

What Causes Residential Segregation? The Role of Taste-based Discrimination, Statistical Discrimination, and the Group- threat and Contact Hypothesis

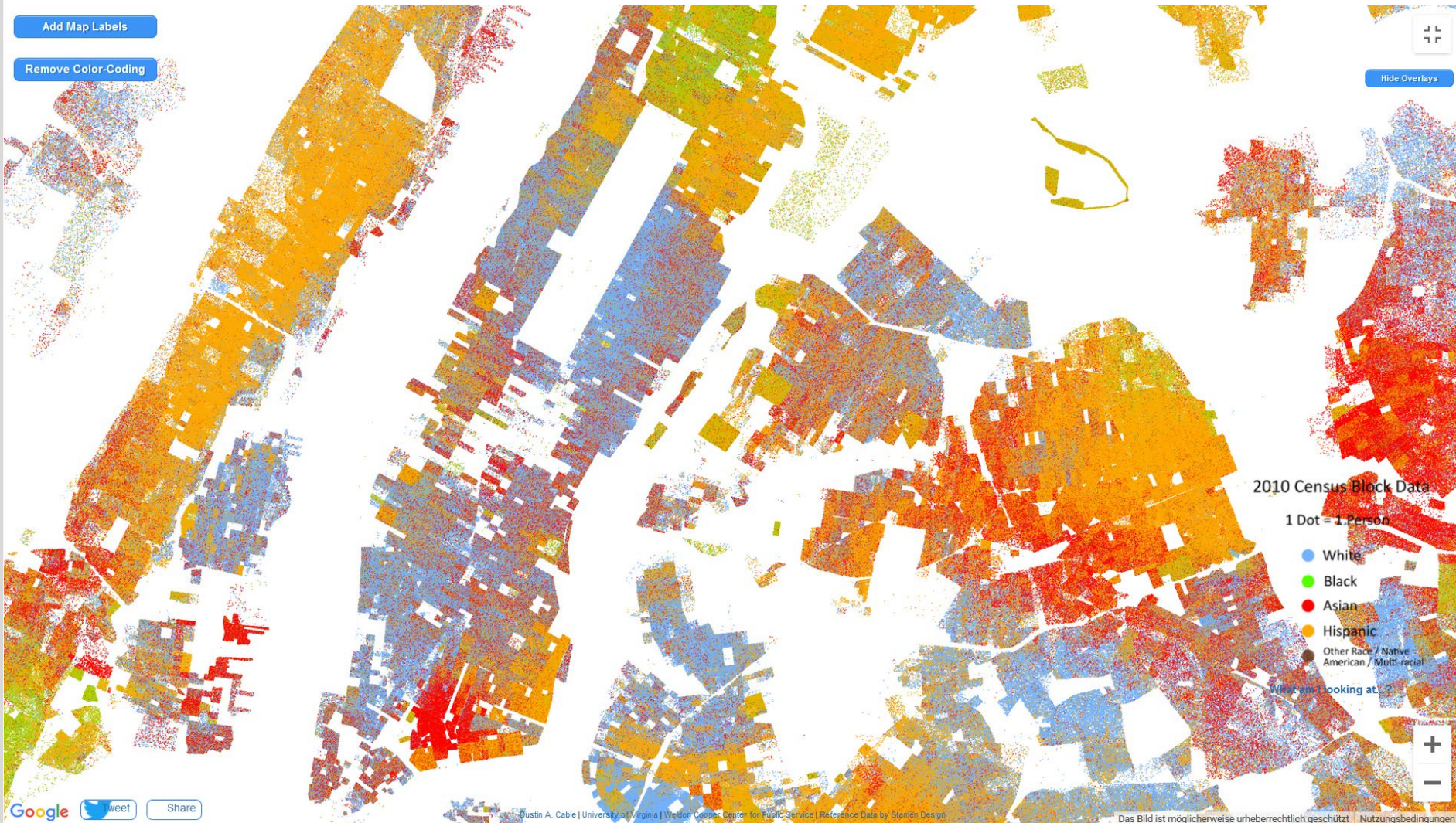
Felix Wolter
(University of Konstanz)

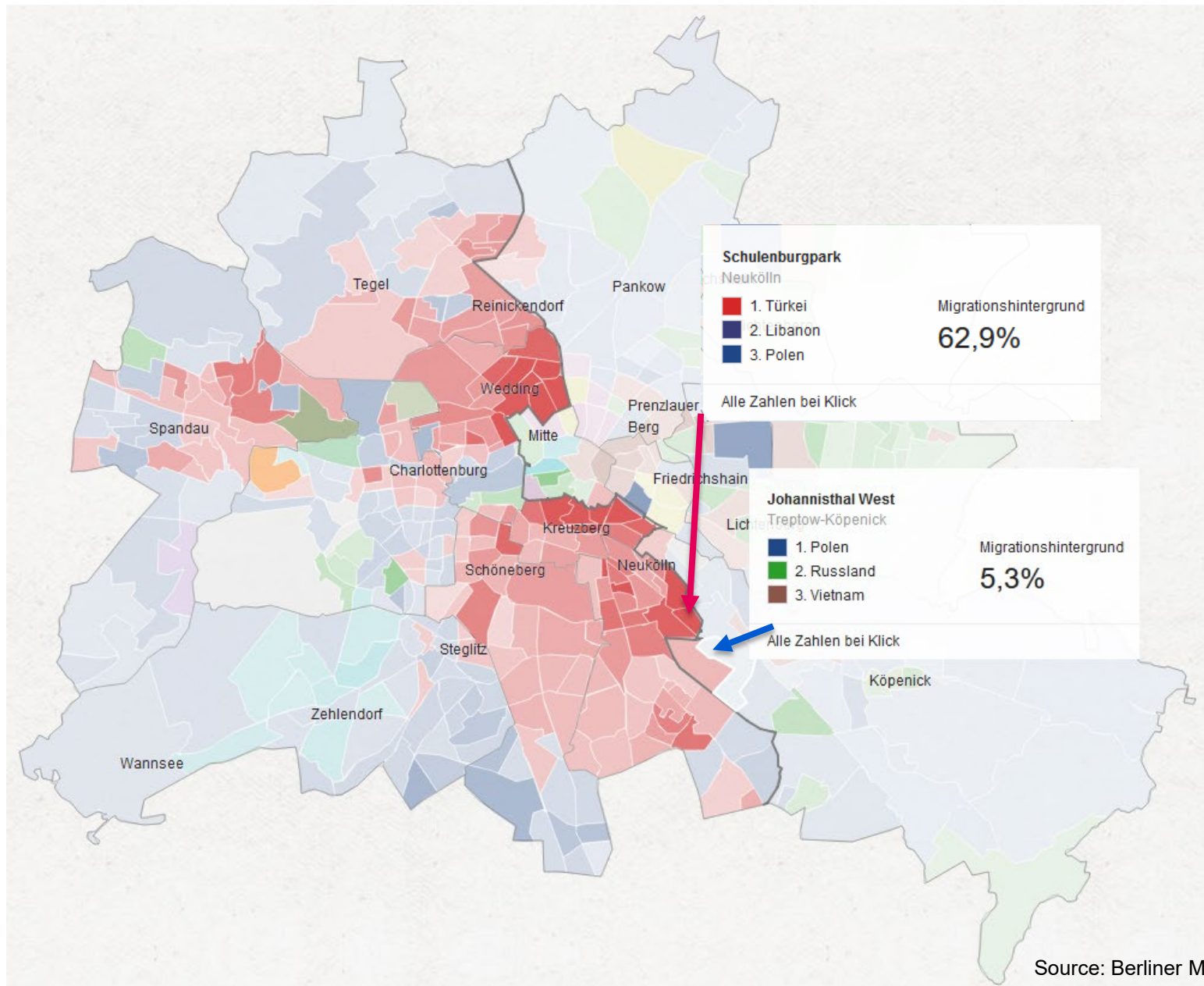
San Servolo, 10. November 2021

Outline

1. Motivation and Research Problem
2. Residential Segregation: Theory and Hypotheses
 - General Framework and Discrimination Theory
 - Group Threat and Contact Hypothesis
3. Study Design, Data, Methods
4. Results
5. Discussion

The Problem: Ethnic Residential Segregation





Source: Berliner Morgenpost.

Causes of Residential Segregation

- Segregation is caused both on the supply side and the demand side of housing markets.

- Supply side:
 - Discrimination by landlords, real estate agents, and other gate-keepers.
 - Well-established evidence by many studies (reviews: Auspurg et al. 2019; Rich 2014).
 - Taste-based and statistical discrimination.

- Demand side:
 - Segregation induced by (actual and future) residents themselves via their residential preferences and choices.
 - Schelling (1978): Minor in-group preferences are sufficient to generate strongly segregated aggregates.

Causes of Residential Segregation

- Contrary to segregation induced on the supply side, less is known with respect to the demand side:
 - Some studies in the US (e.g., Krysan et al. 2009) and other countries (Havekes et al. 2013), almost no research in Germany (exception: Brüggemann 2020, unpublished).
 - Mixed evidence in existing studies regarding the question of whether taste-based or statistical discrimination is responsible.

- This study:

Investigate the underlying mechanisms of segregational/discriminatory residential preferences with respect to migrants and the religious minority of Muslims.

Research Questions

Three questions:

- To which amount are migrants and Muslims discriminated against with respect to residential preferences?
- Can this be attributed to taste-based or statistical discrimination?
- Further insights by established theories on xenophobia and anti-immigrant attitudes, namely group-threat and contact hypothesis?

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Theory

- Housing markets are comparable to labor markets (Mulder 1996: 221; Clark 1993), so we can revert to basic labor market theories:
 - (Job) search theory (Stigler 1962).
 - Theory of discrimination (Arrow 1973; Becker 1971; Phelps 1972).
- Taste-based discrimination: Ethnic-related preferences („racist preferences“).
- Statistical discrimination caused by lack of information:
 - External group-specific characteristics (e.g., ethnic and social composition of neighborhoods) are chosen as proxies for the missing information of residential quality.
 - Initial amount of discrimination is reduced if other information or proxy variables (signals) become available that are positively related to the target variable (here: residential quality).

Hypotheses: Taste-based and Statistical Discrimination

- Factorial survey experiment in order to study residential preferences with respect to:
 - a large fraction of migrants („Ausländer“) living in a neighborhood.
 - an active Muslim community in the neighborhood.
 - other positively and negatively connoted characteristics of the neighborhood.

- If taste-based discrimination:
 - Negative effects of foreigners and a Muslim community...
 - ...that do not disappear if other positively connoted attributes exist.

- If statistical discrimination:
 - Interaction effect: Potentially negative effects of foreigners and a Muslim community do (at least partly) disappear if other positively connoted attributes exist.

Group-threat and Contact Hypothesis

- Xenophobia arises because people feel individually or sociotropically threatened by immigration (Blalock 1967; Quillian 1995; Weins 2011).
 - Economic threat (employment, wealth, social security etc.)
 - Cultural threat (identity, culture; religion etc.) (Diehl et al. 2018).
- Contact hypothesis (Allport 1954; Pettigrew & Tropp 2006): Number and intensity of contacts between ethnic groups reduce prejudice and anti-immigrant attitudes.
- Hypotheses:
 - People who feel economically or culturally threatened have higher segregational/discriminatory residential preferences.
 - Discrimination reduces with increasing contact to immigrants.
 - Effect of statistical discrimination does not work for people feeling threatened by migrants: A perfect housing situation with the utmost residential quality will not countervail a general perceived threat by migrants.

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Study Design

- „Konstanzer Bürgerbefragung“, wave autumn 2020.
- Full-population (age 16+) online survey, stratified offline recruited random sample; N = 1159.
- All analysis use post-stratification weights (gender, age, city borough, nationality).
- Response rate = 37 % (see Spanner et al. 2021 for details).
- Core element: factorial survey / vignette experiment; N = 8113 vignette cases.

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Thanks to Thomas Hinz
and his team!

Example Vignette

Residence example 123:

This residential location would not change your current financial housing costs (rent, utilities, interest, loan, maintenance costs). There are many foreigners living in the residential area. There is also an active Muslim community there. Furthermore, it is known that many poor people live there. Looking around the neighborhood, you can see that the streetscape looks rather run-down and untidy. An environmental tax for global climate protection projects is financed differently for this residential area and is not payable.

In general terms, how attractive do you personally find this residence overall?

Very un-
attractive

Very
attractive

1

2

3

4

5

6

7

8

9

10

Vignette Universe

Dimension	Levels
Monthly housing costs	No change Minus 10 percent Minus 20 percent Minus 30 percent
Neighborhood composition	Almost only Germans Many foreigners Many elderlies Many students
Religious community in neighborhood	No religious community present Active Christian community Active Muslim community
Average social status in neighborhood	Many rich and wealthy people Mainly average earners Many poor people
Streetscape in neighborhood	Rather run down and untidy Nothing remarkable Above-average clean and well maintained
Target of environmental tax	Local green space Global climate protection projects
Monthly costs of environmental tax	Zero (otherwise funded) 1 € per square meter habitable surface per year 2 € per square meter habitable surface per year

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Variables

Variable	Remarks/coding
Attractiveness of vignette residence	10-point scale from 1 = very unattractive to 10 = very attractive. ICC = 26 %
Economic group threat	Mean index coded from 4 items, with 0 = low to 6 = high level
Religiousness (proxy for cultural group threat)	7-point scale from 0 = not religious at all to 6 = very religious
Contact to migrants in neighborhood	Portion of foreigners living in own neighborhood (subj. est.), 4-point scale from 0 = very low to 3 = very high
Migration background	Not born in Germany or at least one parent not born in Germany, 1 = yes, 0 = no
Homeownership	1 = yes, 0 = no
Gender female	1 = yes, 0 = no
Age	In decades [1.7...9.0]
Education	In years [9...21]

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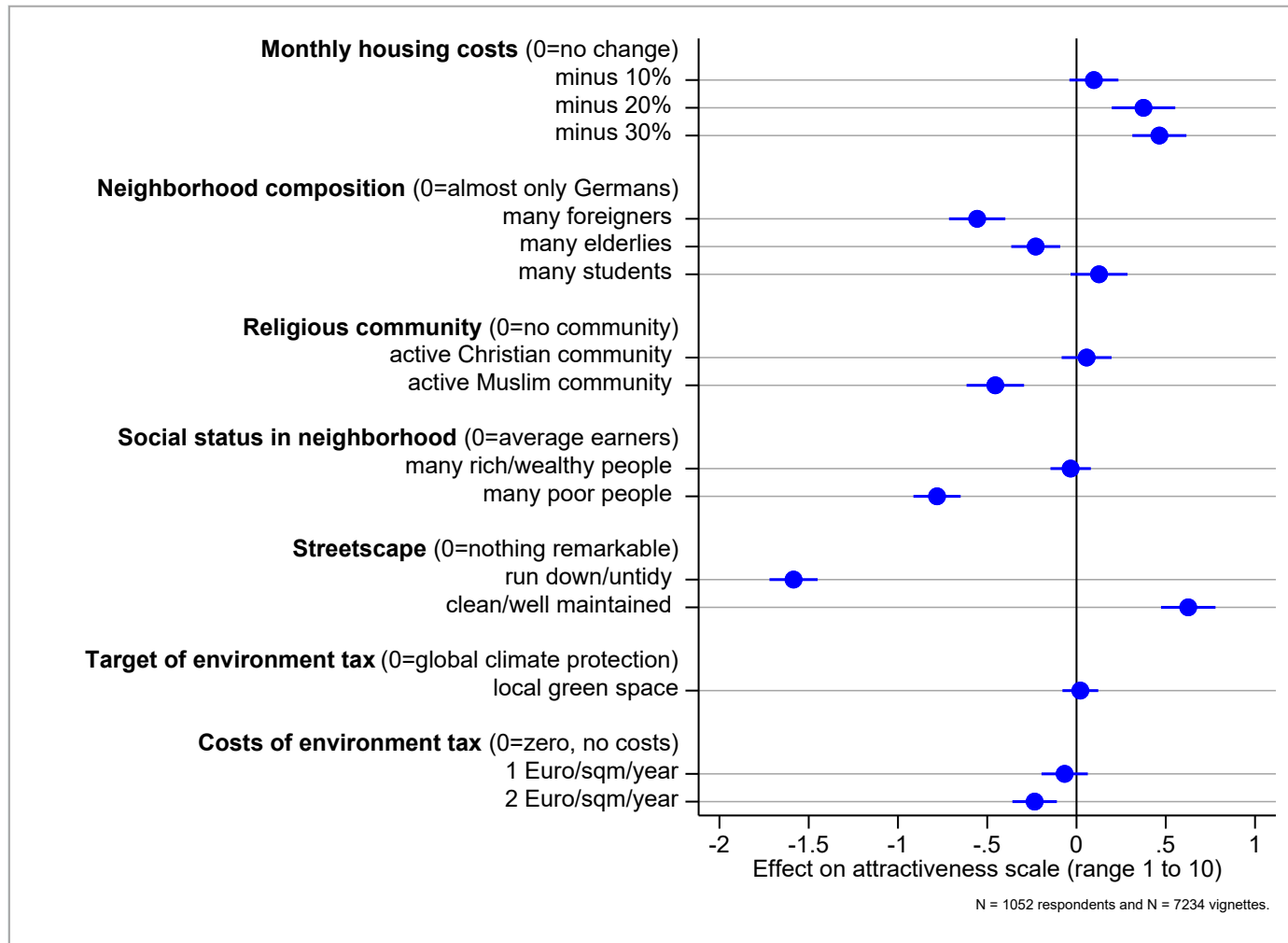
Regression Results

Step 1:

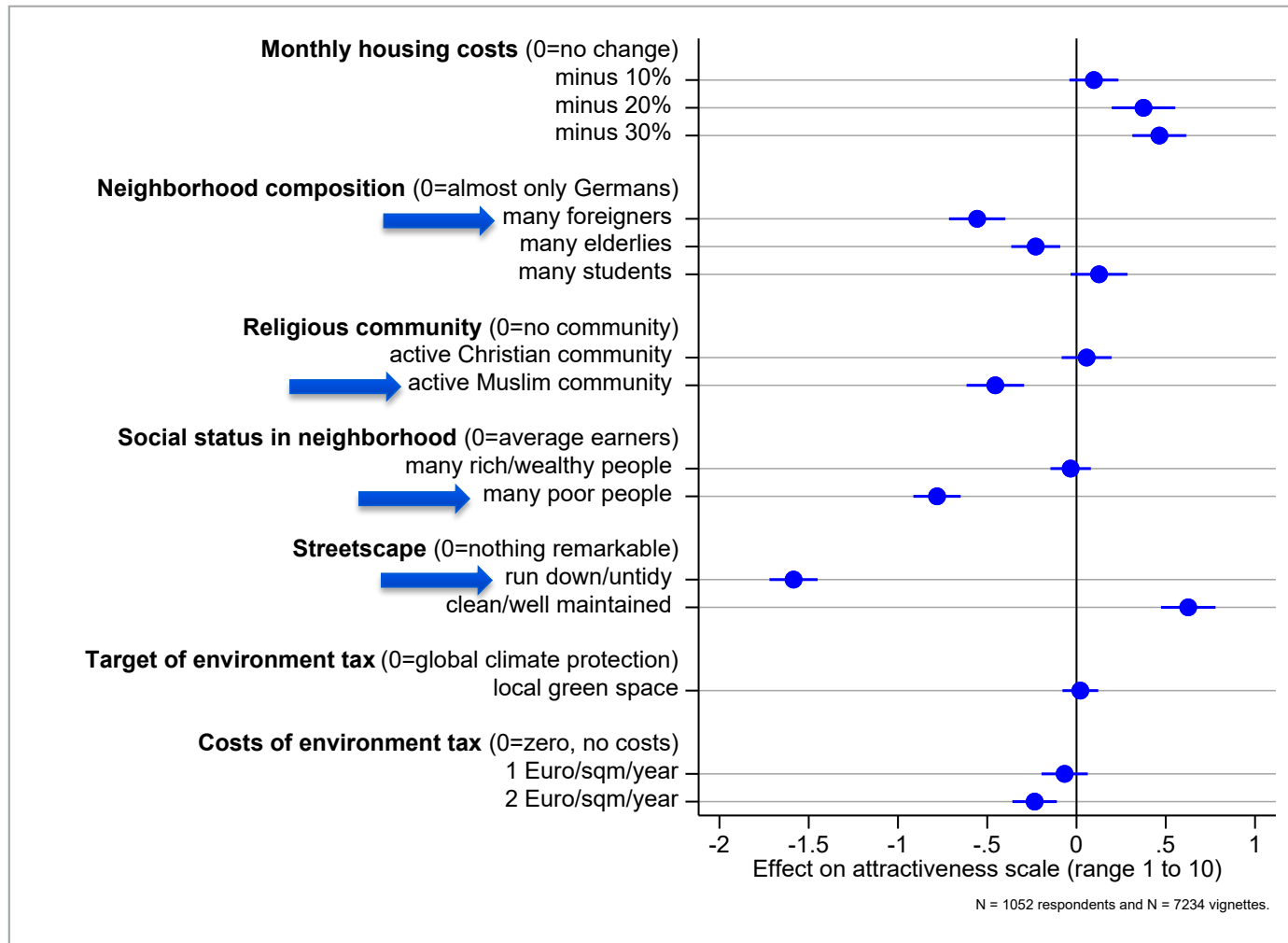
Main effects of vignette dimensions:

→ Discrimination / segregational preferences against migrants and Muslims?

Main Effects of Vignette Variables



Main Effects of Vignette Variables



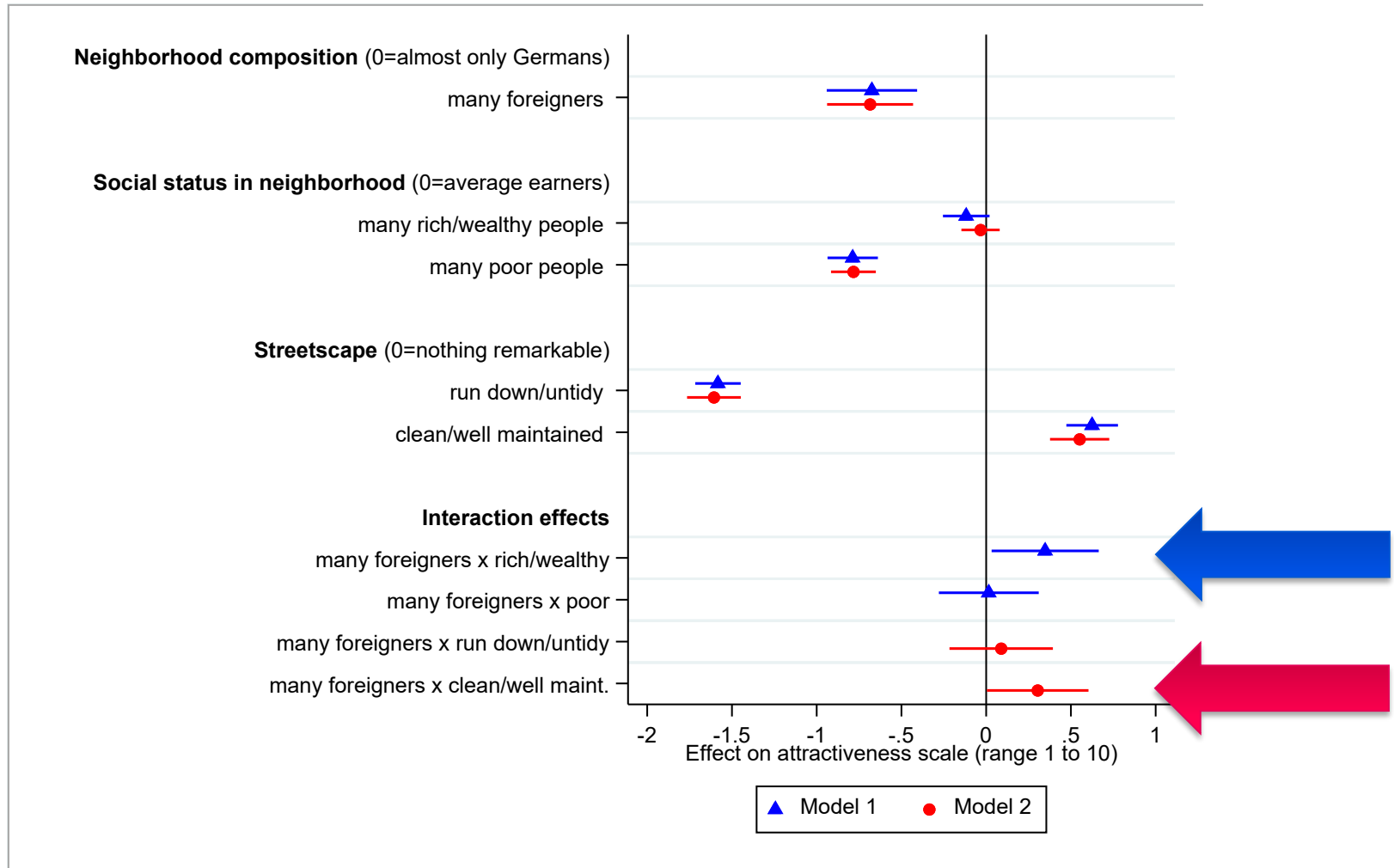
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Step 2:

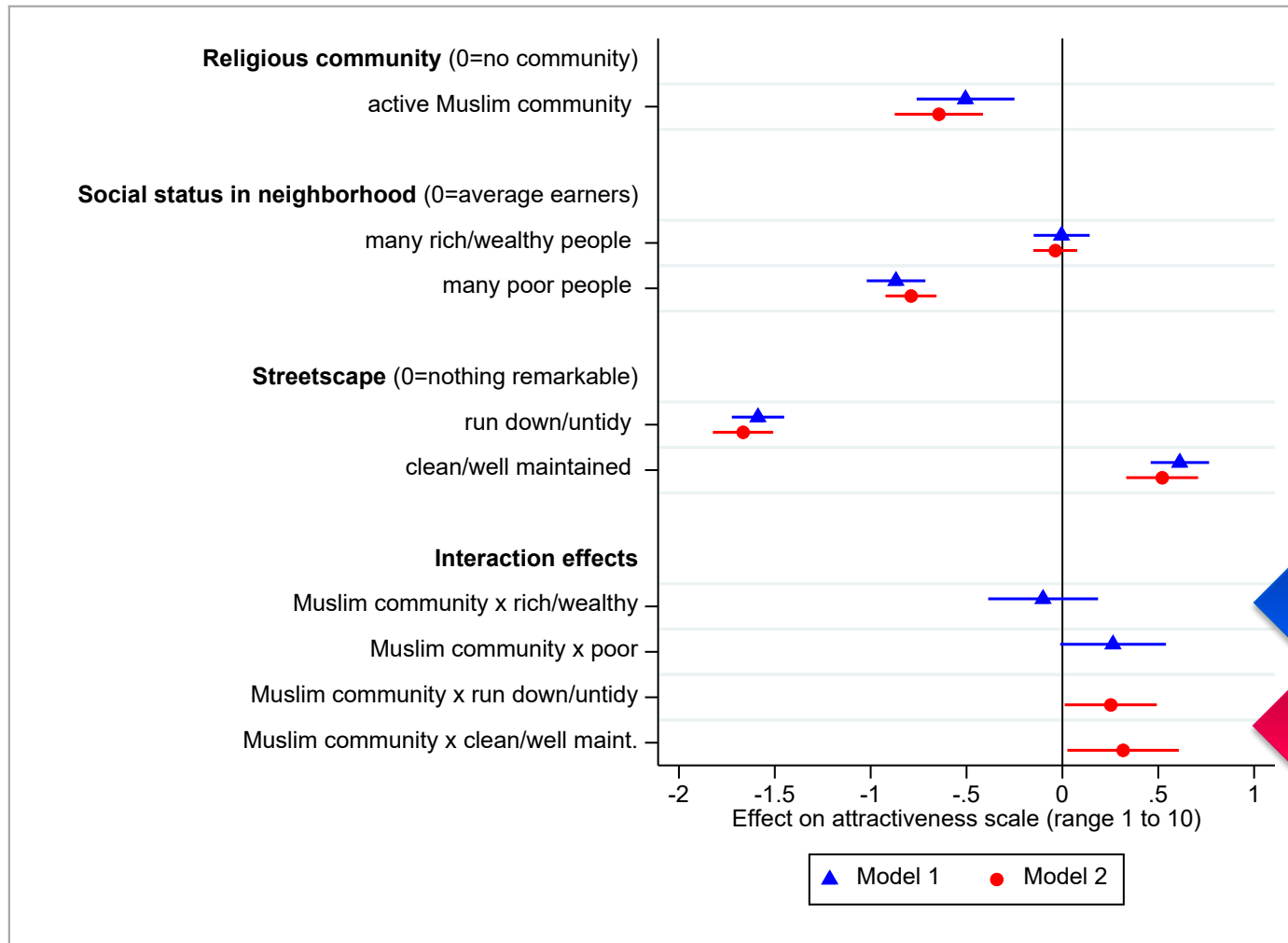
Two-way vignette interactions:

→ Taste-based or statistical discrimination?

Two-way Vignette Interactions: „Many Foreigners“



Two-way Vignette Interactions: „Muslim Community“



Regression Results

Step 3:

Cross-level interactions between vignette and respondent characteristics:

→ Group-threat and contact hypothesis?

Two-way Cross-Level Interactions

	M 1	M 2	M 3	M 4	M 5	M 6
<i>Main effects: vignette variables:</i>						
Many foreigners in neighborhood	-0.04	-0.40 ***	-0.83 ***	-0.55 ***	-0.56 ***	-0.56 ***
Active Muslim community	-0.46 ***	-0.47 ***	-0.46 ***	0.15	-0.23 *	-0.51 ***
Many rich/wealthy people	-0.04	-0.04	-0.05	-0.03	-0.03	-0.03
Many poor people	-0.78 ***	-0.79 ***	-0.79 ***	-0.79 ***	-0.79 ***	-0.79 ***
Run down/untidy streetscape	-1.62 ***	-1.62 ***	-1.62 ***	-1.61 ***	-1.62 ***	-1.62 ***
Clean/well maintained streetscape	0.64 ***	0.64 ***	0.64 ***	0.64 ***	0.63 ***	0.63 ***
<i>Main effects: respondent variables</i>						
Perceived economic group threat	-0.22 ***	-0.29 ***	-0.29 ***	-0.17 ***	-0.27 ***	-0.27 ***
Religiousness	0.03	0.05	0.03	0.04	0.07 *	0.04
Contact w/ migrants in neighborh.	-0.06	-0.06	-0.11	-0.05	-0.05	-0.06
<i>Cross-level-interactions:</i>						
Many foreigners × econ. group th.	-0.36 ***					
Many foreigners × religiousness		-0.1 *				
Many foreigners × contact w/ mig.			0.23 *			
Muslim comm. × econ. group th.				-0.41 ***		
Muslim comm. × religiousness					-0.13 ***	
Muslim comm. × contact w/ mig.						0.05

Note: Also included, but not reported are the effects of the remaining vignette variables, homeownership, migration background, gender, age, and education. N = 6974 vignette cases; N = 982 respondents.

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These findings are not the biggest surprise. They essentially tell us that people feeling economically threatened by migrants do not want to live among migrants or Muslims. But this confirms the economic group threat hypothesis.

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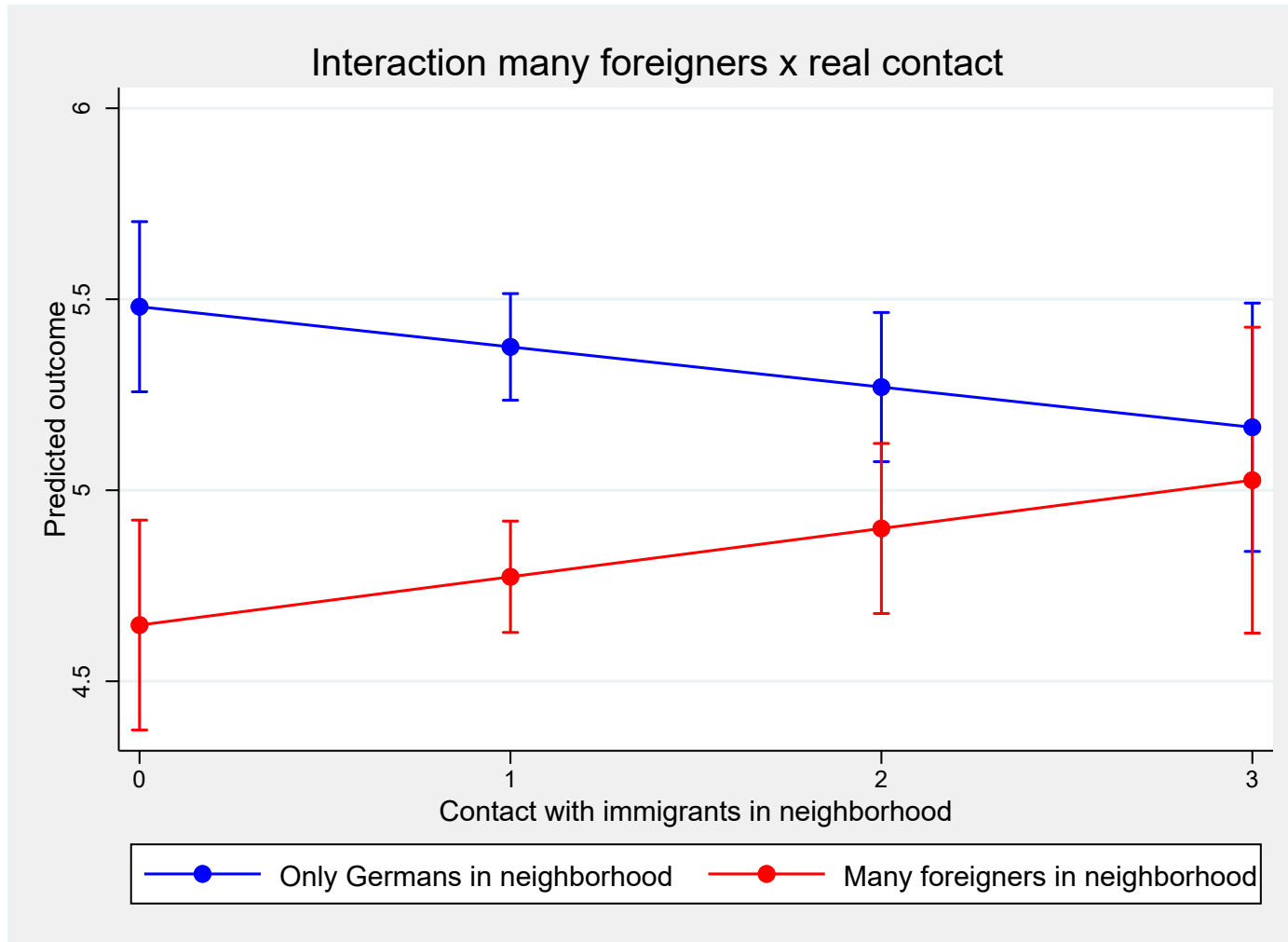
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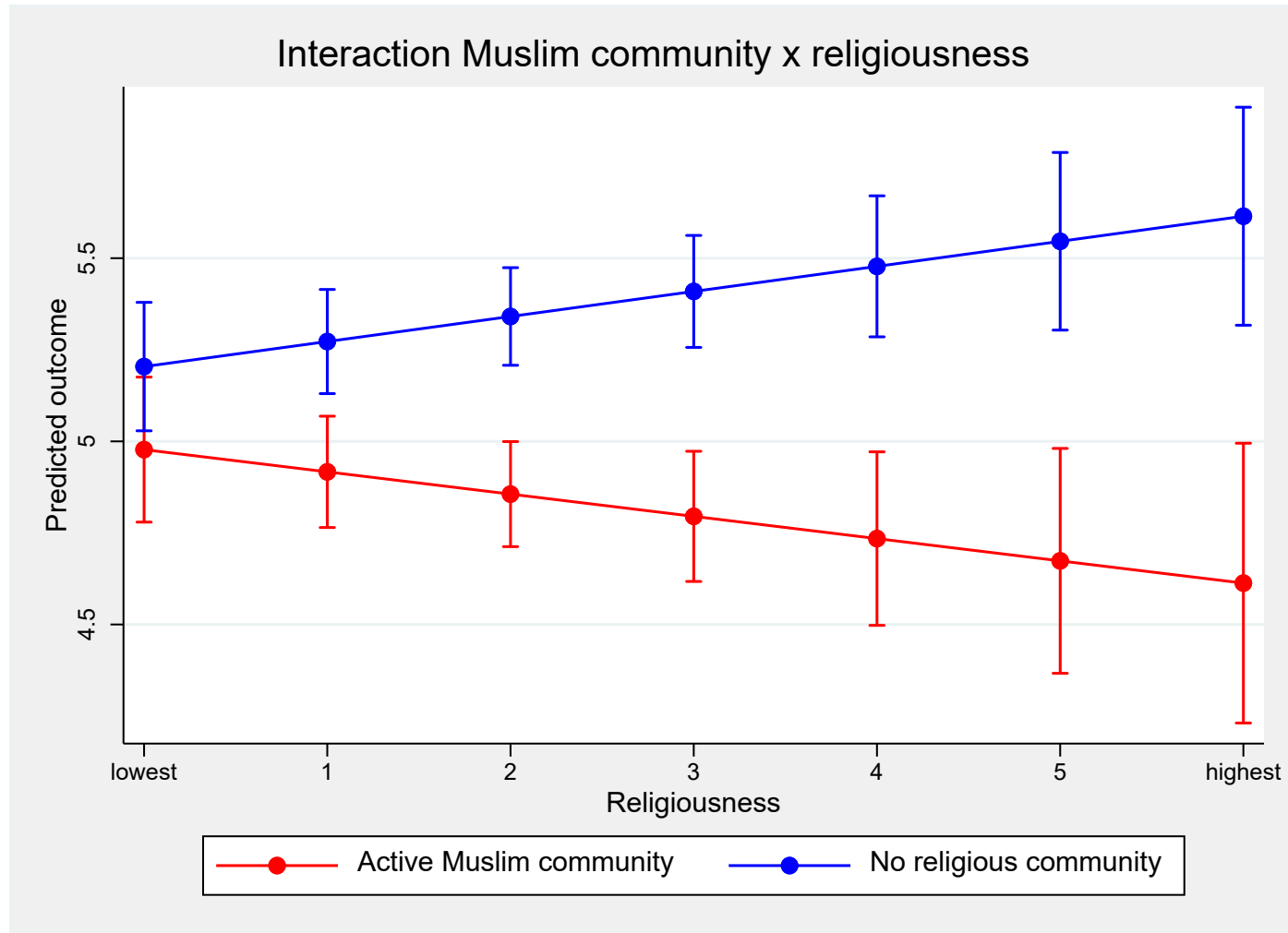
These findings, however, are very interesting. They confirm the contact hypothesis and a cultural group-threat thesis.

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Two-way Cross-Level Interactions



Two-way Cross-Level Interactions

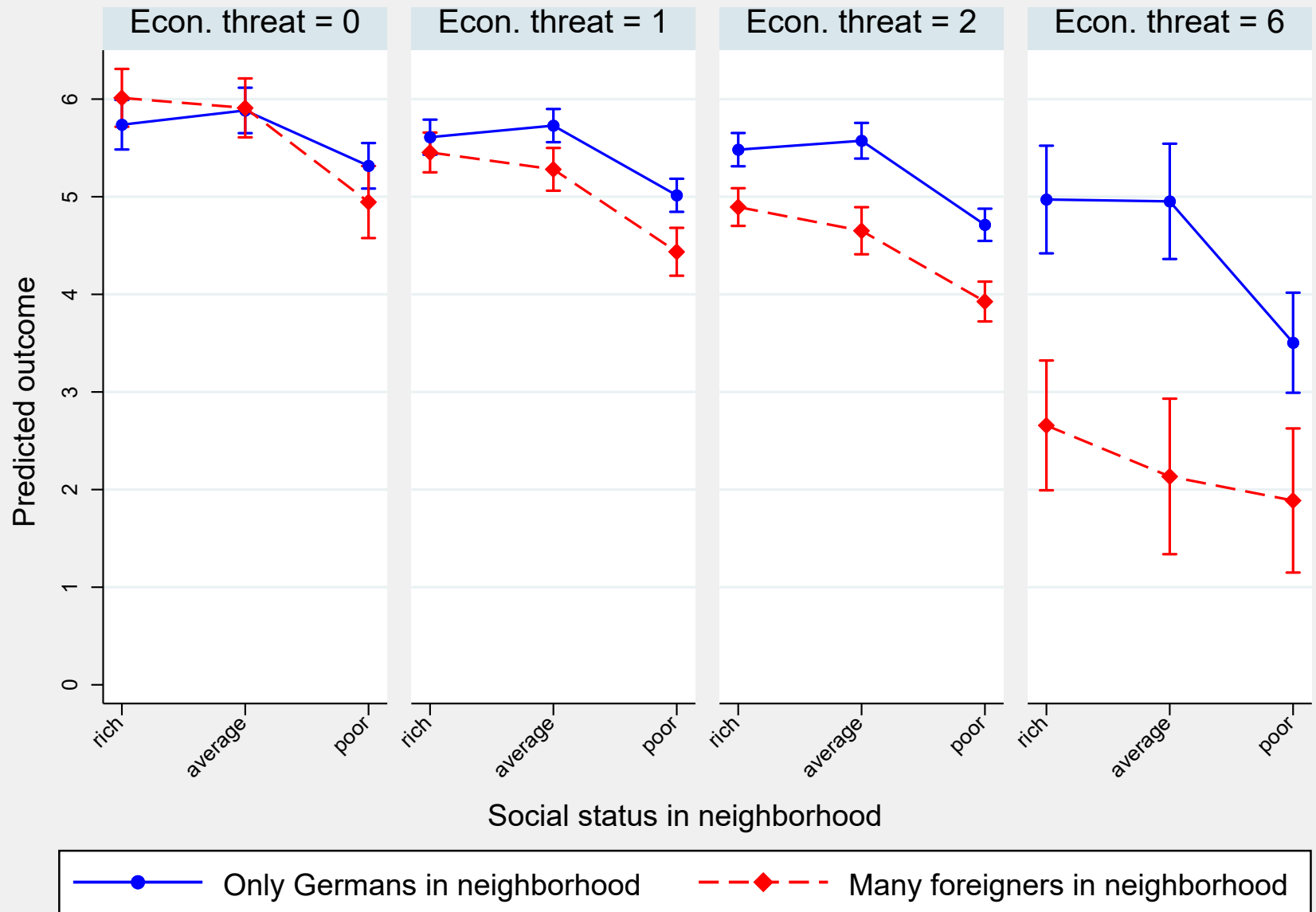


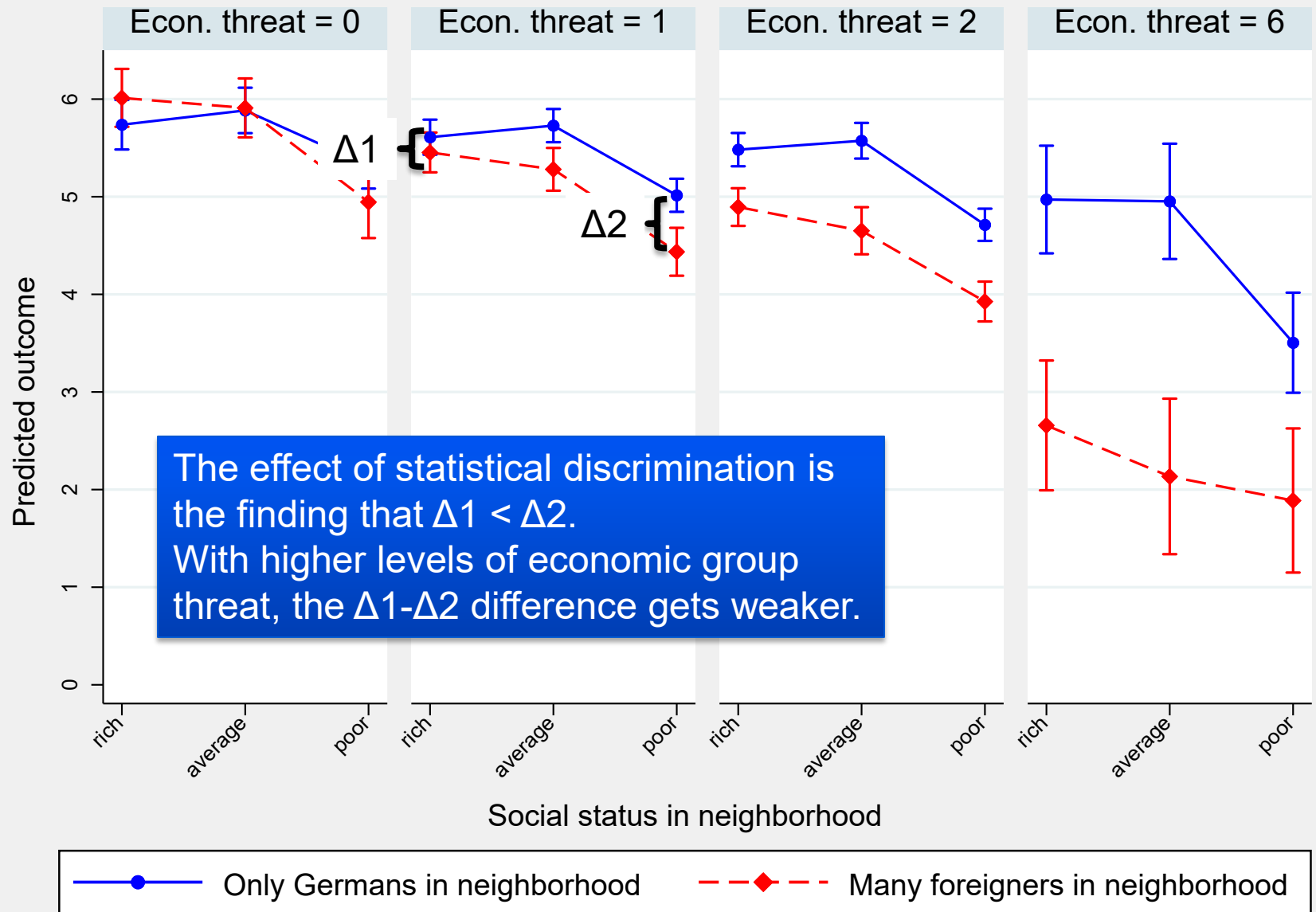
Regression Results

Step 4:

Three-way interaction: effect of statistical discrimination (2-way vignette interaction) × economic group threat

→ Does the effect of statistical discrimination not work for those scoring high on economic group threat?





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Summary

Four main results:

- Migrants and Muslims are discriminated against with respect to residential preferences.
- Part of the negative migrant effect can be attributed to statistical discrimination. This does not hold for the „Muslim community“ effect.
- Economic group threat and the contact hypothesis further explain taste-based discrimination:
 - Stronger effects against migrants and Muslims with higher levels of economic group threat and religiousness (proxy for cultural group threat).
 - Real-life contact to migrants results in weaker discriminatory effects.
- The mitigating effect of statistical discrimination tends to only hold for people that do not feel threatened by migrants in general.

Discussion

What do we learn with respect to residential segregation?

- There are several explanatory mechanisms at work that generate segregation.
 - People partly have genuine preferences for segregation.
 - Lack of information / statistical discrimination is responsible as well.
 - Perceived group threat and contact matter!

- What follows from this?
 - Even if discrimination/segregation induced by the supply side of housing markets is eliminated (by anti-discrimination laws, for instance), there will still be segregation caused by the demand side.
 - **Conclusion: There will always be residential segregation with regard to ethnic and status group membership.**

Thank you very much!

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Literature

- Allport, Gordon W. 1954. *The Nature of Prejudice*. Reading, MA: Addison-Wesley.
- Arrow, Kenneth J. 1973. The Theory of Discrimination. In *Discrimination in Labor Markets*, edited by O. Ashenfelter and A. Rees. Princeton: Princeton University Press.
- Auspurg, Katrin, Thomas Hinz, and Laura Schmid. 2017. Contexts and Conditions of Ethnic Discrimination: Evidence from a Field Experiment in a German Housing Market. *Journal of Housing Economics* 35:26–36.
- Auspurg, Katrin, Andreas Schneck, and Thomas Hinz. 2019. Closed Doors Everywhere? A Meta-Analysis of Field Experiments on Ethnic Discrimination in Rental Housing Markets. *Journal of Ethnic and Migration Studies* 45 (1):95–114.
- Becker, Gary S. 1971 [1957]. *The Economics of Discrimination*. 2 ed. Chicago: University of Chicago Press.
- Blalock, Hubert M. 1967. *Toward a theory of minority-group relations*. New York: John Wiley & Sons.
- Brüggemann, Ole. 2020. *Wer möchte wo wohnen? Eine Analyse der Determinanten individueller Segregationspräferenzen anhand eines faktoriellen Surveys aus Konstanz*. Konstanz: Universität Konstanz.
- Clark, W.A.V. 1993. Search and Choice in Urban Housing Markets. *Advances in Psychology* 96:298-316.
- Diehl, Claudia, Veronika A. Andorfer, Yassine Khoudja, and Karolin Krause. 2013. Not In My Kitchen? Ethnic Discrimination and Discrimination Intentions in Shared Housing among University Students in Germany. *Journal of Ethnic and Migration Studies* 39 (10):1679–1697.

Literature

- Havekes, Esther, Marcel Coenders, and Tanja van der Lippe. 2013. Positive or Negative Ethnic Encounters in Urban Neighborhoods? A Photo Experiment on the Net Impact of Ethnicity and Neighborhood Context on Attitudes towards Minority and Majority Residents. *Social Science Research* 42:1077–1091.
- Krysan, Maria et al. 2009. Does Race Matter in Neighborhood Preferences? Results from a Video Experiment. *American Journal of Sociology* 115:527–559.
- Mulder, Clara H. 1996. Housing Choice: Assumptions and Approaches. *Netherlands Journal of Housing and the Built Environment* 11 (3):209–232.
- Olzak, Susan. 1992. *The dynamics of ethnic competition and conflict*. Stanford: Stanford University Press.
- Pettigrew, T. F., und L. R. Tropp. 2006. A meta-analytic test of intergroup contact theory. *Journal of personality and social psychology* 90: 751–783.
- Phelps, Edmund S. 1972. The Statistical Theory of Racism and Sexism. *American Economic Review* 62 (4):659–661.
- Quillian, Lincoln. 1995. Prejudice as a response to perceived group threat. Population composition and anti-immigrant and racial prejudice in Europe. *American Sociological Review* 60:586–611.
- Schelling, Thomas C. 1978. *Micromotives and Macrobehavior*. New York: Norton&Company.
- Stigler, George J. 1962. Information in the Labor Market. *Journal of Political Economy* 70 (5, part 2):94–105.
- Wolter, Felix, Jürgen Schiener, and Peter Preisendörfer. 2018. Einstellungen und Verhalten gegenüber geflüchteten Menschen: Ist die räumliche Distanz von Bedeutung? In *Grundlagen – Methoden – Anwendungen in den Sozialwissenschaften. Festschrift für Steffen M. Kühnel*, edited by Methodenzentrum Sozialwissenschaften Universität Göttingen. Wiesbaden: Springer VS.

Theory

- Unlike in labor markets, the lack of information is more universal in housing markets:
 - Living quality and residential satisfaction depend on diverse aspects that cannot be assessed in advance.
 - “Evaluating a dwelling as a potential home involves constructing a scenario regarding what life – in all its diverse aspects – will be like in a particular location. [...] A consumer cannot fully appreciate their purchase until after it has been made and the good is being consumed” (Marsh & Gibb, 2011, pp. 224–225).

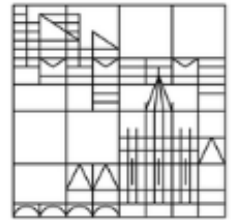
- Hence: Because living quality and residential satisfaction depend on so many things (and not only on one characteristic such as productivity in labor markets), there is always a tendency to revert to proxy variables (subjectively) associated with these goals.

Contact Hypothesis

- Number and intensity of contacts between ethnic groups reduce prejudice and anti-immigrant attitudes.
- Empirically well confirmed:
 - Meta-analysis by Pettigrew & Tropp (2006).
 - Our study (Wolter et al. 2018): Contact hypothesis also works „geographically“.
- Hypothesis: Discriminatory residential preferences reduce with increasing contact to immigrants.

Vignette Universe

- Vignette universe = 2592 vignettes.
- D-efficient vignette sample ($D = 96.4$) of 252 vignettes, blocked into 36 decks; 7 vignettes per respondent.
- All second-order interactions are uncorrelated.
- No exclusion of potentially implausible vignettes.
- $N = 1159$ respondents and $N = 8113$ vignette cases.



Wohnbeispiel 176:

Diese Wohnlage würde Ihre finanzielle Belastung (Miete, Nebenkosten, Zinsen, Darlehens-, Instandhaltungskosten) um 20 % verringern. In der Wohngegend leben viele Senioren. Außerdem gibt es dort eine aktive christliche Gemeinde. Weiterhin ist bekannt, dass dort viele wohlhabende/reiche Menschen wohnen. Beim Umschauen in der Nachbarschaft sehen Sie, dass das Straßenbild überdurchschnittlich sauber und sehr gepflegt wirkt. Eine Umweltabgabe für den Ausbau der lokalen Grünflächen in Höhe von 1 Euro pro Quadratmeter Wohnfläche jährlich ist zusätzlich zu den eigentlichen Wohn-/Mietkosten zu zahlen.

Ganz allgemein gesagt: Wie attraktiv finden Sie persönlich diese Wohnung generell?

1 2 3 4 5 6 7 8 9 10
sehr sehr
unattraktiv attraktiv

Economic Group Threat Variable

F19

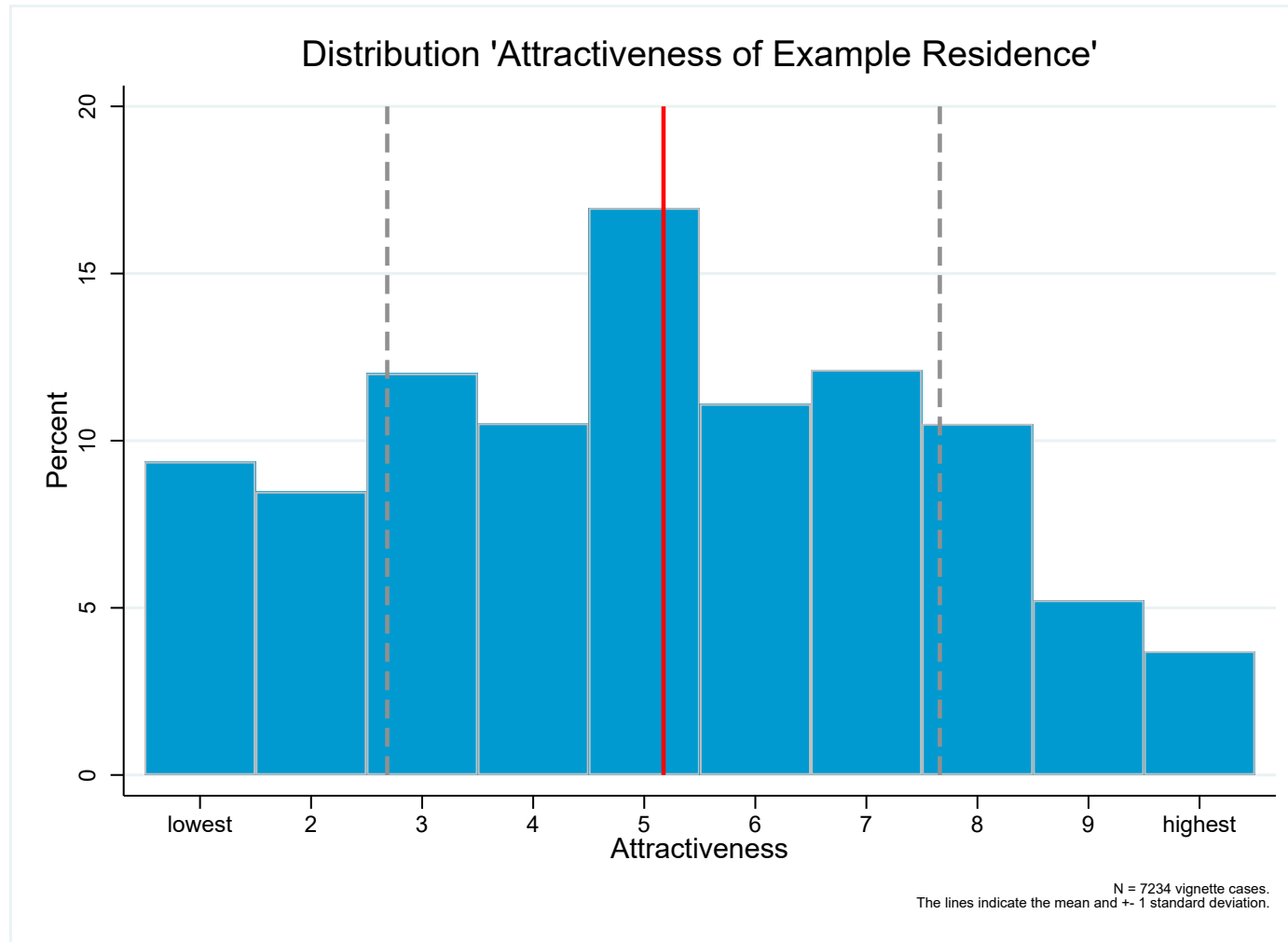
Denken Sie nun bitte an alle ausländischen Mitbürgerinnen und Mitbürger in Deutschland: Inwieweit stimmen Sie den folgenden Aussagen zu?

Bitte antworten auf der Skala von 1 = „stimme überhaupt nicht zu“ bis 7 = „stimme voll und ganz zu“. Mit den Werten dazwischen können Sie Ihre Antwort abstufen. Bitte kreuzen Sie in jeder Zeile ein Feld an.

- a Die Anwesenheit von Ausländern führt zu Problemen auf dem Wohnungsmarkt.
- b Die in Deutschland lebenden Ausländer sind eine Belastung für das soziale Netz.
- c Ausländer nehmen den Deutschen Arbeitsplätze weg.
- d Ausländer begehen häufiger Straftaten als die Deutschen.

1 – stimme überhaupt nicht zu bis 7 – stimme voll und ganz zu

Descriptive Results



Descriptive Results

Variable	Mean	SD	N
Attractiveness of vignette residence	5.17	2.49	7234
Homeownership	0.37		1056
Economic group threat [0...6]	1.48	1.26	1043
Religiousness [0...6]	1.85	1.70	1068
Contact to migrants in neighborhood [0...3]	1.09	0.74	1037
Migration background	0.25		1150
Gender female	0.56		1159
Age [17...90]	46.83	18.04	1092
Education (years) [9...21]	15.11	2.96	1075

Analysis Procedure

- Linear multilevel regression models, four analysis steps:
 1. Main effects of vignette dimensions.
 2. Interaction effects between vignette dimensions.
 3. Cross-level-interactions between vignette and respondent characteristics.
 4. Three-way interactions: 2-fold vignette interaction × respondent characteristic.

- The intraclass correlation is 26 %.

-
- We calculate the following model (controls not in formula):

$$\begin{aligned}\hat{y} = & a + b_1 \cdot \text{foreigners} + b_2 \cdot \text{social status} + b_3 \cdot \text{econ group threat} \\ & + b_4 \cdot \text{foreigners} \cdot \text{social status} + b_5 \cdot \text{econ group threat} \cdot \text{foreigners} \\ & + b_6 \cdot \text{econ group threat} \cdot \text{social status} \\ & + b_6 \cdot \text{foreigners} \cdot \text{social status} \cdot \text{econ group threat}\end{aligned}$$

Overview of Three-way Interactions

Two-way vignette interaction	Econ. group threat	Religiousness	Contact w/ migrants
Many foreigners × social status	p=0.024	n.s.	p=0.037
Many foreigners × streetscape	n.s.	n.s.	n.s.

Discussion

- Ethnic residential segregation on the demand side of housing markets (i.e., by individual residents themselves) exists.

- ...and is the result of a mixture of:
 - taste-based discrimination,
 - statistical discrimination,
 - perceived economic and cultural group threat,
 - and contact to migrants in real life.

Limitations

- We tend to overstrain the data – see all these interaction effects.
 - Is the three-way model „reading tea leaves“?
- Results might still be affected by social desirability.
- We do not observe actions, but some vague „attractiveness rating“.