countries, and 6,561 individuals; DF method: Satterthwaite, fit model via restricted maximum likelihood; *p<0.05; **p<0.01; ***p<0.001.

Table A3.15. Multilevel results: M1b, M2b - negative binomial regression, Blaming the pandemic on immigrants.

Blaming the pandemic on immigrants	M1b		M2b	
	Coef.	SE	Coef.	SE
Individual-level variables				
Gender (Ref.: female)	-.013	.027	-.013	.027
Age	-.002	.005	-.002	.005
Education *(Ref. ISCED 2)*				
ISCED <=1	.169	.098	.1695	.098
ISCED 3	-.159***	.044	-.154***	.044
ISCED 4	-.228***	.063	-.224***	.064
ISCED>=5	-.335***	.048	-.330***	.048
Other	-.307	.270	-.304	.270
Political Orientation	.132***	.006	.132***	.006
Standard of living	.027*	.012	.026*	.012
COVID-19 measures *(Ref.: Appropriate)*				
Somewhat appropriate	.052	.033	.051	.033
Somewhat not appropriate	.092*	.042	.090*	.042
Not at all appropriate	-.057	.053	-.059	.053
Political trust in the government	.008	.008	.008	.008
General trust	-.006	.019	-.008	.019
Political interest *(Ref. Very interested)*				
Quite interested	.085*	.036	.085*	.036
Not very interested	.226***	.042	.226***	.042
Not at all interested	.289***	.068	.287***	.068
Feeling lonely *(Ref.: never or almost never)*				
Sometimes	.097**	.031	.097**	.031
Mostly	.235***	.045	.235***	.045
Always or almost always	.087	.061	.084	.061
Feeling lonely compared to pre-pandemic *(Ref.: less often)*				
Equally often	-.022	.030	-.024	.030
More often	.087*	.044	.083*	.044
Concern for family's health (Ref.: No)	-.013	.033	-.013	.033
COVID-19 threat for personal financial situation	.039***	.005	.039***	.005
COVID-19 threat for future of country	.045**	.015	.044**	.015
Country- level variables				
COVID-19 death rate (0/1)	-1.058***	.167		
Share of foreign population (0/1)			.588	.374
Intercept	.397**	.154	-.441	.236
Random Effects				
Intercept Variance (country-level)	.027	.012	.108	.047
lndelta	1.087	.032	1.087	.032

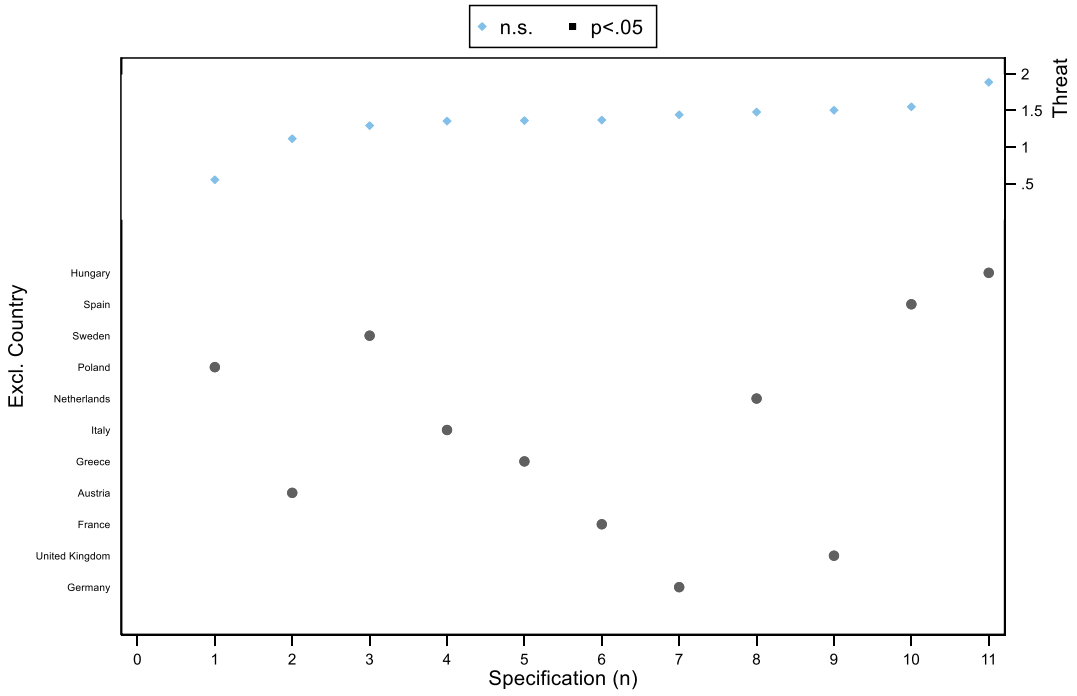
Note. Models are based on 11 countries, and 6,561 individuals; *p<0.05; **p<0.01; ***p<0.001.

Figure A3.1. Effect of COVID-19 deaths on perceived immigrant threat: M1a.



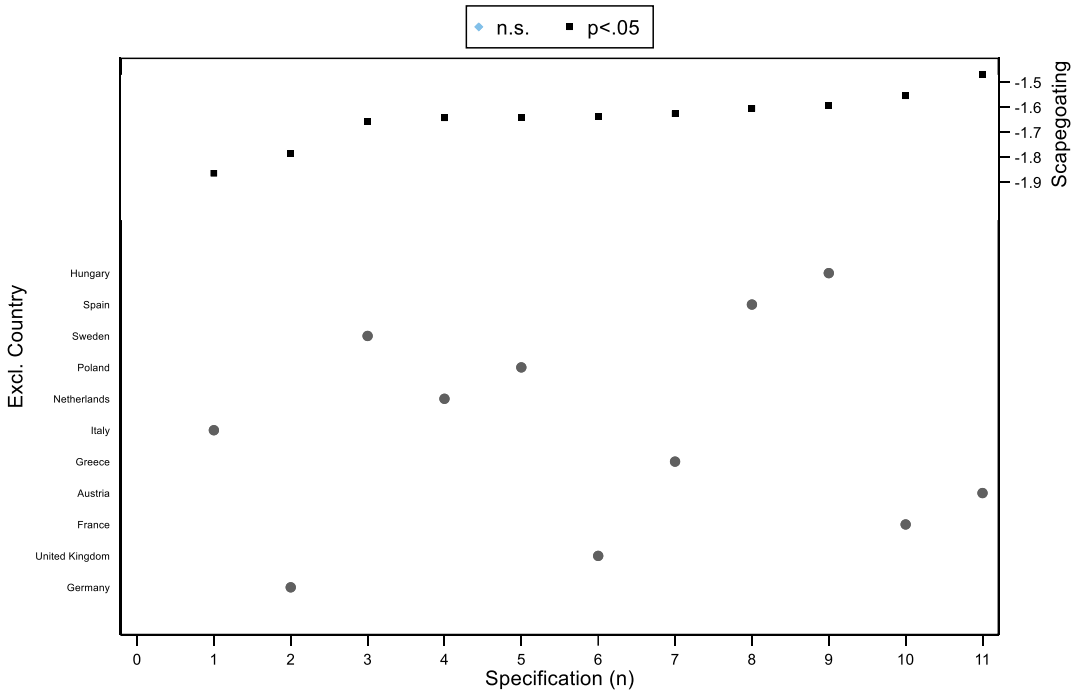
Note. Effect of COVID-19 death rate on immigrant threat after excluding individual countries.

Figure A3.2. Effect of foreign population share on perceived immigrant threat: M2a.



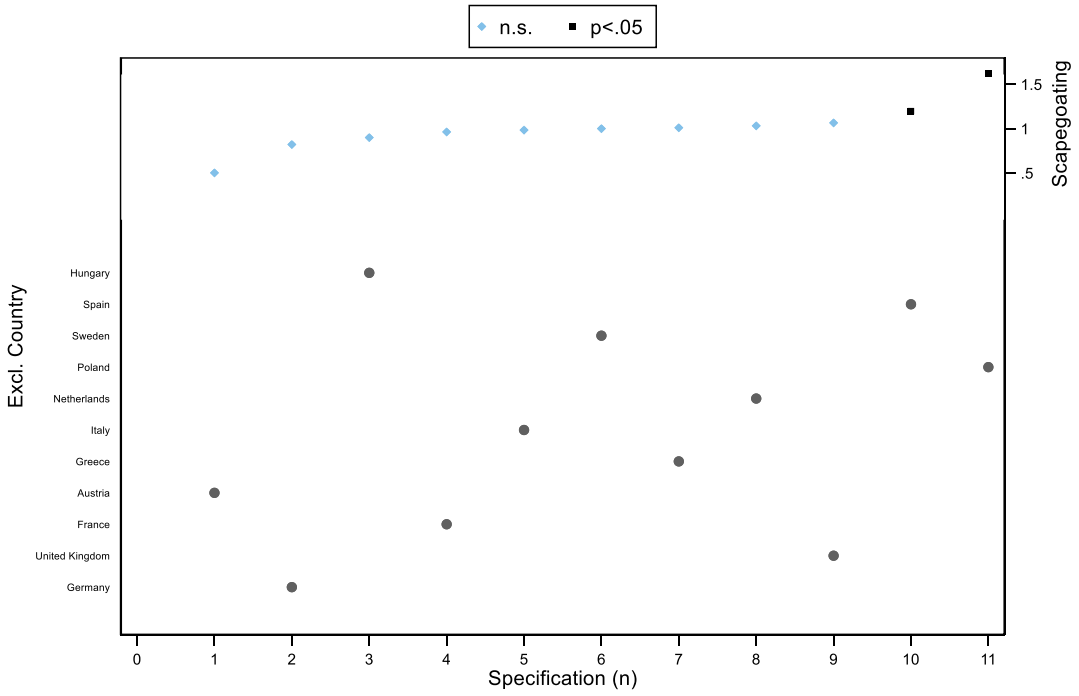
Note. Effect of COVID-19 death rate on immigrant threat after excluding individual countries.

Figure A3.3. Effect of COVID-19 deaths on blaming the pandemic on immigrants: M1b.



Note. Effect of COVID-19 death rate on blaming the pandemic on immigrants after excluding individual countries.

Figure A3.4. Effect of foreign population share on blaming the pandemic on immigrants: M2b.



Note. Effect of COVID-19 death rate on blaming the pandemic on immigrants after excluding individual countries.

3.10. Data note

The survey data 'Everyday Life in Germany and Europe 2020 (Solikris)' that support the findings of this study are available at the GESIS Data Archive at doi:10.4232/1.13787, study number ZA7776, Data file Version 1.0.0.

The macro data of the COVID-19 death rate that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources available in the public domain: https://ourworldindata.org/coronavirus-data-explorer and https://covid19.who.int/.

The macro data of the foreign population share that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources available in the public domain: https://ec.europa.eu/eurostat/databrowser/view/tps00157/default/table?lang=en.

The Stata script and the R script for the data preparation and analyses that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3.

4. Are there limits to empathy? A survey experiment on empathic concern and perspective-taking as bases for attitudes towards different groups of refugees

Nora Huth-Stöckle (University of Wuppertal, Germany) &
Boris Heizmann (GESIS – Leibniz Institute for the Social Sciences, Germany)

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Abstract

This article examines how empathic concern and perspective-taking influences different exclusionary attitudes towards refugees. More specifically, we investigate how empathic competence underpins social distance towards refugees and the opposition to granting them civil rights. Furthermore, we explore the potential constraints of this relationship by investigating the moderating role of different refugee characteristics via a survey-experimental approach using single-wave data from the GESIS Panel, a representative survey conducted in Germany. The refugee characteristics relate to having a Muslim vs. Christian background and having high vs. low qualifications, implying different levels of intergroup threat. The results indicate that higher levels of perspective-taking and empathic concern are associated with lower social distance towards refugees and opposition to granting rights to refugees. Furthermore, while the respondents' exclusionary attitudes were higher towards refugee groups, implying higher levels of intergroup threat, empathic concern and perspective-taking predicted more positive attitudes towards the different groups of refugees equally. This implies that the effect of empathy does not depend on outgroup characteristics.

Keywords: empathy, outgroup attitudes; refugees; intergroup threat

4.1. Introduction

Refugee immigration has gained significant attention in Europe due to the high numbers of displaced persons arriving during the flight migration in 2015 and the subsequent years. Many European Societies have seen a remarkable influx of refugees in recent years, putting increased emphasis on this topic on the European Union's political agenda to find a joint strategy for dealing with this issue. Especially in Germany, one of Europe's main destination countries, refugee migration has led to far-reaching societal consequences. The so-called 'refugee crisis' created growing tensions in political and public debates on immigration, with some parts of German society supporting the rising number of refugees and others opposing it (BMFSFJ, 2017; Kober & Kösemen, 2019). As immigration continued, public opinion regarding refugees became increasingly exclusive (Czymara, 2020; Gorodzeisky, 2022).

Several studies demonstrate that empathic competences contribute to more positive attitudes towards outgroups. However, scholars have also noted possible limits of empathy (Cameron, Conway, et al., 2022; Cameron, Scheffer, et al., 2022; Ferguson et al., 2020) suggesting that the motivation to engage in empathy is influenced by the contextual situation alongside perceived cognitive and emotional costs of engaging in empathy. Therefore, empathic competences may not always translate into more positive attitudes towards outgroups, and the effect of empathy may vary for different outgroups. For instance, it may be emotionally and cognitively more challenging to empathize with outgroups perceived as more threatening, making empathy less effective in fostering positive attitudes towards those groups. In this regard, several empirical studies have shown that attitudes towards immigrant groups are more exclusionary when perceptions of these groups as threatening are higher (Czymara & Schmidt-Catran, 2017; Gorodzeisky & Semyonov, 2019; Jedinger & Eisentraut, 2020; Meuleman et al., 2019). Together, this invites the questions of to what extent attitudes towards refugees are rooted in empathy and whether empathic competences equally affect attitudes towards different refugee groups, relating to different levels of cultural or economic concerns.

We contribute to previous research in several ways. First, we expand the body of existing work on exclusionary attitudes towards refugees by investigating the influence of empathy. We conceptualize empathy as a multidimensional construct with a cognitive and affective component. We do this in the German context in which the topic of refugee immigration is highly salient, both politically and demographically, but also in terms of public debates (e.g., Czymara & Dochow, 2018; Heidenreich et al., 2019). Specifically, we investigate how the

affective component of empathy, i.e., empathic concern, and the cognitive component of empathy, i.e., perspective-taking, relate to attitudes towards refugees. Secondly, by varying refugees' characteristics, we analyze the boundaries of empathic concern and perspective-taking and assess the potential moderating role of refugees' religious background and employability. Thus, we investigate to what extent the effects of empathic competence are group-specific. Third, our study differentiates between two exclusionary attitudes: We take a more nuanced look at attitudes towards refugees by distinguishing between social distance, i.e., the willingness to accept refugees into one's direct social environment, and granting refugees basic civil rights. This shows whether and how the proposed mechanisms differ according to the proximity of the life contexts mentioned in the two outcome measures.

Our main analyses, subsequent multiverse corroboration, and replication with an alternative dataset show that attitudes towards refugees diverge strongly according to religion and skill levels and that empathic concern and perspective-taking are highly relevant predictors of such attitudes. However, refugee characteristics do not moderate these relationships, both in terms of statistical and substantive significance. Since this is based on more than 350 model specifications from our multiverse analysis and replications with another dataset, we can confidently conclude that both aspects of empathy transcend religious and skill-related boundaries when it comes to exclusionary attitudes towards refugees.

4.2. Theoretical background

4.2.1. Empathy and outgroup attitudes

Empathy has been broadly defined as a 'complex psychological inference in which observation, memory, knowledge, and reasoning are combined to yield insights into the thoughts and feelings of others' (Ickes, 1997, p. 2). Most definitions understand empathy as a multidimensional phenomenon that includes both cognitive and affective elements (Cuff et al., 2016). In our study, we follow the conceptualization of Davis (1980, 1983), with empathic concern being the affective component and perspective-taking being the cognitive component. Empathic concern involves feeling with people and emotional involvement in the situation of others, while perspective-taking involves considering and adopting others' viewpoints.

Both concepts are expected to have beneficial consequences for intergroup relations by reducing outgroup prejudice. Affective and cognitive empathy enables opening up to the

experiences and situations of outgroup members, allowing for emotional involvement and perspective adaption. This can counteract outgroup prejudice by reducing the perceived dissimilarity between self and outgroup members and by perceiving outgroup members based on their individual characteristics rather than their group membership (e.g., Crocetti et al., 2021; Galinsky & Moskowitz, 2000; Miklikowska, 2018; Stephan & Finlay, 1999; Yzerbyt et al., 2002). Perspective-taking and empathic concern can help to increase the perceived overlap between the self and the outgroup, reducing in-group bias and leading to an understanding that outgroup members are not so different from themselves (Yzerbyt et al., 2002). Furthermore, putting oneself in the shoes of others allows one to understand an opposite point of view and its rationale, and it helps to recognize the values of other cultures and traditions (Verkuyten et al., 2019; Verkuyten & Yogeeswaran, 2017). Previous research based on self-reported measures (Bruneau et al., 2018; Miklikowska, 2018; Onraet et al., 2017; Pawlicka et al., 2019) and on experimental designs (Galinsky & Moskowitz, 2000; Vescio et al., 2003) has shown that the ability to consider the perspective of others can shift attitudes towards outgroup members and immigrant policies into a more positive direction.

Empathic concern has been found to be positively associated with outgroup attitudes in general (Bergh & Akrami, 2016; Taylor & Glen, 2020) and a wide range of immigration attitudes in particular (Boag & Carnelley, 2016; Bruneau et al., 2018; Pawlicka et al., 2019). For instance, Verkuyten and colleagues found that empathy increases the native Dutch's support of immigrants' rights and assistance (Verkuyten, 2004; Verkuyten et al., 2018). Bruneau, Kteily, and Laustsen (2018) show that empathic concern predicted less anti-refugee policy support and lower levels of blatant dehumanization of Muslim refugees in Hungary, Greece, and Spain. A recent meta-analysis (Cowling et al., 2019) found no association between empathy and attitudes towards refugees, raising the question of potential boundaries of empathy. However, this finding is based only on four studies, which led the authors to call for further investigations of this relationship. We address this gap with the present study.

4.2.2. Are there limits to empathy? The potential moderating role of intergroup threats

Although it is widely acknowledged that individuals differ in their empathic competence, there is evidence that empathy differs not only between persons but also substantially varies across different situations (Cuff et al., 2016; Zaki, 2014; Zaki & Ochsner, 2012). This implies that empathy has both a stable trait component and a context-specific state component. While there is evidence that both affective and cognitive components of empathy foster positive attitudes

towards outgroups, scholars have noted possible boundaries of the effects of empathy (Cameron, Conway, et al., 2022; Cameron, Scheffer, et al., 2022; Ferguson et al., 2020). For instance, scholars have postulated that people's motivation for empathy decreases when directed at outgroup members compared to ingroup members (Zaki, 2014).

This means that people's general empathy-related tendencies may not always lead them to view outgroups more positively. Instead, the motivation towards group-specific empathic emotions or to engage in actual empathic behavior might be influenced by perceived emotional and cognitive costs and benefits of empathy, as well as the anticipated consequences (Cameron, Conway, et al., 2022; Cameron et al., 2019; Cameron, Scheffer, et al., 2022). In the context of intergroup attitudes, the potential of affective and cognitive empathy to result in a more positive view of the outgroup may be reduced when the outgroup is associated with higher perceived emotional or cognitive costs of empathy. As we will argue below, perceiving an outgroup as threatening or culturally distant may increase such psychological costs and limit the potential beneficial effects of empathy on outgroup attitudes. In the upcoming section, we will explore this topic in greater depth by discussing the potential moderating role of perceived threats on the effects of empathic concern and perspective-taking on outgroup attitudes.

The Intergroup Threat Theory (Stephan et al., 2008, 2016; Stephan & Stephan, 2016) provides a theoretical framework for understanding negative attitudes towards outgroups, including refugees. The central tenet of this theoretical approach is that negative outgroup attitudes stem from perceiving the outgroup as threatening to one's ingroup's interests. Two types of threats are typically distinguished: realistic and symbolic threats. Realistic threats can be expressed in concern for the national economic and financial situation. Symbolic threats, by contrast, relate to threats to the culture, values, and collective identity. Previous studies have demonstrated that varying perceptions of immigrant groups as threatening influence attitudes towards these groups (Czymara & Schmidt-Catran, 2017; Gorodzeisky & Semyonov, 2019; Jedinger & Eisentraut, 2020; Meuleman et al., 2019); and both symbolic and realistic threat perceptions were found to predict anti-refugee attitudes (Cowling et al., 2019).

As can be seen, empathy may have limits when it comes to particular outgroups. On the one hand, it might be that refugees, without regard for their characteristics, are per se seen as more deserving of humanitarian attention than may be the case for ordinary immigration groups in 'normal' times (De Coninck, 2020). This could also be related to the extensive media coverage of global crises in recent years (Heidenreich et al., 2019), which may foster a general

understanding of the motives behind this particular type of migration. However, the arguments presented above suggest that the type of refugees is important for attitudes towards refugees as such and for the extent to which the respondents' general empathic tendencies are related to these two outcomes.

The perception of outgroups as threatening can increase empathy's cognitive and emotional costs, leading to decreased empathic behavior towards those outgroups (Newman et al., 2015). Further research has shown that individuals tend to avoid situations that elicit empathy, especially when such situations come with costs, such as money, time, or emotional distress (Cameron et al., 2016). Moreover, perceived cognitive costs, such as aversion, effort, and efficacy, can also discourage individuals from engaging in empathic behavior (Cameron et al., 2019). This suggests that it is more difficult to develop and sustain empathic orientations towards groups perceived as threatening or strongly dissimilar to one's ingroup. Both can be true to a varying extent for immigrants in general and refugees in particular.

In order to approach the issue of whether there are limits to the influence of empathy on different types of refugees, we opt for a survey-experimental approach that splits the refugee group framing into four subgroups with low or high employment prospects and with Christian or Muslim backgrounds. The evaluation of the migrants' potential economic contribution to the country, as well as their religious background, have been shown to affect the likelihood of approving immigrants and asylum seekers both in cross-national comparison (Bansak et al., 2016; Diehl et al., 2018; Heizmann, 2016; Heizmann & Ziller, 2020; Naumann et al., 2018; Turper et al., 2015) and in the German context (Czymara & Schmidt-Catran, 2016; Erisen & Kentmen-Cin, 2017; Fietkau & Hansen, 2018). These group characteristics approach realistic and symbolic threats, respectively: Employment prospects refer to threats to the economy or welfare.[28] Therefore, increasing threats in that regard should not only directly influence attitudes towards refugees (Bansak et al., 2016) but also weaken the link between empathy and these attitudes. In predominantly Christian countries like Germany, being of a Muslim background refers to symbolic threat and cultural distance.[29] Religion also refers to one of the

[28] Referring to work-related skills has the advantage that it encompasses language proficiency, education levels, prior work experience, and potential further dimensions. Differentiating these aspects would greatly complicate our empirical setup. Moreover, in the context of refugee immigration to Germany, high German language skills may represent a somewhat unrealistic vignette scenario.

[29] The relationship between refugee group characteristics and exclusionary attitudes towards these groups can also be understood through the lens of theories of symbolic boundary making (Brubaker, 2013; Heizmann, 2016; Lamont & Molnár, 2002; Wimmer, 2008). In short, when individuals draw symbolic boundaries, they separate individuals into in-group members and out-group members via certain characteristics. Migrants and non-migrants

brightest boundaries between social groups in general (Brubaker, 2013) and between majority members and refugees in particular (Bansak et al., 2016). We therefore also expect that empathic concern and perspective-taking have a lower impact when respondents are presented with the treatment with the Muslim refugee group.

4.2.3. Exclusionary attitudes: Social distance and refugee rights as outcome variables

In this study, we focus on two types of exclusionary attitudes as outcome variables: the unwillingness to accept refugees into one's social environment and the withholding of civil rights from them. While both exclusionary attitudes refer to exclusion based on ethnic and/or cultural background, they do so in different contexts. The former form is more proximally directed towards excluding the outgroup from one's direct social environment by opposing intergroup contact of varying degrees of intimacy (Pettigrew & Meertens, 1995). It is also closely linked to other causally prior negative attitudes towards outgroup members, such as perceived threat (Helbling, 2014; Rapp, 2017). The latter has a more distal character in that it aims to exclude the outgroup from society by denying them certain rights, and it is closely related to political intolerance and conservative values (Helbling, 2014). Research also suggests that majority group members are more likely to guarantee an outgroup certain rights than to accept a member of an outgroup into one's immediate surroundings (Rapp, 2017). This further highlights the importance of examining both types of exclusionary intentions separately for a better understanding of the role of empathy in reducing prejudice towards outgroups: It allows us to assess the generalizability of these associations across different types of exclusionary attitudes.

are prototypical groups separated by boundaries, but these theories can be applied to many contexts (Lamont & Molnár, 2002). Migration-related boundaries often are based on ascribed characteristics such as race and religion, or based on achieved characteristics such as education and skills. These characteristics can be related to the aforementioned symbolic and realistic threats, and theories of boundary making delineate the various processes through which these boundaries can become blurred, shifted or even inverted (e.g. Wimmer, 2008). However, we do not measure such boundaries directly, e.g. in the form of individually-reported assessments of boundary characteristics. We instead vary the dimensions of skill and christian/muslim religion solely in our experimental treatment, i.e. skill and religion are exogenous in our setup, which in our view is more appropriately conceptualized with the above-mentioned threat approach. We therefore opted not to base our theoretical framework on boundary-making theories.

4.3. Hypotheses

We can summarize our theoretical considerations as follows. Based on previous studies, we expect both empathic concern and perspective-taking to decrease negative attitudes towards refugees:

Hypothesis 1a: Persons with a stronger tendency to feel empathic concern have a lower social distance towards refugees than persons with a low tendency for empathic concern.

Hypothesis 1b: Persons with a stronger tendency to feel empathic concern are less likely to oppose granting rights to refugees than persons with a low tendency for empathic concern.

Hypothesis 2a: Persons with a stronger tendency to take others' perspectives have lower social distance towards refugees than persons with a low tendency for perspective-taking.

Hypothesis 2b: Persons with a stronger tendency to take others' perspectives are less likely to oppose granting rights to refugees than persons with a low tendency for perspective-taking.

Furthermore, prior research and theorizing suggest that there are constraints regarding the influence of empathic concern and perspective taking on positive attitudes towards refugees:

Hypothesis 3: Refugees' characteristics moderate the effects of perspective-taking and empathic concern:

(a) The effect of empathic concern and perspective-taking on attitudes is smaller towards Muslim refugees compared to Christian refugees.

(b) The effect of empathic concern and perspective-taking on attitudes is smaller towards refugees with low employability compared to refugees with high employability.

4.4. The contextual setting: Refugee migration to Germany

Germany experienced a sharp increase in asylum applications in 2015/2016 due to the humanitarian crisis in Syria, and the political situation, among others, in Afghanistan, Iraq, and Eritrea. In 2015, an estimated 890,000 refugees arrived in Germany, making it one of Europe's top host countries (BMI, 2016).

Reactions to these newcomers varied widely within the population and partly changed with the course of migration in recent years. At the beginning of the increased flight immigration to Germany in 2015, a broad public welcomed refugees and showed a strong willingness to support them. In a representative study in 2017, fifty-five percent of the respondents stated that they supported refugees in some way in the past two years (for example, through donations or social engagement) (BMFSFJ, 2017). At the same time, other parts of German society reacted with hate and violence. In 2015, the Federal Criminal Police recorded more than 1,000 crimes against asylum accommodations, 5.2 times more than the prior year (BKA, 2016). Moreover, the relatively positive public opinion towards immigration diminished, and a certain skepticism spread in the years following the flight crisis (Kober & Kösemen, 2019). These facts illustrate the polarizing power of the refugee issue in Germany. The polarization effect of the refugee issue is also reflected in the strengthening of the radical right party 'Alternative für Deutschland' ('alternative for Germany', AfD). The motives to support the AfD can be found in the voters' anti-migration attitudes, cultural anxiety, and fears of social disadvantages (Arzheimer & Berning, 2019; Decker, 2016; Goerres et al., 2018).

Germany is a good country case for a deeper understanding of attitudes towards refugees, not only because of the high number of refugees but also because of the considerable variation in the public response to this type of migration. However, the issue of refugee immigration is contentious in many countries, as a need for a better allocation of asylum seekers within the EU was seen early on across Europe (Heizmann & Ziller, 2020).

4.5. Data and methods

4.5.1. Data

For our analysis, we conducted an original study module within the GESIS Panel (Bosnjak et al., 2018), a survey that allows researchers to collect their own data. The GESIS Panel is a

probability-based mixed-mode access panel (GESIS, 2020) with the German-speaking population between 18 and 70 years permanently residing in Germany as the target population. The survey allows generalizable conclusions about the German-speaking population of adult individuals who permanently reside in Germany (Pötzschke & Weiß, 2020). Respondents receive an incentive of 5 € per wave with a duration between 20-25 minutes. The panel study comprises three recruiting cohorts of the years 2013, 2016, and 2018. The sample was drawn in a two-stage sampling procedure from municipal population registers with municipalities being the first sampling stage and individuals the second sampling stage (Bosnjak et al., 2018). For our study, respondents were asked various questions on their attitudes towards refugees and their socio-psychological personality characteristics in December 2019 and January 2020. The overall retention rate for the GESIS Panel wave we used ranges for the three recruitment cohorts between 56 and 83 percent (Bretschi et al., 2020).[30] We excluded 281 respondents with a foreign citizenship (5.92 percent of the initial sample) and excluded 516 responses that indicated a low response quality (9.91 percent of the initial sample)[31], resulting in a final sample size of 3,988 respondents.

4.5.2. Measurements

For our analyses, we combined measures from our study module (comprising perspective-taking, empathic concern, vignette experiment, social distance, and opposition to granting civil rights) with additional information regarding covariates obtained from the standard modules of the GESIS Panel. Tables A4.1 and A4.2 provide an overview of the variables used, such as their question wording, sampling statistics, and the respective fieldwork phase.

The Survey Experiment: Intergroup Threat and Outcome Variables

After answering the questions regarding empathic concern, perspective taking and various covariates, respondents were randomly assigned to one of four vignette groups, resulting in ca. 1,300 respondents per vignette group.

[30] The cumulative response rate is obtained by multiplying the recruitment rate (between 18 and 29 percent), profile rate (between 77 and 79 percent), completion rate (between 87 and 93 percent), and retention rate (between 82 and 56 percent) for each of the three recruitment cohorts. This results in 10 to 12 percent cumulative response rate for the three recruitment cohorts (Bretschi et al., 2020: 10).

[31] Specifically, we excluded responses with a particularly fast or slow response time (upper or lower percentiles in response time for the survey experiment) and those showing a high inconsistency between answers to reverse-worded items on the social distance scale compared to the other items (an average deviation exceeding 2 points on a 5-point Likert scale).

Using a 2x2 between-subject vignette experiment, we varied the characteristics of the refugee groups referred to in the outcome variables that are presumably connected to different levels of intergroup threat (see the Appendix, Table A4.1). In the context of realistic group threat, we differentiated between highly skilled professionals (low-threat condition, cf. Bansak et al., 2016; Hainmueller & Hiscox, 2010) and unskilled workers (high-threat condition). Regarding symbolic group threat, we differentiated between refugees of the Christian faith (low-threat condition) and refugees of the Muslim faith (high-threat condition; cf. Jedinger & Eisentraut, 2020). The vignette read as follows:

> 'We would now like to ask you a few questions about a fictitious situation. It concerns a group of refugees who might come to Germany to live here. Imagine that these refugees would come to Germany in large numbers. Most of the members of this group are [highly skilled professionals / unskilled workers] of [Christian / Muslim] faith. To what extent do you agree with the following statements?'

Respondents answered the questions regarding social distance and opposition to refugee rights towards one randomly assigned refugee group. Table A4.3 in the Online Appendix documents the means and standard deviations of the respondents' demographic and other key variables across the four experiment groups.

We created the measure of social distance based on five items (see Appendix, Table A4.1). On a five-point Likert scale (1 'completely disagree' to 5 'completely agree'), respondents indicated the extent to which they would accept members of the respective refugee group in their social environment. For example, they were asked to indicate whether it would bother them 'to have a member of this group as a direct work colleague.'

The opposition to granting civil rights was measured with four items. Respondents were asked to rate on a five-point Likert scale (1 'completely agree' to 5 'completely disagree') whether they agree that members of the respective refugee group should be granted specific rights (see Appendix, Table A4.1). For example, they were asked whether 'members of this group should be allowed to organize public demonstrations.' Table A4.1 provides the complete list of items, their question wording, and the order of the items.

Independent Variables and Covariates

Key independent variables: Perspective-taking was measured with seven items from the Interpersonal Reactivity Index (IRI, Davis, 1983). Respondents were asked to rate on a five-

point Likert scale (1 'does not apply at all' to 5 'fully applies') questions such as 'I try to look at everybody's side of a disagreement before I make a decision' or 'I sometimes find it difficult to see things from the 'other guy's' point of view' (see Appendix, Table A4.1 for a complete list of items).

We measured empathic concern with seven items from the IRI. For this dimension, respondents rated on a five-point Likert scale (1 'does not apply at all' to 5 'fully applies') for example, whether they 'sometimes do not feel very sorry for other people when they are having problems' or 'are often quite touched by things that [they] see happen' (see Appendix, Table A4.1 for a complete list of the items).

Covariates: Furthermore, we control for additional covariates that are expected to influence both our independent and dependent variables and thus could confound our results. For each covariate, we provide references that demonstrate its impact on both empathy and attitudes towards refugees, thus potentially posing a confounding factor. Since the covariates were obtained from the standard modules of the GESIS Panel and not all covariates were surveyed in the wave of our study module (wave gf - conducted between December 2019 and February 2020), we additionally used information from preceding waves. Table A4.2 provides an overview of the variables' sampling statistics and the respective fieldwork phase. We included the political orientation of the respondents due to its impact on both empathy and prejudice towards refugees (Cowling et al., 2019; Hasson et al., 2018), measured on an 11-point Likert scale (0 'left-wing' to 10 'right-wing'). Since this question was not surveyed in the same wave as our survey experiment, we obtained this information from preceding waves (conducted between April 2018 and July 2019). We controlled respondents' socioeconomic status as a potential confounder (see Cowling et al., 2019; Silke et al., 2018) using respondents' education, household income, and employment situation. The educational level was operationalized based on the information on respondents' school leaving certificates with three categories (1 'no or lower school degree' 2 'medium school degree' 3 'upper school degree').[32] Respondents' household income was measured with 9 answer categories ranging from 1 'less than 900 €' to 9 '6000 € and more'. Due to missings, we additionally used information from a preceding wave (conducted between December 2018 and February 2019). We coded the employment situation

[32] The first category comprises school leaving qualifications up to the ninth grade, such as the so-called *Hauptschulabschluss*. The second category includes school leaving qualifications after the tenth grade, such as the so-called *Realschulabschluss*. The last category includes the high school certificate, the so-called *Abitur* and *Fachbabitur*.

with three categories (0 ‘not employed’ 1 ‘part-time employed’ 2 ‘full-time employed’). We further control for respondents’ sex (see Cowling et al., 2019; Rochat, 2023), age (see Beadle & De La Vega, 2019; Cowling et al., 2019), and religious affiliation (see Cowling et al., 2019; Silke et al., 2018). Sex was measured with two categories (0 ‘male’ 1 ‘female’), and age ranged from 24 to 76. Respondents’ migration background was measured with two categories (0 ‘no migration background’ 1 ‘first- or second-generation immigrant background’). The religious affiliation was measured based on a question asking ‘Which church or religious community are you a member of?’ with answer categories of ‘No religious community’, ‘Roman Catholic Church’, ‘Protestant Church (with free churches)’, and ‘Other’. Due to the limited number of cases in the ‘other’ category (appr. 2.6 %), we coded a binary variable that distinguishes between 1 ‘Christians (Roman Catholic or Protestant Church)’ and 0 ‘Other or no religious community’.

In the robustness analyses, we additionally controlled for respondents’ religiosity and socially desirable response behavior (see section Robustness Analysis). Religiosity was measured with four categories ranging from 1 ‘not at all religious’ to 4 ‘very religious.’ The questions regarding religiosity and socially desirable response behavior were surveyed two months prior to the other variables (religiosity between August 2018 and October 2019; social desirability between October and December 2019). However, it can be assumed that the religiosity and response behavior have not changed in this short time. To control for socially desirable response behavior that might affect responses to both the empathy and prejudice measures, we followed the procedure described by Podsakoff and colleagues (2003, 2012) and applied the directly measured latent method factor technique. More specifically, we added a latent construct of social desirability to our model measured with the Social Desirability-Gamma Short Scale (KSE-G) (Kemper et al., 2014). We allowed both the social desirability indicators and the indicators of the constructs of interest (i.e., empathic concern, perspective taking, and attitudes towards refugees) to load on the latent factor of social desirability (Podsakoff et al., 2012: 558).

4.5.3. Model

We applied Structural Equations Modelling (SEM) as it enables us to test the measurement model while investigating the relationship between the different constructs in the latent variables model. We built our models with the statistical programs Stata 16.1 and Mplus version 8 using the Stata ado ‘runmplus’ (Jones, 2013). We used maximum likelihood estimation with robust standard errors in all models.

4.6. Results

4.6.1. Preliminary analyses

First, we tested the dimensionality of the exclusionary attitudes and the empathy measures. To test the dimensionality of the indicators, we followed Bollen and Grandjean's approach (1981). We assumed that social distance and attitudes towards refugees' rights are two distinct components of ethnic exclusion. Accordingly, we estimated a confirmatory factor analysis (CFA) with two factors (Table A4.6, models M0b): one underlying the social distance indicators and the second underlying the attitudes towards refugees' rights indicators. We compared this model with the unidimensional CFA model (Table A4.6, models M0a). We followed the same procedure with regard to empathic concern and perspective-taking (Table A4.6). In line with David (1983), we assumed that empathic concern and perspective-taking are two distinct components of empathy. The χ^2-tests support that the two factors (social distance and attitudes towards refugees' rights respective empathic concern and perspective taking) are distinct (see Tables A4.4 and A4.5). Furthermore, the models with two factors show a better model fit.[33] The full measurement models are depicted in the Appendix, Table A4.6.

4.6.2. Main analyses

In the first set of models, we investigated the association between empathic concern and perspective-taking and (i) social distance (Table 4.1, model M1a), and (ii) opposition to granting rights (Table 4.1, model M1b). In line with hypotheses 1a and 1b, empathic concern had a significant negative effect on social distance ($b = -0.337$, $p < 0.001$) and opposition to granting rights ($b = -0.182$, $p < 0.001$), indicating that those who are more concerned about others' welfare are more socially accepting towards refugees and more willing to grant them rights. Similarly, perspective-taking had a significant negative effect in both models (M1a: $b = -0.129$, $p < 0.001$; M1b: $b = -0.131$, $p < 0.001$). In line with hypotheses 2a and 2b, these findings suggest that individuals with a stronger tendency to take the perspective of others tend to have lower levels of social distance towards refugees and to be more willing to grant rights.

[33] The CFA furthermore revealed that some errors of measurement are correlated due to two types of method effects. The method effects resulted (a) from similar (right to demonstrate vs. right to organize politically), and (b) from reverse-worded assessment items (social distance items regarding neighbor, colleague, and marrying). We addressed these method effects by allowing the respective indicator errors to correlate (Brown, 2006) (Table 4.2, models M0c; Table A4.6).

Table 4.1. Structural equation models (M1a and M1b)

	M1a			**M1b**		
	Social distance			Opposition to granting rights		
	Coef.	SE	Stand. Coef. [a.]	Coef.	SE	Stand. Coef. [a.]
Sex (Ref. male)	0.128**	(0.042)	0.052	0.243***	(0.040)	0.101
Age	0.008***	(0.002)	0.093	0.010***	(0.002)	0.114
Migration background:						
No migration background	Ref.			Ref.		
First- or second-generation immigrant	0.375***	(0.071)	0.078	0.259***	(0.065)	0.055
Religious affiliation:						
No or Other religious affiliation	Ref.			Ref.		
Christian (Protestant or Catholic)	-0.154***	(0.039)	-0.063	-0.094*	(0.037)	-0.039
Education:						
low	Ref.			Ref.		
intermediate	0.048	(0.055)	0.019	-0.050	(0.053)	-0.020
high	-0.334***	(0.057)	-0.137	-0.616***	(0.055)	-0.256
Household income	-0.054***	(0.011)	-0.089	-0.064***	(0.011)	-0.107
Employment situation:						
Not employed	Ref.			Ref.		
Part-time employed	0.014	(0.055)	0.005	0.067	(0.054)	0.022
Full-time employed	0.073	(0.051)	0.030	0.101*	(0.050)	0.042
Political orientation [b]	0.178***	(0.011)	0.274	0.183***	(0.011)	0.286
Empathic concern	-0.337***	(0.032)	-0.276	-0.182***	(0.030)	-0.151
Perspective-taking	-0.129***	(0.027)	-0.106	-0.131***	(0.026)	-0.109
Treatment:						
highly skilled - Christians	Ref.			Ref.		
unskilled - Christians	0.372***	(0.049)	0.305	0.293***	(0.049)	0.244
highly skilled - Muslims	0.233***	(0.051)	0.191	0.241***	(0.051)	0.201
unskilled - Muslims	0.680***	(0.052)	0.557	0.553***	(0.051)	0.460
RMSEA	0.036			0.038		
CFI	0.911			0.907		
TLI	0.904			0.900		

Note. N=3,988; a. binary variables are STDY standardized, numeric variables are STDYX standardized. b. Political orientation: 0 'left-wing' to 10 'right-wing'. RMSEA= Root Mean Square Error Of Approximation; CFI= comparative fit index; TLI=Tucker–Lewis index.

The models further reveal that both social distance towards refugees and the willingness to grant refugees rights depend on the refugee group's characteristics. The social distance towards unskilled refugees was higher than towards highly skilled refugees (M1a, unskilled vs. highly skilled Christians: $b = 0.372$, $p < 0.001$). Similarly, respondents were less willing to grant rights to unskilled refugees (M1b, unskilled vs. highly skilled Christians: $b = 0.293$, $p < 0.001$). Moreover, respondents' attitudes were more negative towards Muslim refugees, suggesting a higher social distance and opposition to granting rights to Muslims than to Christians (M1a, highly skilled Muslims vs. Christians: $b = 0.233$, $p < 0.001$; M1b, highly skilled Muslims vs. Christians: $b = 0.241$, $p < 0.001$). Thus, we find more negative attitudes towards those groups of refugees that are presumably linked to higher intergroup threat perceptions. The coefficients for the low-skilled Muslim treatment (M1a: $b = 0.680$, $p < 0.001$; M1b: 0.553, $p < 0.001$) also show that both dimensions act in an additive fashion, implying especially strong reservations against this particular type of refugee immigrants.

In the models M2a and M2b (Table 4.2), we examined the constraints of empathic concern and perspective-taking by investigating the interaction effects of the refugee group's characteristics with empathic concern and perspective-taking.

The model results show no interaction effect of the refugee group's characteristics (employability or religion) for the association between empathic concern and social distance (Table 4.2, model M2a) or political tolerance (Table 4.2, model M2b). Similarly, the refugee group's characteristics do not moderate the association perspective-taking and social distance (Table 4.2, model M2a) or opposing refugee rights (Table 4.2, model M2b). Accordingly, we find no evidence for the hypotheses that threat perceptions mitigate the effects of empathic concern and perspective-taking. Instead, our results suggest that empathic concern and perspective-taking have an equal effect on exclusionary attitudes across different groups of refugees.

Table 4.2. Structural equation models (M2a and M2b)

	M2a			**M2b**		
	Social Distance			Opposition to granting rights		
	Coef.	SE		Coef.	SE	
Empathic concern	-0.306***	(0.047)	-0.251	-0.144**	(0.055)	-0.119
Perspective-Taking	-0.120**	(0.045)	-0.098	-0.084	(0.051)	-0.069
Treatment: highly skilled - Christians	Ref.			Ref.		
unskilled - Christians	0.372***	(0.048)	0.305	0.294***	(0.049)	0.244
highly skilled - Muslims	0.231***	(0.051)	0.189	0.243***	(0.051)	0.202
unskilled - Muslims	0.679***	(0.052)	0.556	0.551***	(0.051)	0.457
perspective-taking x highly skilled - Christians	Ref.			Ref.		
perspective-taking x unskilled - Christians	-0.001	(0.064)	0.000	-0.074	(0.067)	-0.027
perspective-taking x highly skilled - Muslims	-0.025	(0.070)	-0.009	-0.043	(0.070)	-0.015
perspective-taking x unskilled - Muslims	-0.008	(0.075)	-0.003	-0.060	(0.072)	-0.022
Empathic concern x highly skilled - Christians	Ref.			Ref.		
Empathic concern x unskilled - Christians	-0.064	(0.064)	-0.023	-0.065	(0.071)	-0.024
Empathic concern x highly skilled - Muslims	-0.016	(0.071)	-0.006	-0.099	(0.075)	-0.035
Empathic concern x unskilled - Muslims	-0.047	(0.076)	-0.017	-0.007	(0.073)	-0.003

Note. N=3,988; we used the same control variables as in models M1a and M1b: sex, age, migration background, employment situation, religious affiliation, education, household income, and political orientation (see Table A4.7 for the full model results).

4.6.3. Robustness analyses

In addition to our main analyses, we (i) checked the robustness of our models by conducting a multiverse analysis, and (ii) replicated our models using a second survey data set collected in Germany.

First, we conducted multiverse analyses to systematically assess the robustness of our findings (Auspurg & Brüderl, 2021; Simonsohn et al., 2020; Steegen et al., 2016; Young & Holsteen, 2017). We followed the multiverse analysis approach of Simonsohn and colleagues (2020) and

Young and Holsteen (2017). Table A4.8 in the Appendix provides an overview of the robustness analyses: we varied (i) the operationalization of our variables and the covariates included in our models, (ii) the exclusion criteria for the analyses sample, and (iii) the handling of missing values. These variations in model specifications resulted in 384 models.

Table 4.3 shows the results of the multiverse analysis regarding models M1a (social distance) and M1b (opposing refugee rights). The results of the multiverse analysis indicate high robustness of our findings both in terms of sign stability and statistical significance. The association between empathic concern and social distance (resp. opposition to refugee rights) is negative in 96.1 percent (resp. 85.6 percent) of the model specifications and statistically significant in all model specifications. Similarly, the association between perspective-taking and social distance (resp. opposition to refugee rights) is negative in 97.5 percent (resp. 91.2 percent) of the model specifications, and statistically significant in all model specifications. Thus, our initial findings that empathic concern and perspective-taking are associated with lower levels of social distance and opposition to refugee rights are highly robust.

Table 4.3. Model robustness (multiverse analysis of models M1a and M1b): social distance and opposition to granting rights

Model	**M1a**	**M1a**	**M1b**	**M1b**
Outcome variable	Social distance	Social distance	Opposition to granting rights	Opposition to granting rights
Independent variable of interest	Empathic concern	Perspective-taking	Empathic concern	Perspective-taking
Initial regression coefficient	-.336, $p < .001$	-.129, $p < .001$	-.182, $p < .001$	-.131, $p < .001$
Number of models	355 (29 out of 384 models did not converge)	355 (29 out of 384 models did not converge)	318 (66 out of 384 models did not converge)	318 (66 out of 384 models did not converge)
Sign stability	96.1 %	97.5 %	85.6 %	91.2 %
Significance rate	100 %	100 %	100 %	100 %
Minimum estimated regression coefficient	-.433	-.184	-.289	-.226
Maximum estimated regression coefficient	.42	.179	.278	.216

Note. The table shows the robustness of the models M1a and M1b across 355 respective 318 model specifications.

Despite the high robustness of the results, the multiverse analyses reveal some variance in the strength of the estimated regression coefficients. Interestingly, controlling or not controlling for social desirability influences the effect strength of empathic concern and perspective-taking, with models including the social desirability scale resulting in smaller effect sizes (see Table A4.9 in the Online Appendix, cf. Anderson, 2019; Eisenberg et al., 1989).

Next, we assessed the robustness of the moderating role of the refugee groups' characteristics on the associations between empathic concern and perspective-taking and social distance towards refugees (Table 4.4) and opposition to granting rights (Table 4.5). The multiverse analysis supports the finding that empathic concern and perspective-taking translate to more positive attitudes towards all groups of refugees equally, as the interaction terms are statistically insignificant across all model specifications.

Table 4.4. Model robustness (multiverse analysis of model M2a): social distance

Independent variable of interest	unskilled Christians x empathic concern	highly skilled Muslims x empathic concern	unskilled Muslims x empathic concern	unskilled Christians x perspective-taking	highly skilled Muslims x perspective-taking	unskilled Muslims x perspective-taking
Initial regression coefficient	-.064, p > .05	-.016, p > .05	-.047, p > .05	-.001, p > .05	-.025, p > .05	-.008, p > .05
Sign stability	63.5 %	50.0 %	60.3 %	52.0 %	80.1 %	77.3 %
Significance rate	0 %	0 %	0 %	0 %	0 %	0 %
Minimum estimated regression coefficient	-.112	-.087	-.141	-.044	-.113	-.103
Maximum estimated regression coefficient	.155	.098	.144	.038	.098	.100

Note. The table shows the robustness of model M2a across 348 model specifications (36 out of 384 models did not converge).

Table 4.5. Model robustness (multiverse analysis of model M2b): opposition to granting rights

Independent variable of interest	unskilled Christians x empathic concern	highly skilled Muslims x empathic concern	unskilled Muslims x empathic concern	unskilled Christians x perspective-taking	highly skilled Muslims x perspective-taking	unskilled Muslims x perspective-taking
Initial regression coefficient	-.065, p > .05	-.099, p > .05	-.007, p > .05	-.074, p > .05	-.043, p > .05	-.060, p > .05
Sign stability	79.1 %	79.1 %	61.7 %	83.0 %	79.8 %	82.6 %
Significance rate	0 %	0 %	0 %	0 %	0 %	0 %
Minimum estimated regression coefficient	-.098	-.154	-.111	-.098	-.098	-.108
Maximum estimated regression coefficient	.089	.15	.097	.084	.188	.111

Note. The table shows the robustness of model M2b across 253 model specifications (131 out of 384 models did not converge).

In the second step of robustness checks, we replicated our main models using data from another survey conducted in Germany (Hainmueller, 2016). Initially, the survey data was collected for a conjoint experiment where respondents indicated their willingness to accept asylum seekers which randomly varied in nine characteristics (Bansak et al., 2016). This data set is well suited to replicate our models described above because the survey varied, among other characteristics, the employability (employed vs. unemployed) and religious affiliation (Christian vs. Muslim) of the asylum seekers, and additionally collected information on the respondents' empathic concern and perspective taking.[34]

[34] The dataset used in the replication analyses differs in some critical characteristics from our primary survey. First, the dataset contains only the factor scores of empathic concern and perspective-taking, so we could not compute SEMs. Second, the outcome measures the willingness to accept asylum seekers and thus differs from the outcomes of our initial analyses. Third, in the conjoint experiment, a larger number of asylum seeker characteristics were randomly varied, and each respondent assessed ten different asylum applications. To account for this data structure, we control for all conjoint attribute levels and compute random effects models with cluster-robust standard errors (adjusted for the respondent level). For more detailed information on the replication dataset, please refer to Hainmueller (2016).

Table 4.6. Model robustness (replication analysis): model M1 and M2

	M1		**M2**	
	Opposition to allowing applicants to stay in Germany		Opposition to allowing applicants to stay in Germany	
	Coef.	SE	Coef.	SE
Sex (ref. male)	-0.037	(0.078)	-0.036	(0.079)
Age	0.015***	(0.003)	0.015***	(0.003)
Education (ref. ISCED <4)	-.048	(.079)	-.047	(.081)
Political orientation	0.213***	(0.021)	0.213***	(0.025)
Empathic concern	-0.119***	(0.018)	-0.109***	(0.024)
Perspective-taking	-0.057**	(0.019)	-0.059*	(0.024)
Treatment: employed - Christians	Ref.		Ref.	
unemployed- Christians	0.324***	(0.069)	0.366***	(0.096)
employed - Muslims	0.1596***	(0.0398)	0.157**	(0.057)
unemployed- Muslims	0.453***	(0.068)	0.467***	(0.093)
Empathic concern x employed - Christians			Ref.	
Empathic concern x unemployed - Christians			-0.049	(0.035)
Empathic concern x employed - Muslims			-0.008	(0.020)
Empathic concern x unemployed - Muslims			-0.008	(0.035)
Perspective-taking x employed - Christians			Ref.	
Perspective-taking x unemployed - Christians			0.038	(0.036)
Perspective-taking x employed - Muslims			0.012	(0.022)
Perspective-taking x unemployed - Muslims			-0.018	(0.036)

Note. 1,087 respondents; 10,870 respondent-rating observations; additional covariates: conjoint attribute levels; random-effects models, cluster-robust SEs.

In line with our initial models, the replication analyses (Table 4.6) suggest that respondents reporting higher tendencies of empathic concern and perspective-taking are less opposed to accepting asylum seekers (M1, empathic concern: $b = -0.119$, $p < 0.001$; M1, perspective taking: $b = -0.057$, $p < 0.01$). Moreover, the results of model M2 indicate that the asylum seekers' characteristics do not moderate the association of empathic competences and the willingness to accept asylum seekers. Thus, the replication analyses confirm our initial findings.

4.7. Discussion and conclusion

The present research investigated the consequences of two aspects of empathic competence for two forms of anti-refugee attitudes. In the first step, we examined the influence of empathic concern and perspective-taking on (i) social distance towards refugees and (ii) opposition to granting refugees rights. In the second step, we investigated whether empathic concern and perspective-taking have limits when it comes to different outgroups who tend to be perceived as a threat to varying degrees. Specifically, we tested in a survey experiment whether empathic concern and perspective-taking equally translate to more positive attitudes towards refugees with different levels of employability (highly-skilled professionals vs. low-skilled workers) and of different religious affiliations (Christians vs. Muslims), i.e. whether there is a moderation of these effects by refugee characteristics.

We found that cognitive and affective empathy, i.e., perspective-taking and empathic concern, predicted exclusionary attitudes towards refugees. In line with our hypotheses, respondents with higher levels of perspective-taking, respectively empathic concern, reported lower social distance towards refugees and lower opposition to granting rights to refugees. Furthermore, while the respondents' social distance and opposition to granting rights were higher towards groups representing higher levels of intergroup threat, the effects of empathic concern and perspective-taking appeared to be independent of threat-related refugee characteristics, as both empathic competence measures predicted more positive attitudes towards the different groups of refugees regardless of the group at hand in the treatments. For example, respondents showed more negative attitudes towards refugees when presented with Muslim refugees instead of Christian refugees in the questionnaire. This finding is in line with previous research (Bansak et al., 2016, 2023; Esses, 2021) and recent public debates on so-called first- and second-class refugees in Germany (e.g., Lindenbach, 2022; Sammann, 2022), as Ukrainian refugees arriving in Germany more recently often experienced a more positive reception compared to other groups, such as refugees from Afghanistan and Syria. However, empathic concern and perspective-taking equally predicted more positive attitudes towards Christian and Muslim refugees, contrary to the assumption that the association between empathic competence and attitudes towards refugees is context-specific and moderated by refugees' characteristics. Moreover, we conducted systematic robustness tests by running multiverse analyses and by replicating our results with a different dataset to provide insights into the robustness of these findings across various alternative model specifications. Our findings appeared to be highly

robust both in terms of sign stability and statistical significance: The interaction terms are never significant across the specifications of our multiverse analysis. Moreover, even if the results obtained were statistically significant, the resultant associations between empathic concern and perspective-taking and the outcome variables would be very close substantively to the findings we present for the models without the interactions (M1a and M1b). This also is true for the replication with another dataset. We can therefore say with reasonable confidence that the influence of empathic concern and perspective-taking is not meaningfully dependent upon the combination of two of the most salient refugee characteristics.

One possible reason for the absence of these moderation effects could be that refugees in general elicit empathy as they may be perceived as involuntarily migrated individuals of particular vulnerability. Previous research has shown that immigrants fleeing persecution or dire situations often evoke feelings of empathy (Verkuyten et al., 2018) and more positive attitudes and support (Czymara, 2020; De Coninck, 2020). The largely forced nature and often dramatic circumstances of this type of migration therefore seem to elicit a particular humanitarian concern and compassion (Bansak et al., 2016; Maestri & Monforte, 2020; Newman et al., 2015) that to some extent transcends group boundaries. The perception of refugees as a vulnerable group might thus evoke generalized empathy, with other group characteristics being less decisive for this relationship.

However, there are limitations in the current study and fruitful starting points for future research. We tested whether the generalized individual empathic competence of empathic concern and perspective-taking relates to more positive attitudes towards outgroups. This approach relates to whether interpersonal empathy tendencies affect a person's outgroup attitudes. However, replicating our study using intergroup empathy, that is, feeling empathetic and taking the specific perspective of refugees, would provide additional evidence of the role and limits of empathy in attitudes towards refugees. Future research could therefore provide further evidence of the effects and limits of empathy by employing this specific type of empathy (see Cakal et al., 2021; Mashuri et al., 2017; Swart et al., 2011).

Another avenue of investigating the limits of empathy could lie in employing a different outcome variable in the form of access to finite or zero-sum welfare resources. Such a research endeavor could be situated within the deservingness literature (e.g., Koos & Seibel, 2019; Oorschot, 2000; Reeskens & Van Der Meer, 2019), where access to such resources is of focal importance. For example, it could be that empathy effects on support for welfare resource

access are lower in the "unskilled" treatments due to the potentially lower levels of (future) reciprocity.

Furthermore, subsequent studies might consider the consequences of empathic concern and perspective-taking on intergroup emotions (Mackie & Smith, 2002). General differences in the ability to feel with or to put oneself in the shoes of others could result in different emotional reactions towards specific outgroups. For instance, empathy in the form of perceiving refugees as a group in need and distress could elicit emotional reactions such as pity and compassion and, through this, foster prosocial behavior (e.g., Neuberg & Cottrell, 2002). Emotional reactions therefore could be investigated as potential mediators or mechanisms that underlie the relationship between empathic predispositions and behavior-related responses such as social distance or granting certain rights.

A notable limitation of our study is that we exclusively focused on German natives' attitudes towards refugees. While this is a highly relevant context due to the large-scale refugee immigration in recent years, respondents in other countries might diverge in their responses, for example, if refugee immigration is a more hypothetical social phenomenon instead of an actual demographic fact. Thus, future studies should investigate whether the proposed associations between empathy and outgroup attitudes are consistent across nations and also apply to other outgroups. Likewise, there is a potential for investigating boundary dimensions other than skills and religion, for example language, ethnicity, formal education, or even age and gender. However, especially when these dimensions have multiple categories, this would be highly complex and would necessitate a very different empirical approach from the one taken here.

A final limitation of the current work is that our measures were all based on self-reported items and that both items regarding empathic concern and perspective-taking and exclusionary attitudes towards refugees may be biased by the respondents' social desirability tendencies. Future research could address this issue by using experimental designs or implicit association tests to measure the variables of interest. However, in the robustness analyses, we did our best to control for such potentially biasing effects by controlling for respondents' social desirability tendencies.

The current research advances the understanding of the impact of empathic concern and perspective-taking on attitudes towards refugees by showing that both of these empathic competences translate into more positive outgroup attitudes towards different groups of

refugees. The results suggest that respondents with higher empathic concern and perspective-taking tendencies possess more inclusive attitudes towards refugees. Furthermore, the influence of empathy on anti-refugee attitudes appears to function independently of intergroup threats and is not limited to specific groups of refugees for both social distance and opposition to granting refugee rights. This pattern between empathic competence and anti-refugee attitudes will likely arise independently of the refugee groups' characteristics, and for different attitudes, as our robust findings for a non-existent moderation effect have shown.

The apparent generality of this mechanism highlights that empathy is of vital importance for immigration societies per se. Thus, intergroup relations programs and interventions that aim to foster empathy towards others and enhance understanding of other's perspectives could make an important contribution to improving intergroup relations (see Stephan & Finlay, 1999). For instance, promoting intergroup contact between refugees and the majority society might encourage empathy and perspective-taking between groups and thereby potentially mitigate outgroup prejudice (Pettigrew & Tropp, 2008). This also relates to future immigration, as it can be expected that immigration will continue due to e.g. climate change and its potential aftereffects. Large-scale climate refugee movements would not only necessitate supranational policy solutions to address the difficulties brought about by these influxes. As we have shown, societies receiving such migration flows would be well-advised to foster an empathetic stance towards such inflows within their populations, as this appears to be a key dimension in creating a generally more inclusive societal climate for this type of immigrant group.

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Disclosure statement

The authors report there are no competing interests to declare.

Data availability statement

The data that support the findings of this study are openly available in GESIS Data Archive, Cologne at http://doi.org/10.4232/1.13573, reference number ZA5665 v37.0.0 2020-11-10.

The R scripts and the Stata scripts for the data preparations and analyses are available at the following link: https://osf.io/yfxtv/?view_only=184f233fa6364008a5965c45b30f0b60.

Ethics Research Statement

This research study is exempt from ethical review as it solely involves the secondary analysis of data available to the scientific community. The survey underlying this study has been conducted by the GESIS (2020). Consequently, the responsibility for data collection and protection lies with the original data collectors and the authoring institution.

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4.9. Appendix

Table A4.1. Question wording

To what extent do the following statements apply to you?
Answer categories (5-point-Likert scale):
1 ‘does not apply at all’
5 ‘fully applies’

construct	Question wording	Variable name
Q23. Perspective -taking	Q23a I sometimes find it difficult to see things from the ‘other guy's’ point of view. (reverse scaled)	per1
	Q23b I try to look at everybody's side of a disagreement before I make a decision.	per2
	Q23c I sometimes try to understand my friends better by imagining how things look from their perspective.	per3
	Q23d If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (reverse scaled)	per4
	Q23e I believe that there are two sides to every question and try to look at them both.	per5
	Q23f When I'm upset at someone, I usually try to 'put myself in his shoes' for a while.	per6
	Q23e Before criticizing somebody, I try to imagine how I would feel if I were in their place.	per7
Q24. Empathic concern	Q24a I often have tender, concerned feelings for people less fortunate than me.	emp1
	Q24b Sometimes I don't feel very sorry for other people when they are having problems. (reverse scaled)	emp2
	Q24c When I see someone being taken advantage of, I feel kind of protective towards them.	emp3
	Q24d Other people's misfortunes do not usually disturb me a great deal. (reverse scaled)	emp4
	Q24e When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (reverse scaled)	emp5
	Q24f I am often quite touched by things that I see happen.	emp6
	Q24g I would describe myself as a pretty soft-hearted person.	emp7

Table A4.1. Question wording (continued)

We would now like to ask you a few questions about a fictitious situation. It concerns a group of refugees who might come to Germany to live here.
Imagine that these refugees would come to Germany in large numbers.

- *Most of the members of this group are highly skilled professionals of Christian faith. (experiment group 1)*
- *Most of the members of this group are unskilled workers of Christian faith. (experiment group 2)*
- *Most of the members of this group are unskilled workers of Muslim faith. (experiment group 3)*
- *Most of the members of this group are highly skilled professionals of Muslim faith. (experiment group 4)*

To what extent do you agree with the following statements?
Answer categories (5-point-Likert scale):
1 'completely disagree'
5 'completely agree'

construct	Question wording	Variable name
Q25. Opposition to granting rights	Q25a Members of this group should be allowed to organize public demonstrations. (reverse scaled)	demo
	Q25b Members of this group should have the opportunity to organize social events for the group. (reverse scaled)	org. soc.
	Q25c Members of this group should have the right to celebrate their culturally important festivities. (reverse scaled)	cultural fest.
	Q25d Members of this group should have the right to organize politically. (reverse scaled)	org. pol.
Q26. Social Distance	Q26a I would be willing to invite a member of this group for dinner at my home. (reverse scaled)	dinner
	Q26b It would bother me to have a member of this group as a direct work colleague.	colleague
	Q26c I would be annoyed to have a member of this group as a direct neighbor.	neighbor
	Q26d I could imagine having a close friendship with a member of this group. (reverse scaled)	friend
	Q26e It would bother me if my daughter or son married a member of this group.	marry

Note. The ordering of the items in Table A1 reflects ordering of the items in the questionnaire. Neither constructs nor items within constructs were randomized.

Table A2. Sampling statistics

Construct	Question no.	Fieldwork phase	Variable	Obs.	Mean	SD	Min.	Max.
Opposition to granting rights	Q25	2019-12 to 2020-02	demo	4387	2.214	1.206	0	4
			org. soc.	4384	1.452	1.055	0	4
			cultural fest.	4386	1.252	0.986	0	4
			org. pol.	4384	1.945	1.170	0	4
Social Distance	Q26	2019-12 to 2020-02	dinner	4372	1.914	1.175	0	4
			colleague	4377	0.843	0.962	0	4
			neighbor	4383	0.876	0.947	0	4
			friend	4374	1.764	1.055	0	4
			marry	4360	1.725	1.196	0	4
Perspective taking	Q23	2019-12 to 2020-02	per1	4425	2.664	0.876	0	4
			per2	4416	2.779	0.808	0	4
			per3	4417	2.660	0.807	0	4
			per4	4414	2.132	0.996	0	4
			per5	4413	2.829	0.760	0	4
			per6	4418	1.955	0.861	0	4
			per7	4415	2.281	0.847	0	4
Empathic concern	Q24	2019-12 to 2020-02	emp1	4416	2.437	0.854	0	4
			emp2	4407	2.548	0.887	0	4
			emp3	4403	2.890	0.723	0	4
			emp4	4404	2.995	0.854	0	4
			emp5	4410	3.130	0.809	0	4
			emp6	4417	2.686	0.852	0	4
			emp7	4417	2.422	0.922	0	4

Construct	Question no.	Fieldwork phase	Variable	Obs.	Mean	SD	Min.	Max.
Covariates	Q8	2019-12 to 2020-02	gender	4446	1.502	0.500	1	2
	Q9	2019-12 to 2020-02	age	4424	54.463	14.355	24	76
	Q15	2019-12 to 2020-02	lower education	4424	0.182	0.386	0	1
			intermediate education	4424	0.336	0.472	0	1
			high education	4424	0.482	0.500	0	1
	Pre. wave(s)	2019-10 to 2019-12; 2018-10 to 2018-12	Employment situation					
	Pre. wave(s)	2019-04 to 2019-04; 2018-04 to 2018-06	Political orientation	4449	4.665	1.879	0	10
	Q22 + Pre. wave(s)	2019-12 to 2020-02;2018-12 to 2019-02	Household income	3927	5.544	2.004	1	9
	Pre. wave(s)	2019-08 to 2019-12; 2018-08 to 2018-10	Religiosity	4278	2.221	0.991	1	4
	Pre. wave(s)	2019-10 to 2019-12	Social desirability					

Table A4.3. Sampling statistics across experiment group

		Experiment group 1 (n=1,302)			Experiment group 2 (n=1,302)			Experiment group 3 (n=1,301)			Experiment group 4 (n=1,302)		
Construct	Variable	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD
Perspective-taking	per1	1,180	2.66	0.88	1,195	2.66	0.88	1,169	2.65	0.87	1,180	2.68	0.88
	per2	1,181	2.79	0.82	1,189	2.75	0.83	1,165	2.78	0.82	1,180	2.76	0.79
	per3	1,176	2.67	0.80	1,196	2.65	0.81	1,167	2.67	0.82	1,177	2.65	0.81
	per4	1,179	2.08	1.00	1,192	2.18	1.00	1,164	2.13	0.99	1,179	2.13	0.99
	per5	1,177	2.87	0.75	1,192	2.82	0.77	1,168	2.82	0.79	1,175	2.82	0.75
	per6	1,181	1.97	0.86	1,192	1.96	0.87	1,165	1.99	0.87	1,176	1.92	0.85
	per7	1,181	2.32	0.84	1,192	2.29	0.86	1,164	2.29	0.86	1,175	2.24	0.82
Empathic concern	emp1	1,185	2.40	0.89	1,193	2.44	0.86	1,163	2.46	0.85	1,174	2.47	0.85
	emp2	1,181	2.51	0.91	1,194	2.54	0.89	1,161	2.56	0.91	1,172	2.60	0.85
	emp3	1,180	2.89	0.74	1,193	2.87	0.72	1,159	2.87	0.73	1,171	2.93	0.72
	emp4	1,182	2.96	0.88	1,191	2.99	0.85	1,160	3.01	0.87	1,171	3.01	0.84
	emp5	1,184	3.12	0.82	1,193	3.12	0.82	1,157	3.12	0.83	1,174	3.14	0.80
	emp6	1,185	2.67	0.86	1,193	2.70	0.84	1,164	2.68	0.84	1,172	2.70	0.87
	emp7	1,183	2.35	0.92	1,194	2.44	0.93	1,164	2.44	0.94	1,173	2.46	0.91
Covariates	gender	1,184	1.48	0.50	1,202	1.50	0.50	1,170	1.50	0.50	1,182	1.54	0.50
	age	1,175	55.08	14.30	1,194	53.84	14.41	1,167	53.47	14.45	1,175	54.38	14.23
	lower education	1,176	0.17	0.38	1,195	0.20	0.40	1,162	0.17	0.38	1,175	0.17	0.38
	Intermed. education	1,176	0.34	0.47	1,195	0.31	0.46	1,162	0.34	0.47	1,175	0.33	0.47
	high education	1,176	0.49	0.50	1,195	0.49	0.50	1,162	0.49	0.50	1,175	0.50	0.50
	Political orientation	1,296	4.69	1.91	1,300	4.65	1.94	1,296	4.61	1.90	1,297	4.69	1.85
	Household income	1,049	5.62	1.96	1,044	5.45	2.09	1,032	5.50	2.04	1,045	5.61	1.96
	Religiosity	1,228	2.21	0.98	1,223	2.22	1.01	1,233	2.21	0.98	1,236	2.26	0.99

Table A4.4. Result from the model comparisons – social distance and attitudes towards refugees' rights

Model descr.	No.	no. of EM algo. iter.	$\chi 2$	df	RMSEA	RMSEA (90% CI)	SRMR	CFI	TLI	CM	$\Delta\chi 2$	Δdf
Uni-dimen-sional model	M0a	13	3028.138	27	0.159	[0.154; 0.163]	0.077	0.790	0.720			
Bi-dimen-sional model	M0b	13	1602.686	26	0.117	[0.112; 0.122]	0.048	0.890	0.847	M0a	-1425.452***	-1
Bi-dimen-sional model taking into account method effects	M0c	13	538.523	22	0.073	[0.068; 0.078]	0.039	0.964	0.941	M0b	-1064.163***	-4

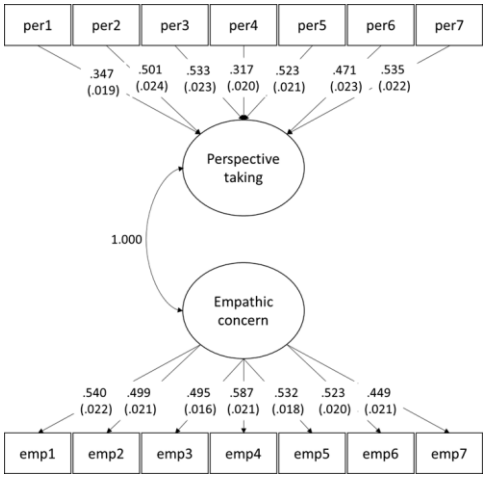
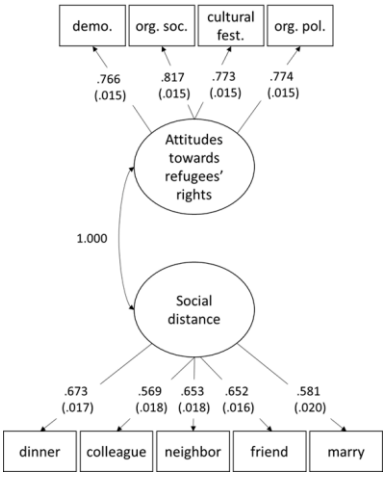
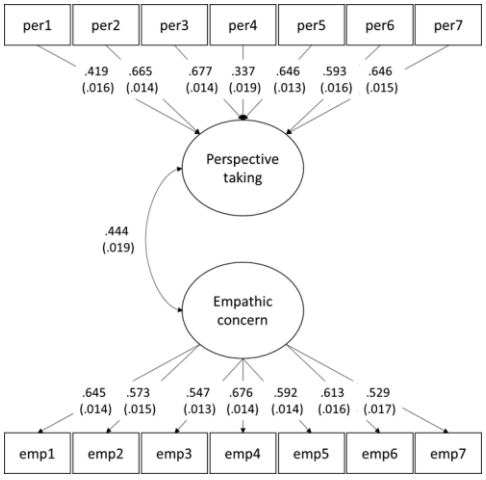
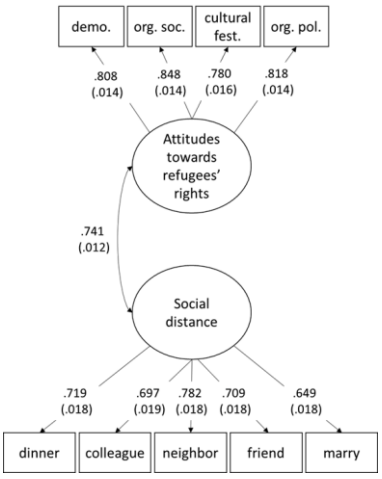
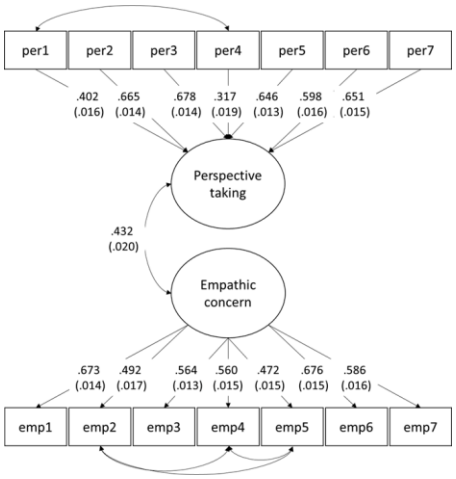
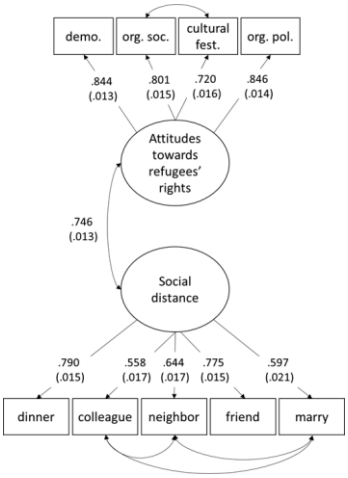
Note. *p<0.05, **p<0.01, ***p<0.001; n=4,420; df= degrees of freedom; RMSEA= Root Mean Square Error Of Approximation; SRMR=Standardized Root Mean Square Residual; CFI= comparative fit index; TLI=Tucker–Lewis index; CM= Comparison model

Table A4.5. Result from the model comparisons – empathic concern and perspective-taking

Model descr.	No.	no. of EM algo. iter.	$\chi 2$	df	RMSEA	RMSEA (90% CI)	SRMR	CFI	TLI	CM	$\Delta\chi 2$	Δdf
Uni-dimen-sional model	M0a	13	4656.921	77	0.116	[0.113; 0.118]	0.094	0.604	0.532			
Bi-dimen-sional model	M0b	13	1619.462	76	0.068	[0.065; 0.070]	0.045	0.867	0.840	M0a	-3037.459***	-1
Bi-dimen-sional model taking into account method effects	M0c	13	1099.562	72	0.057	[0.054; 0.060]	0.042	0.911	0.888	M0b	-519.9***	-4

Note. *p<0.05, **p<0.01, ***p<0.001; n=4,457; df= degrees of freedom; RMSEA= Root Mean Square Error Of Approximation; SRMR=Standardized Root Mean Square Residual; CFI= comparative fit index; TLI=Tucker–Lewis index; CM= Comparison model

Table A4.6. Measurement models

	Empathic concern and perspective taking	*Social distance and attitudes towards refugees' rights*
M0a		
M0b		
M0c		

Note. The model shows standardized coefficients. More detailed information on the respective variables (question wording, answer categories) are provided in table A1.

Table A4.7. Structural equation models (M2a and M2b)

	M2a			M2b		
	Social distance			Opposition to granting rights		
	Coef.	SE	Stand. Coef. [a.]	Coef.	SE	Stand. Coef. [a.]
Sex (Ref. male)	0.128**	(0.042)	0.053	0.236***	(0.039)	0.096
Age	0.008***	(0.002)	0.093	0.008***	(0.001)	0.103
Migration background:						
No migration background	Ref.			Ref.		
First- or second-generation immigrant	0.377***	(0.071)	0.078	0.259***	(0.065)	0.054
Religious affiliation:						
No or Other religious affiliation	Ref.			Ref.		
Christian (Protestant or Catholic)	-0.155***	(0.038)	-0.063	-0.096**	(0.037)	-0.039
Education:						
low	Ref.			Ref.		
intermediate	0.050	(0.055)	0.019	-0.043	(0.052)	-0.017
high	-0.334***	(0.057)	-0.137	-0.622***	(0.055)	-0.259
Household income	-0.054***	(0.011)	-0.089	-0.058***	(0.010)	-0.098
Employment situation:						
Not employed	Ref.			Ref.		
Part-time employed	0.016	(0.056)	0.005	0.067	(0.054)	0.022
Full-time employed	0.073	(0.051)	0.030	0.101*	(0.050)	0.042
Political orientation	0.178***	(0.011)	0.273	0.182***	(0.011)	0.284
Empathic concern	-0.306***	(0.047)	-0.251	-0.144**	(0.055)	-0.119
Perspective-Taking	-0.120**	(0.045)	-0.098	-0.084	(0.051)	-0.069
Treatment: highly skilled - Christians	Ref.			Ref.		
unskilled - Christians	0.372***	(0.048)	0.305	0.294***	(0.049)	0.244
highly skilled - Muslims	0.231***	(0.051)	0.189	0.243***	(0.051)	0.202
unskilled - Muslims	0.679***	(0.052)	0.556	0.551***	(0.051)	0.457
perspective-taking x highly skilled - Christians	Ref.			Ref.		
perspective-taking x unskilled - Christians	-0.001	(0.064)	0.000	-0.074	(0.067)	-0.027
perspective-taking x highly skilled - Muslims	-0.025	(0.070)	-0.009	-0.043	(0.070)	-0.015
perspective-taking x unskilled - Muslims	-0.008	(0.075)	-0.003	-0.060	(0.072)	-0.022
Empathic concern x highly skilled - Christians	Ref.			Ref.		
Empathic concern x unskilled - Christians	-0.064	(0.064)	-0.023	-0.065	(0.071)	-0.024
Empathic concern x highly skilled - Muslims	-0.016	(0.071)	-0.006	-0.099	(0.075)	-0.035
Empathic concern x unskilled - Muslims	-0.047	(0.076)	-0.017	-0.007	(0.073)	-0.003

Note. N=3,988; a. binary variables are STDY standardized, numeric variables are STDYX standardized.

Table A4.8. Model Specifications for the Multiverse Analyses

I	Covariates	Education	1 - *included* 2 - not included
		Household income	1 - *included* 2 - not included
		Employment situation	1 - included 2 - not included
		Religiosity	1 - *not included* 2 - included
		Political orientation	1 - *included* 2 - not included
		Social desirability	1 - *not included* 2 - included
II	Exclusion criteria	Migration background	1 - *citizenship* 2 - foreign born
III	Missings		1 - *FIML (outcome* and independent variables*)* 2 - FIML (outcome only) 3 - Listwise deletion

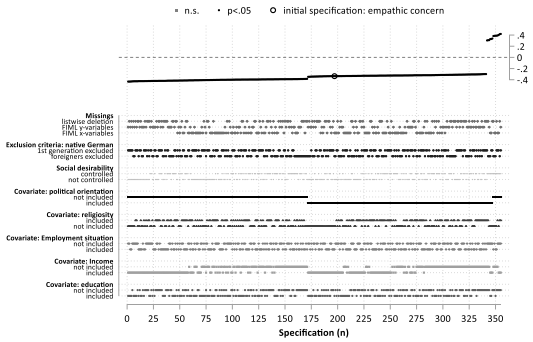
Note. The initial specifications are listed first (indicated with 1) and italicized; the alternative specifications are listed subsequently. FIML= full information maximum likelihood.

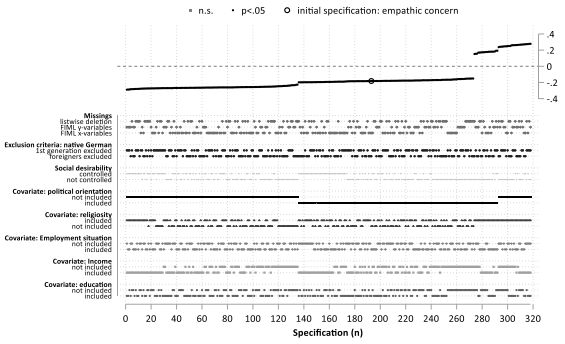
Table A4.9. Specification curve (multiverse analysis of model M1a and M1b): empathic concern and perspective-taking

M1a. social distance

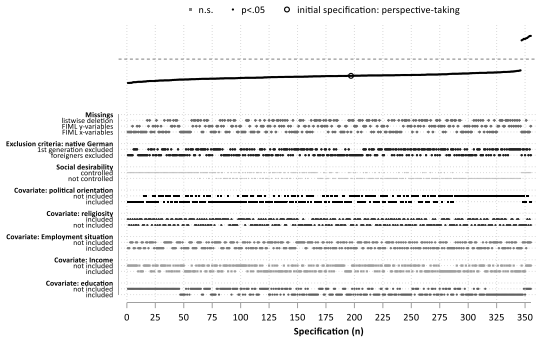
M1b. opposition to granting rights

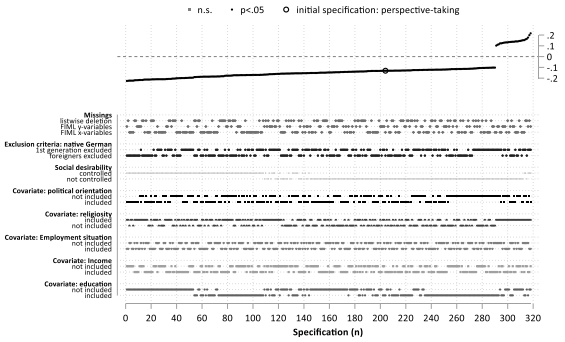
i. empathic concern





ii. perspective-taking



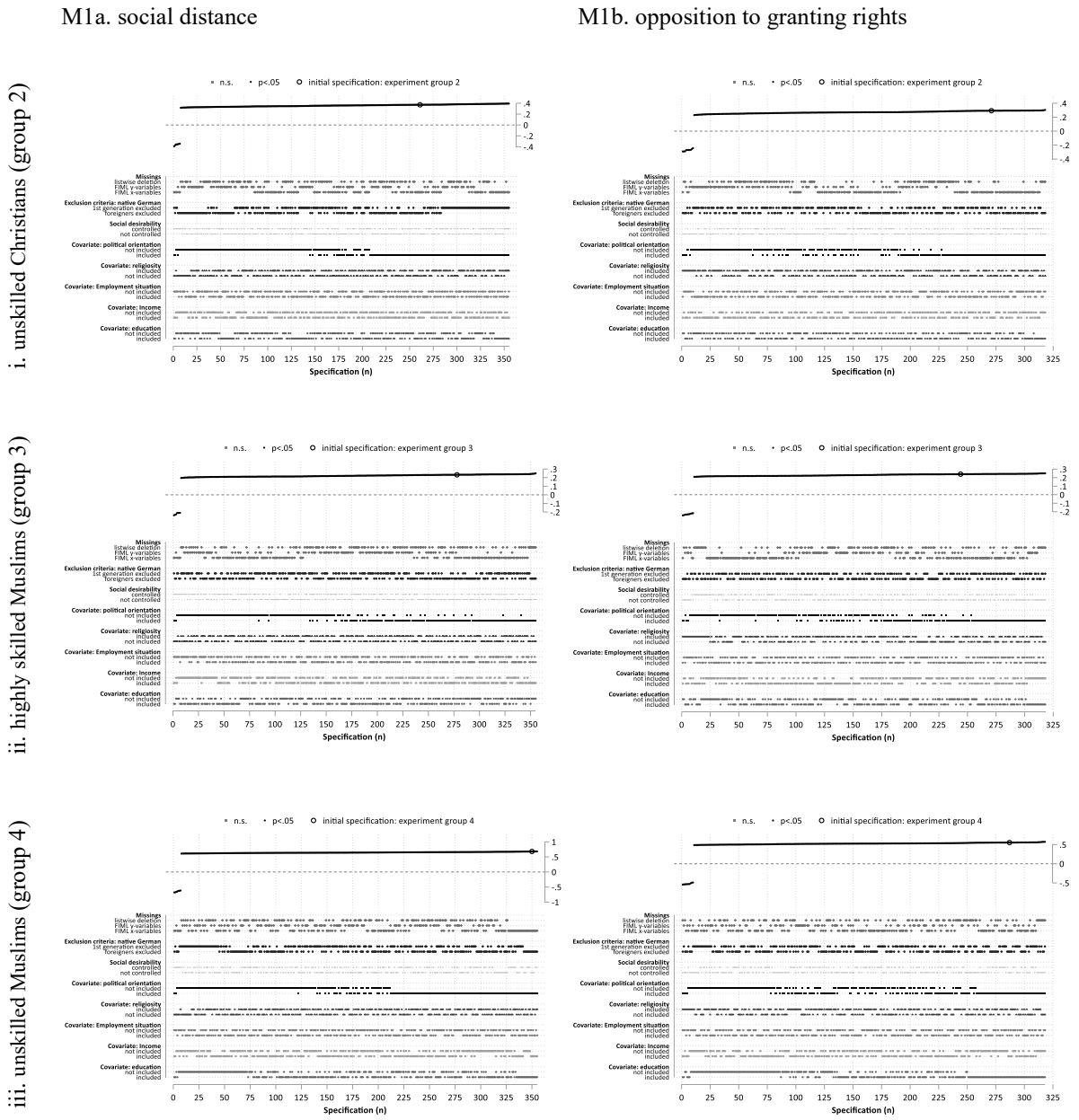


Note. Each figure depicts the specification curve of one association of interest, i.e., the regression coefficient of empathic oncern (first line) and perspective-taking (second line). The upper part of the figures depicts the regression coefficients for ach model specification as a curve consisting of dots, with gray dots indicating insignificant and black dots significant oefficients. The black circle indicates the estimate of the initial model specification described above. Thus, each dot represents e regression coefficient of one model specification. The y-axis on the upper right indicates the size of the regression oefficients. The lower part of the graph shows the model characteristics of each model specification. The y-axis on the lower ght indicates the respective model characteristic. For instance, this includes the information on how we handled missing IML or listwise deletion), whether we controlled for social desirability and the covariates we included in the model.

Note M1a. The figure shows the model results of the association between (i) empathic concern and (ii). perspective-taking and social distance across 355 model specifications (29 out of 384 models did not converge).
(i) empathic concern. Minimum estimated regression coefficient: b = -0.433; maximum estimated regression coefficient: b = 0.42; share of specifications with a negative estimated regression coefficient: 96.1%; share of specifications with $p \leq 0.05$ = 100%
(ii) perspective-taking. Minimum estimated regression coefficient: b = -0.184; maximum estimated regression coefficient: b = 0.179; share of specifications with a negative estimated regression coefficient: 97.5%; share of specifications with $p \leq 0.05$ = 100%

Note M1b. The figure shows the model results of the association between (i) empathic concern and (ii) perspective-taking and opposing refugee rights across 318 model specifications (66 out of 384 models did not converge).
(i) empathic concern. Minimum estimated regression coefficient: b = -0.289; maximum estimated regression coefficient: b = 0.278; share of specifications with a negative estimated regression coefficient: 85.6%; share of specifications with $p \leq 0.05$ = 100%
(ii) perspective-taking. Minimum estimated regression coefficient: b = -0.226; maximum estimated regression coefficient: b = 0.216; share of specifications with a negative estimated regression coefficient: 91.2%; share of specifications with $p \leq 0.05$ = 100%

Table A4.10. Specification curve (multiverse analysis of model M1a and M1b): experiment groups



Note. Each figure depicts the specification curve of one association of interest, i.e., the regression coefficient of different treatment groups (lines i-iii). The upper part of the figures depicts the regression coefficients for each model specification as a curve consisting of dots, with gray dots indicating insignificant and black dots significant coefficients. The black circle indicates the estimate of the initial model specification described above. Thus, each dot represents the regression coefficient of one model specification. The y-axis on the upper right indicates the size of the regression coefficients. The lower part of the graph shows the model characteristics of each model specification. The y-axis on the lower right indicates the respective model characteristic. For instance, this includes the information on how we handled missing (FIML or listwise deletion), whether we controlled for social desirability and the covariates we included in the model.

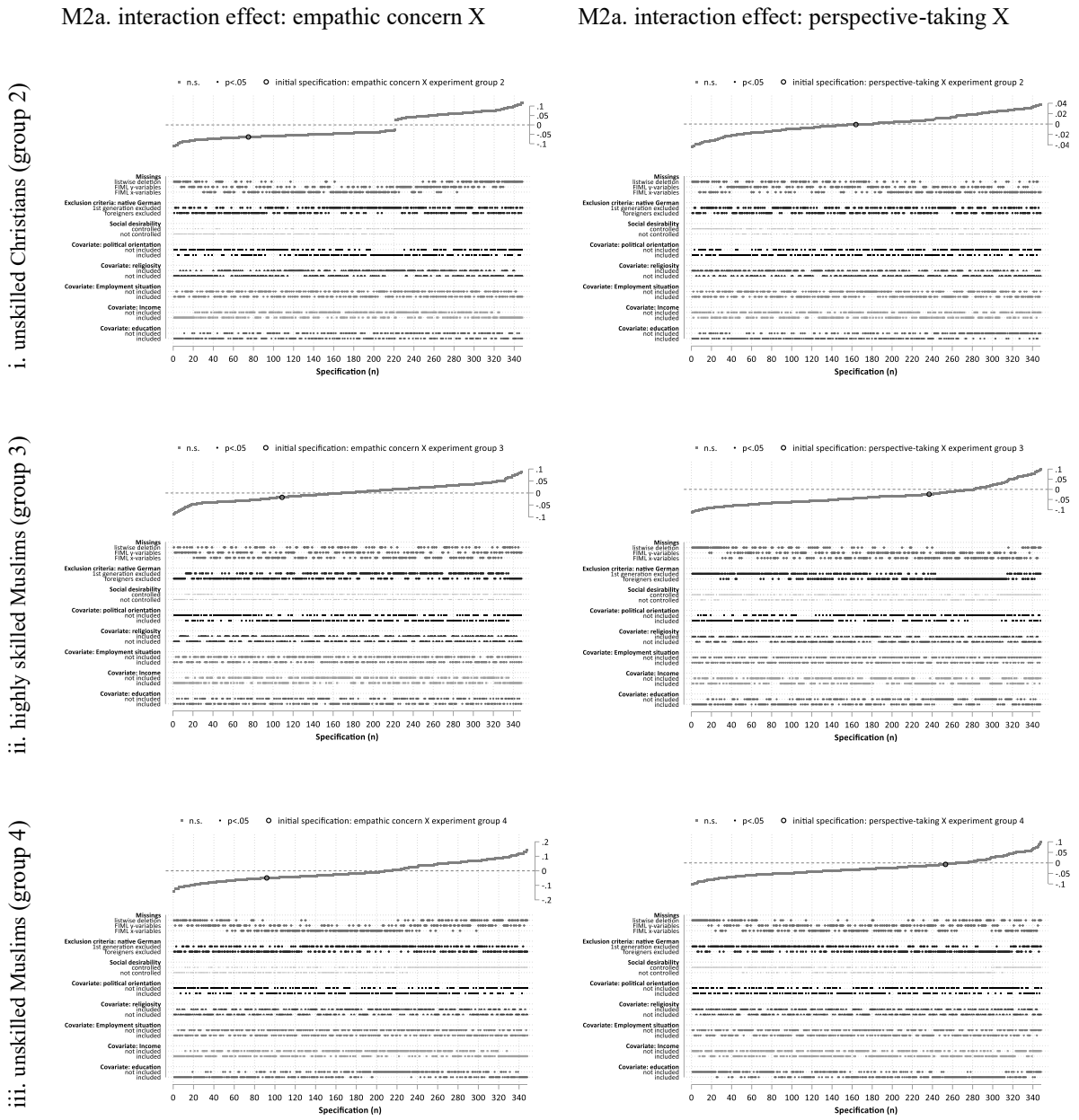
Note M1a. The figure shows the model results of the association between (i) experiment group 2 (unskilled Christians), (ii) experiment group 3 (highly skilled Muslims) and (iii) experiment group 4 (unskilled Muslims) with highly skilled Christians as the reference group and social distance across 355 model specifications (29 out of 384 models did not converge).

Note M1b. The figure shows the model results of the association between (i) experiment group 2 (unskilled Christians), (ii) experiment group 3 (highly skilled Muslims) and (iii) experiment group 4 (unskilled Muslims) with highly skilled Christians as the reference group and opposing refugee rights across 318 model specifications (66 out of 384 models did not converge).

(i) unskilled Christians (group 2). Minimum estimated regression coefficient: b = -0.392; maximum estimated regression coefficient: b = 0.394; share of specifications with a positive estimated regression coefficient: 98.0%; share of specifications with $p \leq 0.05$ = 100%
(ii) highly skilled Muslims (group 3). Minimum estimated regression coefficient: b = -0.237; maximum estimated regression coefficient: b = 0.250; share of specifications with a positive estimated regression coefficient: 98.0%; share of specifications with $p \leq 0.05$ = 100%
(iii) unskilled Muslims (group 4). Minimum estimated regression coefficient: b = -0.680; maximum estimated regression coefficient: b = 0.682; share of specifications with a positive estimated regression coefficient: 98.0%; share of specifications with $p \leq 0.05$ =100%

(i) unskilled Christians (group 2). Minimum estimated regression coefficient: b = -0.291; maximum estimated regression coefficient: b = 0.305; share of specifications with a positive estimated regression coefficient: 96.9%; share of specifications with $p \leq 0.05$ = 100%
(ii) highly skilled Muslims (group 3). Minimum estimated regression coefficient: b = -0.242; maximum estimated regression coefficient: b = 0.251; share of specifications with a positive estimated regression coefficient: 96.9%; share of specifications with $p \leq 0.05$ = 100%
(iii) unskilled Muslims (group 4). Minimum estimated regression coefficient: b = -0.544; maximum estimated regression coefficient: b = 0.572; share of specifications with a positive estimated regression coefficient: 96.9%; share of specifications with $p \leq 0.05$ = 100%

Table A4.11. Specification curve (multiverse analysis of model M2a): social distance – interaction effects



Note. Each figure depicts the specification curve of one association of interest, i.e., the regression coefficients of the interaction effects of the different treatment groups (lines i-iii) with empathic concern (first column), and perspective taking (second column). The upper part of the figures depicts the regression coefficients for each model specification as a curve consisting of dots, with gray dots indicating insignificant and black dots significant coefficients. The black circle indicates the estimate of the initial model specification described above. Thus, each dot represents the regression coefficient of one model specification. The y-axis on the upper right indicates the size of the regression coefficients. The lower part of the graph shows the model characteristics of each model specification. The y-axis on the lower right indicates the respective model characteristic. For instance, this includes the information on how we handled missing (FIML or listwise deletion), whether we controlled for social desirability and the covariates we included in the model.

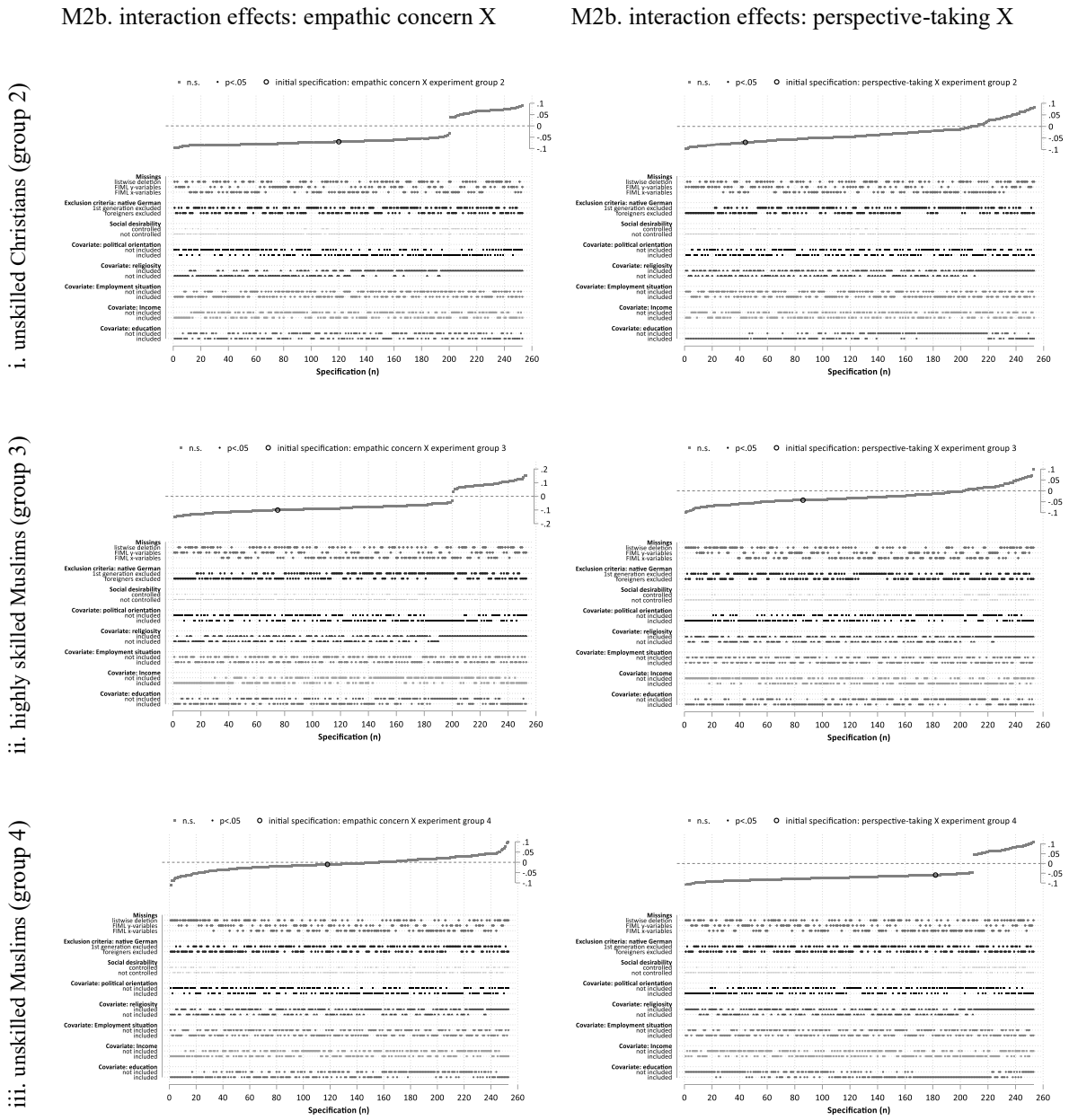
Note M2a. The figure shows the model results of the association between the interaction effects of empathic concern and (i) experiment group 2 (unskilled Christians), (ii) experiment group 3 (highly skilled Muslims) and (iii) experiment group 4 (unskilled Muslims) with highly skilled Christians as the reference

Note M2a. The figure shows the model results of the association between the interaction effects of perspective-taking and (i) experiment group 2 (unskilled Christians), (ii) experiment group 3 (highly skilled Muslims) and (iii) experiment group 4 (unskilled Muslims) with highly skilled Christians as the reference

group and social distance across 348 model specifications (36 out of 384 models did not converge).
(i) empathic concern X experiment group 2. Minimum estimated regression coefficient: b = -0.112; maximum estimated regression coefficient: b = 0.115; share of specifications with a negative estimated regression coefficient: 63.5%; share of specifications with $p \leq 0.05$ = 0%
(ii) empathic concern X experiment group 3. Minimum estimated regression coefficient: b = -0.087; maximum estimated regression coefficient: b = 0.089; share of specifications with a negative estimated regression coefficient: 50.0 %; share of specifications with $p \leq 0.05$ = 0%
(iii) empathic concern X experiment group 4. Minimum estimated regression coefficient: b = -0.141; maximum estimated regression coefficient: b = 0.144; share of specifications with a negative estimated regression coefficient: 60.4 %; share of specifications with $p \leq 0.05$ = 0%

group and social distance across 348 model specifications (36 out of 384 models did not converge).
(i) perspective-taking X experiment group 2. Minimum estimated regression coefficient: b = -0.044; maximum estimated regression coefficient: b = 0.038; share of specifications with a negative estimated regression coefficient: 52.0 %; share of specifications with $p \leq 0.05$ = 0%
(ii) perspective-taking X experiment group 3. Minimum estimated regression coefficient: b = -0.113; maximum estimated regression coefficient: b = 0.098; share of specifications with a negative estimated regression coefficient: 80.1 %; share of specifications with $p \leq 0.05$ = 0%
(iii) perspective-taking X experiment group 4. Minimum estimated regression coefficient: b = -0.103; maximum estimated regression coefficient: b = 0.100; share of specifications with a negative estimated regression coefficient: 77.3 %; share of specifications with $p \leq 0.05$ = 0%

Table A4.12. Specification curve (multiverse analysis of model M2b): opposition to granting rights – interaction effects



Note. Each figure depicts the specification curve of one association of interest, i.e., the regression coefficients of the interaction effects of the different treatment groups (lines i-iii) with empathic concern (first column), and perspective taking (second column). The upper part of the figures depicts the regression coefficients for each model specification as a curve consisting of dots, with gray dots indicating insignificant and black dots significant coefficients. The black circle indicates the estimate of the initial model specification described above. Thus, each dot represents the regression coefficient of one model specification. The y-axis on the upper right indicates the size of the regression coefficients. The lower part of the graph shows the model characteristics of each model specification. The y-axis on the lower right indicates the respective model characteristic. For instance, this includes the information on how we handled missing (FIML or listwise deletion), whether we controlled for social desirability and the covariates we included in the model.

Note M2b. The figure shows the model results of the association between the interaction effects of empathic concern and (i) experiment group 2 (unskilled Christians), (ii) experiment group 3 (highly skilled Muslims) and (iii) experiment group 4 (unskilled Muslims) with highly skilled Christians as the reference

Note M2b. The figure shows the model results of the association between the interaction effects of perspective-taking and (i) experiment group 2 (unskilled Christians), (ii) experiment group 3 (highly skilled Muslims) and (iii) experiment group 4 (unskilled Muslims) with highly skilled Christians as the reference

group and opposition to granting rights across 253 model specifications (131 out of 384 models did not converge).
(i) empathic concern X experiment group 2. Minimum estimated regression coefficient: b = -0.098; maximum estimated regression coefficient: b = 0.089; share of specifications with a negative estimated regression coefficient: 79.1 %; share of specifications with $p \leq 0.05$ = 0%
(ii) empathic concern X experiment group 3. Minimum estimated regression coefficient: b = -0.154; maximum estimated regression coefficient: b = 0.150; share of specifications with a negative estimated regression coefficient: 79.1 %; share of specifications with $p \leq 0.05$ = 0%
(iii) empathic concern X experiment group 4. Minimum estimated regression coefficient: b = -0.111; maximum estimated regression coefficient: b = 0.097; share of specifications with a negative estimated regression coefficient: 61.7 %; share of specifications with $p \leq 0.05$ = 0%

group and opposition to granting rights across 253 model specifications (131 out of 384 models did not converge).
(i) perspective-taking X experiment group 2. Minimum estimated regression coefficient: b = -0.098; maximum estimated regression coefficient: b = 0.084; share of specifications with a negative estimated regression coefficient: 83.0 %; share of specifications with $p \leq 0.05$ = 0%
(ii) perspective-taking X experiment group 3. Minimum estimated regression coefficient: b = -0.098; maximum estimated regression coefficient: b = 0.099; share of specifications with a negative estimated regression coefficient: 79.8%; share of specifications with $p \leq 0.05$ = 0%
(iii) perspective-taking X experiment group 4. Minimum estimated regression coefficient: b = -0.108; maximum estimated regression coefficient: b = 0.111; share of specifications with a negative estimated regression coefficient: 82.6 %; share of specifications with $p \leq 0.05$ = 0 %

4.10. Data note

The survey data 'GESIS Panel—Standard Edition' that support the findings of this study are available at the GESIS Data Archive at doi: 10.4232/1.13573, study number ZA5665 v37.0.0 2020-11-10.

The Stata scripts and the R scripts for the data preparation and analyses that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3.

5. Explaining immigrants' social distance towards natives: A multilevel mediation approach across immigrant groups in Germany

Nora Huth-Stöckle (University of Wuppertal, Germany) &
Elmar Schlueter (Institute of Sociology, Justus Liebig University, Giessen, Germany)

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Abstract

What factors underlie immigrants' social distance towards natives? Previous studies found that immigrants who perceive themselves as rejected by natives express more negative intergroup attitudes towards natives. Another line of research found that contingent on their origin country, immigrants face different degrees of social distance from natives. In this study, we employ an intergroup threat approach to integrate these separate research strands. The theoretical model we develop predicts that immigrants from groups that receive greater social distance from natives will perceive more personal discrimination, which, as a mediating mechanism, will be associated with greater social distance towards natives. Empirically, we draw on a cross-sectional probability sample of 1789 immigrants from 38 origin countries living in Germany (i.e., a comparative origin design). The results of multilevel mediation analyses prove consistent with our theoretical expectations, which points to the benefits of examining social distance among immigrants and natives in conjunction.

Keywords: social distance; perceived personal discrimination; intergroup prejudice; intergroup threat; multiverse analysis

5.1. Introduction

Researchers studying intergroup relations between immigrants and natives have long paid special attention to group members' prejudice, broadly defined here as "a negative evaluation of a social group or a negative evaluation of an individual that is significantly based on the individual's group membership" (Crandall & Eshleman, 2003, p. 414). Surprisingly, however, up to now the bulk of studies in this field have restricted their focus to natives' prejudice towards immigrants only. In contrast, the possibility that immigrants themselves harbor prejudice towards natives (Pincus, 1996) has received only limited research attention. Heeding calls to include the perspectives of minority group members in the broader study of intergroup attitudes (Devine, 1995), this study aims to help remedy this imbalance in the literature. We approach this task based on intergroup threat theory (Stephan et al., 2008, 2016; Stephan & Stephan, 2016), a theoretical lens that is likely to foster theoretical and empirical progress for several reasons. Specifically, intergroup threat theory does not focus only on perceptions of threat and anti-minority reactions among majority members but extends the scope also to minority members' threat perceptions and negative reactions towards the majority (Stephan et al., 2002, p. 1243). Additionally, we propose that intergroup threat theory is well-suited for integrating findings from closely related, but up to now isolated research accounts. As we will detail below, this holds in particular for the neighboring literature on perceptions of discrimination among minority members (Branscombe, Schmitt, et al., 1999; de Vroome et al., 2014; Jasinskaja-Lahti et al., 2009; ten Teije et al., 2013; Tropp, 2003) and for the body of research on natives' evaluative rankings of immigrants from different countries of origin (Hagendoorn, 1995). The sort of intergroup attitudes we seek to explain is social distance – a longstanding form of prejudice that indicates the degree of intimacy ingroup members are prepared to establish in their relations with outgroup members (Bogardus, 1959; Park, 1924; see Samelson, 1978; Weaver, 2008). Two arguments support putting social distance at the center of the current research interest. First, doing so helps to align the present research with existing studies in this field, many of which provide important building blocks for the hypotheses we develop and subject to systematic empirical inquiry (Hagendoorn, 1995; Schmitt & Branscombe, 2002). Second, social distance has long been taken to reflect the unwillingness of ingroup members for interaction with outgroup members (Williams, 1964, p. 24). Consequently, given that social distance is likely to inhibit everyday social interaction across group boundaries, advancing knowledge in this field also has broader societal implications.

In brief, for fostering successful intergroup relations in a world of increasing immigration, a better understanding of social distance not only among natives, but also among immigrants themselves is of critical importance. Accordingly, in this study we seek to extend previous knowledge in three ways. First, as a theoretical contribution, we develop existing knowledge in this field from a multilevel perspective. Previous theory and research convincingly demonstrate that natives' degree of social distance towards immigrants differs depending on the country from which immigrants originate (Hagendoorn, 1995). However, this line of research has not been systematically linked with the reverse phenomenon of immigrants' social distance towards natives. By conceiving of immigrants' perceived personal discrimination (Schmitt & Branscombe, 2002) as a factor that is likely to differ not only among individual immigrants, but also between immigrants from different countries of origin - for brevity, henceforth dubbed 'immigrant groups' - this study provides such a link. Related to this, from a methodological perspective we follow the idea of a comparative origin design (Van Tubergen, 2006). This means that we conceive of immigrant groups as contextual-level units situated within a single destination country (see e.g., Spörlein et al., 2014). Doing so is advantageous, for it enables us to examine our theoretical expectations spanning different levels of analysis using multilevel mediation modeling techniques (Zhang et al., 2009). Likewise, we acknowledge that the complexity of research endeavors typically allows for multiple justifiable analytical choices concerning the operationalization of the variables and statistical analysis (Young & Holsteen, 2017). Our study is no exception to this regularity. We therefore sought to increase the transparency and robustness of our research by replicating our hypotheses tests across a large number of alternative model specifications using multiverse analyses (Simonsohn et al., 2020; Steegen et al., 2016).

Our third contribution is that we also make empirical progress. The few previous studies that investigated immigrants' intergroup attitudes towards natives delivered important insights, yet typically focused on immigrants from a handful of origin countries only. Deviating from such research designs concerned with the individual-level of analysis, our main empirical source is a multistage stratified probability survey sample of 1,789 immigrants living in Germany from 38 different countries of origin (Presse- und Informationsamt der Bundesregierung, 2016). To the best of our knowledge, research covering such an extensive number of immigrant groups has not been available up to now and opens up novel opportunities for scholarly pursuit. Beyond that, Germany represents an instructive case for examining the nexus of natives' and

immigrants' social distance, given its often conflictive intergroup relations between natives and immigrants.

Before we proceed, we make explicit that our study shares the limitations typical for cross-sectional studies without random assignment. Although we take several steps to increase confidence in our empirical results, this means that we do not make claims of causality, and all of our results should be considered as correlative (Hayes & Rockwood, 2020). Therefore, the more modest aim of the present work is to provide observational evidence for convincing theoretical arguments to better understand immigrants' social distance towards natives from a multilevel perspective.

5.2. A multilevel theoretical model explaining immigrants' social distance towards natives

To explain immigrants' social distance towards natives, we begin developing our theoretical model by drawing on key concepts from the literature on intergroup threat put forward by Stephan and Stephan (2016; see also Stephan et al., 2002, 2008).

Intergroup threat theory holds that perceptions of threat from the outgroup are of central importance for shaping ingroup members' anti-outgroup attitudes and behaviors (Stephan et al., 2016). The theory distinguishes ingroup members' perceptions of threat across two dimensions: the content of the threat (realistic and symbolic) and the target of the threats (the ingroup or the self). Regarding the content to which perceived threats refer, perceptions of realistic threat entail threats to the ingroup's "power, resources or well-being" (Rios et al., 2018, p. 213). In contrast, perceptions of symbolic threat refer to threats to the ingroup's "values, identity, or way of life" (p. 213). Further, intergroup threat theory holds that an ingroup member may perceive such threats as being relevant to their entire ingroup (group threat) or to themself (individual threat) (Stephan et al., 2008, 2016). Most studies in this field have focused on realistic and symbolic threats perceived to target the entire ingroup (Rios et al., 2018, p. 214; Esses, 2021). Common examples include perceptions that an ethnic or religious minority threatens the majority's economic well-being, its way of life, or safety (e.g., Scheepers et al., 2002; Schlueter et al., 2013). The present research, however, shifts attention to minority group members' (i.e., immigrants) perceived individual threat of being personally affected by discrimination and maltreatment of majority group members (i.e., German natives). Doing so resonates with the robust empirical regularity that "the threat of being a target of prejudice and discrimination" (Eccleston & Major, 2006, p. 147) – also known as perceived personal

discrimination (Schmitt et al., 2014) – characterizes the daily individual experiences of members from devalued groups. Indeed, numerous studies show that immigrants continue to face personal discrimination in multiple social domains, e.g., in everyday intergroup encounters with natives (Kauff et al., 2013; Klink & Wagner, 1999), when seeking housing (Barwick & Blokland, 2015; Flage, 2018) or on the job market (Kaas & Manger, 2012; Zschirnt & Ruedin, 2016).

Note that empirically, ingroup members' perceptions of threat often refer to both realistic and symbolic threats seen to be posed by the outgroup (Stephan et al., 2016; see also Rios et al., 2018). To illustrate, immigrants' perceived individual threat of being personally discriminated against by natives might plausibly be considered to correspond to realistic threats (e.g., economic loss: 'I believe that only because of my immigrant background I did not get the job I applied for') as well as symbolic threats (e.g., devalued social identity: 'I believe that because of my immigrant background the employer considers me inferior to native job applicants').

Why, then, should immigrants' perceptions of individual threat from natives increase their social distance towards natives? Perhaps the most parsimonious answer to this question is that because people generally "are motivated to avoid uncomfortable social situations, those who have been the targets of prejudice from an outgroup member may become less willing to engage in interactions with any members of the outgroup in the future" (Tropp, 2003, p. 137f.).[35] Consistent with this motivational account, intergroup threat theory adds that ingroup members' perceptions of threat commonly incite negative emotions such as anger, fear, or anxiety directed at the outgroup (Stephan et al., 2016, p. 266). According to the theory, it is negative emotions like these that heighten ingroup members' motivation to increase their social distance towards outgroup members (Paolini et al., 2018), an expectation that is supported by empirical evidence (Esses & Dovidio, 2002; see Talaska et al., 2008). In fact, a growing literature generally supports the prediction that immigrants who perceive more personal discrimination will express greater negativity towards natives. Ten Teije et al. (2013), for example, report that immigrants'

[35] We are grateful to one anonymous reviewer for pointing out that immigrants' perceptions of personal discrimination might also be considered as an instance of social identity threat (Branscombe, Ellemers, et al., 1999), which in turn heightens immigrants' preferences for social distance towards natives. To illustrate, Branscombe, Schmitt, et al. (1999) demonstrate that African-Americans' hostility towards White Americans increases the more that African-Americans attribute personal rejections to White Americans' prejudice against them. Accordingly, Branscombe, Schmitt, et al. (1999, p. 47) conclude that "feeling discriminated against based on one's group membership encourages derogation of the rejecting outgroup member who does the discriminating (see also Crocker et al., 1991), and psychological movement towards an accepting ingroup". See Stephan, Ybarra, and Rios (2016, p. 258) for a brief discussion of social identity threat from the perspective of intergroup threat theory.

perceptions of personal discrimination are associated with worsened attitudes towards the Dutch (see also de Vroome et al., 2014; Jasinskaja-Lahti et al., 2009).

Thus far, our discussion highlights the role of perceptions of personal discrimination in helping us understand why immigrants might prefer relatively more or less social distance towards natives. Although clearly the above literature is concerned with the individual-level of analysis, it nevertheless provides a promising empirical basis for the aim of this study to explain immigrants' social distance from a multilevel perspective. Foundational to this objective is the recognition that in their destination country, immigrants from the same origin country are likely to share similar acculturation experiences (Berry, 2006; Bourhis et al., 1997). For the present case, this begs the interesting possibility that immigrants from the same country of origin should show similar degrees of perceived personal discrimination and social distance towards natives. Put differently, this means that we should expect immigrants from different countries of origin to show systematic between-group differences in the constructs under study, all else being equal. In shifting our focus to the level of immigrant groups, we presume that immigrants' perceived personal discrimination and social distance represent parallel, contextual-level constructs that reflect their individual-level counterparts. Accordingly, we suggest that immigrant groups characterized by a higher average degree of perceived personal discrimination will show a higher average degree of social distance towards natives. We thus follow the idea of, in methodological parlance, homologous relations among similar variables at the within-group (i.e., individual) and between-group (i.e., contextual) levels of analysis (Chen et al., 2005).

Doing so invites the question as to what factors account for systematic between-group differences in immigrants' perceived personal discrimination and their social distance. In other words, why might immigrants from some countries of origin report, on average, more personal discrimination and greater social distance towards natives than immigrants from some other countries? To approach this question, we direct attention to natives' anti-immigrant prejudice. Specifically, anti-immigrant prejudice figures prominently as part of the opportunity structure for the acculturation of immigrants in their destination countries (Berry, 2006; Bourhis et al., 1997; Esser, 1986). In particular, natives' anti-immigrant prejudice has long been known to robustly predict discriminatory behaviors towards and rejection of immigrants, such as offensive gestures or derogatory comments in everyday interactions with immigrants (Schütz & Six, 1996). Interestingly, past research in this field demonstrated that not all immigrant groups face the same degree of prejudice. On the contrary: Summarizing the pattern of findings

from a variety of Western destination countries, Hagendoorn (1995) concluded that natives rank immigrants "as more or less attractive social partners" (Hagendoorn, 1995, p. 199) contingent on their country of origin. For example, across several studies in the Netherlands, immigrants from northwestern Europe figured at the top of the ranking, followed by immigrants from southern and eastern Europe. Immigrants from Asian and African countries were ranked the lowest in the hierarchy (see also Coenders et al., 2008; Esses, 2021; Ford, 2011; Gorodzeisky, 2011; Weaver, 2008).

Although outside the scope of the present contribution, it is important to ask what factors might motivate natives to reject some immigrant groups more than others. Here we only briefly note that immigrant groups natives perceive to be more culturally dissimilar have been found to receive relatively higher degrees of social distance by natives. For example, focusing on collectivism and individualism – one highly influential dimension of cross-cultural differences – Verkuyten et al. (1996) found that larger cultural differences are associated with higher degrees of natives' social distance towards immigrants. Therefore, theory and research focusing on cultural differences between immigrants and natives might represent a fruitful avenue for understanding how natives create and maintain evaluative rankings of immigrants.

Returning to the main purposes of this study, the notion of natives' evaluative rankings of immigrants provides the link for understanding why immigrant groups should differ in their social distance towards natives. Specifically, all else being equal, immigrants in groups that face higher degrees of prejudice and discrimination from natives should, on average, perceive more personal discrimination. In turn, and importantly so, we should find that immigrants in groups perceiving more personal discrimination should show higher degrees of social distance towards natives. Accordingly, this line of argumentation highlights the role of natives' anti-immigrant prejudice – and, by implication, overt discrimination – as a contextual characteristic situated at the level of immigrant groups. Presumably, natives' anti-immigrant prejudice and discrimination indirectly shape immigrants' social distance towards natives, with immigrants' perceptions of personal discrimination providing the theoretical mechanism that mediates this relation.

5.3. Hypotheses

The theory and research discussed above offers instructive insights to better understand why immigrants from different countries of origin might show systematic differences in their perceived personal discrimination and social distance towards natives. We summarize the key points in four hypotheses. As noted above, this study takes as its vantage point important earlier work focusing on individual-level differences in immigrants' intergroup attitudes towards natives (Jasinskaja-Lahti et al., 2009; ten Teije et al., 2013; Verkuyten & Yildiz, 2007). Presumably, immigrants' degree of social distance towards natives reflects their past experiences or future expectations of being rejected by natives:

H1: The higher the degree of immigrants' perceived personal discrimination from natives, the higher the degree of immigrants' social distance towards natives.

Consistent with the broader literature on the acculturation of immigrants in their destination countries (Berry, 2006; Bourhis et al., 1997), we expect that immigrants from the same country of origin will show similar degrees of perceived personal discrimination and social distance towards natives. Our between-group (or contextual) level prediction concerning these variables, then, mirrors its counterpart at the within-group (or individual) level:

H2: The higher the average degree of immigrants' perceived personal discrimination from natives, the higher immigrants' average social distance towards natives.

Further, past research demonstrated that immigrants from different countries of origin face different degrees of natives' social distance (Hagendoorn, 1995; Verkuyten et al., 1996). Here we combine this robust empirical regularity with the possibility that immigrant groups show systematic differences in their average degree of perceived personal discrimination. We predict that:

H3: The higher the degree of natives' average social distance towards immigrants, the higher the average degree of immigrants' perceived personal discrimination from natives.

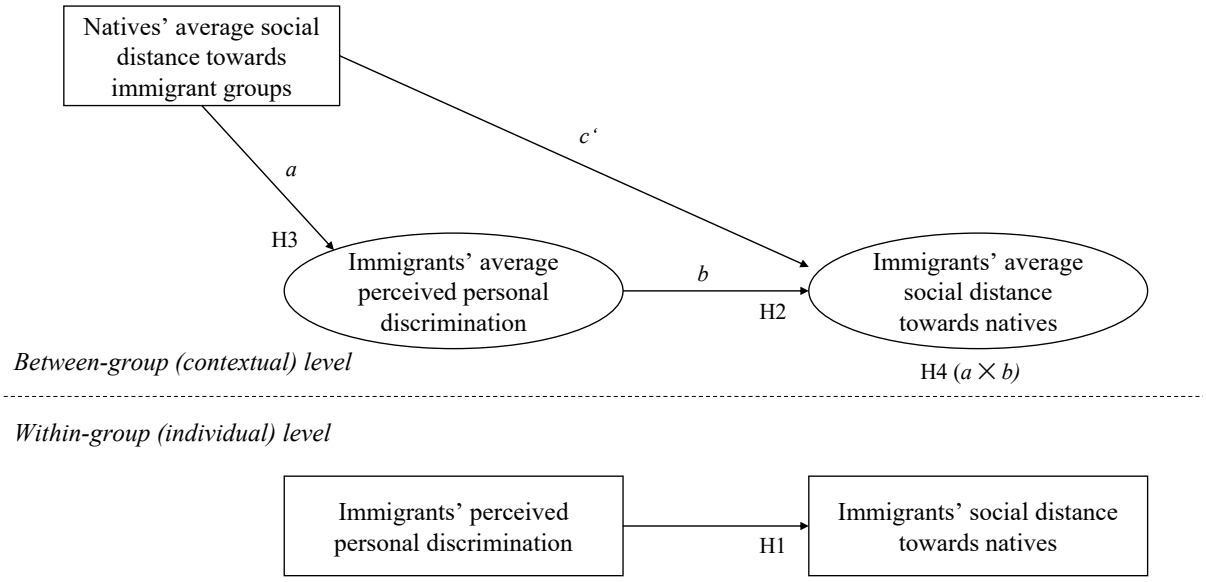
A key implication of the theoretical expectations summarized above is that at the between-group level, natives' social distance towards immigrants will be indirectly associated with

immigrants' social distance towards natives via immigrants' average degree of perceived personal discrimination. Given that appropriate conclusions concerning the presence of such an indirect relation require a separate empirical test (Zhang et al., 2009), we expect that:

H4: The indirect association of natives' average social distance towards immigrants with immigrants' average social distance towards natives will be mediated via immigrants' average degree of perceived personal discrimination.

To foster an intuitive understanding of these theoretical expectations, consider the conceptual visualization in Figure 5.1:

Figure 5.1. Conceptual multilevel model for explaining immigrants' social distance towards natives.



Note. The lower part of the figure refers to the within-group relations, the upper part to the between-group relations. Rectangles depict observed variables. At the between-group level, ellipses represent the estimated latent covariate (i.e., immigrants' perceived personal discrimination) respectively the random intercept of the dependent variable (i.e., immigrants' social distance towards natives) measured at the within-group level (Lüdtke et al., 2008; Zhang et al., 2009). Hypotheses 1 to 3 refer to direct associations. Hypothesis 4 refers to the product of paths a and b, representing the mediating mechanism discussed above.

5.4. Research setting

Before we turn to the empirical part, it is worth briefly considering the setting of our study: Germany as a destination country for immigrants and their descendants. Similar to other European countries such as France or the Netherlands, Germany started to become a destination country for immigrants in the second half of the 1950s due to labor migration. Major inflows of immigrants, mainly from Southern European countries of origin, took place starting in the early 1970s, often followed by family migration. Additionally, in the early 1990s an increasing number of refugees arrived and subsequently remained in Germany (Thränhardt, 1992). Further, forced migration from Syria, Afghanistan, Iraq, and Eritrea became particularly acute in 2015 and the subsequent years. To illustrate, in 2015 alone, an estimated 890,000 refugees arrived in Germany (BMI, 2016). Collectively, these processes of ethnic differentiation continue to alter the demographic makeup of German society substantially. In 2014 – when our key data among immigrants were collected – Germany had 80.9 million residents. Of those residents, 16.4 million – approximately 20.3% of the entire population – had a "migration background" (Destatis, 2017), a concept figuring prominently in both official statistics and among the general public. Officially, all persons who were not born with German citizenship are considered to have a migration background. Accordingly, this definition includes immigrants and their descendants alike (Destatis, 2022). However, rather than based on official criteria, Germans' everyday categorizations of which residents have or do not have a migration background depend more on readily available physical characteristics such as skin tone or hair texture (Gereke et al., 2022). Thus, majority group members often perceive persons as immigrants regardless of whether they were born in the destination country or have lived in the country for several generations (i.e., 'perpetual foreigner stereotype', see, Xu et al., 2021; Huynh et al., 2011). Accordingly, majority group members typically extend their anti-immigrant prejudice to persons they perceive as immigrants, regardless of their generational status.[36] As indicated, for example, by the substantial degree of anti-immigrant prejudice among German natives and immigrants' perceptions thereof, intergroup relations between German natives and immigrants appear to be far from smooth (Spörlein & Schlueter, 2020; see also Simonsen, 2016). Collectively, these characteristics make Germany a highly suitable case for examining variation in immigrants' social distance towards natives.

[36] We therefore include both immigrants born outside Germany (1st generation immigrants) and their descendants born in Germany (2nd generation immigrants) in our empirical analyses.

5.5. Data and measurement

To examine our theoretical predictions, we combined individual-level data from a national probability survey of immigrants with independent contextual-level data concerning the social distance that German natives express towards specific immigrant groups. Further, we augmented this empirical source with official census data to account for additional characteristics of the immigrant groups under study. We take advantage of the survey "People with Migration Background in Germany 2014" (henceforth 'PMBiG survey'; Presse- und Informationsamt der Bundesregierung, 2016), a multistage stratified random sample of immigrants living in Germany aged 18 years and older.[37] Originally, this survey comprised of n = 2,001 immigrants from k = 40 origin countries. Due to missing values on the contextual- and individual-level independent variables, the final dataset consisted of n = 1,789 respondents from k = 38 origin countries.[38] The size of the immigrant groups varies from 1 to 458 respondents, with a median group size of 47 respondents. These immigrant groups differ in important characteristics such as demographic size, geographic origin, or years spent in Germany, which is desirable for examining our theoretical expectations as outlined above. In our main analysis we included all groups, also those with relatively small cluster sizes.[39]

Dependent variable. To assess immigrants' social distance towards native Germans, we employed two items using 4-point Likert-type response scales. The first item was: 'Would it be okay for you if your son married a German woman or your daughter married a German man?' Response options for this indicator ranged from 0 ('*yes, definitely*') to 3 ('*not at all*'). The second item read 'How likable do you find Germans in general?,' with response categories ranging from 0 ('*very likable'*) to 3 ('*not likable*'). Tapping into affective dimensions of intergroup prejudice, both measures clearly correspond to the classic conception that social distance reflects group members' views on how acceptable or objectionable other social groups and their individual members are (Bogardus, 1959; Park, 1924). Consistent with this view, there

[37] Survey participants were asked if they had been born in Germany (2nd generation immigrants) or from which country they had immigrated to Germany (1st generation immigrants). They were further asked from which country their parents had immigrated to Germany. To facilitate readability, we refer to both immigrants and their descendants as 'immigrants' throughout the manuscript.

[38] The 38 origin countries of the respondents were the following: Afghanistan, Egypt, Algeria, Bosnia and Herzegovina, Greece, Iraq, Italy, Iran, Yemen, Jordan, Croatia, Lebanon, Libya, Morocco, North Macedonia, Montenegro, Poland, Romania, Russia, Serbia, Slovenia, Syria, Turkey, Tunisia, Viet Nam, Armenia, Azerbaijan, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Ukraine, Uzbekistan, Belarus.

[39] However, we systematically varied the minimum size of the immigrant groups (i.e., clusters) between n = 5 and n = 10 in the multiverse analysis (see section 'Robustness analyses').

was a medium-sized positive correlation between these items at both the within-group and between-group levels of analysis (within-group level: $r = .38$, $p \leq .05$; between-group level: $r = .33$, $p \leq .05$). For this two-item scale, Cronbach's alpha ((‘polychoric ordinal alpha'; see Gadermann et al., 2012) of .65 for the within-group level and .59 for the between-group level suggests appropriate internal consistency.[40] For the subsequent analyses we utilized the factor scores (McNeish & Wolf, 2020) of immigrants' social distance towards German natives (min. = -.73; max. = 2.77). Higher scores indicate higher degrees of immigrants' social distance towards German natives.

Independent variable. Testing our hypotheses situated at the contextual-level requires information on German natives' social distance towards each of the immigrant groups available in our data. To this end, we collected original data (Huth-Stöckle & Schlueter, 2021) from an online access panel of the professional survey firm Respondi (www.respondi.com). Between January 28 and February 3, 2021, a nationally representative sample of $n = 500$ German natives without an immigrant background quota sampled by sex (*male*/*female*), age (1 = '*18-44 years,*' 2 = '*45-64 years,*' and 3 = '*65 years and above*') and education (1 = '*no educational degree and general basic education,*' 2 = '*intermediate general education,*' and 3 = '*higher general education*') was recruited. Matching the population in several key sociodemographic variables, a strength of this stratified quota sample was that it allows for a fairly accurate reflection of the population distribution of German natives' anti-immigrant social distance. Still, we acknowledge that this sample results from an opt-in panel where individuals receive financial compensation for participating in online surveys. This might give rise to concerns about the potential influence of selectivity bias. However, research (e.g., Weinberg et al., 2014) actually finds no substantial differences in data quality and generalizability when comparing data from population-based random samples versus 'Crowdsource-recruited' samples, i.e., samples where subjects receive financial compensation for participating in surveys.

Participants indicated their degree of social distance towards each of the 40 immigrant groups with an item that was measured in the same way as the first item of the dependent variable. Specifically, participants were asked to evaluate the statement 'It would be okay for me if my

[40] We employed confirmatory factor analysis techniques to assess the factorial validity of the multiple indicators available measuring immigrants' perceived personal discrimination and social distance towards natives. To account for the ordinal nature of the indicators, we used a probit-link function and WLSMV estimation techniques (Beauducel & Herzberg, 2006; B. O. Muthén, 1984). The results showed that a correlated two-factor model fitted well to the data (CFI = 0.97, RMSEA = 0.04, SRMR = 0.02; see Sass et al., 2014).

son or my daughter married a person who migrated from [country of origin] to Germany.' The willingness to accept a member of an ethnic group into the immediate family is one of the key items of social distance measures (e.g., Bogardus, 1947) and is widely used both as a single item (e.g., Martinović, 2013; Storm et al., 2017; Weaver, 2008) and in multi-item scales (e.g., Bastian et al., 2012; Binder et al., 2009; Gorodzeisky, 2013; Hagendoorn, 1995; Verkuyten et al., 1996). Response options for this indicator ranged on a four-point scale from 1 ('*yes, definitely*') to 4 ('*not at all*'). Missing values for this item varied between 3% and 22%. To reduce the risk of respondent fatigue (Lavrakas, 2008) when answering the same question for immigrants from 40 origin countries, we randomly assigned participants in groups of $n = 125$ respondents to four questionnaire conditions comprising different sets of $k = 10$ immigrant groups. This allowed us to use the mean ratings per immigrant group as our contextual-level measures of German natives' anti-immigrant social distance.[41]

Note that we assessed German natives' social distance towards immigrants in 2021, i.e., 7 years after the individual-level data for immigrants' perceived personal discrimination and their social distance towards German natives were collected in 2014. Operationalizing the independent variable in this way was based on the premise that natives' social distance towards specific immigrant groups as a contextual characteristic remained stable during the period under study. We are unable to deliver a direct test of this presumption. However, previous studies unequivocally demonstrate that even across several decades, ingroup members' evaluative ranking of different outgroups typically remains very stable (for the Netherlands, see Coenders et al., 2008; for the UK, see Ford, 2011; for the United States, see Weaver, 2008; Kleg & Yamamoto, 1998). Importantly, in accordance with these results, supplementary analyses using two independent data sources confirm that German natives' social distance towards various categories of immigrants remain virtually unchanged over time.[42] These corollary results tie in well with recent research on the individual-level stability of natives' attitudes towards

[41] Statistically, employing the arithmetic means of natives' social distance towards each immigrant group under study is beneficial, because aggregation typically helps to reduce random measurement error (Ostroff, 1993). Moreover, random measurement error in the independent variable introduces a conservative bias in the model estimates, i.e., decreases the risk of erroneously rejecting the null hypothesis (Darlington & Hayes, 2017, p. 527).

[42] We located nationally representative repeated cross-sectional survey data (Gesis, 2021) that asked German natives in 1996, 2006, and 2016 about their social distance towards four broad categories of immigrant outgroups, namely Italian immigrants, German Resettlers (called *Aussiedler*), Turkish immigrants, and asylum seekers. The supplementary analyses show that the rank-ordering of German natives' social distance towards these groups remained virtually identical across all time points (see Fig. A1 in the Appendix). Moreover, using convenience sample data on Germans' ethnic stereotypes towards 11 immigrant groups conducted in 2017 (Froehlich & Schulte, 2019), we found a high correlation between the evaluative rankings obtained from our original data from 2021 and the data from 2017 (see Appendix, Fig. A2 and A3).

'immigrants' as general category. Specifically, based on nine multiwave panel data sets of natives from seven countries, Kustov et al. (2021) conclude that immigration attitudes "are remarkably persistent and hard to change" (ibid., p. 1490) and "appear to remain stable throughout economic turmoil and the refugee crisis" (ibid., p. 1486). Together, these cumulative results suggest that in 2021 and 2014 German natives are likely to have expressed very similar degrees of social distance towards the immigrant groups under study.

Furthermore, we acknowledge the multiverse of operationalizations (Hanel & Zarzeczna, 2022). We therefore examined the robustness of our findings from model testing using an alternative independent variable (see section 'Robustness analyses'). To this end, we employed a national probability sample of German natives with n = 1,566 observations derived from the Eurobarometer (EB) 82.3 survey (European Commission, 2018). Importantly, the field phase of the EB 82.3 was in November 2014, only 2 months after data collection for the PMBiG survey was completed (June to August 2014; see Presse- und Informationsamt der Bundesregierung, 2016). Clearly, this fact should help to alleviate concerns about the timing of the variables used in the main analysis. To assess German natives' social distance towards different immigrant groups, we used two indicators reflecting emotional manifestations of intergroup attitudes (Olson & Zabel, 2016; Pettigrew, 1998). Respondents were asked "Please tell me whether each of the following statements evokes a positive or negative feeling for you: (a) Immigration of people from other EU Member States, (b) Immigration of people from outside the EU." Response categories for these indicators ranged from 1 ('*very positive*') to 4 ('*very negative*'). We then allocated the 38 immigrant groups available in the PMBiG survey to the dichotomous categorization used in the EB question. Doing so resulted in 9 immigrant groups pertaining to the category 'immigrants from EU Member States' and 29 immigrant groups corresponding to the category 'immigrants from outside the EU'. Consistent with related research (McLaren, 2001), in the EB 82.3 German natives expressed on average more negative feelings towards immigration of people from outside the EU (M = 2.84; sd = .80) as compared to immigration of people from other EU Member States (M = 2.49; sd = .83). This led us to expect that compared to immigrants from EU Member States, immigrants from outside the EU should report more perceived personal discrimination and express higher degrees of social distance towards German natives.

Mediator variable. We measured immigrants' *perceived personal discrimination* using five items. The advantage of this instrument was that it assessed the frequency of perceived personal discrimination across five different domains of everyday life activities, namely, (a) visiting

authorities or offices, (b) looking for an apartment, (c) applying for a job or training position, (d) visiting a doctor or hospital, and (e) when on the street, at restaurants, or in other public places. It thus seems plausible to assume considerable face validity of these indicators. The question wording was as follows: 'There can be various situations in everyday life in which one has the feeling of being disadvantaged or discriminated against because of one's country of origin or religion. In the following, I will name several situations. Please tell me in each case whether you have felt disadvantaged in such situations in Germany.' The response categories for each item were: 0 ('*never*'), 1 ('*rarely*'), 2 ('*occasionally*'), 3 ('*often*'), and 4 ('*very often*'). Cronbach's alpha of 0.82 for the within-group level and 0.86 for the between-group level indicates good internal consistency. We combined the items into one factor using confirmatory factor analysis and used the factor scores (min. = -0.75; max. = 1.54) for the subsequent analyses (see footnote 39). Higher scores indicate higher degrees of immigrants' perceived personal discrimination.

Covariates. In addition to the indicators of primarily theoretical interest mentioned above, we included a range of additional covariates in our models. At the within-group level, the major purpose of these covariates was to reduce concerns that compositional differences between immigrant groups might bias the results of hypothesis testing. To begin with, we measured respondents' *sex* using two categories (0 = '*male,*' 1 = '*female*'). *Age* was assessed in years. We measured immigrants' *length of stay* in Germany using the relative length of lifetime respondents had lived in Germany. To this end, we divided the years since migration by the respondents' age. The variable ranged from 0 = '*just migrated to Germany'* to 1 = '*born in Germany.*' Thus, a value below 1 covers immigrants (i.e., 1st generation immigrants), and a value of 1 comprises respondents with a migration background (i.e., 2nd generation immigrants).[43] *Educational attainment* was assessed with five categories: 0 = '*no education degree,*' 1 = '*general basic education,*' 2 = '*intermediate general education,*' 3 = '*higher general education,*' and 4 = '*university degree.*' Respondents' *employment situation* was measured with a dichotomous variable (0 = '*not unemployed,*' 1 = '*unemployed*'). Immigrants' social distance towards German natives may be determined by religious considerations, i.e., non-Christian immigrants may perceive German natives primarily as people of another religion. Therefore, we included both respondents' *religious affiliation* and their *social distance towards*

[43] As an alternative model specification, we included 1st generation immigrants only (see section 'Robustness analyses').

people of other religions. The variable we used to assess respondents' *religious affiliation* was coded in four categories: 1 = '*Christian*' (the reference group), 2 = '*Muslim,*' and 3 = '*other religious affiliation & no religious affiliation.*' To assess immigrants' *social distance towards people of other religions*, respondents indicated whether it would be okay for them if their son or daughter married a person of another religion. Response options for this variable ranged from 0 ('*yes, definitely'*) to 3 ('*not at all'*).

To reduce the risk that any association between our independent and mediator/dependent variable might be due to some unobserved covariate, we also examined the role relative group deprivation might play for immigrants' perceived personal discrimination and social distance towards German natives. We used the immigrant group's relative socioeconomic status as a proxy for the group's relative deprivation.[44] To operationalize the socioeconomic position of immigrant groups relative to German natives, we took advantage of the German microcensus 2014 (Forschungsdatenzentren der Statistischen Ämter des Bundes und der Länder, 2019), an annual official statistical survey using a representative 1% sample of the population living in Germany (Hartmann, 1989). We used the well-known International Socio-Economic Index of Occupational Status (ISEI, Ganzeboom et al., 1992) to calculate an average occupational prestige score for each immigrant group and for the German natives, utilizing the Stata ado ISCOGEN (Jann, 2020). Our final measure was simply the inverse scaled difference between the two occupational prestige scores calculated as:

$$relative\ group\ deprivation = (\overline{ISEI}_{immigrant\ group} - \overline{ISEI}_{German\ natives}) \times (-1) \qquad (1)$$

As compared to the German natives, negative (positive) scores indicated a lower (higher) degree of immigrants' deprivation at the between-group level.[45] Finally, to foster the comparability of the regression coefficients referring to the between-group level, we normalized German natives' social distance towards immigrants as well as immigrant groups' relative deprivation to range between 0 (minimum) and 1 (maximum) (Han et al., 2012, p. 111 ff.). A one-unit

[44] Although desirable, we lack information on immigrants' subjective perceptions that their group is economically disadvantaged compared to German natives (i.e., group relative deprivation, see Smith et al., 2012). However, we contend that such perceptions should at least partly be due to an objectively underprivileged group status. From this view, the relative (economic) status of immigrant groups appears to be an appropriate proxy for immigrants' perceptions concerning the economic deprivation of their group relative to the native majority.

[45] As an alternative operationalization, we used the differences in net equivalent household income in the multiverse analyses (see section 'Robustness analyses').

change in these variables thus indicated a movement from the lowest possible score to the highest possible score.

5.6. Statistical analyses and procedure

As outlined above, existing theory and research (Berry, 2006; Bourhis et al., 1997) leads us to expect that immigrants' scores on variables such as perceived personal discrimination or social distance might be more similar for immigrants from the same country of origin than for immigrants from different countries of origin. Technically, then, our data were hierarchically structured with respondents (within-group level) nested in immigrant groups (between-group level). To deal adequately with this clustering, we employed multilevel mediation models (Zhang et al., 2009), which allowed us to differentiate the within- and between-group associations. By group-mean centering the variables of interest measured at the individual-level this class of models provides researchers with adequate statistical results when the estimates at the individual- and contextual-level differ, something that often happens in multilevel data (Zhang et al., 2009). Accordingly, in our models the scores of the mediator variable at the contextual-level reflect the aggregates of perceived personal discrimination for immigrants from the same origin country. At the individual-level the corresponding scores reflect individual deviations from these averages. Further, we used grand-mean centering when controlling for the individual-level covariates described before (Enders & Tofighi, 2007). As an added benefit, this class of models also adequately accounts for sampling error. This is done by adjusting the between-group residuals (in multilevel parlance, the random effects) based on the number of observations and the extent of variation within each between-group unit (Lüdtke et al., 2008). Practically, between-group units characterized by greater (smaller) uncertainty are given less (more) weight for the model estimates (Bell et al., 2014). We employed the estimated group means of perceived personal discrimination[46] as a mediator variable at the between-group level (i.e., multilevel mediation; Preacher et al., 2010). To obtain accurate confidence intervals for the indirect association, we followed the approach described by Preacher et al. (2010) and perform one-tailed, $\alpha = .05$ hypothesis tests using the Monte Carlo method to simulate the sampling distribution of the indirect association (Selig & Preacher, 2008). Analyses were

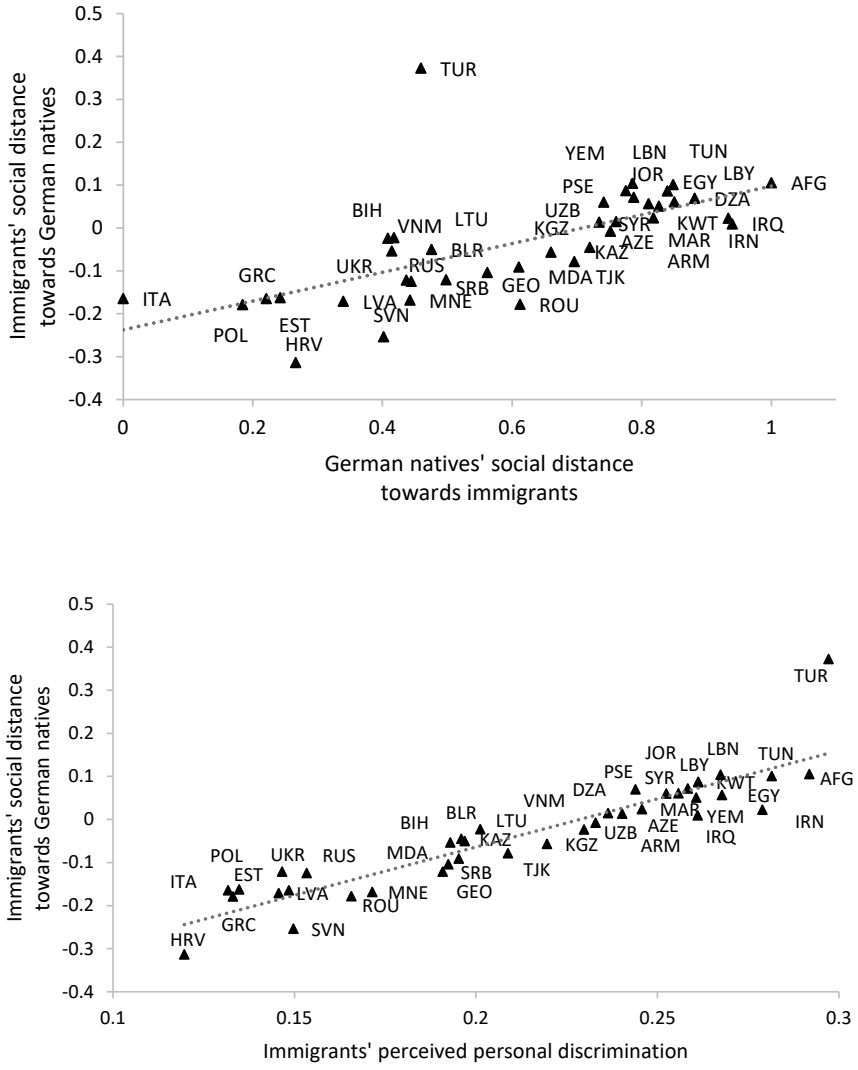
[46] Given the relatively small sampling ratio in our data, we followed the approach suggested by Lüdtke et al. (2008) and used the latent aggregation of the between-group mediator variable (i.e., perceived personal discrimination at the between-group level). Due to the relatively small number of clusters and small cluster sizes, we applied the manifest aggregation approach in the robustness checks (see section 'Robustness analyses').

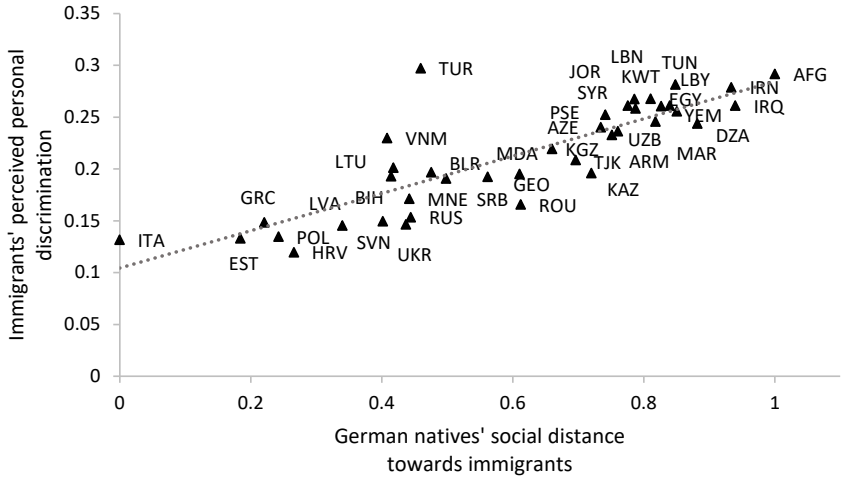
carried out in Stata 16 (StataCorp, 2019) and Mplus 8.8 (L. K. Muthén & Muthén, 1998-2017), using the Stata ado runmplus (Jones, 2010).

5.7. Results

There are two parts to this section. We begin by visualizing the bivariate relations between our independent, mediator, and dependent variables at the between-group level using scatterplots. These descriptive results then provide the backdrop for hypothesis testing based on multilevel mediation models.

Figure 5.2. Bivariate scatterplots of (i) German natives' social distance towards immigrants, (ii) immigrants' perceived personal discrimination, and (iii) immigrants' social distance towards German natives.





Note. The black triangles depict immigrants' countries of origin, namely Afghanistan (AFG), Egypt (EGY), Algeria (DZA), Bosnia and Herzegovina (BIH), Greece (GRC), Iraq (IRQ), Italy (ITA), Iran (IRN), Yemen (YEM), Jordan (JOR), Croatia (HRV), Kuwait (KWT), Lebanon (LBN), Libya (LBY), Morocco (MAR), Montenegro (MNE), Palestine (PSE), Poland (POL), Romania (ROU), Russia (RUS), Serbia (SRB), Slovenia (SVN), Syria (SYR), Turkey (TUR), Tunisia (TUN), Viet Nam (VNM), Armenia (ARM), Azerbaijan (AZE), Estonia (EST), Georgia (GEO), Kazakhstan (KAZ), Kyrgyzstan (KGZ), Latvia (LVA), Lithuania (LTU), Moldova (MDA), Tajikistan (TJK), Ukraine (UKR), Uzbekistan (UZB), Belarus (BLR).

The scatterplots in Figure 5.2 present several noteworthy results. First, the association between German natives' social distance towards specific immigrant groups and immigrants' social distance toward German natives was clearly positive ($r = 0.65$; $p \leq 0.001$). Second, immigrant groups that perceived more personal discrimination also showed more social distance towards German natives ($r = 0.91$; $p \leq 0.001$). Finally, we observed a clear positive association between German natives' social distance towards immigrants and immigrants' average perceived personal discrimination ($r = 0.85$; $p \leq 0.001$). Viewed in conjunction, these preliminary results are consistent with the proposition that natives' social distance towards immigrants' heightens immigrants' social distance towards natives via increased perceptions of personal discrimination. To obtain more conclusive insights on these relations, we then turned to the results of multivariate hypothesis testing.

Guided by our assumption that immigrant groups represent relevant contextual-level units for perceived personal discrimination and social distance towards German natives, we first investigated whether there are systematic between-group differences in immigrants' perceived personal discrimination and social distance (see Table A5.1). Containing no covariates, this 'intercepts-only' model served to simultaneously calculate the intraclass correlation coefficient (ICC, Hox, 2010) of respondents' perceived personal discrimination and social distance. Accordingly, we specified immigrants' perceived personal discrimination and social distance as separate but correlated variables. The results showed that up to [0.041 / (0.041 + 0.483)] ×

100 = 7.8% of the total variance in perceived personal discrimination and up to [0.024 / (0.024 + 0.158)] × 100 = 13.2% of the total variance in social distance could be attributed to systematic differences between immigrant groups.

Next, we sought to examine the extent of compositional differences between the k = 38 immigrant groups (e.g., in terms of sociodemographic characteristics). To this end, in model 1 (see Table 5.1) we specified immigrants' perceived personal discrimination and social distance towards German natives as dependent variables and added several individual-level covariates to the model. Doing so decreased the ICC for immigrants' perceived personal discrimination to 3.5% and the ICC for immigrants' social distance towards German natives to 6.3%. Hence, a considerable part of between-group differences in immigrants' perceived personal discrimination and social distance was attributable to differences in the individual characteristics of the group members. However, a substantial amount of contextual-level variance remained (LeBreton & Senter, 2008), which we examined in the following models.

Model 2 (see Table 5.1) serves as a starting point for the multilevel mediation analyses used for hypotheses testing. In this model, our interest focuses on the question if a significant positive direct association between German natives' social distance towards immigrants and immigrants' social distance towards German natives is present or not, absent the mediator variable immigrants' perceived personal discrimination. Holding all other covariates constant, the results reveal that the positive direct association among the independent and dependent variable is indeed statistically significant (b= 0.16, S.E. = 0.06; $p \leq 0.05$), something which is commonly considered to represent a precondition for mediational analyses (MacKinnon, 2008).

Table 5.1. Multilevel regression models.

	Model 1				**Model 2**	
Dependent variable:	*Immigrants' perceived personal discrimination*		*Immigrants' social distance*		*Immigrants' social distance*	
	b	***β***	***b***	***β***	***b***	***β***
Within-group level (*n*=1,789)						
Female (Ref. male)	-0.036 (0.026)	-0.051	0.009 (0.017)	0.022	0.010 (0.017)	0.023
Age	-0.006*** (0.001)	-0.119	-0.002*** (0.001)	-0.080	-0.002** (0.001)	-0.077
Education	0.027 (0.017)	0.045	-0.003 (0.009)	-0.008	-0.003 (0.009)	-0.009
Relative time living in Germany	-0.214* (0.084)	-0.084	-0.169*** (0.035)	-0.113	-0.165*** (0.035)	-0.110
Religion (Ref.: No/Other Religion)						
Christian	0.039 (0.048)	0.054	-0.048* (0.021)	-0.116	-0.045* (0.021)	-0.107
Muslim	0.346*** (0.097)	0.488	0.176*** (0.031)	0.424	0.166*** (0.029)	0.400
Unemployed (Ref.: not unemployed)	0.156 (0.089)	0.220	0.104** (0.036)	0.251	0.104** (0.036)	0.251
Religious distance	0.048*** (0.015)	0.070	0.137*** (0.036)	0.337	0.138*** (0.035)	0.341
Perceived personal discrimination	-		-		-	
Between-group level (*k*=38)						
Relative group deprivation (0/1)	-		-		0.092 (0.092)	0.231
German natives' social distance (0/1)	-		-		0.158* (0.064)	0.397
Perceived personal discrimination	-		-		-	
Intercept	0.008 (0.034)		-0.030 (0.024)		-0.177* (0.075)	
Within-group variance	0.466*** (0.040)		0.134*** (0.010)		0.134*** (0.010)	
Between-group variance	0.017 (0.010)		0.009* (0.004)		0.007* (0.003)	
AIC	3760.730		1541.416		1541.958	
BIC	3821.113		1601.799		1613.321	
Sample-size adjusted BIC	3786.167		1566.853		1572.020	
Loglikelihood	-1869.365		-759.708		-757.979	
Reduction of between-level variance	-58,5 %		-62,5 %		-70,8 %	

Note. The table shows unstandardized (*b*) and standardized (*β*) regression coefficients; numbers in parentheses are standard errors. *p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.001. Model 1 served to examine the extent of compositional differences between the *k* = 38 immigrant groups. Model 2 served to test the association between German natives' social distance towards immigrants and immigrants' social distance towards German natives.

Table 5.2. Multilevel mediation model.

	Model 3			
Dependent/mediator variable:	*Immigrants' social distance*		*Immigrants' perceived personal discrimination*	
	b	***β***	***b***	***β***
Within-group level (*n*=1,789)				
Female (Ref. male)	0.021 (0.017)	0.050	-0.037 (0.027)	-0.053
Age	-0.001 (0.001)	-0.019	-0.005*** (0.001)	-0.117
Education	-0.010 (0.007)	-0.029	0.024 (0.017)	0.040
Relative time living in Germany	-0.113** (0.036)	-0.076	-0.180 (0.102)	-0.071
Religion (Ref.: No/Other Religion)				
Christian	-0.059*** (0.018)	-0.143	0.051 (0.045)	0.073
Muslim	0.081** (0.030)	0.196	0.288** (0.092)	0.410
Unemployed (Ref.: not unemployed)	0.059* (0.030)	0.143	0.152 (0.088)	0.216
Religious distance	0.123*** (0.035)	0.305	0.049*** (0.015)	0.072
Perceived personal discrimination	0.295*** (0.015)	0.500	-	
Between-group level (*k*=38)				
German natives' social distance (0/1)	-0.108 (0.159)	-0.273	0.370** (0.121)	0.639
Relative group deprivation (0/1)	0.081 (0.065)	0.206	-	
Perceived personal discrimination	0.715* (0.361)	1.043	-	
Intercept	-0.022 (0.099)		-0.204** (0.069)	
Within-group variance	0.094*** (0.009)		0.466*** (0.040)	
Between-group variance	0.002 (0.002)		0.011 (0.008)	
AIC	4648.099			
BIC	4796.313			
Sample-size adjusted BIC	4710.536			
Loglikelihood	-2297.050			
Reduction of between-level variance	-91,7 %		-97,6 %	

Note. The table shows unstandardized (*b*) and standardized (*β*) regression coefficients; numbers in parentheses are standard errors. *p ≤ .05; **p ≤ .01; *p ≤ .001. Model 3 served to test *hypotheses 1* to *4*.

In model 3 (see Table 5.2 and Figure 5.4), we considered the results from hypothesis testing. We first investigated the individual-level hypothesis after taking into account additional covariates. According to *hypothesis 1*, we expected that the higher immigrants' perceived personal discrimination, the higher the degree of their social distance towards natives. Consistent with this expectation, the data revealed that perceiving higher degrees of personal discrimination than the average group member related to higher than average levels of social distance towards German natives (b= 0.295, S.E. = 0.02; $p \leq 0.01$).

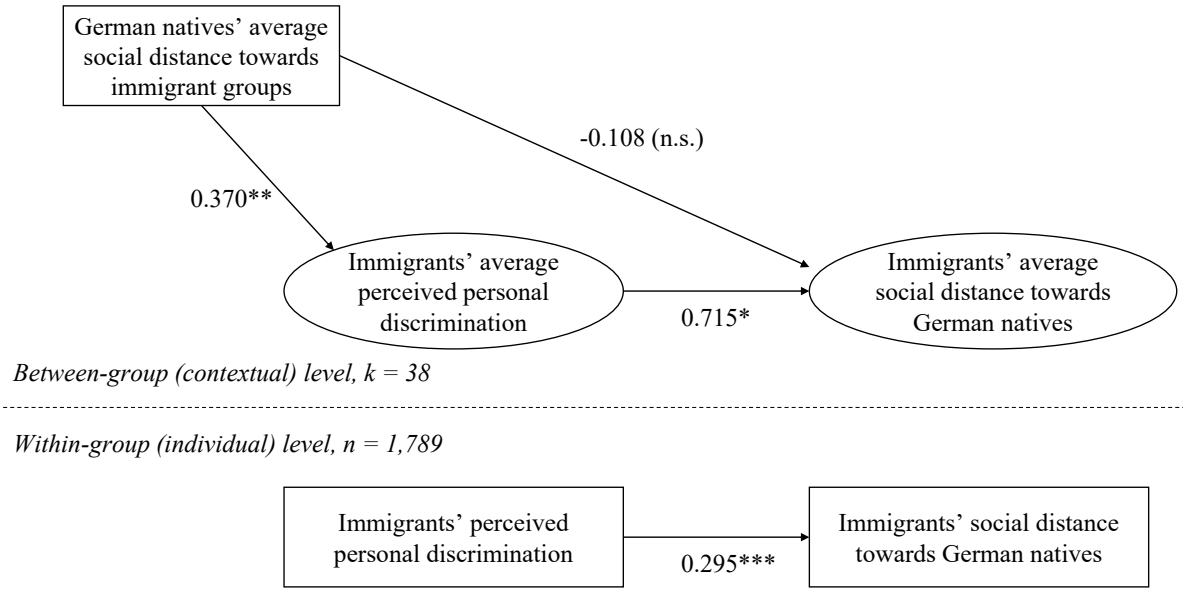
Next, we turned to the hypotheses referring to the contextual-level of analysis. *Hypothesis 2* predicted that the higher the average degree of immigrants perceived personal discrimination, the higher immigrants' social distance towards natives. Consistent with this reasoning, the between-group estimate for immigrants' perceived personal discrimination turned out to be significantly positive (b = 0.72, S.E. = 0.36; $p \leq 0.05$). To illustrate, the unstandardized regression coefficient indicated here that between immigrant groups, a one unit change in immigrants perceived personal discrimination was associated with a 0.72 unit change in immigrants' social distance towards German natives.

Turning to the results from testing *hypothesis 3*, we shifted our attention to the presumed positive association of natives' social distance with immigrants' average perceived personal discrimination. In line with this expectation, the results showed that immigrant groups that were assigned higher degrees of social distance from German natives expressed, on average, higher degrees of perceived personal discrimination (b= 0.37, S.E. = 0.12; $p \leq 0.01$). Empirically, this means that moving from the lowest to the highest possible score in German natives' social distance was associated with a .37 unit increase in immigrants' perceived personal discrimination – a relation of considerable magnitude.

Thus far, our results provided initial evidence that: (a) immigrants from groups facing relatively higher degrees of natives' social distance report higher degrees of perceived personal discrimination, and (b) immigrants from groups reporting higher degrees of perceived personal discrimination express greater social distance towards natives. These are novel and potentially important results in and of themselves. However, can immigrants' perceived personal discrimination plausibly be seen as a mechanism linking social distance from natives to immigrants, as *hypothesis 4* predicts? The results suggested an affirmative answer to this question: The regression coefficient associated with the indirect relation *German natives' social distance towards immigrants → immigrants' perceived personal discrimination →*

immigrants' social distance towards German natives is positive (0.37 × 0.71 = 0.26) and significantly so ($p \leq 0.05$) (see Figure 5.3). This means that via immigrants' perceived personal discrimination, moving from the lowest to the highest possible score in German natives' social distance was associated with an 0.26 unit increase in immigrants' social distance towards German natives. No significant direct association between German natives' social distance towards immigrants with immigrants' social distance towards German natives remained, which provided additional support to the supposed role of perceived personal discrimination as a mediating mechanism.

Figure 5.3. Multilevel mediation model.



Note. The figure shows unstandardized regression coefficients (model 3), *$p \leq 0.05$; **$p \leq 0.01$; ***$p \leq 0.001$. For the indirect association, the regression coefficient is $0.37 \times 0.715 = 0.264$, $p \leq 0.05$.

5.8. Robustness analyses

Thus far, the empirical results from hypotheses testing were consistent with the theoretical expectation that, on average, immigrants from groups receiving higher degrees of social distance from German natives perceive more personal discrimination and, in turn, express higher degrees of social distance towards German natives. To assess the robustness of these findings – that is, "the sensitivity of empirical results to credible changes in model specification" (Young & Holsteen, 2017, p. 4) – we conducted a multiverse analysis across multiple potentially influential study characteristics (Simonsohn et al., 2020; Steegen et al., 2016; Young & Holsteen, 2017).

Based on model 3, in the multiverse analysis we examined multilevel mediation models (1) including versus excluding relatively small clusters (Bell et al., 2014), (2) using a latent versus a manifest aggregation of perceived personal discrimination (Lüdtke et al., 2008), (3) including specific combinations of covariates, (4) varying the coding of variables, and (5) including or excluding potentially influential clusters as identified by Cook's D or DFBeta scores (Van der Meer et al., 2010).

Table 5.3. Model specifications for the multiverse analyses (model 3).

	Dimension		Specification
I	Coding	Religious affiliation	*1 – three categories: Christ Muslim, other religion and no religious affiliation*
			2 – two categories: Christ, Muslim
		Migration status	*1 – relative time living in Germany*
			2 – two categories: born in Germany vs. born in another Country
			3 - 1st generation immigrants only
		Majority's social distance	1 – *marriage indicator*
			2 – German natives' average feelings towards immigrants from outside the EU vs. EU member states (Eurobarometer 2014, European Commission, 2018)
		Perceived personal discrimination	*1 – factor scores of items*
			2 – mean of items
		Group-level perceived personal discrimination	1 – *latent aggregation* (Lüdtke et al., 2008)
			2 – manifest aggregation
II	Covariates	Relative group deprivation	*1 – ISEI*
			2 – household income
			3 – excluded
		Perceived religious distance	1 – *included*
			2 – excluded
III	Exclusion criteria	Minimum group size	1 – *all groups included (k = 40)*
			2 – groups with a group size ≥5 included (k = 27)
			3 – groups with a group size ≥10 included (k = 23)
		Identification with country of origin	1 – *all respondents included*
			2 – respondents excluded who do not identify with country of origin

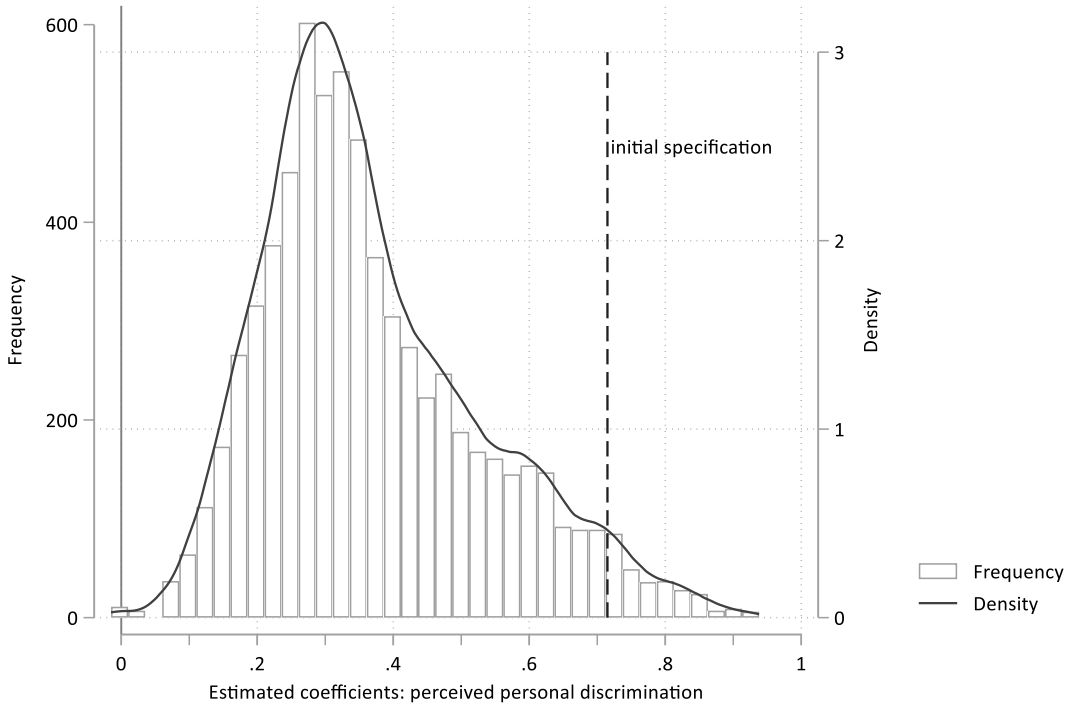
Dimension	Specification
Outlier	1 – *all groups included*
	2 – groups above DFBetas Cutoff excluded: Algeria, Croatia, Slovenia, Turkey
	3 – groups above CooksD Cutoff excluded: Turkey, Poland, Italy, Croatia, Romania, Slovenia, Kazakhstan, Russia
	4 - primary countries of origin of the 2015 refugee crisis excluded: Syria, Afghanistan, Iraq

Note. The specifications of model 3 as used in the main analyses are italicized. The alternative specifications for the multiverse analyses are listed subsequently.

Across all conditions listed in Table 5.3, we estimated 6,910 model specifications using the Stata ado runmplus (Jones, 2010). Below, the figures show the distribution of the regression coefficients for (i) the association between perceptions of personal discrimination among immigrants and immigrants' social distance (Figure 5.4), (ii) for the association between German natives' social distance towards immigrants and immigrants' perceived personal discrimination (Figure 5.5), and (iii) for the indirect association between German natives' social distance towards immigrants and immigrants' social distance towards German natives via perceptions of personal discrimination (Figure 5.6). In each figure, the x-axis depicts the size of the regression coefficients estimated in the different model specifications. The y-axis depicts the frequency and density of each value. A higher density indicates a higher relative frequency of the respective regression coefficient. The vertical dashed lines mark the regression coefficient reported in model 3, the multilevel mediation model used for hypothesis testing in the main analysis.

Turning to the results, we first consider the association between immigrants' perceived personal discrimination and immigrants' social distance towards German natives. As shown by Figure 5.4, the multiverse analysis yields a positive regression coefficient in 99.9% of all model specifications. The size of the estimates ranged between -0.015 and 0.938, and they were statistically significant in 89.2% of the models.

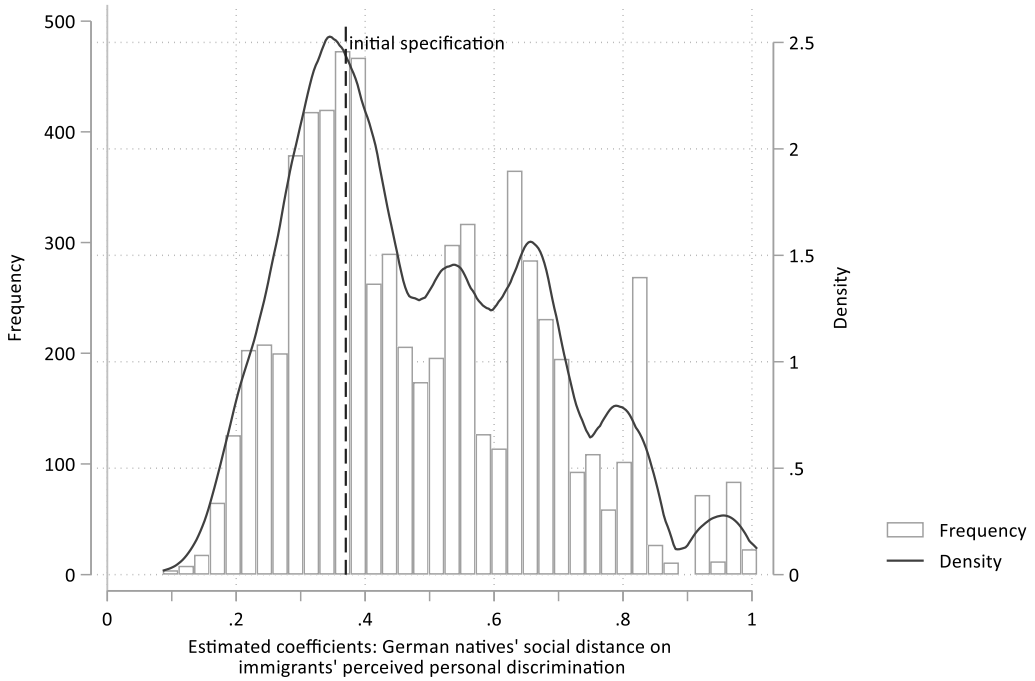
Figure 5.4. Multiverse analysis for the association between immigrants' perceived personal discrimination and immigrants' social distance towards German natives.



Note. The figure shows the distribution of the unstandardized regression coefficients for the association between immigrants' perceived personal discrimination and immigrants' social distance towards German natives across 6,910 model specifications. Minimum estimated regression coefficient: b = -0.015; maximum estimated regression coefficient: b = 0.938; share of model specifications with $p \leq 0.05$ = 89.2%.

Regarding the association of German natives' social distance towards immigrants with immigrants' perceived personal discrimination as shown by Figure 5.5, the multiverse analysis revealed a positive regression coefficient across all model specifications. The regression coefficients ranged between 0.086 and 1.008, showing sign stability of 100%. In 91.1% of the models, the estimated regression coefficient was statistically significant.

Figure 5.5. Multiverse analysis for the association between German natives' social distance towards immigrants and immigrants' perceived personal discrimination.



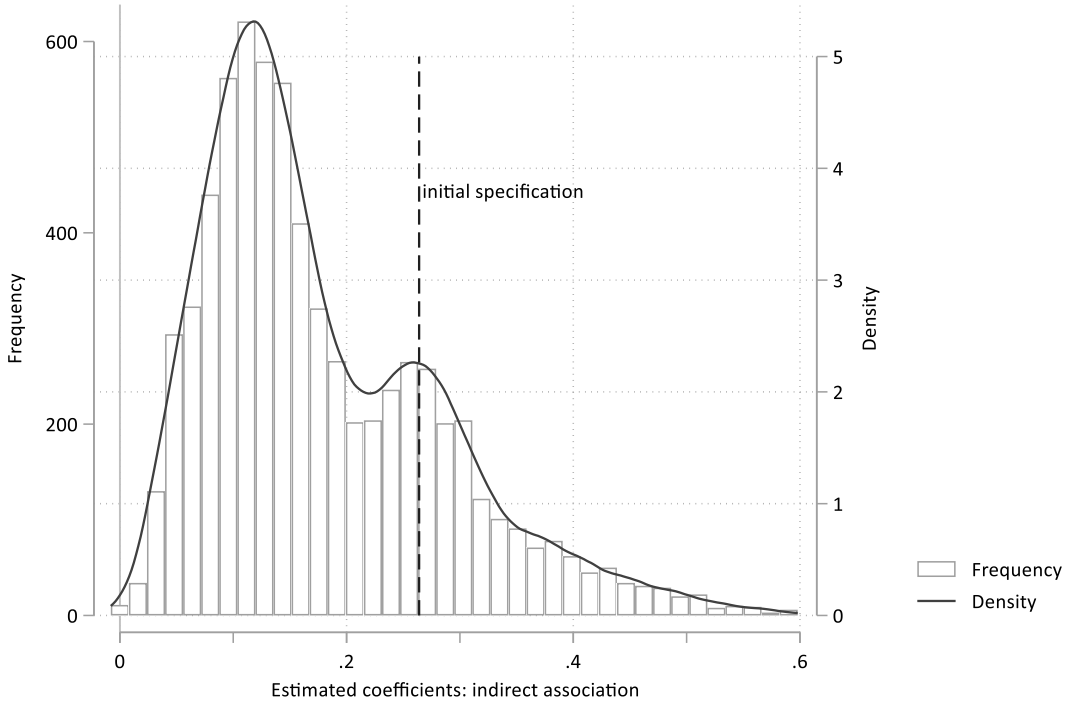
Note. The figure shows the distribution of the unstandardized regression coefficients of the association between German natives' social distance and immigrants' perceived personal discrimination across 6,910 model specifications. Minimum estimated regression coefficient: $b = 0.086$; maximum estimated regression coefficient: $b = 1.008$; share of model specifications with $p \leq 0.05 = 91.1\%$.

Finally, the data reaffirmed that the association between German natives' social distance towards immigrants and immigrants' social distance towards German natives was mediated via immigrants' perceived personal discrimination. As Figure 5.6 shows, the regression coefficient indicating this indirect association was statistically significant in 89.2% of the models.

To sum up, according to the standards suggested by Young and Holsteen (2017), these results indicated a high robustness[47] of the finding that German natives' social distance towards immigrants relates to higher degrees of immigrants' social distance towards German natives via heightened perceptions of personal discrimination. Put differently, the multiverse analysis established the reliability of the results from hypothesis testing using different strategies of data analysis.

[47] The thresholds for weak, positive, strong, and very strong evidence are .50, .75, .95, and .99 respectively (Raftery, 1995). For more detailed information on the multiverse results, Figures A6.4 to A6.6 in the Appendix display so-called specification curves, providing an overview of the estimated regression coefficients and the respective model specification.

Figure 5.6. Multiverse analysis for the indirect association of German natives' social distance towards immigrants with immigrants' social distance towards German natives via immigrants' perceived personal discrimination.



Note. The figure shows the distribution of the unstandardized regression coefficients of the indirect (mediated) association across 6,910 model specifications. Minimum estimated regression coefficient: b = -0.008; maximum estimated regression coefficient: b = 0.598; share of specifications with $p \leq 0.05$ = 89.2%.

5.9. Discussion

For this study, we started out from the observation that existing research paid surprisingly little attention to the possibility that immigrants might harbor social distances towards natives – an important aspect of intergroup relations between immigrants and natives more generally. In an effort to partially remedy this neglect, we developed and tested a multilevel theoretical model comprising of three key expectations. First, immigrants from groups that receive more social distance from natives will perceive more personal discrimination. Second, immigrants from groups perceiving more personal discrimination will show more social distance towards natives. Third, perceived personal discrimination mediates the link between natives' and immigrants' social distance. Based on cross-sectional survey data from 38 immigrant groups living in Germany, merged with information on German natives' social distance towards these groups, the results of multilevel mediation analyses reveal clear observational support for these

predictions: The association of natives' social distance towards immigrants with immigrants' social distance towards natives was mediated by immigrants' perceived personal discrimination. Furthermore, this pattern of results remained intact even for a large number of alternative model specifications examined in comprehensive robustness analyses. These are novel and timely findings that, we believe, bear several important implications. Perhaps most immediately, immigrants' social distance towards natives clearly tends to reflect the degree of social distance that natives express towards immigrants. This underscores the important role that natives' anti-immigrant attitudes play as a contextual characteristic shaping immigrants' intergroup attitudes. Equally important, the present finding that immigrants' perceived personal discrimination mediates this contextual-level relation clarifies that immigrants' past aversive experiences – and possibly future negative expectations – in social interaction with natives will motivate immigrants to prefer a relatively greater social distance.

These insights also bear practical implications. First, as indicated by its clear correspondence to immigrants' perceptions of rejection alone, natives' social distance appears to inflict high societal costs. Therefore, it remains a critical task to continue and strengthen interventions aiming to reduce such biased intergroup attitudes (Paluck et al., 2021).

Second, it seems neither viable nor normatively desirable to alter immigrants' perceptions of natives' past anti-immigrant behaviors and attitudes, i.e., perceived personal discrimination. Perhaps in combination with structured cross-group contact interventions a more promising alternative may be provided by aiming to alter preexisting negative emotions concerning intergroup encounters with natives. Doing so might help to ameliorate generalized expectations among immigrants that everyday encounters with natives necessarily carry a high risk of being rejected (Tropp, 2003).

In a broader sense, the result that immigrants' social distance towards natives matches the degree of social distance natives express towards immigrants from different countries of origin also connects with research on intergroup attitudes among ethnocultural groups of the same national origin (as distinct from intergroup relations among natives and immigrants). Specifically, Berry and Kalin (1979, 1995) inferred from bivariate correlations based on aggregated data of five, respectively nine, ethnocultural groups assessed in Canada that positive and negative intergroup 'effects' are reciprocally related. Our study extends the idea of attitudinal reciprocity to the case of mutual intergroup relations between immigrants and natives. In addition, this study introduced immigrants' perceived personal discrimination as a

plausible mediator variable illuminating why such reciprocity occurs. Viewed in conjunction, then, the present study offers important observational evidence for a better understanding of why immigrant groups differ in their social distance towards natives.

Limitations of this study and potential directions for future research

Despite these contributions, several factors nevertheless limit interpretations of the current findings until they can be extended. We begin with a methodological caveat. As noted in the introduction, given its cross-sectional and correlative research design, this study cannot present conclusive evidence regarding the presumed temporal order of our key constructs and the absence of third variable influences. We hasten to add, however, that this is not a unique limitation of the study but a standard characteristic of all cross-sectional research designs more generally. In the present scenario, we built on both theory and research to develop and test plausible theoretical pathways. Nevertheless, an important question to consider is if and to what extent perceived personal discrimination and social distance might be reciprocally related – pre-existing manifestations of social distance might plausibly be expected to feed back on perceived personal discrimination (Jasinskaja-Lahti et al., 2009; Stephan & Stephan, 2016). Ideally, more conclusive empirical support for the theoretical expectations laid out in this study might be derived from longitudinal observational data and/or experimental research designs including a large number of immigrant groups. However, we suspect that for both practical and ethical reasons, such data might be relatively unlikely to become available in the near future. Related to this, data collection for the mediator and dependent variables took place before we assessed the main independent variable situated at the between-group level. We stress, however, that the mere logical possibility that the scores of the independent variable might have changed during the time period under study should not be taken to dismiss our results. We offered theoretical and empirical arguments why, as a collective characteristic, Germans' evaluative ranking of immigrant groups assessed in 2021 could adequately be used to approximate their evaluative ranking in 2014. In addition, we could reconfirm our initial conclusions using an alternative measure of Germans' attitudes towards immigrant groups measured in 2014. Together, these efforts strengthen our confidence that the contribution of our research design outweighs its limitations.

There are further opportunities to extend upon the present research. For example, subsequent studies might consider the general idea that the avoidance of outgroups (i.e., the behavioral

aspect of social distance) could result from ingroup-related concerns such as ingroup norms or identity conceptions (Paolini et al., 2018). Data permitting, future explorations along this line of thinking might constitute a fruitful focus for research on immigrants' social distance towards natives as dependent variable.

Although this study directed its attention to the explanation of immigrants' social distance towards natives, we do not dispute that the key independent variable of this study – natives' social distance towards immigrants from different origin countries – warrants strengthened research efforts as well. We already noted that cultural differences seem particularly relevant here (Verkuyten et al., 1996). To develop this knowledge even further, an important next stage of research could be to consider the role that cultural differences might play in the formation of natives' intergroup stereotypes about immigrants (Yzerbyt, 2016). More detailed knowledge of this sort could greatly facilitate our understanding of how cultural differences, perhaps mediated via intergroup stereotypes, ultimately result in natives' evaluative ranking of different immigrant groups.

Relatedly, due to data limitations we were unable to extend the current focus on immigrants' perceptions of personal discrimination with an examination of immigrants' perceptions of discrimination among fellow group members (i.e., group-based discrimination; Taylor et al., 1990). Therefore, future studies might productively compare the relevance of personal- and group-based perceptions of discrimination as alternative mediators linking natives' and immigrants' mutual social distance. A related route for theoretical refinements might be provided by considering moderating relations between immigrants' perceptions of personal and group-based discrimination (Major & Sawyer, 2009). For instance, using the example of Muslims living in Germany, Grewal and Hamid (2022) demonstrated that Muslims perceiving high personal but low collective discrimination show the strongest anti-system attitudes. Future research might productively examine such moderating relations for the domain of immigrants' attitudes towards natives as well.

In this study, we conceived of social distance to reflect ingroup members' degree of closeness towards outgroup members (Bogardus, 1959; Park, 1924) and used cross-sectional attitudinal measures for its empirical part. Hodgetts & Stolte (2014), however, point out that social distance should rather be considered as a social process that unfolds over multiple social and temporal contexts. From our view, when coupled with corresponding empirical initiatives, assessing such alternative conceptions of social distance certainly hold considerable promise to

foster theoretical and empirical progress. At the same time, it should be noted that social distance represents one form of intergroup prejudice only. However, the vast literature on intergroup prejudice testifies that negative evaluations of outgroups and its members manifest indeed in many different ways (Olson & Zabel, 2016). We therefore suggest that examining if and to what extent the present findings apply to alternative types of prejudice represents a valuable task for future research. This concerns not only alternative explicit measures presuming that respondents are aware of their group-related evaluations (e.g., feeling thermometers, behavioral intentions). More attention should also be given to implicit measures (Olson & Zabel, 2016), which attempt to assess prejudice without participants being aware of it (e.g., affect misattribution procedure; Payne et al., 2005). Finally, to the best of our knowledge the present study relies on evidence from a broader range of immigrant groups than any previous study on this topic. However, our ability to learn about the sources underlying immigrants' social distance towards natives would doubtlessly benefit from increasing the number of immigrant groups and destination countries within which such intergroup prejudice occurs. For example, it is conceivable that natives in other destination countries might arrange immigrant groups along alternative ethnic hierarchies.

Nevertheless, the basic mechanisms observed in this study – that natives' social distance towards immigrant groups covaries positively with immigrants' social distance towards natives, and that immigrants' perceived personal discrimination mediates this relation – should remain valid. By providing initial evidence for these relations, we hope to offer fruitful building blocks for better understanding prejudice as an *inter*-group phenomenon among immigrants and natives.

5.10. References

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5.11. Appendix

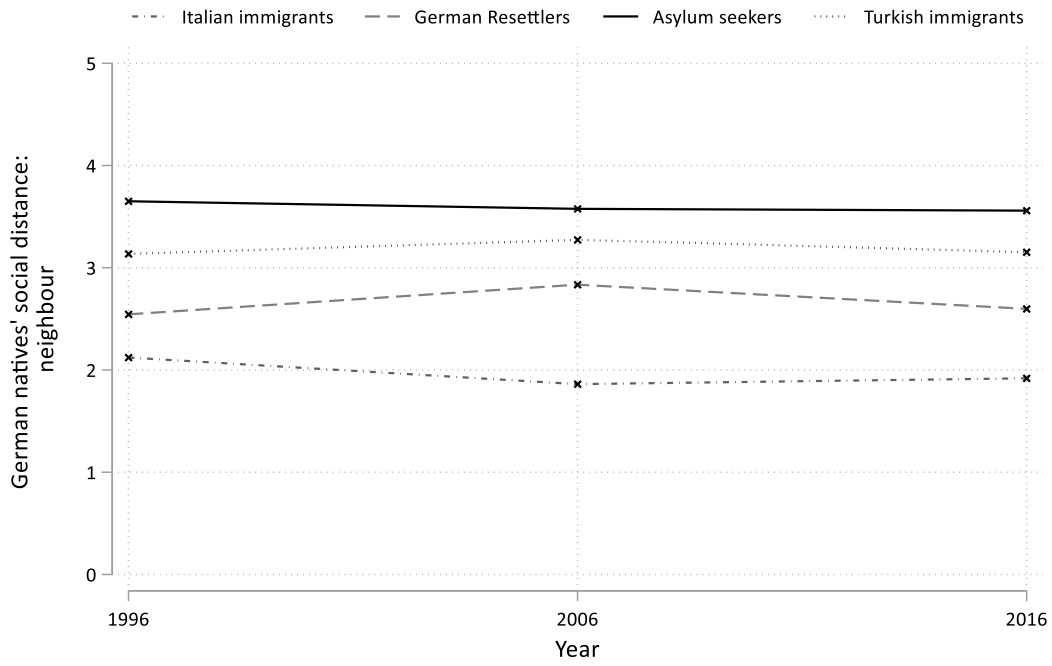
Table A5.1. Intercept-only model.

	Immigrants' perceived personal discrimination	*Immigrants' social distance*
Intercept	-0.001 (0.046)	-0.044 (0.032)
Within-group variance	0.483*** (0.039)	0.158*** (0.022)
Between-group variance	0.041*** (0.009)	0.024* (0.009)
AIC	5001.411	
BIC	5045.327	
Sample-size adjusted BIC	5019.911	
Loglikelihood	-2492.706	
Respondents	1789	
Number of clusters	38	

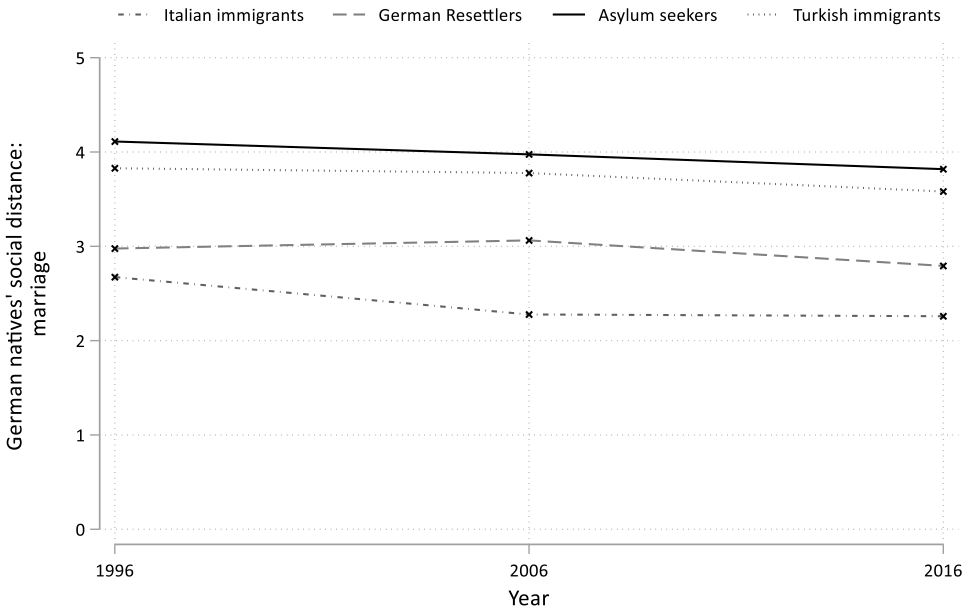
Note. The table shows intercepts, and the within- and between-group variance of immigrants' perceived personal discrimination and immigrants' social distance towards German natives, numbers in parentheses are standard errors. *p ≤ .05; **p ≤ .01; ***p ≤ .001.

Figure A5.1. German natives' social distance towards four immigrant groups (a) as neighbors and (b) as married-in family members, 1996-2016.

a. neighbors

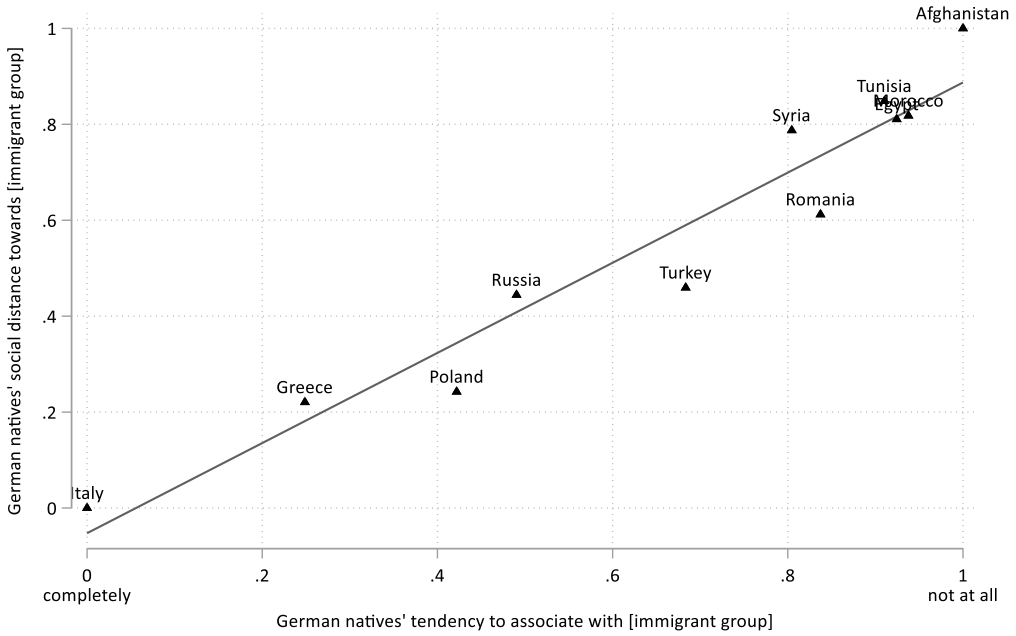


b. married-in family members



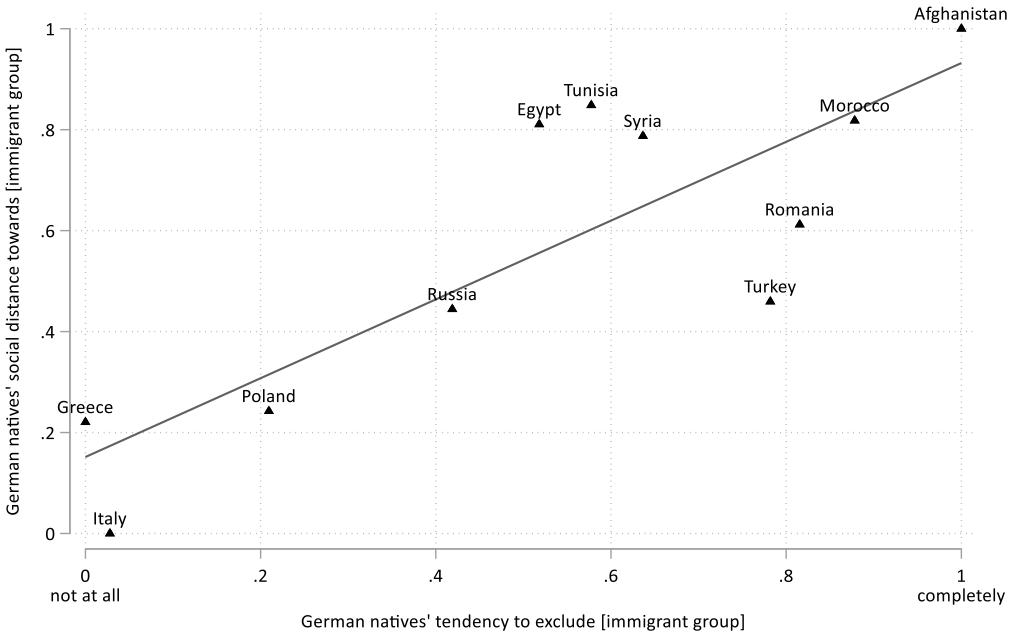
Note. Based on repeated cross-sectional German General Social Survey (ALLBUS) data for the years 1996, 2006 and 2016 (GESIS, 2021), the figure shows the mean values of German natives' answers to the question 'How pleasant or unpleasant would it be for you to have [group] as a neighbor?' (panel a) and 'How pleasant or unpleasant would it be for you if a [group] married into your family?' (panel b). Response categories ranged from 0 ('*would be very pleasant*') to 7 ('*would be very unpleasant*').

Figure A5.2. Scatterplot of German natives' average tendency to associate with immigrants from [country of origin] (Froehlich & Schulte, 2019) and German natives' average social distance towards immigrants from [country of origin] (Huth-Stöckle & Schlueter, 2021).



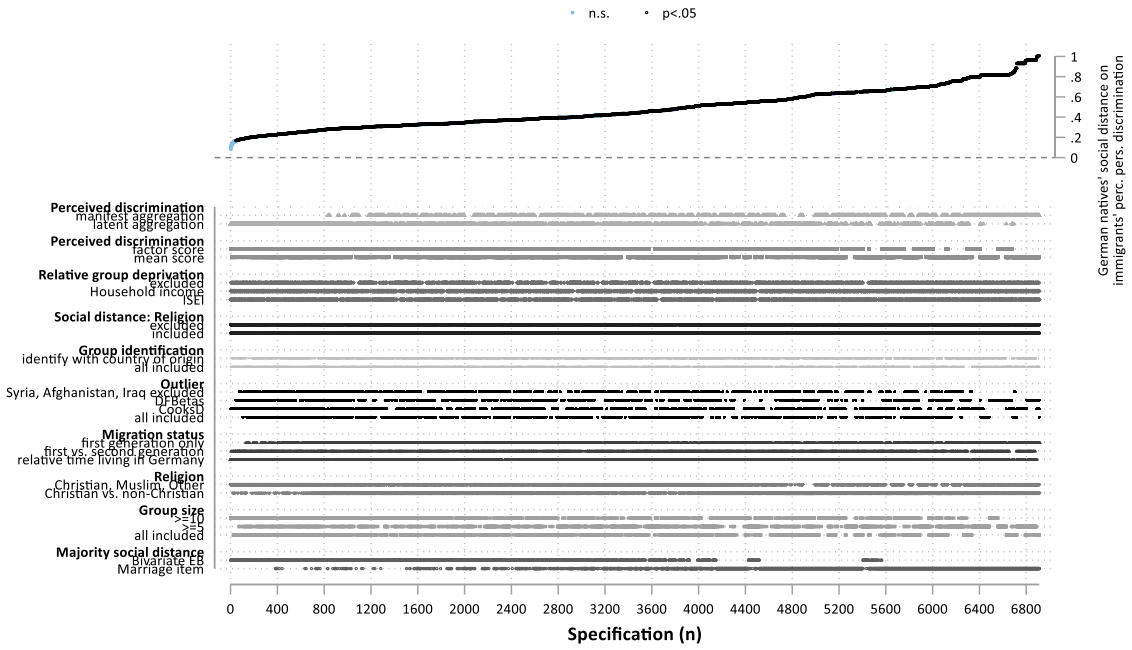
Note. The scatterplot shows the mean scores of German natives' answers to the question 'On the following pages you find different statements with response options. There are no correct or incorrect responses. Responses to questions are not about your personal opinion, but about indicating how most Germans would respond. [...] Finally, we are interested in how Germans in general behave towards [immigrant group] as a group. Germans tend to associate with [immigrant group].' with response categories ranging from 1 ('*not at all*') to 5 ('*completely*') (Froehlich & Schulte, 2019) and 'It would be okay for me if my son or my daughter married a person who migrated from [country of origin] to Germany' with response categories ranging from 1 ('*yes, definitely*') to 4 ('*not at all*') (Huth-Stöckle & Schlueter, 2021), $r = 0.97$, $p < .001$.

Figure A5.3. Scatterplot of German natives' average tendency to exclude immigrants from [country of origin] (Froehlich & Schulte, 2019) and German natives' average social distance towards immigrants from [country of origin] (Huth-Stöckle & Schlueter, 2021).



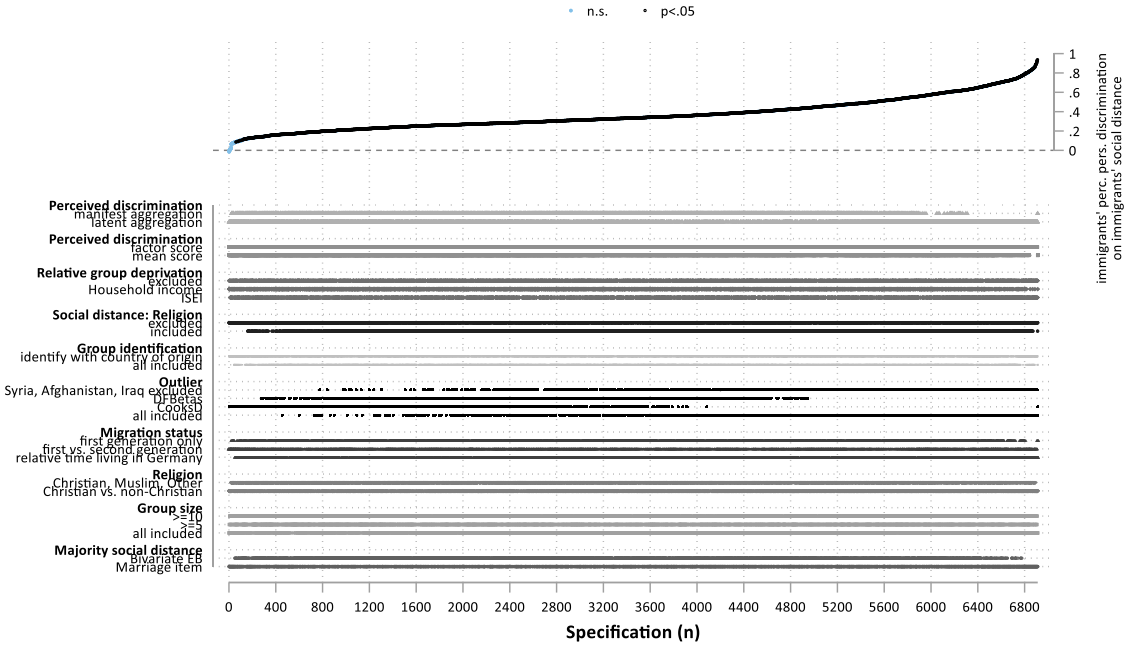
Note. The scatterplot shows the mean scores of German natives' answers to the question 'On the following pages you find different statements with response options. There are no correct or incorrect responses. Responses to questions are not about your personal opinion, but about indicating how most Germans would respond. [...] Finally, we are interested in how Germans in general behave towards [immigrant group] as a group. Germans tend to exclude [immigrant group].' with response categories ranging from 1 ('*not at all*') to 5 ('*completely*') (Froehlich & Schulte, 2019) and 'It would be okay for me if my son or my daughter married a person who migrated from [country of origin] to Germany' with response categories ranging from 1 ('*yes, definitely*') to 4 ('*not at all*') (Huth-Stöckle and Schlueter, 2021), $r = .83$, $p < .01$.

Figure A5.4. Specification curve (multiverse analysis of model 3) for the association between German natives' social distance towards immigrants and immigrants' perceived personal discrimination.



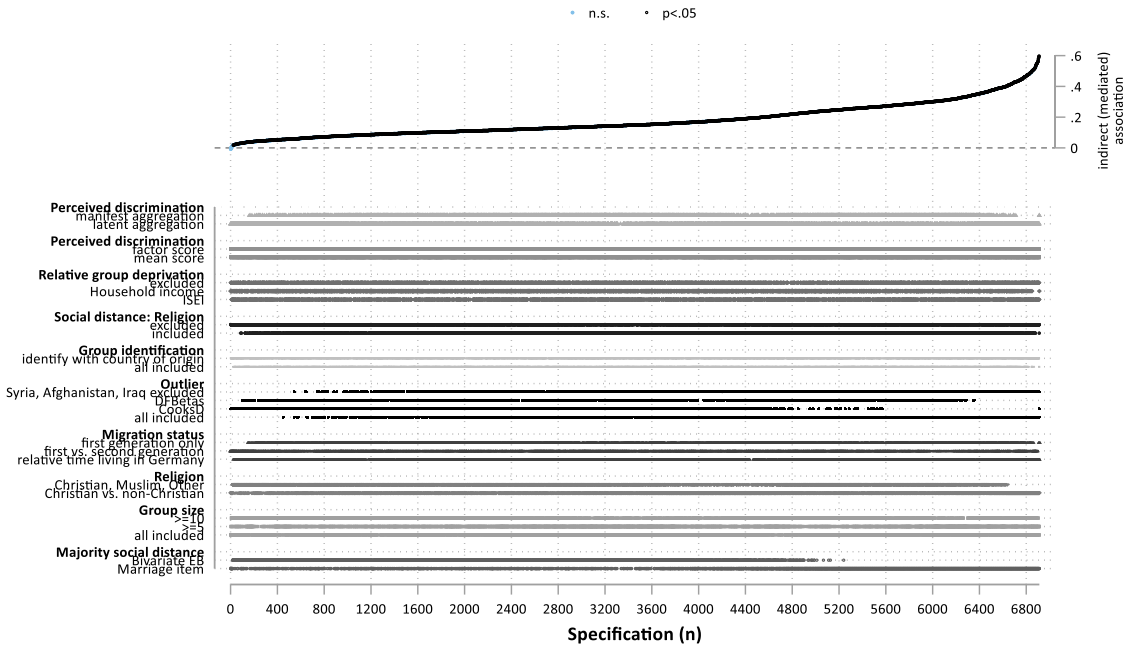
Note. In the upper part of the figure, each dot represents the regression coefficient for the association between German natives' social distance (independent variable) and immigrants' perceived personal discrimination (mediator variable) for each model specification. Blue dots represent statistically insignificant regression coefficients; black dots represent statistically significant regression coefficients. In the lower part of the figure, the dots indicate the specifications of a given model as described on the left side of the figure. The figure provides the following information: First, we can identify two influential specifications. Models based on the latent aggregation (compared to the manifest aggregation) of perceived personal discrimination tend to result in smaller regression coefficients. Similarly, using the Eurobarometer 2014 indicator of German natives' attitudes towards EU vs non-EU immigrants (compared to the social distance indicators) tends to result in smaller regression coefficients. Second, despite these small differences, the findings are highly robust in terms of sign stability and statistical significance.

Figure A5.5. Specification curve (multiverse analysis of model 3) for the association between immigrants' perceived personal discrimination and immigrants' social distance towards German natives.



Note. In the upper part of the figure, each dot represents the regression coefficient for the association between immigrants' perceived personal discrimination (mediator variable) and immigrants' social distance towards German natives (dependent variable) for each model specification. Blue dots represent statistically insignificant regression coefficients; black dots represent statistically significant regression coefficients. In the lower part of the figure, the dots indicate the specifications of a given model as described on the left side of the figure. The figure provides the following information: First, excluding potentially influential clusters tends to result in smaller regression coefficients. Second, despite these small differences, the findings are highly robust in terms of sign stability and statistical significance.

Figure A5.6. Specification curve for the indirect association between German natives' social distance towards immigrants and immigrants' social distance towards German natives via immigrants' perceived personal discrimination (multiverse analysis of model 3).



Note. In the upper part of the figure, each dot represents for each model specification the regression coefficient for the indirect association between German natives' social distance towards immigrants (independent variable) and immigrants' social distance towards German natives (dependent variable) via immigrants' perceived personal discrimination (mediator variable). Blue dots represent statistically insignificant regression coefficients; black dots represent statistically significant regression coefficients. In the lower part of the figure, the dots indicate the specifications of a given model as described on the left side of the figure. The figure provides the following information: First, we can identify two influential specifications. Using the Eurobarometer 2014 indicator of German natives' attitudes towards EU vs. non-EU immigrants (compared to the social distance indicators) tends to result in smaller regression coefficients. Similarly, excluding potentially influential clusters tends to result in smaller regression coefficients. Second, the findings are highly robust in terms of sign stability and statistical significance.

5.12. Data note

The survey data "People with Migration Background in Germany 2014 (1.0.0)" that support the findings of this study are available at GESIS Data Archive. https://doi.org/10.4232/1.12427, study number ZA6604.

The contextual-level data of German natives' social distance towards 40 immigrant groups (2021) that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources: https://doi.org/10.17605/OSF.IO/XKFGY.

The contextual-level data of the socioeconomic position of immigrant groups relative to German natives that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3. These data were derived from the following resources "Mikrozensus 2014, On-Site, Version 1" and are available at https://doi.org/10.21242/12211.2014.00.00.1.1.1.

The Stata and R scripts for the data preparation and analyses that support the findings of this study are available at https://osf.io/pvr3h/?view_only=a0687173ce044d7384d1209e35e45ac3.

6. Summary and discussion of results

This chapter summarizes the studies conducted within this dissertation (Chapters 2 to 5). In this chapter, I provide a brief overview of the studies, highlight the key findings, and discuss their scientific contribution. The chapter ends with a general discussion and an overview of the studies' status and the contributions of the co-authors.

6.1. Summary study 1: Economic conditions and perceptions of immigrants as an economic threat in Europe: Temporal dynamics and mediating processes. (Chapter 2)

The first study investigates the link between actual contextual circumstances and perceptions of outgroups as a threat to the ingroup. We examine whether the individual perceptions of the contextual circumstances mediate this relationship.

The research question guiding this study reads as follows:

Research question 1: To what extent do temporal dynamics in the country's economy, political landscape, and migration patterns affect perceived group threats? To what degree does an individual's perception of their country's economy mediate the association between the objective national economic situation and their perceived group threats?

In particular, we focus on the perception of immigrants as an economic threat in Europe. We hypothesize that national economic downturns increase residents' perceptions of immigrants as a threat to the national economy and that this association is mediated by the residents' evaluation of the national economic situation. The study concentrates on the perspective of the native majority and examines their perception of economic group-level threats.

Our study draws on survey data from a diverse array of 26 European countries over 16 years. We combine survey data from the European Social Survey between 2002 and 2017 (ESS, 2018) with country-level information on the national economy using figures on the national gross domestic product (GDP), unemployment rate, and government debt. We additionally take the national migration situation and political climate into account, using immigration figures, and political party positions towards cultural diversity. The outcome variable, perceived group-level

threat, is measured with a variable indicating whether respondents believe that immigrants are harmful or beneficial to the national economy. Our final analysis sample comprises 225,791 respondents without a migration background nested in 260 country-years from 26 countries.

In our analyses, we use multilevel models to examine determinants of perceived group threats on the country, the country-year and the individual level. We thus differentiate between the impact of long-term differences between countries (country level), short-term changes within countries (country-year level), and individual-level factors. Our analyses reveal that the countries' economic and financial conditions have a significant influence on perceived group threats. The negative impact of GDP per capita both on the country and country-year level indicates that the perception of immigrants as an economic threat is less pronounced in wealthier countries and that national economic improvements can reduce such perceived threats. Similarly, an increasing unemployment rate and government debt within a country (country-year level) is associated with higher perceptions of immigrants as an economic threat. However, long-term differences between countries (country level) in the national government debt and unemployment levels appear to be less relevant than economic shifts within countries. In sum, our findings indicate that the perception of immigrants as an economic threat increases during economic downturns, especially when unemployment rates increase.

Furthermore, we identify one mediating factor that links these macroeconomic fluctuations and the perception of immigrants as an economic threat: the individual's evaluation of the country's economy. The inclusion of the respondent's assessment of the national economic situation in our multilevel models leads to insignificant contextual effects of most economic indicators, with the exception of short-term changes in GDP. Additional multilevel mediation models confirm this finding. Economic downturns within countries are associated with more negative evaluations of the national economy, which in turn is associated with higher levels of perceptions of immigrants as an economic threat. The mediating role of individual evaluations of the country's economy is most evident for labor market fluctuations.

The study contributes to existing research on perceived immigrant threat in several ways. First, we investigate whether perceived immigrant threats are associated with short-term changes in or long-term differences between a country's economic and financial situation. By using repeated cross-sectional data and a longitudinal design, we offer a more comprehensive view of how national circumstances and their temporal dynamics impact perceived group threats. Most previous research on the association between economic circumstances and perceived

immigrant threats has used cross-sectional data. However, since the population may be more sensitive to changes within countries rather than the general long-term contextual situation, it is important to differentiate between temporal dynamics and long-term differences. The decomposition of variance of perceived group threats allows us to investigate the extent to which threat perceptions originate on the individual, within-country, or between-country level (Schmidt-Catran & Fairbrother, 2016). Our findings indicate that the short-term developments of the economy and migration within countries are of greater relevance for perceived immigrant threat than the long-term situation, suggesting that people react more acutely to contextual changes.

Second, this paper examines one potential mechanism of this association by investigating how individual evaluations of macroeconomic situations mediate the associations between objective economic fluctuations and perceived group threats. Although it is argued that perceived threat is determined by actual circumstances (Ceobanu & Escandell, 2010, p. 318), the mixed findings have not yet provided a definite answer if objective indicators of economic threat and competition influence attitudes towards immigrants (Dražanová, 2022; Esses, 2021, p. 506). By applying multilevel mediation analyses in a longitudinal design, we are enabled to simultaneously estimate direct and mediating relationships (Preacher et al., 2010, 2011). We show that the national economic situation affects perceived immigrant threats through individual evaluations of the national economy, providing insights into how objective and perceived circumstances are related.

Furthermore, our focus on a specific indicator of perceived immigrant threat, i.e., perceived economic group threat, contributes to the subfield of examining different causes and consequences associated with different types of threats. This allows us to investigate the dimension-specific determinants that are relevant to perceived economic group threat, offering a more nuanced perspective compared to broader measures of threat perceptions (Dražanová, 2022).

6.2. Summary study 2: The nexus between attitudes towards migration and the COVID-19 pandemic: Evidence from 11 European countries. (Chapter 3)

Chapter 3 examines perceived group threats and outgroup prejudice in the context of the COVID-19 pandemic. We investigate the consequences of (a) pandemic-related challenges and concerns on the individual level and (b) objective pandemic-related figures on the country level.

The research question reads as follows:

Research question 2: To what extent do pandemic-related challenges and concerns affect perceived group threats (outgroup prejudice)? To what extent does the severity of the pandemic affect perceived group threats (outgroup prejudice)?

We argue that the COVID-19 pandemic can lead to socio-economic, political, and emotional challenges for individuals and cause perceptions of national and personal threats due to the pandemic. These challenges and concerns, in turn, are expected to provide a breeding ground for perceived group threats and anti-immigrant prejudice.

Our analyses are based on an original cross-sectional online survey across 11 European countries conducted between October and December 2020 (Katsanidou et al., 2021) and is supplemented with country-level figures on the national foreign population share and the national COVID-19 death rate. Our final analysis sample comprises 6,561 native respondents from 11 European countries. We examine two outcome variables: perceived group threats and outgroup prejudice. While study 1 investigates a specific form of perceived group-level threat, study 2 focuses on a broad measure of threat by combining three group threat items into one factor. The second dependent variable, outgroup prejudice, refers to respondent's belief that immigrants drive the COVID-19 pandemic. Using multilevel models, we examine the impact of pandemic-related interindividual and contextual differences between countries on both outcome variables.

Our findings illuminate the potential consequences of individual pandemic-related perceptions on perceived group threats and attitudes towards immigrants. The study finds that pandemic-related concerns increase both threat perceptions and beliefs that immigrants are driving the pandemic, but more strongly so for the latter. The results further indicate that pandemic-related sociotropic concerns rather than personal concerns are associated with perceived immigrant

threats. Respondents who perceive the pandemic as threatening to the country's future also perceive higher migration-related threats. In contrast, concerns regarding the individual financial consequences only predict beliefs that immigrants drive the pandemic. Interestingly, health-related concerns for family members and pandemic-related social isolation are neither associated with perceived group threat nor outgroup prejudice. Furthermore, respondents who perceive the regional measures implemented to counteract COVID-19 as appropriate indicate lower perceived group threat and outgroup prejudice. On the macro level, the study finds that in countries in which the pandemic is more severe, respondents are less likely to blame the pandemic on immigrants, suggesting a country-level suppression of salience of the immigration topic. The results appear robust across various alternative modeling approaches, sample variations, and variable operationalizations.

This study contributes to research on contextual factors of group threat by applying Intergroup Threat Theory to a new context: the COVID-19 pandemic. Previous studies have predominantly examined the contextual effects of economic developments or migration-related demographic shifts on perceived group threats. This study extends this perspective by investigating the effect of the pandemic severity on general migration-related threats and the belief that immigrants are driving the pandemic.

Furthermore, comparing these two outcomes illustrates that determinants that influence the perception of immigrants as a threat do not necessarily apply to negative outgroup attitudes and vice versa. Although the pandemic-related concerns are associated with both outcome variables, we find some important variations in the individual-level associations. Higher political trust in the government is shown to be associated with lower perceived group threats, but we do not find evidence for an effect on outgroup prejudice. Moreover, while perceiving the pandemic as a sociotropic (group-level) threat is related to both outcome variables, perceiving the pandemic as a threat to the individual financial situation only relates to blaming the pandemic on immigrants. These results support previous findings that group-level considerations and perceived sociotropic threats are more relevant to intergroup processes than perceived threats to self-interests (Dražanová, 2022; Hainmueller & Hopkins, 2014). These findings further underscore the importance of investigating and comparing different outcomes to achieve a more comprehensive understanding of the factors that influence outgroup prejudice and threat perceptions (Dražanová et al., 2023).

6.3. Summary study 3: Are there limits to empathy? A survey experiment on empathic concern and perspective-taking as bases for attitudes towards different groups of refugees. (Chapter 4)

While studies 1 and 2 take an international comparative approach and focus on country-level factors of perceived group threats and outgroup prejudice in Europe, study 3 focuses on Germany and examines individual-level processes of outgroup prejudice. This study investigates to what extent group threats moderate relationships between individual-level factors and outgroup prejudice. Specifically, we focus on empathic competences as an important predictor of outgroup attitudes.

The research question guiding this study reads as follows:

Research question 3: To what extent do empathic competences affect outgroup prejudice? To what extent do group threats moderate these associations?

In particular, we investigate the impact of affective empathy, i.e. empathic concern, and cognitive empathy, i.e. perspective taking, on two exclusionary attitudes towards refugees: social distance and the willingness to extend civil rights to this group. We hypothesize that both perspective-taking and empathic concern increase positive attitudes towards refugees. We further explore the potential limits of empathic competences by examining the moderating role of specific refugee group characteristics. We expect that refugees' characteristics related to different levels of group threats mitigate the positive effects of empathic competences.

To investigate the research questions, we conducted a between-subject survey experiment between December 2019 and January 2020. In this experiment, we vary the religious background (Muslim vs. Christian) and professional qualification (high vs. low) in the vignettes given to the participants to examine different levels of group threats. The survey experiment is integrated into a study module within the GESIS Panel, a probability-based access panel conducted in Germany (Bosnjak et al., 2018; GESIS, 2020). Our analyses are based on a final sample size of 4,449 respondents with German citizenship. We apply Structural Equation Modeling (SEM) and model our key variables as latent constructs, i.e., empathic concern, perspective taking, and outgroup prejudice.

Our analyses reveal that empathic concern and perspective-taking are associated with reduced social distance towards refugees and opposition to granting rights to refugees. Additionally,

even when respondents express more exclusionary attitudes towards refugee groups associated with higher group threat, empathic concern and perspective-taking consistently predict more positive attitudes towards all groups. This suggests that the influence of empathic competences remains consistent regardless of the refugee groups' characteristics. By examining the moderating role of perceived group threats for social-psychological mechanisms, this study takes a nuanced look at the role perceived threats play in intergroup relations. The absence of a moderating effect suggests that the impact of empathic concern and perspective on outgroup prejudice is not restricted to specific outgroups, at least in the German context of prejudice towards refugees.

Moreover, we investigate the robustness of these findings by running multiverse analyses and replicating our results with an alternative dataset of a conjoint experiment (Hainmueller, 2016). Our results are highly robust across the two datasets and various alternative model specifications.

This study makes several contributions to previous research on prejudice towards refugees. First, our focus on empathic concern and perspective-taking as key predictors expands existing research that has predominantly focused on the effects of political orientation, right-wing authoritarianism, and social dominance orientation (Cowling et al., 2019). By varying refugees' characteristics implying different levels of group threat in a survey experiment, we examine the boundaries of empathic concern and perspective-taking and assess whether the effects of empathic competence are moderated by group threats. This aids in understanding the situational nuances of the impact of empathic competences.

Secondly, this study distinguishes between two forms of exclusionary attitudes: social distance and the willingness to grant basic rights. Social distance captures the degree of intimacy individuals are willing to engage in with refugees. In contrast, the willingness to grant basic rights captures a more distant measure and refers to the willingness for societal integration and acceptance of refugees. This distinction provides insight into whether the proposed mechanisms differ depending on the proximity of the exclusionary attitudes measures (Dražanová et al., 2023). Our results show similar findings for both outcome variables and thus underline the generalizability of the impact of empathic competences on different forms of exclusionary attitudes towards various refugee groups.

On a methodological level, we contribute to previous empirical research on attitudes towards refugees by employing multiverse analyses within a Structural Equation Modeling framework.

Only a few studies have applied multiverse analyses to fortify the reliability of findings, and even fewer have done so in the context of Structural Equation Modeling. By conducting multiverse analyses, we systematically investigate the robustness of our results across alternative model specifications and combine the advantages of the relatively novel multiverse approach and Structural Equation Modeling.

6.4. Summary study 4: Explaining immigrants' social distance towards natives: A multilevel mediation approach across immigrant groups in Germany. (Chapter 5)

The fourth study examines how perceptions of threats affect minority groups' prejudice. We investigate the link between the native majority's prejudice towards minorities and the minority groups' prejudice towards the country's majority. Furthermore, we examine whether perceived personal threats mediate this association.

The research question reads as follows:

Research question 4: To what extent do differences in German natives' prejudice towards outgroups affect these groups' prejudice towards Germans? To what extent do perceived personal threats mediate this association?

Specifically, we argue that higher degrees of natives' social distance towards immigrant groups are associated with higher degrees of perceived discrimination among these groups, which in turn relates to higher degrees of social distance towards natives. Thus, in contrast to the first three studies that examine intergroup relations from the majority group perspective, study 4 investigates the factors that explain outgroup prejudice among minority groups.

To investigate these assumptions, we combine survey data from 38 immigrant groups in Germany in 2014 (Presse- und Informationsamt der Bundesregierung, 2016) with information on German natives' social distance towards these groups from an original survey collected in 2021 (Huth-Stöckle & Schlueter, 2021). Our final analysis sample consists of 1,789 1st and 2nd generation immigrants from 38 countries of origin. In this study, we conceive of immigrant groups as social contexts. This approach enables us to explicitly study intergroup relations on the group level and to examine the question of whether group differences in immigrants' attitudes towards natives mirror different prejudice levels of natives towards these specific immigrant groups. While studies 1 to 3 focus on perceived group-level threats, this study

examines a perceived personal threat that is specific to minority groups: perceived personal discrimination. We use the estimated group mean of perceived personal discrimination as a mediator variable at the between-group level.

Our multilevel mediation analyses indicate that immigrant groups who are the target of prejudice show higher levels of social distance towards German natives. Moreover, the group-level association between natives' and immigrants' social distance towards one another is mediated by immigrants' perceived personal discrimination. These findings underscore the importance of immigrants' negative experiences in social interaction with natives for their motivation to maintain greater social distance. The results prove robust across comprehensive robustness analyses conducted via multiverse analyses.

This study enhances our understanding of social distance among immigrants in three areas. First, we contribute theoretically by integrating research on natives' social distance towards immigrants from different countries of origin (immigrant groups) with research on the association between immigrants' perceived discrimination and social distance towards natives. By focusing on the perceived threat of being personally affected by discrimination, our study addresses research gaps in the literature on the causes and consequences of perceived discrimination among immigrants (Esses, 2021, pp. 518, 523). While previous research has predominantly focused on psychological and health-related consequences of perceived discrimination (Esses, 2021, p. 521 f.), we expand these perspectives by investigating the consequences of perceived discrimination on immigrants' attitudes towards natives.

Furthermore, we extend the Intergroup Threat Theory beyond its conventional application to the majority group perspective. Our findings highlight that the perceived individual threat of being personally affected by discrimination constitutes a type of threat that is especially relevant to members of devaluated groups. Thus, we examine the extent to which Intergroup Threat Theory is also a valuable framework for understanding negative outgroup attitudes among both majority and minority group members.

Second, we draw on a large survey of 1,789 immigrants residing in Germany, representing 38 different countries of origin. Unlike previous studies that focus on immigrants from a limited number of origin countries, we investigate systematic differences in immigrants' social distance towards natives and the underlying factors influencing such differences. By combining survey data on immigrants' attitudes towards German natives with information on German natives'

social distance towards different immigrant groups, we contribute to understanding how majority and minority groups' anti-outgroup attitudes are interrelated.

Third, to fortify the reliability of our findings, we employ multiverse analyses within a Structural Equation Modeling framework. By conducting multiverse analyses, we systematically investigate the robustness of our results across alternative model specifications. In doing so, our study combines the advantages of the relatively novel multiverse approach and Structural Equation Modeling of mediating effects.

6.5. General discussion

This dissertation expands the understanding of group threats and their role in the relationship between the native majority and immigrant minorities in Germany and Europe. The research questions under study are related to the different steps of the group threat model (see Figure 1.1., Chapter 1). Studies 1 and 2 investigate (i) the link between individual-level and contextual factors and perceived group threats. Studies 3 and 4 investigate (ii) the link between perceived threats and outgroup prejudice. These two studies additionally examine (iii) the moderating and mediating role of perceived group threats in the relationship between other individual-level or contextual variables and outgroup prejudice. Collectively, the studies underscore that contextual, group-level, and individual-level factors shape the relationship between majority and minority groups, highlighting the complexity of the processes that result in perceptions of group threats and outgroup prejudice. They further emphasize the significant role of perceived group threats in explaining prejudice.

Levels of analysis units: country, group, individual

The studies in this dissertation focus on different units of analysis and emphasize either the role of individual characteristics and predispositions or the role of contextual conditions, i.e., group- or country-level characteristics, on perceived group threats and outgroup prejudice.

The international comparative research settings of Studies 1 and 2 put the focus on countries as the unit of analysis and thus examine the link between contextual factors, perceived group threats, and outgroup prejudice. Specifically, the first two studies examine country characteristics that may trigger perceptions of immigrants as a threat and prejudiced attitudes towards immigrants among the native majority. The first study investigates the temporal

dynamics of perceiving immigrants as a threat to the national economy and reveals that fluctuations in the national economy influenced these perceptions. Furthermore, the second study examines the consequences of the COVID-19 pandemic on threat perceptions and anti-immigrant prejudice. While the findings reveal the potential for the COVID-19 pandemic-related concerns to promote threat perceptions towards immigrants, the findings do not suggest that a more severe pandemic situation on the country level is associated with higher levels of perceived immigrant threat or prejudice among the native majority. Together these findings highlight that perceived threats may be more or less salient in different times and circumstances. It would therefore be desirable for future research to particularly focus on how changes in the contextual settings of intergroup relations impact perceived threats and outgroup prejudice. The growing availability of macro indicators on various issues and better accessibility of repeated cross-national surveys spanning multiple years and countries is expected to facilitate such studies in the future.

In contrast to the first two studies, study 4 constitutes a single-country analysis with a focus on processes at the group level. By conceiving immigrant groups from different countries of origin as the contextual units of analysis, this study examines why some minority groups are more prone to develop negative attitudes towards the native majority group than others. The study's findings indicate that systematic group differences in immigrants' perceived discrimination explain the interrelationship between majority and minority groups' attitudes towards one another. These findings highlight that the acculturation experiences differ for immigrant groups from different countries of origin and that focusing on the group context as the level of analysis represents a fruitful avenue for understanding group processes that result in outgroup prejudice.

Different types of perceived threats and outgroup prejudice

The studies of this dissertation examine and compare different perceived threats and outgroup prejudices, addressing calls to differentiate between types of immigration attitudes and investigate their specific determinants (Dražanová, 2022, p. 95). The findings point out that different contextual settings can evoke context-specific types of threats and outgroup prejudice. Thus, investigating and comparing different types of threats and prejudice can be a valuable pursuit to reach a more nuanced understanding of how the context can foster perceived group threats and outgroup prejudice. Each study investigates context-specific forms of perceived threats or outgroup attitudes, enabling a more detailed investigation of the relevant determinants

in this context. While study 1 focuses on perceived economic group threat and therefore on economy-related determinants of perceived threats, study 2 examines a COVID-19-specific form of outgroup prejudice and the pandemic-specific determinants of this form of prejudice. Moreover, study 3 differentiates different forms of prejudice towards different refugees, i.e., social distance and opposition to granting rights, and investigates the generalizability of the effects of individual-level characteristics across these forms of prejudice. Study 4 focuses on the minority group perspective and examines a minority-group-specific form of perceived group threat: perceived personal discrimination from the native majority. Together these studies exemplify that the investigation of specific forms of perceived threats and outgroup prejudice can help to understand context- or group-specific mechanisms in intergroup relations.

6.6. Conclusion

Overall, the findings of studies 1 and 2 suggest that times of societal pressure may promote social cleavages between groups, making marginalized groups easily become targets of prejudice. In these periods, society should therefore be particularly aware of such dangers and proactively address them. The findings of study 4 underscore the high societal costs associated with such outgroup prejudices. Immigrants' perceptions of rejection from natives motivated immigrants to prefer a greater social distance. This not only highlights the personal impact on individuals but also suggests broader implications for societal harmony. Outgroup prejudice contributes to a higher social division between social groups and poses a threat to overall social cohesion. Consequently, it remains an important task to enhance interventions aimed at reducing such biased intergroup attitudes. The findings of study 3 provide indications of the direction such interventions could take. The robustly negative associations between empathic concern, perspective-taking, and prejudice towards outgroups suggest that cultivating empathy between groups may improve intergroup relationships. Encouraging individuals to open up to the experiences, needs, and perspectives of outgroup members could be a key to overcoming perceived group threats and contribute to a better comprehension between groups.

6.7. Status of studies and contributions of co-authors

Ch.	Study	Status	Contribution of authors in percent (own / co-author)
2	Heizmann, B. & Huth, N. (2021). Economic conditions and perceptions of immigrants as an economic threat in Europe: Temporal dynamics and mediating processes. International Journal of Comparative Sociology, 62(1), 56–82. https://doi.org/10.1177/0020715221993529	published	50/50
3	Heizmann, B., & Huth-Stöckle, N. (2022). The nexus between attitudes towards migration and the COVID-19 pandemic: Evidence from 11 European countries. Journal of Ethnic and Migration Studies, 1–22. https://doi.org/10.1080/1369183X.2022.2114889	published	40/60
4	Huth-Stöckle, N. & Heizmann, B. (2025). Are there limits to empathy? A survey experiment on empathic concern and perspective-taking as bases for attitudes towards different groups of refugees. European Societies, https://doi.org/10.1162/euso_a_00022	published	70/30
5	Huth-Stöckle, N. & Schlüter, E. (2023). Explaining immigrants' social distance towards natives: A multilevel mediation approach across immigrant groups in Germany. Social Science Research, https://doi.org/10.1016/j.ssresearch.2023.102907	published	70/30

(Ch. 2) Economic conditions and perceptions of immigrants as an economic threat in Europe: Temporal dynamics and mediating processes".

Nora Huth-Stöckle: argument and theoretical framework, literature review, conceptualizing the research design, data preparation, data analysis, revisions of all parts of the paper

Boris Heizmann: argument and theoretical framework, literature review, conceptualizing the research design, data analysis, revisions of all parts of the paper

(Ch. 3) „The nexus between attitudes towards migration and the COVID-19 pandemic: Evidence from 11 European countries".

Nora Huth-Stöckle: literature review, conceptualizing the research design, developing the questionnaire, data preparation, data analysis, revisions of all parts of the paper

Boris Heizmann: argument and theoretical framework, literature review, conceptualizing the research design, developing the questionnaire, data analysis, revisions of all parts of the paper

(Ch.4) „Are there limits to empathy? A survey experiment on empathic concern and perspective-taking as bases for attitudes towards different groups of refugees".

Nora Huth-Stöckle: argument and theoretical framework, literature review, conceptualizing the research design, developing the questionnaire, data preparation, data analysis, revisions of all parts of the paper

Boris Heizmann: argument, conceptualizing the research design, developing the questionnaire, revisions, and feedback of all parts of the paper

(Ch.5) „Explaining immigrants' social distance towards natives: A multilevel mediation approach across immigrant groups in Germany".

Nora Huth-Stöckle: literature review, conceptualizing the research design, developing and programming the questionnaire, data preparation, data analysis, revisions, and feedback of all parts of the paper

Elmar Schlüter: argument and theoretical framework, literature review, conceptualizing the research design, developing the questionnaire, revisions, and feedback of all parts of the paper

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Versicherung nach §17 der Promotionsordnung des Fachbereichs Sozial- und Kulturwissenschaften vom 14.06.2017 der Justus-Liebig-Universität Gießen

Ich erkläre: Ich habe die vorgelegte Dissertation selbständig, ohne unerlaubte fremde Hilfe und nur mit den Hilfen angefertigt, die ich in der Dissertation angegeben habe. Alle Textstellen, die wörtlich oder sinngemäß aus veröffentlichten Schriften entnommen sind, und alle Angaben, die auf mündlichen Auskünften beruhen, sind als solche kenntlich gemacht. Bei den von mir durchgeführten und in der Dissertation erwähnten Untersuchungen habe ich die Grundsätze guter wissenschaftlicher Praxis, wie sie in der ’Satzung der Justus-Liebig-Universität Gießen zur Sicherung guter wissenschaftlicher Praxis’ niedergelegt sind, eingehalten.

Nora Huth-Stöckle