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\textbf{Abstract}

Anti-immigration attitudes and its origins have been investigated quite extensively. Research that focuses on the evolution of attitudes toward immigration, however, is far more scarce. In this paper, we use data from the first three rounds of the European Social Survey (ESS) to study the trend of anti-immigration attitudes between 2002 and 2007 in 17 European countries. In the first part of the paper, we discuss the critical legitimacy for comparing latent variable means over countries and time. A Multiple-Group Multiple Indicator Structural Equation Modeling (MGSEM) approach is used to test the cross-country and cross-time equivalence of the variables under study. In a second step, we try to offer an explanation for the observed trends using a dynamic version of group conflict theory. The country-specific evolutions in attitudes toward immigration are shown to coincide with national context factors, such as immigration flows and changes in unemployment rates.

1. Introduction

Unarguably, migration into Europe has been on the rise over the last few decades (Hooghe et al., 2008). The fact that several European countries adopted a more restrictive immigration policy during the 1970s has not prevented an ever increasing number of persons from settling in Europe, either in the form of economic or labor migrants, political asylum seekers, or to reunify with family members (Castles and Miller, 2003).

The considerable electoral successes of anti-immigration parties (see for example: Anderson, 1996; Lubbers et al., 2002) show that, in the same Europe, substantial numbers of citizens perceive immigration as having negative consequences—both economic and non-economic—which leads them to prefer a more restrictive immigration policy (Cornelius and Rosenblum, 2005). Survey research confirms the picture that exclusionist attitudes prevail in substantial sections of the autochthonous populations. A vast amount of literature exists on attitudes toward ethnic minorities, immigrants, and immigration. Most of these studies focus on the social location and other correlates—both at the individual and at the contextual level—of such attitudes. Ample evidence has been presented that outgroup attitudes are closely connected to variables such as educational level (Coenders and Scheepers, 2003; Hagendoorn and Nekuee, 1999; Hainmueller and Hiscox, 2007), economic interests (Citrin et al., 1997; Dustmann and Preston, 2004; Fetzer, 2000), religiosity (Billiet, 1995; McFarland, 1989), human values (Davidov et al., 2008; Sagiv and Schwartz, 1995), perceived threat (Scheepers et al., 2002; Semyonov et al., 2004), right-wing voting behavior (Semyonov et al., 2006), and the economic context and the size of the immigrant population (Quillian, 1995; Schneider, 2008; Semyonov et al., 2008).

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E-mail address: Bart.Meuleman@soc.kuleuven.be (B. Meuleman).
In this contribution, we investigate the changes in anti-immigration attitudes in 17 European countries during a relatively short period, namely five years from 2002 to 2007. For this purpose, data from the first three rounds of the European Social Survey (ESS) is used. We attempt to answer three research questions. (1) To what extent are the ESS measures of immigration attitudes comparable across countries and over time? (2) How did European attitudes toward immigration evolve between 2002 and 2007? (3) Can group conflict theory (Blalock, 1967; Quillian, 1995) offer a fruitful theoretical framework to explain the observed attitude trends?

Studies that combine a cross-time and a cross-country perspective such as the one we present here are rare in this field. A notable exception is the Semyonov et al. (2006) study that sketches the evolution of prejudice in 12 European countries during the period 1988–2000. Nine of the 12 countries investigated by Semyonov et al. (2006) are also included in this study. Although a different dependent variable is used (prejudice vs. attitudes toward immigration), this work can in a certain sense be seen as a continuation of Semyonov et al.’s (2006) line of investigation. Yet while following along their footsteps we, at the same time, attempt to extend the previous work theoretically as well as methodologically. Theoretically, by trying to offer a systematic explanation of cross-country differences in attitude evolution and by putting forward a dynamic formulation of group conflict theory1; methodologically, by elaborating upon the conditions necessary for comparing attitude measurements in a meaningful way over time and across countries.

2. Previous research and hypotheses

This study focuses on attitudes toward immigration and thus deals with the readiness of individuals to accept the arrival of newcomers—often with a different ethnic or cultural background—into society. These attitudes can be seen as a concrete translation of the outgroup dimension of ethnocentrism (Sumner, 1960), a broad concept that encloses a multitude of facets such as prejudice, perception of ethnic threat, social distance, and avoidance of outgroup contact (LeVine and Campbell, 1972). Because these concepts are theoretically as well as empirically close to attitudes toward immigration, we draw upon the literature on outgroup attitudes in general to outline the theoretical framework.

2.1. Previous research into evolving outgroup attitudes

The lion’s share of research on the longitudinal development of outgroup attitudes has dealt with changes in attitudes toward black minorities in the US. Since the 1950s, increasing support for the principle of equal treatment has been evidenced among white US citizens (Firebaugh and Davis, 1988; Quillian, 1996; Schuman et al., 1997). At the same time, however, endorsement of the implementation of equal treatment does not follow the same steep upward trend. This paradox between principles and implementation has led some scholars to the conclusion that during the last few decades, traditional negative outgroup attitudes have crystallized into new forms—such as ‘symbolic racism’ (Kinder and Sears, 1981) or ‘subtle prejudice’ (Meertens and Pettigrew, 1997).

These observed tendencies in the US cannot be generalized in a straightforward manner to the European situation. The attitudinal changes in the US are, at least, partly the product of the particular historical evolution of intergroup relations from slavery to a situation of legal equality. In many European countries, the presence of sizeable ethnic minority groups is a rather recent phenomenon, as large immigration flows into Europe only came into being during the second half of the 20th century (Castles and Miller, 2003; Hooghe et al., 2008). As a result, European researchers have only recently started to ask survey questions with respect to outgroup attitudes.

Currently, we are only aware of three internationally published studies that focus on European trends in outgroup attitudes. Probably the earliest European time series of unfavorable attitudes toward ethnic minorities is reported by Coenders and Scheepers (1998). This study describes how support for ethnic discrimination in The Netherlands dropped firmly between 1979 and 1986. From the mid-1980s to mid-1990s, however, the proportion of Dutch supporting ethnic discrimination has risen substantially again. In a similar study on German data, Coenders and Scheepers (2008) conclude that Germans became less resistant to the social integration of guest workers and foreigners between 1980 and 2000. The only exception to this tendency is a small surge of anti-foreigner sentiment in 1996. Finally, the comprehensive study by Semyonov et al. (2006) evidenced that ethnic prejudice increased dramatically between 1988 and 1992 in 12 European countries, including The Netherlands and Germany. These findings with respect to Germany are in contradiction with the Coenders and Scheepers (2008) study, which might be due to differences in the content of the items used in both studies or to problems

1 Semyonov et al. (2006) provides an orderly description of the evolution of prejudice between 1988 and 2000. In the statistical analysis, however, no distinction is made between differences between countries on the one hand, and attitude trends within countries on the other. Because of this, it is impossible to find out to what extent the model gives an appropriate explanation for attitude changes.
with the comparability of the measurements over time. From 1992 onwards, Semyonov et al. (2006) report trends that are less pronounced and differ strongly across countries.

Thus, as this literature review makes clear, European attitudes toward outgroups—unlike those in the US—are not monotonous. Diversified and country-specific patterns are found instead. Consequently, it is very hard to formulate clear-cut expectations with respect to the evolution of attitudes toward immigration in Europe between 2002 and 2007.

2.2. Explaining attitude changes: a dynamic formulation of group conflict theory

Evolution in outgroup attitudes could be traced back to various sources. One plausible explanation is that attitude change is driven by changing levels of perceived group conflict. According to group conflict theorists (Blalock, 1967; Blumer, 1958; Campbell, 1965; Coser, 1956; Olzak, 1992; Quillian, 1995), negative attitudes toward outgroups essentially stem from the view that certain prerogatives of the own group are threatened by other groups. Negative outgroup sentiments can thus be seen as a defensive reaction to perceived intergroup competition for scarce goods. These scarce goods can relate to material interests (e.g., affordable housing, well-paid jobs, resources of the welfare state), but also include power and status. The development of perceived group threat is fundamentally a collective process by which a certain social group comes to define other groups (Blumer, 1958). It would, therefore, be inappropriate to conceive negative outgroup attitudes as based solely on threats to the individual well-being; challenges to group privileges or status are equally as important (Bobo, 1983, p. 1200).

Blalock (1967) proposed that the level of perceived group threat is influenced by a context of actual competitive conditions in which intergroup relations are taking shape. In other words, the subjective perception of competition plays a crucial mediating role between actual threats to group interests and negative outgroup attitudes (see Bobo, 1983). In group conflict literature, actual competitive conditions have primarily been operationalized by two variables: minority group size and economic conditions. First, the size of minority groups is widely recognized as major determinant of the level of perceived group threat (Blalock, 1967; Olzak, 1992; Quillian, 1995). Blalock (1967) mentioned two reasons why the dominant group might perceive sizeable outgroups as a greater challenge of their prerogatives. First, a more sizeable minority group means a larger number of ethnic competitors and, consequently, a more intense struggle for scarce goods. Second, sizeable minority groups can lead to stronger perceived threat because larger minority groups dispose of more potential for political mobilization. Besides the size of minority groups, levels of perceived threat are also thought to be shaped by the economic context. The logic behind this proposition is that less favorable economic conditions cause the material goods that are the object of competition to be more scarce. In more prosperous times, on the other hand, competition becomes less intense and the perception that majority and minority groups are locked in a zero-sum game is reduced (Blalock, 1967; Scheepers et al., 2002; Semyonov et al., 2006).

Most empirical tests of group conflict theory have been performed in a static, cross-sectional setting by comparing outgroup attitudes across regions or countries. Various studies provide empirical support for group conflict hypotheses. Based on a multilevel analysis of 12 European countries, Quillian (1995) concludes that prejudice is more widespread in countries with a high proportion of non-EU immigrants and a low gross domestic product (GDP) per capita. Several other studies confirmed these findings that minority group size (Coenders et al., 2004; Lahav, 2004; Scheepers et al., 2002; Schneider, 2008; Semyonov et al., 2004; 2008) or economic conditions (Semyonov et al., 2008; Schneider, 2008) affect outgroup attitudes. Nevertheless, support for group conflict theory is not unambiguous, as there also exists conflicting evidence that cannot be ignored (see, for example: Semyonov et al., 2004; Sides and Citrin, 2007; Strabac and Listhaug, 2008).

The use of trend data renders it possible to approach group conflict theory from a different point of view and to test a more dynamic formulation of this theoretical framework. Rather than attempting to link absolute levels of outgroup attitudes to group threat factors, our attention goes out to attitude changes specifically. Following Olzak (1992), one can expect that attitude changes are driven by changes in the level of actual competition (see also Coenders and Scheepers, 1998, 2008; Quillian, 1996). Following this logic, actual competition could remain constant at a high level without affecting outgroup attitudes. It is only when sudden changes in minority group size or economic conditions occur that outgroup attitudes evolve. Several reasons for the existence of such a process can be given. Rapid changes in immigration or economic conditions might affect labor, housing, and other markets more strongly than slow-paced evolution because of the limited time to absorb the changes (Olzak, 1992). In addition to this, sudden changes can have an important impact on popular perceptions because changes in group conflict factors usually receive wide media coverage (Hopkins, 2007).

Summarizing, our dynamic formulation of group conflict theory expects changes in actual competition rather than absolute levels to have an impact on changes in outgroup attitudes. This leads to the following research hypotheses:

Hypothesis 1: In countries with a suddenly growing minority population, attitudes toward immigration become more restrictive.
Hypothesis 2: In countries with a suddenly improving economic situation, attitudes toward immigration become less restrictive.

2 We confine ourselves here to a discussion of studies that used European data.
2.3. Alternative explanations for changing outgroup attitudes

Changes in the level of group threat are by no means the only possible sources of evolution in outgroup attitudes. Previous research has shown that cohort replacement can explain a substantial part of long-term evolution in anti-black prejudice among white Americans (Firebaugh and Davis, 1988; Quillian, 1996; Schuman et al., 1997). The fact that older, more prejudiced cohorts die off and are replaced by younger, less prejudiced, and better educated ones, can produce a significant evolution toward a more tolerant society. In this paper, however, we do not investigate such cohort replacement effects directly. The reason for this is that we only evaluate a 5-year period (2002–2007), which is too small for cohort replacement effects to be truly influential. By controlling for variables such as education, age, and gender during the analysis, the small cohort replacement effects that might be present are largely eliminated.

Also, important historical events—and the way they are framed by the media—might influence trends in outgroup attitudes greatly. A classical example of this mechanism is the impact of the Civil Rights movement on racial attitudes in the US (Quillian, 1996; Schuman et al., 1997). Nevertheless, the link between historical events and outgroup attitudes falls beyond the scope of this paper.3

3. Data and methods

To compare the evolution of attitudes toward immigration we used the three available rounds from the European Social Survey (ESS) (2002–2003, 2004–2005 and 2006–2007). Seventeen European countries participated in all three different ESS rounds. The ESS is a Europe-wide survey that has been conceived of as a series of cross-sections. From the very outset, the ESS was designed as a research instrument aimed at making cross-cultural comparisons. Therefore, elaborate attention has been paid to ensuring the methodological quality of the survey. Translation of the questionnaire into each native language, for example, followed the rigorous procedures for cross-cultural surveys set out in Harkness et al. (2003, pp. 35–56). Respondents were selected by means of strict probability samples of the resident populations aged 15 years and older. Although many countries were not able to meet the target response of 70% that was set out, response rates4 are reasonably high for most countries.

Since we are focusing on attitudes among majority group members, respondents of a foreign nationality or who are part of an ethnic minority group are not included in this analysis. Table 1 lists the 17 countries participating in the study and the numbers of respondents in each round who completed the items indicating attitudes toward immigration. The total number of respondents for these countries is 29,384 in the first round (2002–3), 29,452 in the second round (2004–5), and 29,639 in the third round (2006–7). The data were taken from the web site http://ess.nsd.uib.no.

### Table 1

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Austria</td>
<td>AT</td>
<td>N</td>
<td>Response rate (%)</td>
</tr>
<tr>
<td>Belgium</td>
<td>BE</td>
<td>1702</td>
<td>59.2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>CH</td>
<td>1665</td>
<td>33.5</td>
</tr>
<tr>
<td>Germany</td>
<td>DE</td>
<td>2652</td>
<td>55.7</td>
</tr>
<tr>
<td>Denmark</td>
<td>DK</td>
<td>1350</td>
<td>67.6</td>
</tr>
<tr>
<td>Spain</td>
<td>ES</td>
<td>1424</td>
<td>53.2</td>
</tr>
<tr>
<td>Finland</td>
<td>FI</td>
<td>1887</td>
<td>73.2</td>
</tr>
<tr>
<td>France</td>
<td>FR</td>
<td>1322</td>
<td>43.6</td>
</tr>
<tr>
<td>Great Britain</td>
<td>GB</td>
<td>1838</td>
<td>55.5</td>
</tr>
<tr>
<td>Hungary</td>
<td>HU</td>
<td>1401</td>
<td>69.9</td>
</tr>
<tr>
<td>Ireland</td>
<td>IE</td>
<td>1833</td>
<td>64.5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>NL</td>
<td>2169</td>
<td>67.9</td>
</tr>
<tr>
<td>Norway</td>
<td>NO</td>
<td>1919</td>
<td>65.0</td>
</tr>
<tr>
<td>Poland</td>
<td>PL</td>
<td>1865</td>
<td>73.2</td>
</tr>
<tr>
<td>Portugal</td>
<td>PT</td>
<td>1361</td>
<td>68.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>SE</td>
<td>1787</td>
<td>69.5</td>
</tr>
<tr>
<td>Slovenia</td>
<td>SI</td>
<td>1371</td>
<td>70.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>29,384</strong></td>
<td></td>
</tr>
</tbody>
</table>

3 Another theoretical framework that possesses relevance for explaining longitudinal developments in anti-outgroup attitudes is assimilation theory. Park (1950) considered assimilation as a final step in the cycle of race relations, a step that follows on the phases of contact, competition, and accommodation. Assimilation theory, therefore, predicts a monotonous decrease in anti-outgroup sentiments over time. Since previous research pointed out that the latter is certainly not the case in Europe, we decided not to elaborate further upon assimilation theory.

4 The response rates reported here are the number of completed interviews divided by the total eligible sample. Further information on non-response and reports on data collection techniques are documented in the web site of the European Social Survey: http://www.europeansocialsurvey.org.
Since they are part of the core module of the ESS, three items referring to attitudes toward immigration were included in the questionnaire at the three time points. These items were designed to measure opposition to allowing immigrants into the country. Each of the items of this scale inquires whether respondents prefer their country to grant access to many or a few immigrants of a certain group (see Table 2). Respondents indicated their responses on 4-point scales (1 – allow many, 2 – allow some, 3 – allow few, 4 – allow none). The first two items measure the extent to which one thinks his or her country should allow people of the same or of a different ethnic group to come and live there. The third question specifically refers to potential immigrants from the poorer countries outside Europe. Previous research has demonstrated, by means of confirmatory factor analysis, that these items tap one factor, namely, rejection of further immigration in general (Davidov et al., 2008; Meuleman and Billiet, 2005). The latent factor REJECT is coded in such a way that higher scores refer to a stronger rejection of new immigration.

Various comparative studies have made use of multilevel models for studying the effect of contextual variables such as minority group size and economic conditions (Kunovich, 2004; Quillian, 1995, 1996; Scheepers et al., 2002; Semyonov et al., 2006, 2008; Strabac and Listhaug, 2008). We are of the opinion, however, that for our specific research questions, multilevel modeling is not the most appropriate statistical tool. In order to give an adequate description of the data structure—cross-sections from 17 different countries—, a fairly complex multilevel model would be necessary, for example, with crossed variance terms (for an example of this approach, see: Quillian, 1996). With measurements from ‘only’ 17 countries and three time points, the sample size at the highest level is too small for the asymptotic properties of the multilevel estimators to kick in (for similar arguments, see: Coenders and Scheepers, 2008; Sides and Citrin, 2007). For this reason, we prefer to use a two-step approach. First, we use multi-group structural equation modeling to estimate the potential immigrants from the poorer countries outside Europe. Previous research has demonstrated, by means of confirmatory factor analysis, that these items tap one factor, namely, rejection of further immigration in general (Davidov et al., 2008; Meuleman and Billiet, 2005). The latent factor REJECT is coded in such a way that higher scores refer to a stronger rejection of new immigration.

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Table 2

<table>
<thead>
<tr>
<th>Question wording</th>
<th>Response categories</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REJECT</strong></td>
<td></td>
</tr>
<tr>
<td>To what extent do you think [country] should allow people...</td>
<td>1 (many), 2 (some), 3 (a few), 4 (none)</td>
</tr>
<tr>
<td>Item 1... of the same race or ethnic group from most [country] people to come and live here?</td>
<td></td>
</tr>
<tr>
<td>Item 2... of a different race or ethnic group from most [country] people to come and live here?</td>
<td></td>
</tr>
<tr>
<td>Item 3... from the poorer countries outside Europe to come and live here?</td>
<td></td>
</tr>
</tbody>
</table>

Table 3

<table>
<thead>
<tr>
<th>Model specifications</th>
<th>$\chi^2$</th>
<th>df</th>
<th>RMSEA</th>
<th>CFI</th>
<th>$\Delta \chi^2$</th>
<th>Adf</th>
<th>EPC</th>
</tr>
</thead>
<tbody>
<tr>
<td>M0</td>
<td>1621.62</td>
<td>200</td>
<td>0.064</td>
<td>0.99</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>M1</td>
<td>1418.10</td>
<td>199</td>
<td>0.059</td>
<td>0.99</td>
<td>203.52</td>
<td>1</td>
<td>-0.38</td>
</tr>
<tr>
<td>M2</td>
<td>1271.36</td>
<td>198</td>
<td>0.056</td>
<td>0.99</td>
<td>146.74</td>
<td>1</td>
<td>-0.36</td>
</tr>
<tr>
<td>M3</td>
<td>1203.08</td>
<td>197</td>
<td>0.054</td>
<td>0.99</td>
<td>68.28</td>
<td>1</td>
<td>-0.17</td>
</tr>
<tr>
<td>M4</td>
<td>1100.20</td>
<td>196</td>
<td>0.052</td>
<td>0.99</td>
<td>102.88</td>
<td>1</td>
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<tr>
<td>M5</td>
<td>1032.41</td>
<td>195</td>
<td>0.050</td>
<td>0.99</td>
<td>67.79</td>
<td>1</td>
<td>-0.36</td>
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<tr>
<td>M6</td>
<td>993.83</td>
<td>194</td>
<td>0.049</td>
<td>0.99</td>
<td>38.58</td>
<td>1</td>
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<tr>
<td>M7</td>
<td>890.03</td>
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<td>1.00</td>
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<td>812.61</td>
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<td>1.00</td>
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<td>1</td>
<td>-0.37</td>
</tr>
<tr>
<td>M9</td>
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<td>191</td>
<td>0.042</td>
<td>1.00</td>
<td>47.57</td>
<td>1</td>
<td>-0.21</td>
</tr>
<tr>
<td>M10</td>
<td>727.16</td>
<td>190</td>
<td>0.040</td>
<td>1.00</td>
<td>37.88</td>
<td>1</td>
<td>-0.18</td>
</tr>
<tr>
<td>M11</td>
<td>651.89</td>
<td>189</td>
<td>0.039</td>
<td>1.00</td>
<td>35.27</td>
<td>1</td>
<td>-0.19</td>
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<tr>
<td>M12</td>
<td>662.94</td>
<td>188</td>
<td>0.038</td>
<td>1.00</td>
<td>28.95</td>
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<td>-0.21</td>
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<tr>
<td>M13</td>
<td>637.92</td>
<td>187</td>
<td>0.037</td>
<td>1.00</td>
<td>25.02</td>
<td>1</td>
<td>-0.21</td>
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<tr>
<td>M14</td>
<td>661.42</td>
<td>194</td>
<td>0.037</td>
<td>1.00</td>
<td>-23.50</td>
<td>7</td>
<td>-</td>
</tr>
</tbody>
</table>

Solution for the final model (M14)

<table>
<thead>
<tr>
<th>$\lambda_1$</th>
<th>$\lambda_2$</th>
<th>$\lambda_3$</th>
<th>$\tau_1$</th>
<th>$\tau_2$</th>
<th>$\tau_3$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.886</td>
<td>1.000</td>
<td>0.016</td>
<td>0.910</td>
<td>0.180</td>
<td>0.166</td>
</tr>
<tr>
<td>0.016</td>
<td>-0.206</td>
<td>-0.271</td>
<td>0.751</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$\lambda_1$, $\lambda_2$, and $\lambda_3$ are the factor loadings of items 1, 2, and 3, respectively, for group $g$. In a similar way, the $\tau$'s refer to the item intercepts (for question wording of these items, see Table 2).

* Marker item of which the loading was constrained to be equal to one.
4. The cross-time and cross-country measurement equivalence of REJECT

This study aims at comparing the evolution of attitudes toward immigration across countries. However, comparing changes in abstract psychological constructs—such as attitudes—across cultural groups and over time brings along additional methodological issues. Before meaningful comparisons can be made, it is necessary to guarantee that the variables of interest are measured in a sufficiently equivalent way. The notion ‘measurement equivalence’ refers to ‘(…) whether or not, under different conditions of observing and studying phenomena, measurement operations yield measures of the same attribute’ (Horn and McArdle, 1992, p. 117). If measurement equivalence does not hold, comparisons across countries or over time might be problematic (Billiet, 2003; Cheung and Rensvold, 2002; Harkness et al., 2003; Hui and Triandis, 1985; Rensvold and Cheung, 1998). When measurement equivalence is absent, observed differences between countries or time points may be the result of systematic biases in response patterns or cultural differences in the interpretation of the items rather than substantive differences. Similarly, finding no differences does not necessarily guarantee that ‘real’ differences are absent when measurement equivalence is not established. For these reasons, measurement equivalence should not be taken for granted, but is instead a hypothesis that needs to be tested.\(^5\)

4.1. Using the MGCFA framework to test for measurement equivalence

Multiple group confirmatory factor analysis (MGCFA; Jöreskog, 1971) is one of the most popular techniques to assess measurement equivalence (Byrne et al., 1989; Rensvold and Cheung, 1998; Steenkamp and Baumgartner, 1998). In this approach, measurement models are estimated for several groups (often countries or time points), and compared to assess the extent to which they are similar. Several levels of measurement equivalence are discerned, each with its own implication for the comparability of scores. These levels are ordered hierarchically, in the sense that higher equivalence levels presuppose lower ones. Higher equivalence levels are harder to obtain as they provide a stronger test of cross-cultural equivalence, but also allow a more extended form of cross-cultural or cross-time comparison. The lowest level of equivalence is called configural equivalence (Horn and McArdle, 1992; Steenkamp and Baumgartner, 1998). Configural equivalence holds if confirmatory factor analysis shows that the measurement model exhibits the same configuration of salient and non-salient loadings in all countries and time points.

A second and higher level of equivalence is called metric equivalence (Steenkamp and Baumgartner, 1998), although it has also been referred to as construct equivalence (van de Vijver and Leung, 1997). Operationally, metric equivalence presupposes that factor loadings in the measurement model are invariant across groups:

\[
\Lambda^1 = \Lambda^2 = \cdots = \Lambda^K
\]

where \(\Lambda\) stands for the factor loading vector and the superscript for the group number (country at a specific time point). Metric equivalence implies the cross-cultural equality of the intervals of the scale on which the latent construct is measured. In other words an increase of 1 unit on the measurement scale of the latent variable has the same meaning across groups. However, latent variable scores can still be uniformly biased upward or downward. Because of this possibility of additive bias, metric equivalence still does not lead to full score comparability. Nevertheless, metric equivalence is highly relevant because it is a necessary and sufficient condition to compare difference scores (e.g., mean-corrected scores) across countries (Steenkamp and Baumgartner, 1998, p. 80). It also allows comparing the relationships of the latent variable with other variables of interest. However, it is not sufficient for allowing a comparison of latent means.

A next (third) level of equivalence, scalar invariance, should be established to justify comparing the means of the latent variables across countries or over time (Meredith, 1993; Steenkamp and Baumgartner, 1998). Scalar equivalence holds if one can constrain the intercepts of the indicators in the measurement model to be equal across groups:

\[
\tau^1 = \tau^2 = \cdots = \tau^K
\]

where \(\tau\) stands for the indicator intercept vector and the superscript for the group number (country at a specific time point). In order to assess scalar invariance, the data should thus be augmented with mean-structure information (often referred to as mean and covariance structure [MACS] modeling, see Sörbom, 1974). Scalar equivalence implies that the measurement scales do not only have the same intervals, but also share origins. This makes it possible to compare raw scores in a valid way, which is a prerequisite for latent mean comparisons across countries or over time.

Byrne et al. (1989) have argued that full equivalence, that is, invariance of the parameters for all items, is not necessary for substantive analyses to be meaningful. Provided that at least two items per construct, (namely, the item that is fixed at unity to identify the model and one other item) are equivalent, cross-national comparisons can be made in a valid way. Thus, partial equivalence does not necessarily require the invariance of all loadings and intercepts. Freeing some equivalence constraints can control for the measurement inequivalence caused by a limited number of violations of the equivalence requirements (Vandenberg and Lance, 2000, p. 37). This idea is also supported by Steenkamp and Baumgartner (1998).

\(^5\) Testing for measurement equivalence is most often used by psychologists, but is also highly relevant for other social sciences, for example sociology, when doing comparative analyses. We hope that this paper can contribute to the dissemination of equivalence testing in other disciplines by giving an illustration how this technique can be applied in research practice.
4.2. Measurement equivalence of the ESS scale ‘attitudes toward immigration’

The general framework sketched above has important implications: for cross-country comparisons of the evolution of attitudes to be allowed, a mixture of metric and scalar equivalence is required. First, scalar equivalence is needed for the time points within countries. Indeed, estimating an evolution within a given country entails latent mean comparisons across time points for that country. Across countries, on the other hand, metric equivalence is sufficient, as evolutions are being compared, and the country-specific evolution is based essentially on difference scores. Thus, strictly speaking, scalar equivalence across time points within countries and metric equivalence across countries is a sufficient condition for the cross-national comparison of evolutions. However, if we find that (partial) scalar equivalence also holds across time points and countries, meaningful country mean comparisons can be made additionally.

To test whether these conditions are fulfilled, we will basically employ a top-down logic, that is, we begin with the most constrained model (full scalar equivalence across time and countries). Then, we gradually decrease the number of constraints and assess whether the model fit improves substantially. This process is repeated until no further substantial improvements are possible. The model fitting procedure is guided by looking at modification indices and expected parameter changes. Table 3 summarizes the results.  

As several goodness-of-fit indices indicate, the model with all factor loadings and intercepts constrained across the 51 groups (full scalar equivalence) turns out to have a rather poor overall model fit. However, substantial model improvements are achieved by dropping some untenable equivalence constraints. After freeing 13 such constraints, no possibilities for further modifications resulting in substantial parameter changes and \( \chi^2 \) decreases were left. The deviations from full scalar equivalence turn out to be quite stable over time. Countries for which constraints are untenable in one ESS round often deviate in the other rounds as well. This inspired us to fit a final model (M14), in which full scalar equivalence holds within countries, and partial scalar equivalence between countries. Concretely, if an equivalence constraint has to be dropped for a country at one time point, then it is also removed at the other time points for that same country. For these parameters, new parameter constraints within the country’s time series are introduced instead: they are set equal across the three time points within the country. This final model gives a more parsimonious description of the data without deteriorating model fit substantially, as the RMSEA and CFI criteria indicate. The final model has a quite good overall model fit, as the RMSEA is well below 0.05 and CFI is sufficiently close to 1.

All untenable equality constraints refer to one specific item, namely, the first item. Since no deviations were found for the other two items, partial scalar equivalence holds across countries. Additionally, full scalar equivalence holds over time within countries. This finding answers our first research question: the ESS measurements of attitudes toward immigration can be compared meaningfully across the 17 countries and the three time points in the study. With this established we can proceed with the comparison of attitude trends across countries.

Before we do this, however, we would like to digress by briefly discussing the failure to establish the full scalar equivalence of this data. We already noticed that violations of equivalence turn out to be quite stable over time. This strengthens the thesis that the observed deviations are not just methodological artefacts, but should instead be considered as a source of useful information on cross-cultural differences (Poortinga, 1989). The most notable deviations from full scalar equivalence are found for item 1 in Hungary. In all three ESS rounds, the item referring to immigrants of the majority ethnic group performs differently in Hungary than in most other European countries. More specifically, the factor loading of this item was substantially weaker (at all three time points) and the intercept was lower. The lower factor loading for Hungary indicates that the first item on the scale is not as strongly connected to the whole scale as it is in other countries. Apparently, attitudes toward immigrants of the same ethnic group are rather detached from attitudes toward other immigrant groups in Hungary, whereas they are more intimately connected in other countries. Also, the intercept of the first item was found to be lower in Hungary. This means that Hungarians have less restrictive attitudes toward immigrants of the same ethnic group than what is expected based on their score on the latent variable REJECT. A possible explanation for this differential functioning of the first item might be sought in the specific ethnic and immigration context of Hungarian society. Roma people are an important ethnic minority in Hungary and are prominently present in the perception of Hungarians (Ladányi and Szélényi, 2001). For this reason, Hungarians might—more than in other countries—interpret the term immigrant as referring to persons from

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6 The specifications of this model are the following:
- 51 groups (17 countries \times 3 time points): \( g \in \{ 1, \ldots, 51 \} \).
- In all groups, the factor loading for item 2 is equal to 1 for identification reasons: \( \gamma_{2}^{g} = 1 \) for \( g \in \{ 1, \ldots, 51 \} \).
- Equal factor loadings across all groups: \( \Lambda^1 = \Lambda^2 = \cdots = \Lambda^{51} \).
- Equal intercepts over all groups: \( \alpha^1 = \alpha^2 = \cdots = \alpha^{51} \).
- All residual covariances equal zero: \( \psi_{ij} = 0 \) with \( i, j \in \{ 1, 2, 3 \} \).
- Residual variances \( \psi_{g} \) are not constrained to be equal across groups.
- The variance of the latent variable \( \psi^g \) is estimated freely and not constrained across groups.
- The intercept (mean) of the latent variable is fixed to 0 for the first group and free in all other groups: \( \alpha^1 = 0 \) and \( \alpha^g \neq 0 \) for \( g \in \{ 2, \ldots, 51 \} \).

7 Because all items are measured on ordinal scales and most items have a strongly skewed distribution, we decided to use a weighted least squares (WLS) estimation procedure, in which polychoric correlations and asymmetric covariance matrices are used as input rather than regular covariance matrices (Jöreskog, 1990). All models are estimated with LISREL 8.7 (Jöreskog and Sörbom, 1993). For more detailed information on equivalence testing with ordered-categorical variables, see Millsap and Yun-Tein (2004).
a different ethnic group. Although less pronounced, similar deviations from full scalar equivalence are found for Denmark, Germany, and Norway.

5. Trends in attitudes toward immigration

Now that the cross-cultural measurement equivalence of the scale has been verified, we proceed by sketching the evolution of European attitudes toward immigration. The means of the latent variable REJECT are estimated in a new measurement model with age, gender, and education as control variables. Concretely, the control variables were included by constraining the latent mean for one group to be zero, the scale of the latent means is, in certain sense, arbitrary.

Table 4. Higher scores are indicative of a more restrictive attitude toward immigration. Since identification of the model requires the latent mean for one group to be constrained to zero, the scale of the latent means is, in certain sense, arbitrary. Therefore, these figures should not be interpreted by looking at the absolute values; comparisons of means over time or countries are more informative.

Attitudes toward immigration appear to vary considerably from one country to another. Many of these country-mean differences are statistically significant because they are located more than two standard errors apart. Hungary is the country where negative attitudes (i.e., rejection of immigration) are most widespread. Other countries that are located at the top of the ranking of least immigration-friendly attitudes are Austria, Portugal, and Poland. At the other side of the spectrum we find Sweden, Finland, Switzerland, Denmark, and Norway, where the residents are on average most open to new immigration. There seems to be a more or less clear regional attitudinal divide in Europe. Populations of Northern—and especially Scandinavian—countries tend to hold more open attitudes toward immigration, while Southern and Eastern European countries—countries that started to experience sizeable immigration only recently—are among the least immigrant friendly.

This contribution, however, has its main focus on how attitudes toward immigration develop over time. A graphical representation of this evolution is given in Fig. 1. At first glance it becomes clear that, despite the relatively small time span, attitudes toward immigration have not remained stable over the 5-year period from 2002 to 2007. Significant (p < .05) attitude changes are detected in 10 of the 17 countries analyzed here. The direction and magnitude of the attitude changes

8 The fit indices for this model are: \( \chi^2 = 1598.20; \) df = 506; RMSEA = 0.035; CFI = 0.99.  
9 These variables were operationalized as follows: gender: 1: male; 2: female; age: in years; education: 0 (did not complete primary education) to 6 (completed second stage of tertiary education). Education and to a lesser extent also age were found to have a cross-culturally robust impact on attitudes toward immigration. In agreement with the literature (Coenders and Scheepers, 2003; Hainmueller and Hiscox, 2007; Hello et al., 2002), the lower educated (49 out of 51 samples) and older persons (43 samples) were found to report significantly more restrictive attitudes. No consistent gender effect was found. These results can be obtained from the first author.

10 Controlling for age, gender, and education has a substantial impact on the estimated latent means. Especially the differences between countries are affected by these controls.
are very different from one country to another. In three countries, namely Hungary, Austria and Spain, a surge of anti-immigration attitudes can be witnessed. Especially in Hungary—a country that is already among the least immigration-friendly in 2002—the increase in resistance toward immigration is strongly pronounced. In seven countries, resistance to immigration has decreased. These countries are Poland, France, Belgium, Slovenia, Denmark, Finland, and Sweden. In the remaining seven countries, the observed changes are not statistically significant.

The observed evolution in these countries is not only strongly statistically significant, it is also substantial. The attitude trends are strong enough to alter the country rankings on different points. Poland, for example, turned out to be the country with the most restrictive attitudes in ESS round 1 but falls back to the middle in round 3. However, the exact magnitude of each evolution cannot be deduced from the latent mean scores as these scores have an arbitrary scale. Looking at individual item means can give us an idea of the size of the attitude changes. We can take Poland as an example, one of the countries where a very pronounced evolution in anti-immigration attitudes has taken place since 2002. Controlling for age, gender, and education, the means of the three items dropped by 0.27, 0.28, and 0.28 points, respectively, between ESS rounds 1 and 3. This is not negligible, given that these items are measured on a 4-point scale.

The countries with a downward trend in anti-immigration sentiments clearly outnumber the countries with an upward trend. The marked increase of anti-immigrant sentiment that has been evidenced in Europe between the mid-1980s and mid-1990s (Coenders and Scheepers, 1998; Semyonov et al., 2006) has thus not persisted during the first decade of the 21st century. Nevertheless, one can hardly speak of a universal shift toward a climate that is more supportive of immigration, as the evolution of attitudes varies greatly across countries. Unlike the latent country means, this attitude evolution is not divided along regional lines. Among the Eastern European countries in the study, for example, very divergent patterns of evolution can be observed: while support for immigration crumbles in Hungary, attitudes are becoming more open in Poland and Slovenia. In Scandinavia, we find a firm decrease in anti-immigrant feelings in some countries (Finland, Denmark, and Sweden), while in Norway exclusionist attitudes rather seem to win ground.

In spite of the fact that EU policy makers are making efforts to harmonize immigration policies (Givens and Luedtke, 2004), there is no evidence that attitudes toward immigration are converging in EU member states. On the contrary, the countries that are located at the extremes of the country rankings (Hungary, Austria, Finland, and Sweden) are shown to move even further away from the European average over time.
6. A dynamic test of group conflict theory

In this final section, we explore a dynamic version of group conflict theory that may offer an explanation for the observed attitude changes. As mentioned above, both economic conditions and the size of minority groups are traditionally conceived of as determining factors for the level of (perceived) group threat. Conform our theoretical framework, we will explore whether changes in outgroup attitudes are driven by changes in economic conditions and minority group size.

The choice for concrete indicators is seriously limited by the fact that comparable variables have to be available for as many countries as possible. Immigration figures are probably the most finely tuned measures available for determining changes in minority group size. The fact that immigration figures often receive wide media coverage adds up to the relevance of this indicator. Based on OECD (2006) immigration statistics, we calculated the number of foreign immigrants per 1000 inhabitants. In previous studies, economic conditions have often been defined in terms of GDP per capita (see for example: Quillian, 1995; Schneider, 2008; Semyonov et al., 2008; Sides and Citrin, 2007; Strabac and Listhaug, 2008). In this logic, the real GDP growth can be seen as an indicator for changes in overall economic conditions. However, the use of GDP-based statistics as indicators for the economic situation of the population can be criticized. The GDP does not tell anything about the distribution of wealth in a country, so that a GDP increase not necessarily implies that the majority of the population gets access to larger quantities of resources. Therefore, we also pay attention to a second economic indicator, namely changes in harmonized unemployment rates. After all, perceived interethnic job competition is one of the most concrete and influential translations of intergroup competition. All economic indicators evaluated here were retrieved from the Eurostat web site (http://ec.europa.eu/eurostat).

To test the propositions of the dynamic version of group conflict theory, we calculate the correlation between the latent mean changes between 2002/2003 and 2006/2007 on the one hand, and our indicators for changes in economic conditions and immigrant group size on the other. For the latter variables, a time lag of one year is applied to account for the time that goes between a changing socio-economic reality and attitude changes. As the correlations are calculated at the national level, they are based on a very small number of observations. By consequence, statistical tests for these coefficients have low power. These tests therefore have an exploratory character. The correlations are presented in Table 5.

Some evidence is found that short-term changes in the immigrant group size play a role in the process of attitude change. The correlation between attitude changes and immigration figures (averaged over the period 2001–2005) is strongly positive (0.49) and statistically significant at the .10 level. This positive correlation coefficient is in line with the hypotheses derived from the dynamic version of group conflict theory: in countries with high levels of immigration, attitudes toward immigration appear to have become more restrictive. Fig. 2 provides more detailed insight into this relation. Poland, Finland, and Denmark, where the strongest trends toward more openness are observed, are amongst the countries that attracted least foreign immigration between 2001 and 2005. Conversely, two countries where anti-immigration attitudes are on the increase, namely Austria and Spain, have known strong inflows of immigration. There is one clear exception to this pattern. While foreign immigration into Hungary is relatively limited, a significant shift toward stronger resistance against immigration is found in this country. An explanation for this outlier is not immediately available.

Evidence for a relation between changes in economic conditions and attitude evolution is mixed. Between attitude changes and real GDP growth (averaged over the period 2001–2005), a near-zero correlation is found. Thus, overall economic growth is unrelated to trends in anti-immigration attitudes. Yet, the second economic indicator—changes of unemployment rates (unemployment rate 2005 minus unemployment rate 2001)−appears to be more strongly connected to the observed evolution in immigration attitudes. The correlation between attitude changes and changes in unemployment level equals 0.45 and is statistically significant at the .10 level. Fig. 2 illustrates that attitudes toward immigration have become more immigration-friendly particularly in countries where unemployment rates did not increase.

This analysis leads to a couple of interesting conclusions. We find some empirical support for certain propositions of a dynamic version of group conflict theory. As predicted by this theoretical framework, changes in some of the group threat variables appear to play a role in the evolution of attitudes toward immigration. Migration flows and changes in the labor

<table>
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<th>Correlation</th>
<th>p-Value</th>
<th>n</th>
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<td>0.486</td>
<td>0.0563</td>
<td>16</td>
</tr>
<tr>
<td>0.006</td>
<td>0.9832</td>
<td>17</td>
</tr>
<tr>
<td>0.450</td>
<td>0.0803</td>
<td>16</td>
</tr>
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</table>

Table 5
Correlation between evolution in attitudes toward immigration and national context variables.

11 Because of the low power of the test due to the small number of observations, we decided to test at the \( \alpha = .10 \) level. We are aware of the increased risk of type I-errors that this decision brings along.

12 We recalculated the correlation coefficient after having omitted Hungary. Without this outlier, the relation between immigration and attitude changes becomes even stronger: the correlation equals 0.652, and the corresponding \( p \)-value 0.0084.

13 We also tested whether absolute levels of group conflict rather than changes affect the observed evolution in immigration attitudes. However, variables such as GDP per capita, unemployment rates, and the percentage of non-EU foreign born population are not significantly related to attitude changes.
market seem to be drivers of change in attitudes toward immigration. Yet, support for dynamic group conflict theory is not unambiguous. Real GDP growth turns out to be unrelated to attitude changes. Some words of caution with respect to our results are in order, as these conclusions are based on bivariate correlations with very few observations.\

7. Summary and conclusions

The main goals of this paper were to investigate the evolution of attitudes toward immigration among Europeans and to offer possible explanations for the observed attitude changes. More specifically, we examined the following three research questions: (1) whether the ESS measures of immigration attitudes are comparable across countries and over time; (2) whether and how attitudes toward immigration have changed in 17 European countries between the years 2002 and 2007; and (3) whether the attitude trends are driven by changing levels in group conflict variables. Studies that combine

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14 We additionally tested the robustness of these correlations in two ways. First, possible influential observations (such as Hungary, Denmark, Spain or Switzerland for immigration flows and Spain, Denmark, and Portugal for changes in unemployment) were omitted one by one, and then the correlations were recalculated (we thank an anonymous reviewer for this useful suggestion). This did not alter the conclusions, in many cases the correlations became even stronger. Second, we repeated the analysis for attitude changes in the periods 2002–2004 and 2005–2007 separately. The correlations for the variables immigration flows and changes in unemployment were found to have the same sign, although they were occasionally somewhat weaker. This latter finding might suggest that a two-year period is relatively short for group conflict variables to change attitudes profoundly.
a cross-time and a cross-country perspective are rare in this field. To investigate the third research question we formulated a dynamic version of group conflict theory. For the empirical test we used data on the 17 countries that participated in three rounds of the ESS between the years 2002 and 2007.

In cross-country and longitudinal survey research, more methodological issues are often involved than in a single country survey research (van de Vijver and Leung, 1997; Welkenhuyzen-Gybels and van de Vijver, 2001). In order to guarantee that our variable of interest, attitudes toward immigration, is comparable across countries and over time, we conducted strict tests of configural, metric, and scalar invariance using a multiple group confirmatory factor analysis. Scalar invariance is required to legitimately estimate the evolution within countries. Metric invariance is a necessary condition for comparing the evolution of the means across countries. After concluding that the constructs were measured in a (partially) scalar equivalent way, we continued with the comparative analysis.

First, we found that in seven of 17 European nations, individuals became more open toward immigration over a 5-year period, whereas anti-immigration attitudes were on the increase in three countries. The marked uniform increase of anti-immigrant sentiment that has been evidenced in Europe between the mid-1980s and mid-1990s has not persisted into the first decade of the 21st century. However, this conclusion should be taken with caution, since attitudes were differently operationalized in the different studies. Whereas in previous studies (Coenders and Scheepers, 1998, 2008; Semyonov et al., 2006) changes in prejudice or attitudes toward immigrants were the focus of attention, our study deals with attitudes toward immigration. However, both concepts are theoretically and empirically closely related.

Second, the findings reveal that the evolution of attitudes toward immigration is considerably different in the countries under study. Diversity of attitudes toward immigration seems to increase, since the countries that figure at the extremes of the country rankings in 2002 (Hungary and Sweden) are shown to move even further away from the European average.

In the next step, an attempt was undertaken to explain the observed attitude trends. Drawing on a dynamic formulation of group conflict theory, we tested whether changes in economic conditions and minority group size are sources of attitude change. The data reveal that changes in some of these factors play a role in the process of attitude formation. Attitude changes appear to depend on changes in the minority group size. We witnessed a growing openness toward immigration especially in countries that experience weak immigration flows. With respect to economic conditions, mixed evidence is found. Decreasing unemployment rates seem to lead to more positive attitudes toward immigration. Using real GDP growth as an indicator for change in the economic situation, however, no relation with attitude changes is found. Possibly, real GDP growth may be a defective indicator for the increase in material wealth for the majority population because GDP calculations do not take the distribution of income into account. Sudden changes in unemployment figures are probably more tangible for large portions of the population.

To a certain extent, our conclusions with respect to dynamic group conflict theory are consistent with previous research. Coenders and Scheepers have reported repeatedly that attitude changes are driven by immigration flows and changing unemployment levels (Coenders and Scheepers, 1998, 2008). Quillian (1996) comes to a similar conclusion for the US: changes in the percentage of blacks and average income per capita can explain a portion of the evolution in ethnic prejudice. One could say that, although the number of studies is far more limited, empirical support for the dynamic version of group conflict theory is more unambiguous than for the static version. Indeed, recent European studies have presented mixed evidence for propositions of static group conflict theory. Some studies confirm that the size of the foreign population (Quillian, 1995; Scheepers et al., 2002; Semyonov et al., 2008; Schneider, 2008) or GDP-based income statistics (Quillian, 1995; Schneider, 2008) have an impact on outgroup attitudes, while others were not able to replicate these findings (Sides and Citrin, 2007; Strabac and Listhaug, 2008). These contradictions might be due to differences in concrete operationalizations of the variables, but also to problems with the cross-cultural comparability of the measurements. The more consistent empirical support for dynamic group conflict theory might suggest that short-term changes in group conflict variables rather than absolute levels have an impact on anti-immigration attitudes.

However, our results should be interpreted with caution. Although the number of countries in this paper is substantially larger than in previous studies, the number of units at the highest level remains small, thereby seriously limiting the possibilities for statistical analysis. Future research should try to validate these findings by increasing the number of units of analysis. This can be done by including even more countries, or by taking regions as units of analysis. Another possibility consists of extending the time frame, as the period covered in this study is very short. This will make it possible to use more sophisticated, multivariate analytical tools. This way, one could find out whether changes in economic conditions and minority group size remain robust predictors of changes in such attitudes while accounting for other possible explanations.

Immigration to European countries in recent years has been on the rise. Therefore, it is not surprising that numerous studies have investigated the attitudes of populations toward immigrants and the determinants of such attitudes. The designers of the ESS have also acknowledged the importance of such studies, and they have chosen the concept of opposition to allow immigrants into the country to be in the core module of the survey. This renders it possible to study these attitudes in a cross-country and longitudinal perspective, using a more dynamic theoretical and empirical approach. Where immigration changes the face of societies rather quickly, and brings about diverse attitudes, it becomes increasingly important for researchers to study these processes in a dynamic way. Our study provides empirical support for differences between countries and over time in attitudes toward immigration and provides possible explanations for these differences.
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