Disentangling the Causal Relations of Perceived Group Threat and Outgroup Derogation: Cross-national Evidence from German and Russian Panel Surveys

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Despite the resurgence of interest in group threat theory for explaining negative interethnic relations, adequate empirical evidence on the causal ordering of perceived group threat and outgroup derogation is still missing. In the literature, three theoretical perspectives concerning this issue have been raised. The predominating view assumes that perceived group threat is a causal antecedent to outgroup derogation. Contrary to this perspective, a second theoretical model conceptualizes perceived group threat to be a consequence of prior levels of outgroup derogation. Alternatively, a third theoretical perspective suggests to consider the causal relations between perceived group threat and outgroup derogation to be reciprocal. In this article, we conduct a longitudinal test of these competing theoretical models drawing upon cross-national multiwave panel surveys from Germany and Russia. Using latent autoregressive cross-lagged models, we find that perceptions of threatened group interests are causally antecedent to German's dislike and negative behavioural intentions against foreigners as well as to Russian's ethnic distance towards minorities. The data provide no support for the two alternative models. Findings are discussed with regard to its meaning for group threat theory.

Introduction

Current research on sources of outgroup derogation alludes an increased interest in group threat theory (Scheepers *et al.*, 2002; Stephan and Renfro, 2002; Raijman *et al.*, 2003). Within this field, a number of existing sociological studies employed a group threat framework to examine macro- and microlevel conditions of people's subjective threat perceptions and

anti-outgroup stances (Quillian, 1995; Coenders, 2001; Evans and Need, 2002; Scheepers *et al.*, 2002; Semyonov *et al.*, 2006). We endorse this development. However, up to this day the question on the direction of causal flow between perceived group threat and outgroup derogation as the theory's constitutional microlevel components remains unanswered. Specifically, three different conceptualizations regarding the way perceptions of threatened group interests and

outgroup derogation operate have been proposed. We label the first conceptualization *conventional model* of group threat theory. According to this perspective, perceived group threat is causally antecedent to outgroup derogation. A second conceptualization which we label *reverse model* of group threat theory considers perceived group threat to be a consequence of pre-existing states of outgroup derogation. A third approach postulates that prior levels of perceived group threat are causally antecedent to later levels of outgroup derogation and/or vice versa. We label this version *reciprocal model* of group threat theory. In this study, we simultaneously test the empirical adequacy of the three different conceptualizations named above. Doing so is not only critical for an improved understanding of the microsocial mechanisms underlying intergroup conflict (Bobo and Fox, 2003: 319), but also generates important knowledge for applied programs aiming to alter perceptions of group threat in order to prevent or improve negative intergroup relations (Stephan and Stephan, 2000). Unlike previous research using cross-sectional data from a single time point only, we adopt a longitudinal research strategy. More precisely, to test the rival propositions of the *conventional*, *reverse*, and *reciprocal model* of group threat theory we perform secondary analyses of two multiwave panel surveys of the German and Russian population. This permits the simultaneous empirical testing of different causal flows between the theoretical constructs of interest. In addition, while using slightly different operationalizations, the German and Russian data represent considerably different social contexts of analysis (Kohn, 1989). Thus, our analyses examine the cross-national generalizability of the dynamic microsocial processes underlying outgroup derogation—an important issue only seldom addressed in previous studies (Taylor and Moghaddam, 1994; Pettigrew, 1998).

Group Threat Theory

Social scientists have been hypothesizing for more than 50 years that perceiving an outgroup as a threat to one's ingroup gives rise to anti-outgroup reactions. For instance, for the case of race relations in the US Blalock (1967) argued that 'whites' would perceive increasing numbers of 'blacks' as a threat to their political or economic power. As a consequence of such threat perceptions Blalock (1967) expected negative intergroup reactions of 'whites' towards 'blacks' to increase. Similarly, Blumer (1939, 1958; see also Quillian, 1995; Bobo, 1999; Coenders, 2001;

Scheepers *et al.*, 2002) considered perceived threats to interests of the ingroup as central source motivating ingroup members to express anti-outgroup prejudice. Subsequent research expanded upon these initial studies in several ways. A first enhancement concerns the forms of threat perceptions considered to affect outgroup derogation. First, according to realistic group conflict theory (Sherif *et al.*, 1961; Blalock, 1967; Jackson, 1993; Stephan and Stephan, 2000), it is realistic threats which are of central importance for fostering outgroup derogation. Realistic threats, as they are commonly defined, are threat perceptions referring to resource-based, tangible issues such as the economic or political resources of the ingroup. An example for majority members' experiences of such threats is the notion that immigrants would purposely exploit certain government resources such as social security benefits or would endanger (alleged) prerogatives of ingroup members on the labour or housing market. Resource-based realistic threats can also relate to the political arena. For instance, electoral gains of societal minorities in national parliaments, city councils, or similar political institutions might be seen to endanger the political interests of one's own group. A second line of research considers perceived threats related to symbolic matters to be of central importance for evoking outgroup derogation. Generally, symbolic threats differ from resource-based threats by referring to non-tangible issues such as the predominant values or cultural order of the ingroup (Stephan and Stephan, 2000; McLaren, 2003). For example, immigrant groups of non-western ancestry are commonly portrayed as favouring cultural or religious practices which are (allegedly) incompatible with the social norms of western European immigrant-receiving countries. Thus, subjective perceptions that immigrants threaten the ingroup's cultural order correspond to the idea of symbolic threats (Stephan and Stephan, 2000). Prior studies proved that both perceptions of realistic and symbolic threats motivate individuals to express outgroup derogation. Accordingly, Stephan and Stephan (2000) and Stephan and Renfro (2002; see also McLaren, 2003) integrated these different types of threat perceptions into a common theoretical framework, emphasizing that threats must be subjectively perceived before outgroup derogation as a consequence of such perceived threats takes place. Positing that perceived threats and outgroup derogation are closely related but theoretically and empirically distinct concepts, these authors consider perceived threat to arise 'because of the anticipation of negative consequences' (Stephan and Renfro, 2002: 197) regarding the presence of some outgroup. This view not only
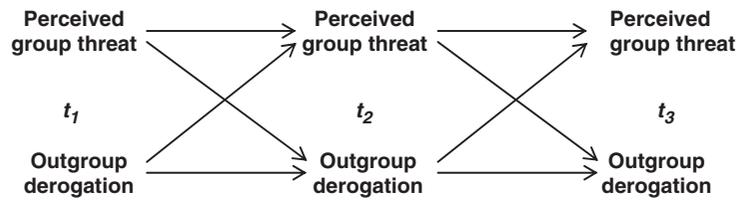
Diagram 1 Potential causal relations between perceived group threat and outgroup derogation

emphasizes the function of perceived threat as 'cognitive appraisal' (ibid.) of macrosocial conditions such as increasing demographic size of an outgroup, but also underlines that merely perceiving an outgroup as threat is qualitatively different from substantive manifestations of outgroup derogation—be it in form of exclusionary attitudes (Allport, 1954: 229), intended or actual discriminatory behaviours or other forms of outgroup derogation (Stephan and Renfro, 2002: 202f.). Thus, a key challenge for research in this area is providing empirical evidence for the presumed direction of causal flow between perceived group threat and outgroup derogation.

The Issue of Causal Flow in Group Threat Theory: Three Rival Conceptualizations

To facilitate an initial understanding of the three theoretical models examined in this study, consider Diagram 1. This diagram illustrates the potential directions of causal flow between perceived group threat and outgroup derogation. Specifically, the arrows pointing from 'perceived group threat' to 'outgroup derogation' portray the *conventional model* of group threat theory. In turn, the arrows pointing from 'outgroup derogation' to 'perceived group threat' refer to the *reverse model* of group threat theory. When considered in conjunction, the arrows from 'perceived group threat' to 'outgroup derogation' and, respectively, from 'outgroup derogation' to 'perceived group threat' depict the *reciprocal model* of group threat theory. The remaining arrows between earlier and later measures of the same constructs illustrate autoregressive relations.

Conventional model

In previous research the view predominates that perceptions of threatened group interests are causally antecedent to outgroup derogation. This *conventional model* of group threat theory has evoked an enormous amount of correlational studies examining a broad range of dependent variables. For instance, this line of research provided evidence that perceived group threat

predicts prejudice (Stephan and Stephan, 2000), denial of citizenship rights to ethnic minorities (Scheepers et al., 2002; Raijman et al., 2003), resistance against policy measures benefiting ethnic minority groups (Stephan et al., 1998), or opposition to immigration (Wilson, 2001). The common social mechanism assumed to underlie these findings is that if an outgroup is seen as posing a threat to one's ingroup, negative reactions towards the outgroup often serve to maintain or restore a favourable position of one's ingroup.

Reverse model

The *reverse model* of group threat theory posits that perceived group threat must be seen as a consequence of pre-existing levels of anti-outgroup attitudes or behaviours (Kinder and Sanders, 1996). Following this perspective, the causal chain of the conventional model is reversed and perceived group threat becomes the dependent variable. The idea that pre-existing levels of outgroup derogation cause people to perceive an outgroup as posing a threat is consistent with cognitive dissonance theory (Festinger, 1957; Harmon-Jones and Mills, 1999). Following such reasoning, existing hostile attitudes or negative behaviour towards members of an outgroup heighten perceptions of group threat because of people's motivation to avoid inconsistent information (Esses et al., 2001). For instance, in a cross-sectional analysis Wilson (2001) found support that perceived threats from immigrants predict US Americans' policy attitudes towards immigration. However, he cautions that 'the opposite causal ordering is not implausible. For example, antagonism towards immigrants may find expression in negative policy views, which are then rationalized by threat perceptions' (Wilson, 2001: 495). Similarly, Kinder and Sanders (1996) state for the case of white US-Americans racial resentment and perceived threats from Blacks: '[..] The perception of threat has a systematic foundation, but the foundation is provided not by actual conditions of conflict and competition but by feelings of racial resentment. [...] Whites feel racially threatened because they are predisposed to

look at the world that way; they see danger and risk when others, more sympathetic in their racial sentiments, do not' (Kinder and Sanders, 1996: 90).

Reciprocal model

A third line of argumentation explicitly points to the potentiality of mutual causal relations between perceived group threat and outgroup derogation (Stephan and Renfro, 2002, see also Wilson, 2001). This *reciprocal model* of group threat theory posits that at subsequent time points perceived group threat (outgroup derogation) increases outgroup derogation (perceived group threat), while in turn outgroup derogation (perceived group threat) leads to heightened levels of perceived group threat (outgroup derogation). Thus, hypothesizing reciprocal causal relations between group threat and outgroup derogation integrates the assumptions underlying the *conventional* and the *reverse* causal models. In addition, examining mutual relations between perceived group threat and outgroup derogation is important as it accounts for potential overestimation of unidirectional causal relations between both theoretical constructs.

As noted earlier, findings from earlier work on group threat theory typically rest on examinations of cross-sectional data collected at a single point in time. However, it is well known that cross-sectional analyses of this kind provide only little information about the flow of causality between two (or more) constructs (Finkel, 1995). This shortcoming is also inherent to experimental studies documenting that increasing the salience of group threat heightens negative attitudes towards outgroups (Esses *et al.*, 1998; Ullrich *et al.*, 2006). A reason for this, as Wagner *et al.* (2007) point out, is that adequate experimental designs for a simultaneous test of opposing flows of causality are virtually intractable. In the subsequent analyses we address the empirical limitations of previous studies by taking advantage of individual-level repeated measures data which were collected by means of three-wave panel designs. Although survey data collected by panel studies commonly do not conform to experimental standards, such panel data allow at least for the specification of the time ordering between constructs which is necessary to draw causal inferences (Winship and Morgan, 1999). We also seek to improve earlier work by using latent autoregressive cross-lagged models (Finkel, 1995) in order to separate out the causal effects of perceived group threat and outgroup derogation. In addition, our analyses are based on data from Germany and Russia as two different nation-states. Thus, our investigation is inherently cross-national and thereby examines the generalizability of the causal relations between perceived group threat

and outgroup derogation (van de Vijfer and Leung, 1997).[1]

Testing Group Threat Theory in Germany

The German Context

Our empirical investigation begins with the analysis of German's perceived group threat and negative attitudes towards foreign workers and their descendants, the largest ethnic minority group living in Germany. Historically, the presence of foreign workers in Germany is rooted in the period of labour shortage during the 1960s. At that time, the German government actively encouraged the migration of workers from countries with an abundance of labour to Germany. The government originally expected these foreign workers to remigrate to their home countries after two or three years. However, many of these so-called guest workers in fact stayed in Germany. Moreover, this development was oftentimes accompanied by family reunification (Thränhardt, 1992). Thus, the share of foreigners living in Germany kept increasing. But despite the actual status of Germany as immigrant-receiving country, political debates often favoured non-supportive actions concerning foreign workers and their descendants. One consequence of this policy is that many of the foreign workers and their families do not possess German citizenship, even if they have been living in Germany for decades or were born in the country. Along with worsening economic conditions and demographic change, such debates are considered to have facilitated the spread of anti-minority sentiments in the German public (Pettigrew, 1998) as well as the violent outbursts against foreigners and refugees in Germany since the early 90s (Zick *et al.*, 2001; Koopmans and Olzak, 2004). Currently, interethnic relations between Germans and foreigners living in Germany continue to be characterized by considerable tensions (Heitmeyer, 2005).

Data and Measures

Data

Data for examining group threat theory in Germany are drawn from the longitudinal Group-focused enmity (GFE) survey, a three-wave panel study of the German general population aged 16 years and older. Data were collected by means of computer-assisted telephone

interviews in 2002, 2003, and 2004. Respondents were randomly selected from a two-stage probability sample (for details, see Heitmeyer, 2005). We limit our analyses to respondents with German citizenship and without migration background in the past three generations who responded at all three waves. The analytical sample size was $N = 825$ (58 per cent of the wave 1 sample).[2]

Measures

To assess *dislike towards foreigners*, a single item is used. Respondents were asked to reply on a four point Likert-type scale to the question: 'How likable do you consider the foreigners living in Germany to be?' Response options ranged from 'very likable' (1) to 'very dislikable' (4), thus higher values indicate greater dislike. The advantage of this measure is that it covers emotional manifestations of negative intergroup attitudes. It has long been acknowledged that 'a feeling of dislike or an impulse of rejection' is key to prejudice (Blumer, 1939: 14, see also Blumer, 1958). However, this issue has often been neglected in previous research (Pettigrew, 1998; Krysan, 2000). A lack of positive emotions towards outgroups as expressed in the above item is also seen to be a measure of negative interethnic attitudes which is less prone to social desirability bias (Pettigrew and Meertens, 1995; Krysan, 2000).

To assess *negative behavioural intentions towards foreigners*, a single item is employed. Respondents were asked to rate on a four point Likert-type scale ranging from 'absolutely disagree' (1) to 'absolutely agree' (4) the following statement: 'I would never buy a car from a foreigner living in Germany'. As Jackson and Esses (2000) point out, even the absence of positive behavioural intentions contributes to intergroup tensions. Clearly, the above item goes beyond simple avoidance and comes close to open discriminatory behavioural intentions. Higher values indicate greater negative behavioural intentions towards foreigners.

To measure *perceived group threat*, we employ three items commonly used in previous research (Coenders, 2001; Scheepers *et al.*, 2002; Raijman *et al.*, 2003). Respondents were asked to rate on four point Likert-type scales ranging from 'absolutely agree' (1) to 'absolutely disagree' (4) the following statements: (i) 'The foreigners living in Germany enrich our culture' (recoded); (ii) 'Foreigners living in Germany are a burden to our social security system'; and (iii) 'The foreign children in schools damage the quality of education of the German children'. These indicators clearly refer to the definition of group threat discussed

above: each of these statements refers to some negative consequence attributed to the outgroup. More specifically, while the first item is concerned with the domain of symbolic threat, the second and the third items refer to issues of realistic threat. But notably, none of these measures represents in itself any specific call for a derogation of the outgroup. Higher values indicate greater perceptions of group threat.

To isolate the effects of perceived group threat on dislike and negative behavioural intentions, a series of demographic and sociostructural control variables were included in the analyses. These were *Place of residence* (dichotomous), indicating whether the respondents were living in the western or eastern part of Germany (1 = east). *Gender* was measured with males as reference category (1 = female). *Age* was coded into four categories: 1 = 16–21 years; 2 = 22–34 years; 3 = 35–49 years; and 4 = 50–64 years. *Education* was measured with an indicator comprising eight categories, ranging from 1 ('no graduation') to 8 ('university degree'). *Unemployment* was assessed using a dichotomous measure indicating whether the respondent was unemployed or not (1 = unemployed).

Statistical Analyses

A particularly well-suited statistical approach for the longitudinal analysis of alternative causal models is the autoregressive cross-lagged model (Finkel, 1995). A key advantage of this method is that for two constructs of interest measured at time $t-1$ and time $t1$, each construct is regressed on both its own lagged score as well as the other construct's lagged score at time $t-1$. By doing so, autoregression of each construct with its lagged measurement at time $t-1$ is taken into account, whereby the corresponding autoregressive coefficents inform about the stability of the rank ordering of individuals for the same construct over time (Berrington *et al.*, 2006: 22). Thus, the variance left to explain at time $t1$ is any change that occurred in the constructs between time $t-1$ and time $t1$. Therefore, the cross-lagged coefficients indicate how much change across time in the one construct is caused by the other construct. In the subsequent analyses we extend the autoregressive cross-lagged model to employ latent variables (Finkel, 1995). This enables us to account for measurement error of multiple indicators known to be quite common in survey data. Following the advice of Anderson and Gerbing (1988), we began our analyses by estimating measurement models. Then, to test for the suggested causal relations we calculated a series of nested structural models (Farrell, 1994; Boomsma, 2000).

Comparison of parameter estimates and overall model fit makes it possible to conclude which predictions on the causal flow of perceived group threat and outgroup derogation correspond best to the data at hand. Specifically, to assess model fit we refer to four widely accepted fit measures: the chi-square-to-degree-of-freedom-ratio (χ^2/df, Marsh and Hocevar, 1985), the comparative-goodness-of-fit-index (CFI, Bentler, 1990), the root-mean-square-error-of-approximation (RMSEA, Steiger and Lind, 1980), and the P-value of close fit index (Browne and Cudeck, 1993). As a general guideline, we consider a model to be acceptable if χ^2/df < 5.0, CFI > 0.9, RMSEA < 0.08, and if P-value of close fit index > 0.05 (Hu and Bentler, 1999; Schermelleh-Engel, Mossbrugger and Müller, 2003). All calculations are based on raw data employing the FIML-procedure implemented in the Amos 5 software (Arbuckle, 2003).

Results

Measurement models

First, we established measurement models for the longitudinal measure of the latent group threat variables.[3] We incorporated autocorrelated error terms for the observed indicators into these models as recommended by Joereskog (1979). Results show that the initial measurement model (1) provided a good fit to the data ($\chi^2 = 15.41$; df = 15; χ^2/df = 1.03; CFI = 0.99; RMSEA = 0.006; P-value of close fit = 0.99). An important prerequisite for such kinds of longitudinal analyses is that the observed indicators of the latent group threat variable measure the same properties across time (Meredith and Horn, 2001). To examine this issue, we conducted a series of invariance tests. Results show that the factor loadings for all observed variables except item (ii) did not significantly change across time. We therefore conclude that our measures are consistent with the criterion of partial measurement invariance (Byrne et al., 1989). Thus, we

retain equality constraints for all invariant factor loadings throughout the subsequent analyses.

Cross-lagged models

For the comparative testing of the *conventional*-, the *reverse*-, and the *reciprocal* model of group threat theory, we estimated a sequence of nested cross-lagged models (Farrell, 1994). We began by establishing a structural model which comprised cross-lagged relations for perceived group threat and outgroup derogation, respectively. This specification corresponded to the theoretical assumptions of the *reciprocal model* of group threat theory. Starting with the reciprocal variant is convenient because both the conventional- and the reverse models are restricted variants of the reciprocal conceptualization. We continued with a structural model where only the cross-lagged paths leading from perceived group threat to the measure of outgroup derogation—e.g. dislike towards foreigners living in Germany—were estimated. By doing so, we subjected to test the idea of perceived group threat as causal antecedent of outgroup derogation as suggested by the *conventional model*. The third and final structural model comprised solely the cross-lagged paths from the measure of 'outgroup derogation' to 'perceived group threat'. This specification follows the theoretical argument of the *reverse model* of group threat theory which views perceived group threat as a consequence of prior levels of outgroup derogation. To compare the relative empirical adequacy from tests of these models, we used chi-square difference-tests. We allowed all control variables to correlate and freed all paths from the controls to perceived group threat as well as the measure of outgroup derogation. Following the advice of Becker (2005), we repeated each model with and without controls. As the results were essentially identical, we only report the analyses without the control variables as shown in Table 1.

Table 1 Results from nested model comparisons: perceived group threat and dislike

Nr.	Model Description	χ^2	df	χ^2/df	CFI	RMSEA	P-close	$\Delta\chi^2$
2a	**Reciprocal model** Perceived group threat on dislike and dislike on perceived group threat	186.33	64	2.91	0.969	0.048	0.633	—
2b	**Conventional model** Perceived group threat on dislike	186.61	66	2.83	0.969	0.047	0.715	0.282, ns
2c	**Reverse model** Dislike on perceived group threat	288.28	66	4.4	0.943	0.064	0.001	101.95**

Note: *P < 0.01, **P < 0.001, ns = not significant.

Perceived Group Threat and Dislike Towards Foreigners

The first row of Table 1 describes the performance of the initial structural model (2a). Following the *reciprocal model* of group threat theory, this specification allows for cross-lagged effects for both perceived group threat and dislike. In short, model (2a) shows a good fit to the data ($\chi^2 = 186.33$; df = 64; $\chi^2/$df = 2.91; CFI = 0.969; RMSEA = 0.048; *P*-value of close fit = 0.633). Next, we consider the stability coefficients (Figure 1).

Specifically, the rather high stability coefficients for perceived group threat with $\beta = 0.95$ ($P < 0.001$) from time 1 to time 2 and $\beta = 0.87$ from time 2 to time 3 ($P < 0.001$) indicate a low amount of aggregate change in German's perception of foreigners as threatening. Contrary to that, the stabilities of the measure for dislike were $\beta = 0.34$ ($P < 0.001$) from time 1 to time 2 and $\beta = 0.33$ ($P < 0.001$) from time 2 to time 3. Thus, the amount of aggregate change for Germans' dislike towards foreigners was considerably higher. For examining the causal relations between perceived group threat and dislike the cross-lagged coefficients are of central importance. They show that perceptions of group threat lead to greater dislike from time 1 to time 2 ($\beta = 0.35$; $P < 0.001$) as well as from time 2 to time 3 ($\beta = 0.36$; $P < 0.001$). In contrast, the data provide no support for the reverse assumption that dislike leads to greater perceived group threat: none of the cross-lagged paths leading from dislike to perceived group threat reached statistical significance. To provide further evidence on these findings, in model (2b) we constrained the cross-lagged effects from dislike on perceived group threat to zero as suggested by the *conventional model* of group theory. As shown in the second row of Table 1, the non-significant chi-square difference test indicates that model (2b) does match the data equally well as model (2a) ($\Delta\chi^2 = 0.282$, NS). Alternatively, following the *reverse model* of group threat theory in structural model (2c) we constrained the cross-lagged effects from perceived group threat on dislike to zero. Thus, in structural model (2c) only cross-lagged effects from dislike on perceived group threat were estimated. However, as presented in the third row of Table 1, the chi-square difference test shows that this model fits to the data significantly worse than its predecessor ($\Delta\chi^2 = 101.95$, $P < 0.001$). These findings lead us to conclude that perceptions of threatened group interests increase dislike against foreigners living in Germany, whereas dislike does not increase threat perceptions. Thus, these results clearly support the assumption that perceived group threat is causally antecedent to outgroup derogation as deduced from the *conventional model* of group threat theory.

Perceived Group Threat and Negative Behavioural Intentions Towards Foreigners

We continue our analyses by testing the causal relations of perceived group threat and negative behavioural intentions towards foreigners. Retaining our previous methodological approach, we begin with the structural model (3a). Following the *reciprocal model* of group threat theory, model (3a) comprises cross-lagged
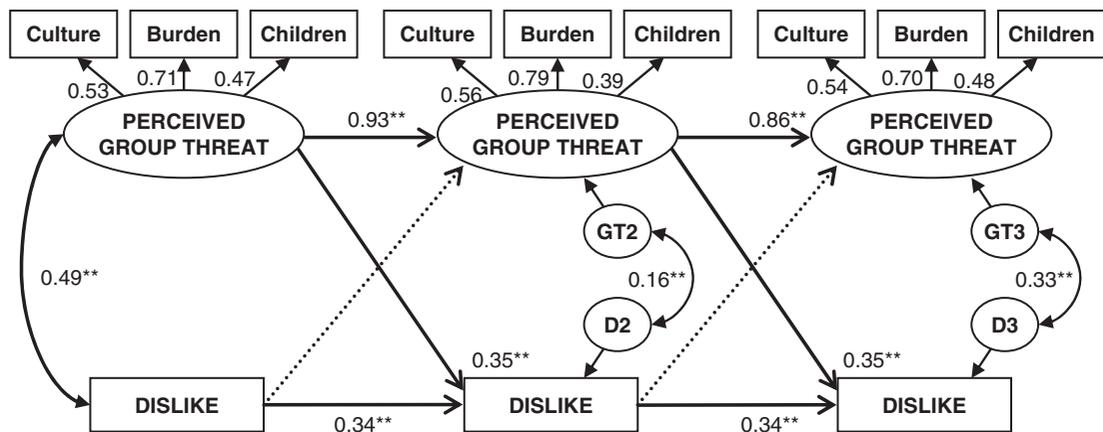
Figure 1 Model (2b), perceived group threat and dislike towards foreigners. Rectangles, observed indicators; elipses, latent variables; circles, residual disturbance terms. All coefficients are standardized estimates. $N = 825$; $\chi^2 = 186.61$; df = 66; $\chi^2/$df = 2.83; CFI = 0.969; RMSEA = 0.047; *P*-value of close fit = 0.715; *$P < 0.01$; **$P < 0.001$

Table 2 Results from nested model comparisons: perceived group threat and negative behavioral intentions

Nr.	Model description	χ^2	df	χ^2/df	CFI	RMSEA	*P*-close	$\Delta\chi^2$
3a	**Reciprocal model** Perceived group threat on negative behavioral intentions and negative behavioral intentions on perceived group threat	183.64	64	2.87	0.967	0.048	0.673	—
3b	**Conventional model** Perceived group threat on negative behavioral intentions	189.13	66	2.87	0.966	0.048	0.679	5.49, ns
3c	**Reverse model** Negative behavioral intentions on perceived group threat	238.72	66	3.62	0.952	0.056	0.083	55.08**

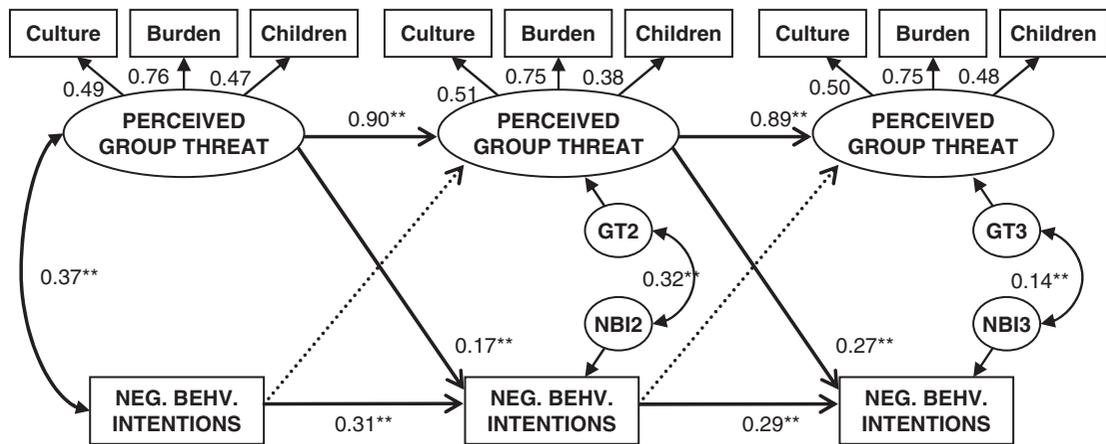*Note:* *P<0.01, **P<0.001, ns=not significant.

Figure 2 Model (3b), perceived group threat and negative behavioural intentions towards foreigners. Rectangles, observed indicators; elipses, latent variables; circles, residual disturbance terms. All coefficients are standardized estimates. $N=825$; $\chi^2=189.13$; df = 66; χ^2/df = 2.87; CFI = 0.966; RMSEA = 0.048; *P*-value of close fit = 0.679; *P<0.01; **P<0.001

effects leading both from perceived group threat to negative behavioural intentions and from negative behavioural intentions to perceived group threat. Results of this model are shown in the first row of Table 2.

The fit measures for model (3a) reveal a good fit to the data ($\chi^2=183.64$; df = 64; χ^2/df = 2.87; RMSEA = 0.048; *P*-value of close fit = 0.673). While the stabilities of the latent threat variable were virtually identical to the stabilities of the prior analyses, the stability coefficients for the indicator assessing negative behavioural intentions were $\beta=0.30$ (P<0.001) from time 1 to time 2, and $\beta=0.30$ (P<0.001) from time 2 to time 3. Regarding the cross-lagged effects, the data reveal that perceptions of group threat increase negative behavioural intentions both from time 1 to

time 2 ($\beta=0.19$; P<0.001) as well as from time 2 to time 3 ($\beta=0.27$; P<0.001). However, the reverse effects leading from negative behavioural intentions to perceptions of group threat gain no empirical support.

Next, we set out to examine the assumptions of the *conventional model* of group threat theory (Figure 2). Accordingly, in model (3b) we constrained the (insignificant) cross-lagged effects from negative behavioural intentions to perceived group threat to zero. Compared with the preceding model (3a), these restrictions did not significantly alter the model fit ($\Delta\chi^2=5.49$, NS). Last, in model (3c) we examined the performance of the *reverse model* of group threat theory. Here, constraining the cross-lagged effects of perceived group threat on negative behavioural

intentions to zero resulted in a considerably worse model fit ($\Delta \chi^2 = 55.08$, $P < 0.001$). Taken together, we conclude that perceived group threat increases negative behavioural intentions towards foreigners, however negative behavioural intentions do not increase perceived group threat. Thus, in line with the foregoing results, perceived group threat turns out to be causally antecedent for intended negative behaviour towards foreigners. No empirical evidence was found for the alternative theoretical assumptions posited by the *reciprocal* or the *reverse model* of group threat theory. In sum, the findings reported in this section provide unequivocal support for the assumption that perceived group threat is causal antecedent of outgroup derogation. Notwithstanding these results, one might argue that our conclusion is to a large extent contingent on the high amount of stability found for the latent group threat variable. To be sure, this is an important finding for itself. However, seen from the statistical angle, the large stability coefficients imply that only relatively small amounts of variance in the latent group threat variable are left to be explained for the measures of outgroup derogation. Thereby, the potentiality to observe reverse or reciprocal causal effects is remarkably confined. However, in the following section we show that our data focusing on Russian interethnic relations overcome this limitation.

Testing Group Threat Theory in Russia

The Russian Context

To understand the interplay of Russian's perceived group threat and distance towards ethnic minorities it is useful to consider the ethnic structure of the former Soviet Union. The Soviet Union was a multinational political system characterized by a large ethnic heterogeneity. According to Hraba *et al.* (1997), the population of the Soviet Union comprised no less than 200 distinct ethnic groups. Regarding this diversified ethnic structure, the official political position of the Soviet Union followed an egalitarian and assimilationist ideology. The ultimate aim of this policy was to '[. . .] erase distinct national feelings among the Non-Russian peoples and to install a ''Homo Sovieticus'' (Knippenberg, 1991). The political ideal was that [. . .] the Soviet people would draw together (slbizhenie) and eventually fuse (slyanie) into one Soviet people. However, since Russian culture and language had to be the uniting force, sovietization became *de facto* russification' (Hagendoorn *et al.*, 1998).

Thus, the ethnic group of the Russian people dominated the central sociocultural, economic, and political positions in the Soviet Union (Dixon, 1990; Hagendoorn *et al.*, 2001). This configuration provided the background not only for the deterioration of interethnic relations succeeding the dissolution of the Soviet Union in 1991, but, in conjunction with deteriorating economic conditions and massive immigration flows, also for the negative state of these relations in Russia as they seem today. Several sources indicate that in Russia, like in other societies, prejudice and intolerance against ethnic minorities are an urgent social problem (Gibson and Duch, 1993; Hagendoorn *et al.*, 1998, 2001; Gudkov, 2006), and some researchers have in fact discussed these manifestations of outgroup derogation to be a response to perceived threats (Gudkov, 2006).

Data and Measures

Data

Data for testing group threat theory in Russia were drawn from the Russian Socioeconomic Transition (RUSSET) panel study (van der Veld, 2005). In this multiwave panel survey of the Russian general population aged 18 years and older, suitable indicators for measuring our construct of interest were contained in waves 3, 4, and 7. Data collection for these waves took place in 1995, 1996, and 1999 by means of face-to-face interviews. Respondents were randomly selected using a multistage area sampling procedure (for details, see van der Veld, 2005). For the purposes of this study, only data from people who identified themselves as belonging to the ethnic group of Russians are employed. Again, all models were estimated based on a full-case design, yielding a sufficient sample size of $N = 953$ (48.3 per cent of the initial wave 3 sample).[4]

Measures

To measure Russian's *ethnic distance*, we employ two items.[5] Respondents were asked to indicate their level of agreement to the following statements: (i) 'I would not mind to have a member of an ethnic minority group as a neighbour' (recoded) and (ii) 'When you get to know the minorities better, they generally turn out to be more friendly' (recoded). Response options were given on a 5-point Likert-type scale ranging from 'completely disagree' (1) to 'completely agree' (5). Both items were recoded so that higher values indicate greater ethnic distance.

To measure *perceived group threat*, we selected three items. Respondents were asked to use a five-point Likert-type scale ranging from 'completely disagree' to 'completely agree' to rate the following statements: (i) 'The integration of culture of the ethnic minorities will be an enrichment of the Russian culture' (recoded); (ii) 'Ethnic minorities increase the crime rates in Russia'; and (iii) 'Ethnic minorities threaten the political system in Russia'. Prior to data analyses, the first item was recoded. After that, higher values of each indicator indicate greater perceived group threat. Note that while the first item taps into the domain of symbolic threat, the remaining items refer to issues of realistic threat.

We included a number of demographic and socio-structural *control variables* parallel to the ones used in the German study. *Gender* was measured with males as reference category (1 = female). *Age* was coded into 11 categories ranging from 18–25 years (min.) to above 70 years (max.). *Education* is assessed with an indicator consisting of 9 substantive categories ranging from 1 ('primary education') to 9 ('scientific degree'). *Unemployment* was assessed using a dichotomous measure indicating whether the respondent was unemployed or not (1 = unemployed) at the time of the interview.

Results

Measurement Models

In line with the preceding analyses, we initially estimated measurement models including autocorrelated error terms (Joereskog, 1979) for the observed indicators of the latent group threat and ethnic distance variables.[6] According to the results, measurement model (4a) showed a good fit to the data ($\chi^2 = 152.1$; df = 60; χ^2/df = 2.53; CFI = 0.977; RMSEA = 0.04; P-value of close fit = 0.98). Constraining all factor

loadings of the latent group threat variable (model 4b) revealed a slight, though significant difference regarding the longitudinal factor loadings of the perceived group threat indicator (iii) from time 2 to time 3. Still, the factor structure of the latent group threat variable corresponds to the requirement of partial invariance (Byrne *et al.*, 1989; Meredith and Horn, 2001). Likewise, also for the latent ethnic distance variable equality constraints did not result in significantly altered model fit ($\Delta\chi^2 = 8.05$, NS).

Cross-lagged Models

To examine the causal structure of perceived group threat and ethnic distance in Russia, we estimated three subsequent autoregressive cross-lagged models. Repeating analyses with and without the control variables left parameter estimates virtually unaffected. Thus, we only report the analyses without the controls (Becker, 2005) (Table 3).

The *reciprocal model* of group threat theory (5a) showed a good fit to the data ($\chi^2 = 219.4$; df = 106; χ^2/df = 2.07; CFI = 0.973; RMSEA = 0.034; P-value of close fit = 1.0).[7] For the latent group threat variables, the stability coefficients add up to $\beta = 0.40$ ($P < 0.001$) from time 1 to time 2 and $\beta = 0.33$ ($P < 0.001$) from time 2 to time 3. The stability coefficients for the latent ethnic distance variable show comparable magnitudes ($\beta = 0.35$ from time 1 to time 2 and $\beta = 0.20$ from time 2 to time 3, both $P < 0.001$). Thus, both perceived group threat and ethnic distance comprise of a considerable amount of explainable variance.

Turning to the cross-lagged coefficients of model (5a), we find that perceived group threat exerts positive effects on ethnic distance for both the 1-year interval (1995–1996) between time 1 and time 2 ($\beta = 0.16$; $P < 0.001$) as well as for the 3-year interval (1996–1999) between time 2 and time 3 ($\beta = 0.14$; $P < 0.001$). However, model (5a) reveals no significant

Table 3 Results from nested model comparisons: perceived group threat and ethnic distance

Nr.	Description	χ^2	df	χ^2/df	CFI	RMSEA	P-close	$\Delta\chi^2$
5a	**Reciprocal model** Perceived group threat on Ethnic distance and Social distance on perceived group threat	219.4	106	2.07	0.973	0.034	1.0	—
5b	**Conventional model** Perceived group threat on ethnic distance	220.31	108	2.04	0.973	0.033	1.0	0.905, ns
5c	**Reverse model** Ethnic distance on perceivd Group threat	229.61	108	2.12	0.971	0.034	1.0	10.21*

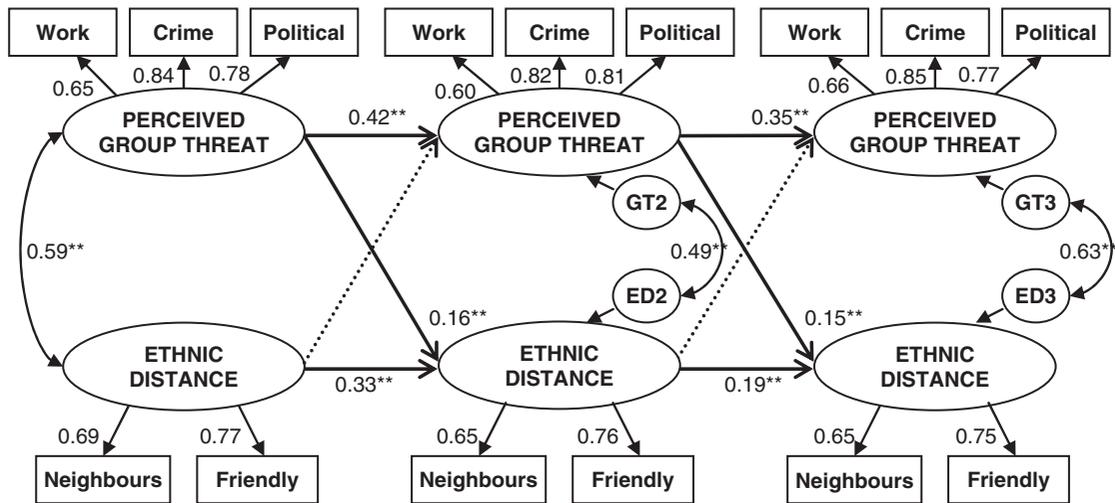*Note:* $^*P < 0.01$, $^{**}P < 0.001$, ns = not significant.

Figure 3 Model (5b), perceived group threat and ethnic distance. Rectangles, observed indicators; elipses, latent variables; circles, residual disturbance terms. All coefficients are standardized estimates. $N = 953$; $\chi^2 = 220.3$; df = 108; χ^2/df = 2.04; CFI = 0.973; RMSEA = 0.033; P-value of close fit = 1; $^*P < 0.01$; $^{**}P < 0.001$

reverse effects from ethnic distance on perceived group threat. Again, our next step was to examine the *conventional model* of group threat theory. Accordingly, in model (5b) we only allowed for cross-lagged effects from perceived group threat on ethnic distance (Figure 3). The non-significant χ^2-difference test ($\Delta\chi^2 = 0.905$, NS) indicates that these restrictions did not lead to a significant worse fit than the prior model (5a). Finally, following the *reverse model* of group threat theory in model (5c) we constrained the effects from perceived group threat on ethnic distance to equal zero. Results show that this model fitted to the data significantly worse than the baseline model (5a) ($\Delta\chi^2 = 10.21$; $P < 0.01$). To conclude, these findings provide further evidence to consider perceived group threat as an antecedent of outgroup derogation.

Discussion

Drawing upon cross-national multiwave panel data from Germany and Russia, the purpose of this study was to investigate the causal structure of group threat theory (Blumer, 1958; Blalock, 1967) from a longitudinal perspective. For doing so, we examined the empirical adequacy of three rival theoretical models. These models proposed either that perceived group threat predicts outgroup derogation (*conventional model*), that outgroup derogation predicts perceived group threat (*reverse model*) or presuming reciprocal causal relations between perceived group threat and

outgroup derogation *(reciprocal model)*. To the best of our knowledge, this is the first study which provides a dynamic test of these competing theoretical perspectives. What this study adds to the existing research literature (Scheepers *et al.*, 2002; Stephan and Renfro, 2002; Raijman *et al.*, 2003) is longitudinal evidence that perceptions of threatened group interests are causally antecedent to outgroup derogation as suggested by the *conventional model* of group threat theory. No support was found for the assumptions of the *reverse* nor of the *reciprocal model*. Specifically, according to the German data heightened levels of perceived group threat lead to heightened levels of dislike and intended negative behaviour towards foreigners. Consistent with these findings, the Russian data perceived group threat turned out to be causally prior to ethnic distance towards ethnic minorities.

The consistency of these findings across two different national contexts clearly supports the generalizability of these results. Therefore, this study also sets the stage for further longitudinal research investigating whether macrosocial conditions such as actual economic or political competition between groups (Blalock, 1967) or negative political propaganda (Blumer, 1958) are perceived as group threat. Further, with regard to applied initiatives our findings suggest that improving negative interethnic attitudes via reducing perceptions of group threat (Stephan and Vogt, 2004) is indeed a reasonable strategy. Besides these contributions, examining the question of how far our findings apply to

other spatiotemporal contexts remains as a promising avenue for future research. A further limitation of this study is that the panel data we used cover fairly short time spans. Although this fact does not necessarily challenge our empirical findings, including more measurement points would have provided a better picture of the dynamic relations of perceived group threat and outgroup derogation. Thus, more conclusive support awaits future research, trying to replicate these results for more people, places, and periods of time.

Notes

1. Due to differences in the item wording and measurement scales, we refrain from comparisons of the descriptive values of the indicators for perceived group threat and outgroup derogation for the GFE- and RUSSET-data. For the same reason, we do not discuss cross-national differences in the magnitudes of the stability- and cross-lagged coefficients of our theoretical constructs.

2. We recalculated all subsequent statistical models for the GFE- and the RUSSET-data using raw data with imputed missing cases as well as covariance matrices with pairwise exclusion of missing data (Maximum Likelihood-estimates). As the substantial conclusions do not change, we conclude that our subsequent findings are not distorted by missing data. Also, we found the distributions of sociodemographic characteristics such as age or gender of the initial waves of both the German- and Russian-surveys to provide reasonably well approximations to the corresponding census figures, which leaves us with a good deal of confidence in the quality of these general population samples.

3. We fixed the factor loading of each first indicator to 1 in order to give the latent variables a scale.

4. cf. endnote 2.

5. See Hello (2003: 6) for the conceptualisation of ethnic distance.

6. cf. endnote 3.

7. Regarding the correlated residual disturbances, it should be noted that in the questionnaires the items measuring perceived group threat and ethnic distance were presented to the respondents in very close succession. Given this structure of the questionnaire design, we think that there is good

reason to expect that response effects (Green and Citrin, 1994) between the items are at least partly responsible for the size of the correlations between the disturbances.

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