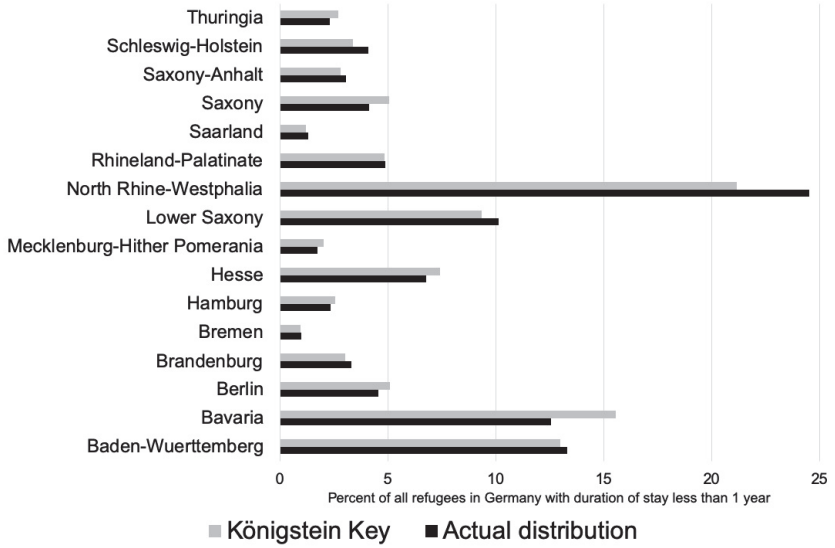
Online Appendix

Contents

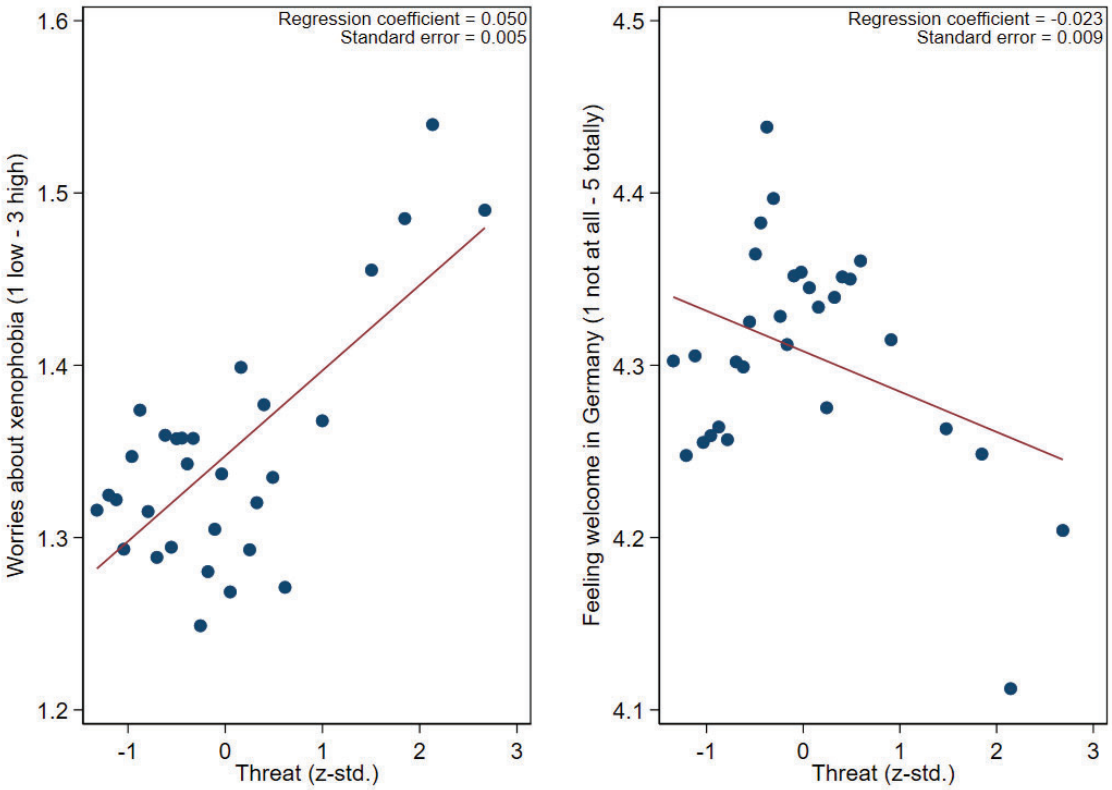
Appendix A: Additional Figures and Tables

Figure A.1. Refugee assignment quotas vs actual refugee allocation across German states



Notes:: The graph plots the assignment quotas (in gray bars) and the actual distribution of refugees with duration of stay less than one year (in black bars) for each German state in 2016. *Source:* Calculation of the authors from Destatis (2021, Tab-12531-0025) and Bundesanzeiger (2016).

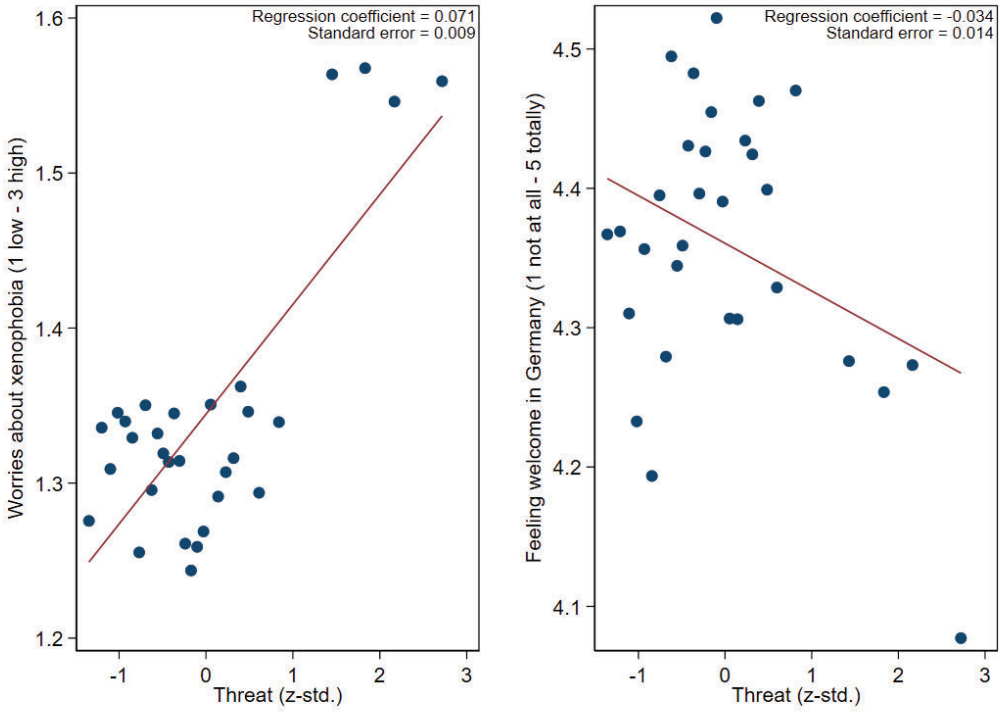
Figure A.2. Validation of threat: Worries about xenophobia and feeling welcome



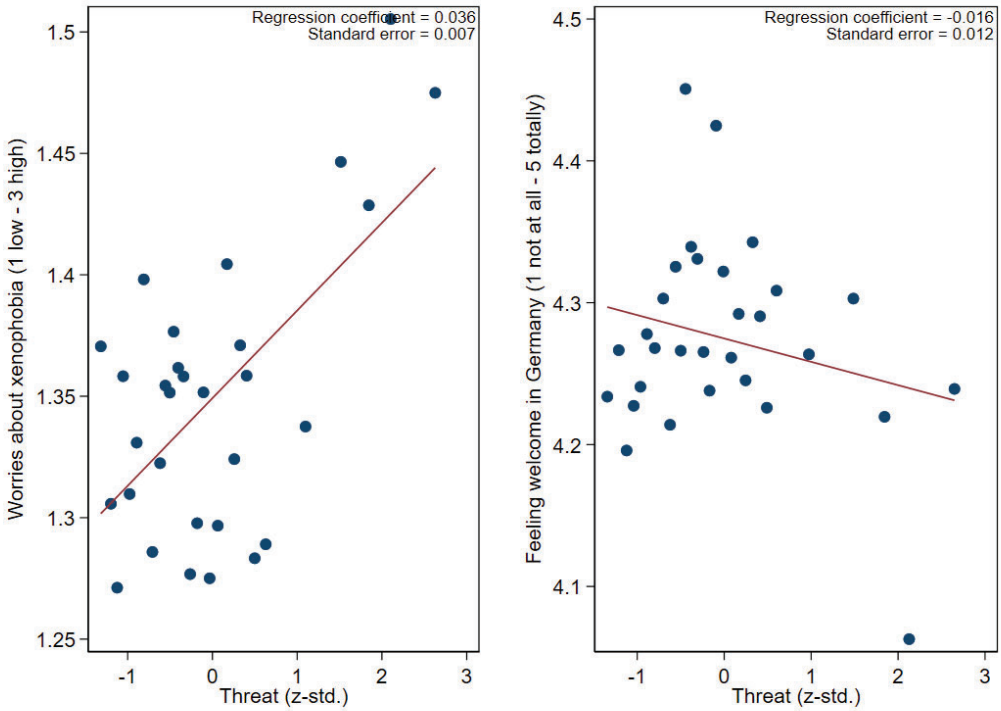
Notes: Binned scatterplot of the relationship between the threat index described in the main text and refugees' self-reported worry about xenophobia (left panel) and feeling welcome in Germany (right panel). Variables on the x- and y-axes represent residual changes, after partialling out months since arrival, survey year dummies, and individual controls (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status, and location of partner as well as work experience and education upon arrival).

Figure A.3. Validation of threat: Perception of threat by gender

Panel A. Women

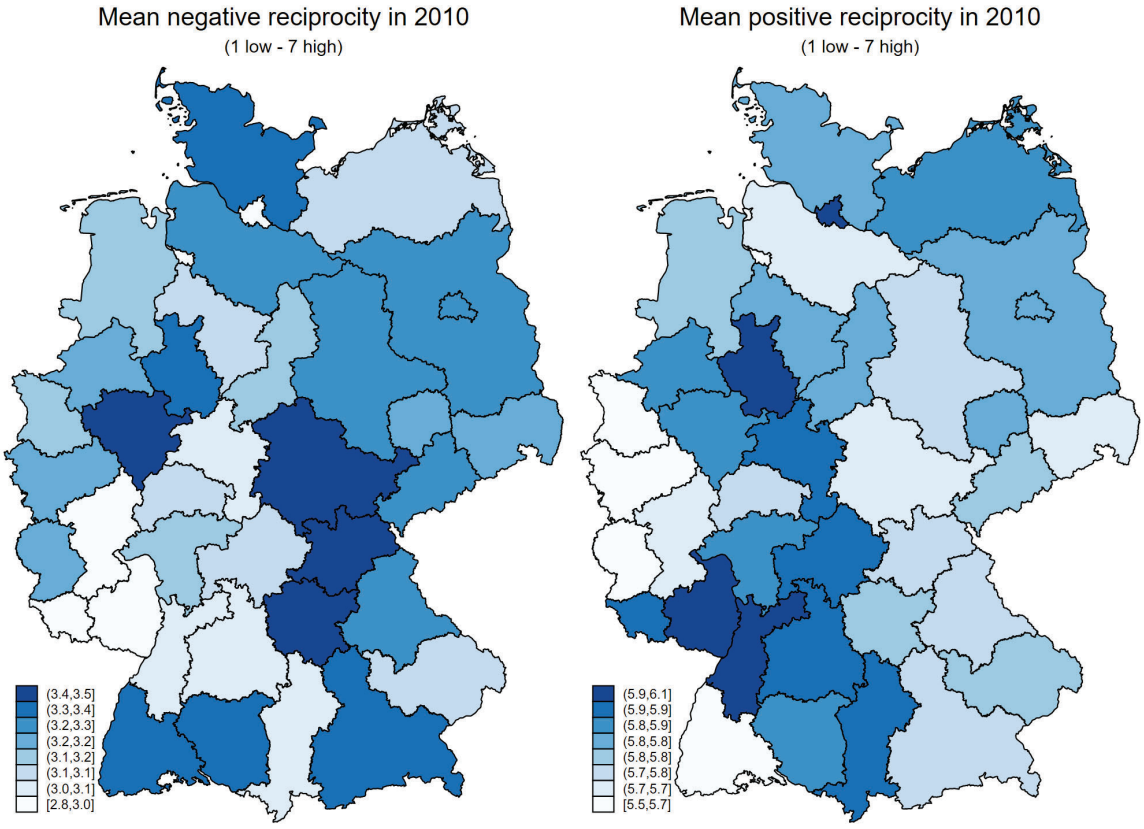


Panel B. Men



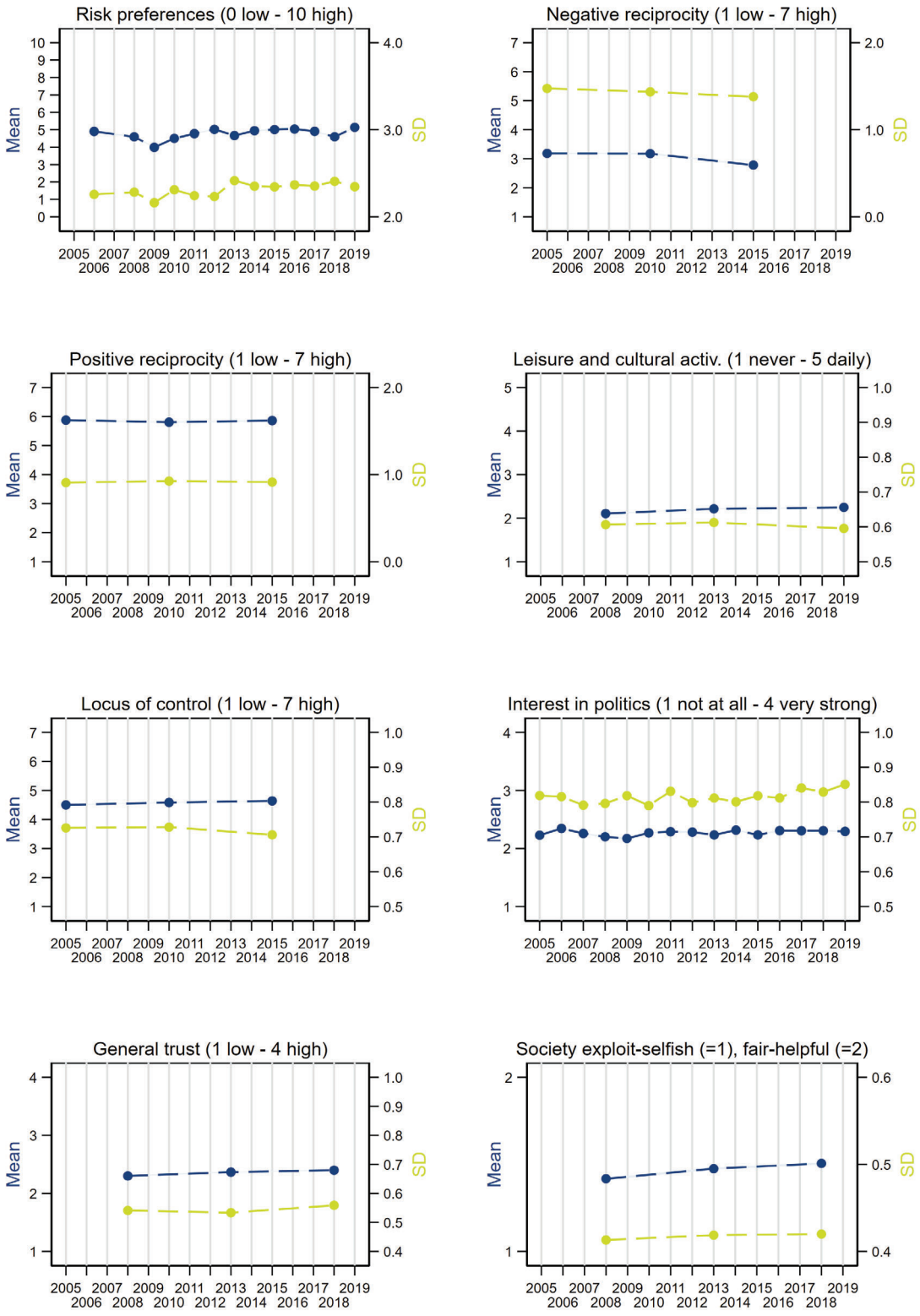
*Notes:*Binned scatterplot of the relationship between the threat index described in the main text and female (resp. male) refugees' self-reported worry about xenophobia (left panel) and feeling welcome in Germany (right panel). Variables on the x- and y-axes represent residual changes, after partialling out months since arrival, survey year dummies, and individual controls (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status, and location of partner as well as work experience and education upon arrival).

Figure A.4. Average reciprocities of locals across NUTS-2 regions



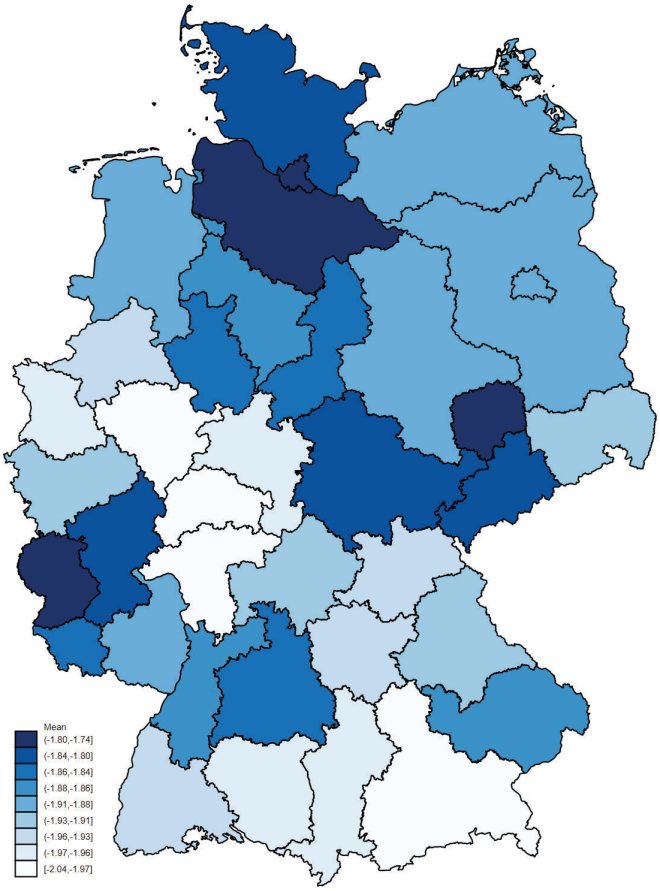
Notes: The maps plot the mean negative (left) and positive (right) reciprocity of locals for each of the 38 NUTS-2 regions. See Table A.3 for the list of questions defining negative and positive reciprocity.

Figure A.5. Local culture over time



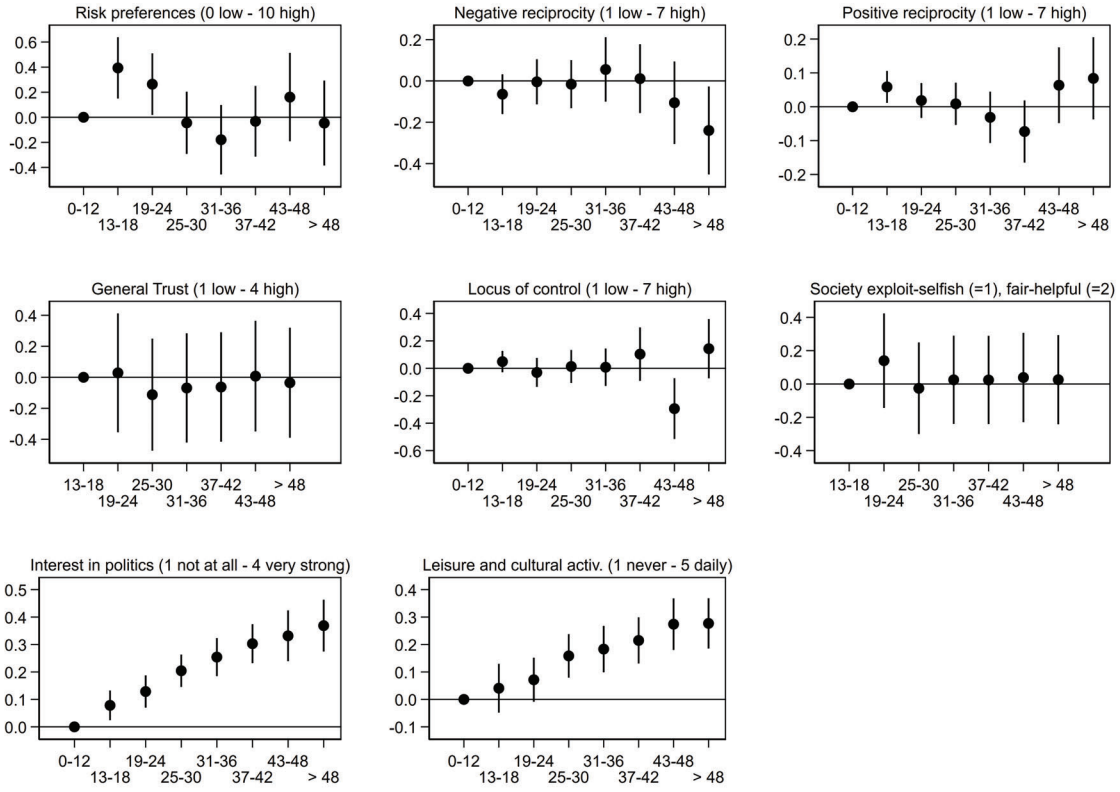
Notes: Each panel plots the mean and standard deviation of the corresponding component of the cultural similarity index, calculated using survey weights in order to guarantee the representativeness of the sample (which is restricted to local, i.e., non-refugee, respondents). See Table A.3 for the list and wording of questions.

Figure A.6. Cultural similarity between refugees and locals



Notes: The map plots the cultural similarity index between refugees and locals for each of the 38 NUTS-2 regions.

Figure A.7. Cultural preferences of refugees by question over time



Notes: Each panel plots the change in refugees' preferences by arrival cohort, relative to the 0-12 months cohort, for the issue reported at the top of the panel. The underlying regressions partial out district fixed effects, individual controls (gender, age, age squared, kids born before arrival in Germany living in household, country of origin, marital status and location of partner as well as work experience and education upon arrival) and dummies for the survey year interacted with district characteristics (unemployment rate, share of refugees, and population density, all measured in December 2012).

Table A.1. Threat index: Description and data sources

Threat component	Description	Source
Voting share of NSDAP in elections 1933	Absolute number of votes for the National Socialist German Workers' Party (NSDAP) over the absolute number of valid votes in the 1933 parliamentary elections; mapped from the level of historical administrative district boundaries to today's NUTS-2 regions.	Falter & Hänisch (1990)
Pogroms against Jews in 1920s	Reported pogroms in Germany in the 1920s are aggregated from the level of towns to NUTS-2 regions (based on provided longitude and latitude). According to Voigtländer & Voth (2012), Appendix (p.1): "We define a pogrom as a violent outrage against the Jewish population, involving physical violence against and/or the killings of people. Therefore, political agitation through *Brandreden* (incendiary speeches), attacks on Jewish shows, or the desecration of cemeteries are not coded as pogroms. Only when physical violence against at least one Jewish inhabitant is mentioned in *Alicke* does this variable take the value of unity."	Voigtländer & Voth (2012)
Voting share of far-right party NPD in Federal elections 2013	Results are provided online for download by the Bundeswahlleiter (Federal Returning Officer), which is responsible for supervising the proper organization and conduct of Federal elections in Germany. In the German election system, voters cast two votes: first votes are directly given to local representatives; second votes are decisive for the representation of parties in the parliament. The vote shares of the far-right National Democratic Party of Germany (NPD) are calculated as the share of second votes out of all valid votes.	Bundeswahlleiter (2013)
Offenses against Muslim communities	insults, threats, attacks against mosques and disturbance of religious practice (2001-2011). Answer of the Federal government to a parliamentry query of the party *Die Linke* (far-left party). Data shared by Colussi et al. (2021). Original source: Federal parliamentary printed matter 17/9523 (2012). For the construction of our index, we cumulate the number of violent attacks.	Colussi et al. (2021)
Right-wing marches	This is a dataset on right-wing extremist demonstrations that took place in Germany between 2005 and 2020. The authors used the German federal government's answers to brief parliamentary questions (*Kleine Anfragen*) tabled by the opposition left-wing party *Die Linke* to create this dataset. The dataset consists of more than 3,000 observations and includes information on the location, date, number of participants, organizing actors, and the mottos of the right-wing extremist demonstrations. For the construction of our index, we limit the time frame to pre-2013 and calculate the cumulated number of participants in right-wing extremist demonstration per 100,000 inhabitants as of 2012.	Kanol & Knoesel (2021)
Understanding for attacks on asylum seekers' homes	Question from ALLBUS (2021) survey 2008. Share of respondents answering 0 or higher to the following question: "I can understand that people carry out attacks on homes for asylum seekers (-2 Do not agree at all - +2 Completely agree)."	German General Social Survey (ALLBUS, 2021)
Immigrant adaptation	ALLBUS (2021) survey 2010, 2012 (pooled): Foreigners living in Germany should adapt their way of life a little more closely to the German way of life. (1 completely disagree - 7 completely agree). We calculate the share of respondents responding 6 or higher.	German General Social Survey (ALLBUS, 2021)
Labor market competition	Question from ALLBUS (2021) survey 2010, 2012 (pooled). Share of respondents answering 6 or higher to the following question: "When jobs get scarce, the foreigners living in Germany should be sent home again (1 completely disagree - 7 completely agree)."	German General Social Survey (ALLBUS, 2021)
Political participation of immigrants	Question from ALLBUS (2021) survey 2010, 2012 (pooled). Share of respondents answering 6 or higher to the following question: "Foreigners living in Germany should be prohibited from taking part in any kind of political activity in Germany (1 completely disagree - 7 completely agree)."	German General Social Survey (ALLBUS, 2021)
Social isolation	Question from ALLBUS (2021) survey 2010, 2012 (pooled). Share of respondents answering 6 or higher to the following question: "Foreigners living in Germany should choose to marry people of their own nationality (1 completely disagree - 7 completely agree)."	German General Social Survey (ALLBUS, 2021)
"Openness" (Big-5 personality trait)	Average of the Big-5 personality traits dimension "Openness" at the local population in the NUTS-2 region in the SOEP survey year 2013. In SOEP, each of the Big-5 personality traits is generated from three survey questions (Gerlitz, Schupp 2005). We calculate "Openness" as the average over the agreement to the following items (each scaled from 1 does not apply at all - 7 absolutely): (1) I have a vivid fantasy, imagination, (2) I am original, bring in new ideas, (3) I value artistic, aesthetic experiences.	Own calculations based on SOEP (2020)

Notes: The table lists the name, description, and source of each threat component used to compute the threat index.

Table A.2. Correlation of threat variables

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Vote for NSDAP in 1933	(1)	1.00										
Pogroms in the 1920s	(2)	0.30	1.00									
		(0.00)										
Vote for NPD in 2013	(3)	0.12	0.06	1.00								
		(0.00)	(0.00)									
Mosque attacks	(4)	-0.25	-0.01	-0.32	1.00							
		(0.00)	(0.33)	(0.00)								
Right-wing marches	(5)	0.06	0.04	0.80	-0.28	1.00						
		(0.00)	(0.00)	(0.00)	(0.00)							
Agreement to attacks against immigrants	(6)	-0.06	-0.14	0.51	-0.09	0.36	1.00					
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)						
Immigrant adaptation	(7)	0.08	0.10	0.60	-0.14	0.49	0.12	1.00				
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)					
Labor market competition	(8)	0.18	0.03	0.63	-0.27	0.51	0.35	0.48	1.00			
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)				
Prohibition of political activity	(9)	0.30	-0.05	0.43	-0.14	0.31	0.22	0.48	0.54	1.00		
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			
Intermarriage	(10)	0.01	-0.12	0.65	-0.19	0.53	0.49	0.63	0.61	0.62	1.00	
		(0.12)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)		
Big-5 Openness	(11)	-0.19	-0.14	-0.03	-0.17	0.01	0.20	-0.13	-0.11	-0.11	-0.12	1.00
		(0.00)	(0.00)	(0.00)	(0.00)	(0.56)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	

Notes: The table presents the correlation between each pair of threat variables. The correspondence between the top numbers and variables is given by the numbers on the left. Variables are described in Table A.1. Significance levels are in parentheses.

Table A.3. Survey questions used for baseline cultural similarity index

Outcome variables			Survey year	
Category	Question	Scale	Refugees	Locals
Risk	In general, are you someone who is ready to take risks or do you try to avoid risks?	0 - 10	2016-18	2012
Positive reciprocity	If someone does me a favor, I am willing to reciprocate it	1 - 7	2016-18 (Bio)	2010
	I make a particular effort to help someone who has previously helped me.	1 - 7	2016-18 (Bio)	2010
	I am prepared to incur costs myself to help someone who has previously helped me.	1 - 7	2016-18 (Bio)	2010
Negative reciprocity	If someone does me a serious wrong, I will get my own back at any price at the next opportunity.	1 - 7	2016-18 (Bio)	2010
	If somebody puts me in a difficult position, I will do the same to them.	1 - 7	2016-18 (Bio)	2010
	If someone insults me, I will insult them.	1 - 7	2016-18 (Bio)	2010
Leisure activities	How often do you go to eat or drink in a cafe, restaurant or bar?	1 - 5	2017-18	2013
	Artistic and musical activities (painting, music, photography, theater, dance)	1 - 5	2017-18	2013
	Taking part in sports	1 - 5	2017-18	2013
	Going to sporting events	1 - 5	2017-18	2013
	Going to the cinema, pop concerts, dance events, clubs	1 - 5	2017-18	2013
	Going to cultural events such as opera, classical concerts, theater, exhibitions	1 - 5	2017-18	2013
Politics	Once spoken in general terms: How interested are you in politics	1 - 4	2016-18	2012
Locus of control	How my life goes depends on me	1 - 7	2016	2010
	Compared to other people, I have not achieved what I deserve	1 - 7	2016	2010
	What a person achieves in life is above all a question of fate or luck	1 - 7	2016	2010
	If a person is socially or politically active, he/she can have an effect on social conditions	1 - 7	2016	2010
	I frequently have the experience that other people have a controlling influence over my life	1 - 7	2016	2010
	One has to work hard in order to succeed	1 - 7	2016	2010
	If I run up against difficulties in life, I often doubt my own abilities	1 - 7	2016	2010
	The opportunities that I have in life are determined by the social conditions	1 - 7	2016	2010
	Inborn abilities are more important than any efforts one can make	1 - 7	2016	2010
	I have little control over the things that happen in my life	1 - 7	2016	2010
Trust	People can generally be trusted	1 - 4	2018	2013
	Nowadays you can't rely on anyone	1 - 4	2018	2013
	If you are dealing with strangers, it is better to be careful before trusting them	1 - 4	2018	2013
Egoistic society	Do you believe that most people would use you if they had the chance or that they would try to be fair to you?	1 - 2	2018	2013
	Would you say that people usually try to be helpful or that they only pursue their own interests?	1 - 2	2018	2013

Notes: The table lists the survey questions used to construct the main cultural similarity index, their classification in categories, the range of possible answers, and the years they have been asked to refugees and locals. Scales include: Risk, 0 - 10 with 0 risk averse - 10 fully prepared to take risks, Negative reciprocity, positive reciprocity and locus of control 1 - 7 with 1 Absolutely does not apply - 7 Fully applies, leisure activities 1 - 5 with 1 Never - 5 Daily, Politics 1-4 with 1 not at all - 4 very strong, Trust 1 -4 with 1 Not at all - 4 fully agree, egoistic society fairness 1-2 with 1 exploit - 2 fair, and egoistic society helpful with 1 own interest - 2 helpful.

Table A.4. Additional questions included in the 12-component index

Outcome variables			Survey year	
Category	Question	Scale	Refugees	Locals
Satisfaction	How satisfied are you currently with your life in general?	0 - 10	2016-18	2012
	How satisfied are you with your current health?	0 - 10	2016-18	2012
	How satisfied are you in general with your current living arrangements?	0 - 10	2016-18	2012
Worries	Are you worried about your own economic situation?	1 - 3	2016-18	2012
	Are you worried about your health?	1 - 3	2016-18	2012
Social inclusion	How often do you miss the company of other people?	1 - 5	2016-18 (Bio)	2013
	How often do you feel left out?	1 - 5	2016-18 (Bio)	2013
	How often do you feel socially isolated?	1 - 5	2016-18 (Bio)	2013
Self attitude	I have a positive attitude towards myself	1 - 7	2016-18 (Bio)	2010

Notes: The lists the survey questions used, in addition to variables in Table A.3, to construct the 12-component cultural similarity index, their classification in categories, the range of possible answers, and the years they have been asked to refugees and locals. Scales include: Satisfaction 0 - 10 with 0 Completely dissatisfied - 10 Completely satisfied, Worries 1-3 with 1 No, no worry - 3 Yes, big worry, Social inclusion 1-5 with 1 Never - 5 Very often, and Self attitude 1-7 with 1 Absolutely does not apply - 7 Fully applies.

Table A.5. Locals' cultural traits and other beliefs

	(1) Risk	(2) Negative Reciprocity	(3) Positive Reciprocity	(4) Leisure activities	(5) Politics	(6) Locus of control	(7) Trust	(8) Egoistic society
	Panel A: Political preferences and attitudes							
Satisfaction German democracy (0-10)	0.006	-0.138***	0.052***	0.221***	0.105***	0.228***	0.303***	0.253***
mean: 5.612	[0.772]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
Voted in the last German parliamentary election	-0.022*	-0.089***	0.026*	0.231***	0.375***	0.139***	0.185***	0.122***
mean: 0.809	[0.059]	[0.009]	[0.079]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
Concern: The impact of climate change	-0.017***	-0.064***	0.062***	0.079***	0.134***	-0.013***	0.031***	0.022***
mean: 1.144	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
Concern: Immigration to Germany	-0.006	0.133***	-0.004	-0.181***	-0.111***	-0.176***	-0.294***	-0.198***
mean: 0.986	[0.178]	[0.009]	[0.336]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
Political attitudes (0 left - 10 right)	0.029***	0.101***	-0.010	-0.076***	-0.041***	-0.028***	-0.133***	-0.082***
mean: 4.634	[0.009]	[0.009]	[0.188]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
	Panel B: Cultural preferences							
Good that gay marriage is recognized	0.0201	-0.092***	0.022*	0.180***	0.084***	0.136***	0.186***	0.119***
mean: 5.086	[0.138]	[0.009]	[0.099]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
Best if man and woman work the same	0.009	-0.017	0.042***	-0.029***	0.007	-0.026**	-0.025***	-0.004
mean: 5.375	[0.772]	[0.168]	[0.009]	[0.009]	[0.564]	[0.029]	[0.009]	[0.762]
Children under 6 suffer if the mother works	0.018	0.062***	0.025**	-0.128***	-0.076***	-0.125***	-0.152***	-0.100***
mean: 3.441	[0.178]	[0.009]	[0.049]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
How often do you attend religious events	-0.048***	-0.105***	0.010	0.146***	0.084***	0.037***	0.130***	0.103***
mean: 1.657	[0.009]	[0.009]	[0.247]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
Not a member of any religious community	0.059***	0.061***	-0.028***	-0.057***	0.032***	0.004	-0.060***	-0.059***
mean: 0.359	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.802]	[0.009]	[0.009]
	Panel C: Preferences for redistribution and altruism							
Blood donations last 10 years	0.050***	0.004	0.025*	0.126***	0.023*	0.073***	0.069***	0.043***
mean: 0.174	[0.009]	[0.851]	[0.079]	[0.009]	[0.089]	[0.009]	[0.009]	[0.009]
Amount given away if received 10,000€ gift	-0.031***	-0.092***	0.070***	0.022***	0.063***	0.009	0.049***	0.057***
mean: 1.406	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]	[0.584]	[0.009]	[0.009]
Fair that those who work harder earn more	0.025**	0.016	0.118***	-0.052***	0.015	0.048***	-0.077***	-0.051***
mean: 6.265	[0.019]	[0.257]	[0.009]	[0.009]	[0.188]	[0.009]	[0.009]	[0.009]
Fair when income and wealth distributed equally	-0.011	0.043***	-0.034**	-0.088***	-0.101***	-0.165***	-0.043***	-0.043***
mean: 3.175	[0.663]	[0.009]	[0.019]	[0.009]	[0.009]	[0.009]	[0.009]	[0.009]
Observations	1,675,316	1,675,325	1,675,328	1,675,375	1,675,303	1,675,306	1,675,378	1,675,376
Dep. var. mean	4.79	2.81	5.85	2.18	2.27	4.64	2.39	1.49

Notes: The table reports Pearson correlation coefficients between the cultural trait reported at the top of each column and the corresponding preference reported in each row. The sample consists of non-refugee SOEP respondents, interviewed between 2010 and 2019 (see Table A.6 for exact wording and survey years of questions). The variable "How much would you give away if received a gift 10,000 euro" was re-scaled to be in thousands of euros. Regression coefficients (not shown) both including individual controls (marital status, gender, employment status, education, age, household income, nativity and survey year fixed effects) and not including individual controls are very similar. All significance levels are adjusted for the multiple hypothesis testing using Romano-Wolf p-values (reported in square brackets). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A.6. Questions used for correlation with components of cultural similarity index

Outcome variables			**Survey year**
Category	Question	Scale	
	Panel A: Political preferences and attitudes		
Satisfaction German democracy	How satisfied are you with democracy as it exists in Germany?	0 - 10	2010, 2016
Voted in last German parliamentary election	Did you vote in the last German parliamentary election on September 27, 2009?	0 - 1	2010
Concern: The impact of climate change	What is your attitude towards the following areas; are you concerned about them? - The impacts of climate change	0 - 3	2009, 2010, 2012-2019
Concern: Immigration to Germany	What is your attitude towards the following areas; are you concerned about them? - Immigration to Germany	0 - 3	2009, 2010, 2012-2019
Political attitudes	In politics people often talk about "left" and "right" when it comes to characterize different political attitudes. If you think about your own political views: Where would you place yours?	0 - 10	2009, 2014, 2019
	Panel B: Cultural preferences		
Good that gay marriage is recognized	I will read you a series of statements. To what degree do you personally agree with each statement? - I think it is good that marriages between two women or two men are legally recognized.	1 - 7	2018
Best if man and woman work the same	will read you a series of statements. To what degree do you personally agree with each statement? -It's best if the man and the woman work the same amount so they can share the responsibility for taking care of the family and household equally.	1 - 7	2018
Children under 6 suffer if the mother work	I will read you a series of statements. To what degree do you personally agree with each statement? - Children below the age of 6 suffer if their mother works.	1 - 7	2018
How often do you attend religious events	Which of the following activities do you take part in during your free time? Please check off how often you do each activity: at least once a week, at least once a month, less often, never. - Attending church, religious events	1 - 5	2013, 2017-2019
Not a member of any religious community	Are you a member of a church or religious community? - No, I do not belong to any religious community	0 - 1	2013, 2015-2019
	Panel C: Preferences for redistribution and altruism		
Blood donations last 10 years	Did you donated blood at least once in the last year ?	0 - 1	2010
Amount given away if received 10,000€ gift	Imagine that you unexpectedly received a gift of 10,000 euros. How much would you save, how much would you give away,and how much would you spend? (You can either split up the money into the categories below or use the entire sum for one purpose; expressed in thousands)	0 - 10	2010, 2017
Fair that those who work harder earn more	People have different ideas about what makes a society just. What's your opinion about the following statements? - A society is just when people who work hard earn more than others	1 - 7	2019
Fair when income and wealth distributed equally	People have different ideas about what makes a society just. What's your opinion about the following statements? - A society just when the income and wealth in society are equally distributed among all people.	1 - 7	2019

Notes: The table lists the survey questions used in each row of Table A.5.

Table A.7. Descriptive statistics: Components of the threat index

	All					Below median threat					Above median threat				
	Mean	Std. dev.	Min	Max	N	Mean	Std. dev.	Min	Max	N	Mean	Std. dev.	Min	Max	N
Historical pogroms	0.55	0.50	0	1	12,334	0.72	0.45	0	1	6,022	0.39	0.49	0	1	6,312
NSDAP vote share, 1933	43.97	7.98	29	60	12,334	43.95	6.91	31	58	6,022	43.99	8.89	29	60	6,312
Attacks against mosques (2001-2011)	2.34	2.13	0	9	12,334	3.16	2.45	0	9	6,022	1.56	1.37	0	4	6,312
Percent locals who agree: ($\geq$ 6 out of 7)															
Foreigners should adapt way of life more	55.34	6.98	43	73	12,334	51.48	5.77	43	62	6,022	59.02	5.98	48	73	6,312
Foreigners go home when jobs are scarce	9.01	4.68	1	21	12,334	5.91	2.47	1	11	6,022	11.97	4.36	3	21	6,312
Foreigners marry same nationality	6.71	3.26	1	17	12,334	4.36	1.59	1	7	6,022	8.94	2.84	5	17	6,312
Foreigners prohibit polit. activ.	11.23	4.41	3	21	12,334	8.29	1.95	4	12	6,022	14.03	4.28	3	21	6,312
Percent locals understanding attacks on asylum-seeker homes ($\geq$ 2 out of 5)	12.96	6.82	2	31	12,334	9.88	4.17	2	20	6,022	15.90	7.53	4	31	6,312
NPD vote share (2013)	1.26	0.71	1	4	12,334	0.89	0.20	1	1	6,022	1.62	0.82	1	4	6,312
Participants in right-wing demonstrations per 100k inhabitants (2005-2012)	238.72	321.93	20	2,259	12,334	103.22	56.01	20	228	6,022	367.98	406.58	25	2,259	6,312
Big-5 Openness	4.59	0.16	4	5	12,334	4.60	0.14	4	5	6,022	4.58	0.18	4	5	6,312

Notes: The table reports summary statistics for the components of the threat index for: i) the full sample in columns 1 to 5; and, ii) separately for regions with the threat index above (resp. below) the sample median in columns 6 to 10 (resp. in columns 11 to 15). These components are defined in Table A.1.

Table A.8. Detailed variable list: Summary statistics

	All					Below median threat					Above median threat				
	Mean	Std. dev.	Min	Max	N	Mean	Std. dev.	Min	Max	N	Mean	Std. dev.	Min	Max	N
	Panel A. Refugees														
Preferences: Core cultural similarity															
Risk preferences (0 low - 10 high)	3.95	3.42	0	10	11,837	3.90	3.38	0	10	5,795	4.00	3.46	0	10	6,042
Negative reciprocity (1 low - 7 high)	1.77	1.26	1	7	6,263	1.76	1.25	1	7	3,120	1.78	1.28	1	7	3,143
Positive reciprocity (1 low - 7 high)	6.68	0.62	1	7	6,390	6.66	0.64	1	7	3,176	6.70	0.60	1	7	3,214
Locus of control (1 low - 7 high)	4.42	0.78	2	7	2,666	4.36	0.76	2	7	1,275	4.47	0.79	2	7	1,391
Society exploit-selfish (=1), fair-helpful (=2)	1.57	0.43	1	2	2,909	1.57	0.43	1	2	1,427	1.56	0.42	1	2	1,482
Interest in politics (1 not at all - 4 very strong)	1.66	0.87	1	4	12,227	1.66	0.87	1	4	5,976	1.66	0.87	1	4	6,251
Leisure and cultural activ. (1 never - 5 daily)	1.78	0.63	1	4	7,913	1.78	0.63	1	4	3,954	1.77	0.62	1	4	3,959
General trust (1 low - 4 high)	2.17	0.59	1	4	3,259	2.19	0.62	1	4	1,575	2.15	0.56	1	4	1,684
Cultural similarity index (12-components)	-1.74	0.33	-5	-1	12,334	-1.73	0.33	-4	-1	6,022	-1.75	0.34	-5	-1	6,312
Cultural similarity index (to native-born locals)	-1.90	0.48	-6	-1	12,334	-1.90	0.47	-5	-1	6,022	-1.90	0.49	-6	-1	6,312
Percentage foreigners in the company	33.32	29.95	0	100	1,143	35.82	30.47	0	100	533	31.14	29.33	0	100	610
At least 1 child in hh (born before arrival)	0.59	0.49	0	1	12,081	0.58	0.49	0	1	5,881	0.60	0.49	0	1	6,200
Years of work experience before arrival	7.33	9.22	0	48	11,594	7.26	9.12	0	47	5,635	7.39	9.32	0	48	5,959
Partner: None	0.33	0.47	0	1	12,334	0.35	0.48	0	1	6,022	0.32	0.47	0	1	6,312
Lives in household	0.57	0.49	0	1	12,334	0.56	0.50	0	1	6,022	0.59	0.49	0	1	6,312
Lives elsewhere in Germany	0.01	0.11	0	1	12,334	0.01	0.11	0	1	6,022	0.01	0.12	0	1	6,312
Lives not in Germany	0.06	0.24	0	1	12,334	0.06	0.25	0	1	6,022	0.06	0.24	0	1	6,312
Social inclusion (1 incl. - 5 excl.)	2.57	1.08	1	5	6,240	2.55	1.07	1	5	3,098	2.59	1.09	1	5	3,142
Satisfaction with life, health, flat (0 low - 10 high)	7.22	1.84	0	10	12,254	7.20	1.84	0	10	5,984	7.24	1.85	0	10	6,270
Worries: econ., health (1 low - 3 high)	1.83	0.58	1	3	12,187	1.83	0.58	1	3	5,972	1.84	0.58	1	3	6,215
Positive self-attitude (1 disagree - 7 agree)	6.29	1.18	1	7	6,196	6.26	1.18	1	7	3,110	6.33	1.18	1	7	3,086
Employment assimilation (from RecLink, Survey sample)	-0.53	0.37	-1	0	7,618	-0.57	0.36	-1	0	3,620	-0.49	0.37	-1	0	3,998
Employment assimilation (from survey, RecLink sample)	-0.48	0.40	-1	0	7,618	-0.51	0.41	-1	0	3,620	-0.46	0.40	-1	0	3,998
Refugees' rel. gross wage (from RecLink, Survey sample)	-709.11	868.22	-2,219	3,610	1,044	-809.87	903.72	-2,219	3,386	485	-621.69	827.12	-1,968	3,610	559
Refugees' rel. gross wage (from survey, RecLink sample)	-688.92	990.97	-2,241	12,675	1,044	-758.98	1,142.28	-2,241	12,675	485	-628.13	834.16	-1,976	4,292	559
Residency obligation	0.31	0.46	0	1	12,334	0.36	0.48	0	1	6,022	0.26	0.44	0	1	6,312
Missing or residency regulation not applicable	0.41	0.49	0	1	12,334	0.40	0.49	0	1	6,022	0.42	0.49	0	1	6,312
Assigned to East Germany	0.19	0.39	0	1	12,334	0.00	0.00	0	0	6,022	0.38	0.48	0	1	6,312
Does not live in assigned region at interview time	0.25	0.43	0	1	12,334	0.25	0.43	0	1	6,022	0.25	0.43	0	1	6,312
Legal status: Approved	0.69	0.46	0	1	12,149	0.66	0.47	0	1	5,951	0.72	0.45	0	1	6,198
Rejected	0.05	0.22	0	1	12,149	0.06	0.23	0	1	5,951	0.05	0.22	0	1	6,198
In proceedings	0.21	0.41	0	1	12,149	0.23	0.42	0	1	5,951	0.18	0.39	0	1	6,198
Other	0.05	0.22	0	1	12,149	0.05	0.22	0	1	5,951	0.05	0.22	0	1	6,198
	Panel B. Locals														
Preferences: Core cultural similarity															
Risk preferences (0 low - 10 high)	4.99	2.23	0	10	22,612	4.95	2.25	0	10	11,415	5.03	2.22	0	10	11,197
Negative reciprocity (1 low - 7 high)	3.08	1.41	1	7	14,321	3.04	1.38	1	7	6,975	3.13	1.43	1	7	7,346
Positive reciprocity (1 low - 7 high)	5.83	0.90	1	7	14,352	5.85	0.90	1	7	6,989	5.82	0.90	1	7	7,363
Locus of control (1 low - 7 high)	4.63	0.72	1	7	14,045	4.67	0.72	1	7	6,848	4.59	0.71	2	7	7,197
Society exploit-selfish (=1), fair-helpful (=2)	1.49	0.42	1	2	20,160	1.52	0.42	1	2	10,111	1.47	0.42	1	2	10,049
Interest in politics (1 not at all - 4 very strong)	2.30	0.79	1	4	15,639	2.34	0.79	1	4	7,732	2.26	0.80	1	4	7,907
Leisure and cultural activ. (1 never - 5 daily)	2.18	0.61	1	4	20,697	2.25	0.60	1	4	10,374	2.12	0.61	1	4	10,323
General trust (1 low - 4 high)	2.38	0.54	1	4	20,721	2.42	0.53	1	4	10,404	2.33	0.54	1	4	10,317

Table A.8. Continued

School degree: None	0.04	0.20	0	1	246,953	0.05	0.21	0	1	126,320	0.04	0.19	0	1	120,633
Secondary school certificate	0.53	0.50	0	1	246,953	0.48	0.50	0	1	126,320	0.59	0.49	0	1	120,633
Higher education entrance qualification	0.31	0.46	0	1	246,953	0.34	0.47	0	1	126,320	0.28	0.45	0	1	120,633
Other	0.11	0.32	0	1	246,953	0.14	0.34	0	1	126,320	0.09	0.29	0	1	120,633
Locals' attitudes towards refugees:															
Impact refugees on the economy (1 bad - 11 good)	5.57	2.70	1	11	39,769	5.76	2.68	1	11	20,492	5.38	2.70	1	11	19,277
Impact refugees on cultural life (1 undermine - 11 enrich)	5.59	2.79	1	11	39,769	5.83	2.77	1	11	20,492	5.32	2.80	1	11	19,277
Impact refugees on Germany as place to live (1 worse - 11 better)	5.09	2.51	1	11	39,769	5.30	2.47	1	11	20,492	4.86	2.52	1	11	19,277
Refugees risk or chance, short-run (1 risk - 11 chance)	3.93	2.30	1	11	39,769	4.06	2.31	1	11	20,492	3.78	2.28	1	11	19,277
Refugees risk or chance, long-run (1 risk - 11 chance)	5.41	2.89	1	11	39,769	5.67	2.87	1	11	20,492	5.13	2.90	1	11	19,277
Donated last year to support refugees	0.26	0.44	0	1	40,581	0.29	0.45	0	1	20,957	0.23	0.42	0	1	19,624
Worked on site with refugees last year	0.08	0.27	0	1	40,518	0.08	0.28	0	1	20,917	0.07	0.25	0	1	19,601
Demonstrated last year to support refugees	0.05	0.22	0	1	40,481	0.05	0.22	0	1	20,906	0.05	0.22	0	1	19,575
Importance to engage politically, socially (1 not - 4 very important)	2.13	0.77	1	4	45,490	2.16	0.77	1	4	22,931	2.09	0.77	1	4	22,559
Frequency volunteering in associations (1 never - 5 daily)	1.65	1.06	1	5	74,907	1.68	1.09	1	5	37,266	1.61	1.03	1	5	37,641
Cultural similarity index (12-components)	-1.37	0.27	-4	-1	18,302	-1.37	0.28	-4	-1	9,060	-1.37	0.26	-3	-1	9,242
Changed NUTS-2 from previous to current survey year	0.01	0.12	0	1	200,696	0.01	0.12	0	1	101,800	0.01	0.11	0	1	98,896
	Panel C. NUTS-2-level variables														
Share of refugees (NUTS-2)	0.68	0.25	0	1	12,334	0.78	0.23	0	1	6,022	0.59	0.23	0	1	6,312
Immigrants from origin country (NUTS-2)	0.07	0.11	0	3	12,333	0.09	0.14	0	3	6,022	0.06	0.06	0	2	6,311
Immigrants from origin region (NUTS-2)	0.50	0.42	0	3	12,053	0.54	0.28	0	2	5,882	0.47	0.52	0	3	6,171
Local-national cultural distance (NUTS-2)	0.32	0.14	0	1	12,334	0.31	0.08	0	0	6,022	0.33	0.19	0	1	6,312
Local cultural dispersion (NUTS-2)	1.08	0.03	1	1	12,334	1.08	0.03	1	1	6,022	1.09	0.03	1	1	6,312
Employment rate of immigrants from origin region (NUTS-2)	21.51	7.06	4	45	12,053	24.58	6.60	12	41	5,882	18.59	6.20	4	45	6,171
Skill-req. Herfindahl-Index (NUTS-2, 2012)	0.41	0.03	0	0	12,334	0.39	0.02	0	0	6,022	0.42	0.02	0	0	6,312
Task Herfindahl-Index (NUTS-2, 2012)	0.22	0.01	0	0	12,334	0.22	0.01	0	0	6,022	0.22	0.01	0	0	6,312
#RefugeesWelcome tweets: Number (NUTS-2)	875.03	2,224	0	23,031	150,552	826.32	1,465	0	8,953	74,748	923.06	2,775	0	23,031	75,804
#RefugeesWelcome tweets: Per 100,000 people (NUTS-2)	30.47	70.22	0	663.75	150,552	25.07	48.29	0	507.89	74,748	35.79	86.24	0	663.75	75,804
NGO-led initiatives: Number (NUTS-2)	18.17	21.19	0.	94	25,092	22.86	21.59	0	94	12,458	13.54	19.71	0	54	12,634
NGO-led initiatives: Per 100,000 people (NUTS-2)	0.63	0.83	0	5.42	25,092	0.76	1.01	0	5.42	12,458	0.50	0.57	0	1.72	12,634

Notes: The table reports additional summary statistics for the refugees (Panel A) and locals (Panel B) for: i) the full sample in columns 1 to 5; and, ii) separately for regions with the threat index above (resp. below) the sample median in columns 6 to 10 (resp. in columns 11 to 15). Panel C reports summary statistics for additional NUTS-2-level variables used in the analysis. Summary statistics on employment assimilation and relative wages in self-reported survey data, and from linked administrative data (RecLink, see Section C.1) refer to the subsample where both these sources are available.

Table A.9. Cultural and economic assimilation: Months since arrival

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Panel A. Cultural similarity index (mean: -1.905)						
MSA	0.099**	0.102**	0.079*	0.076*	0.094**	0.113***	0.118***
	(0.040)	(0.042)	(0.042)	(0.042)	(0.041)	(0.041)	(0.042)
Person-Year observations	12,410	12,410	12,410	12,410	12,410	12,410	12,410
Person observations	6,723	6,723	6,723	6,723	6,723	6,723	6,723
R2 adjusted	0.329	0.329	0.342	0.345	0.366	0.372	0.390
	Panel B. Refugees' relative employment (mean: -0.504)						
MSA	0.783***	0.789***	0.746***	0.757***	0.760***	0.776***	0.771***
	(0.030)	(0.044)	(0.042)	(0.042)	(0.041)	(0.041)	(0.042)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.070	0.071	0.155	0.161	0.172	0.181	0.196
Individual controls	No	No	Yes	Yes	Yes	Yes	Yes
Fixed Effects							
Federal-State	No	No	No	No	Yes	No	No
NUTS-2	No	No	No	No	No	Yes	No
District	No	No	No	No	No	No	Yes
Survey year	No	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	No	No	No	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B). MSA refers to months since arrival. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables. Column 2 adds survey year fixed effects. Column 3 adds individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival). Column 4 adds interaction between year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Columns 5, 6, and 7 add respectively federal state, NUTS-2 region, and district fixed effects to the specification of column 4. Panel A always controls for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.10. Cultural convergence and local threat: All coefficients

	(1)	(2)	(3)	(4)	(5)	(6)
	Cultural similarity index (mean: -1.905)					
MSA	0.081**	0.076*	0.094**	0.113***	0.118***	0.125***
	(0.040)	(0.042)	(0.041)	(0.041)	(0.042)	(0.042)
MSA × Threat						0.075**
						(0.032)
Female	-5.113***	-5.149***	-5.286***	-5.169***	-5.500***	-5.461***
	(0.908)	(0.908)	(0.878)	(0.868)	(0.864)	(0.864)
At least 1 child in HH	1.304	1.274	0.727	0.672	0.968	0.968
(born before arrival of hh head)	(0.952)	(0.951)	(0.929)	(0.928)	(0.924)	(0.924)
Age	-0.395	-0.404	-0.264	-0.305	-0.275	-0.271
	(0.262)	(0.262)	(0.254)	(0.252)	(0.253)	(0.253)
Age squared	0.002	0.002	0.000	0.001	0.001	0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Partner lives in:						
Household	-3.067***	-3.037***	-2.314**	-2.333**	-2.616**	-2.670**
	(1.104)	(1.103)	(1.071)	(1.066)	(1.076)	(1.077)
Elsewhere in Germany	-0.300	0.043	-0.112	0.073	1.173	1.096
	(3.111)	(3.101)	(3.134)	(3.141)	(3.212)	(3.202)
Not in Germany	-2.929	-2.959	-2.329	-2.355	-2.321	-2.285
	(1.805)	(1.800)	(1.737)	(1.721)	(1.721)	(1.719)
Missing	-3.344	-3.443	-4.017	-3.861	-4.002	-4.002
	(2.884)	(2.882)	(2.814)	(2.825)	(2.710)	(2.713)
Work Exp bef. leaving home country	0.037	0.031	0.020	0.020	-0.022	-0.022
	(0.062)	(0.061)	(0.060)	(0.059)	(0.059)	(0.059)
Compulsory school leaving certificate	5.429***	5.468***	4.894***	4.795***	4.517***	4.520***
	(0.994)	(0.991)	(0.962)	(0.955)	(0.963)	(0.963)
Secondary school leaving certificate	7.127***	7.246***	7.687***	7.785***	7.854***	7.852***
	(0.922)	(0.920)	(0.891)	(0.885)	(0.882)	(0.881)
Country of birth:						
Afghanistan	4.321***	4.249***	3.616***	4.096***	3.629***	3.709***
	(1.221)	(1.218)	(1.195)	(1.207)	(1.223)	(1.223)
Iraq	-0.226	-0.169	0.275	0.113	-0.030	-0.068
	(1.169)	(1.163)	(1.153)	(1.155)	(1.174)	(1.174)
Iran	12.027***	11.720***	12.221***	12.253***	12.627***	12.577***
	(2.443)	(2.452)	(2.351)	(2.317)	(2.277)	(2.282)
Africa	2.532	3.031*	4.393**	4.849***	5.066***	5.068***
	(1.815)	(1.832)	(1.781)	(1.772)	(1.802)	(1.801)
West Balkan	3.611*	3.367	4.768**	4.614**	4.136*	3.958*
	(2.121)	(2.138)	(2.160)	(2.152)	(2.200)	(2.198)
Former USSR	6.218**	6.615***	7.535***	6.856***	7.125***	6.868***
	(2.569)	(2.547)	(2.426)	(2.401)	(2.430)	(2.429)
Eritrea	2.606	2.426	2.632	3.287	1.986	1.766
	(2.207)	(2.196)	(2.085)	(2.088)	(2.082)	(2.083)
Other	-0.708	-0.615	1.075	1.052	1.157	1.145
	(2.199)	(2.207)	(2.181)	(2.170)	(2.136)	(2.132)

Table A.10. Continued

Refugee answered:						
Risk	-77.285***	-77.477***	-77.379***	-77.902***	-77.051***	-77.054***
	(1.658)	(1.659)	(1.684)	(1.682)	(1.729)	(1.727)
Neg. recipr.	-7.737***	-7.628***	-6.464**	-6.599**	-6.518**	-6.507**
	(2.573)	(2.559)	(2.584)	(2.584)	(2.627)	(2.628)
Pos. recipr.	18.800***	18.356***	18.354***	18.467***	18.426***	18.380***
	(2.665)	(2.656)	(2.681)	(2.675)	(2.722)	(2.723)
Activities	30.578***	34.440***	34.996***	35.372***	34.436***	34.384***
	(1.348)	(4.034)	(4.040)	(4.026)	(4.018)	(4.012)
Interest politics	37.720***	37.721***	37.925***	38.415***	39.096***	39.110***
	(8.150)	(8.183)	(8.151)	(8.200)	(8.391)	(8.404)
Locus of control	31.476***	31.471***	31.587***	31.085***	30.838***	30.811***
	(1.285)	(1.450)	(1.446)	(1.444)	(1.466)	(1.466)
Trust	27.658***	23.885***	23.639***	23.355***	24.812***	24.566***
	(2.000)	(4.089)	(4.073)	(4.037)	(4.052)	(4.053)
Evaluation of society	26.043***	25.437***	26.423***	26.414***	26.593***	26.700***
	(1.850)	(1.886)	(1.875)	(1.863)	(1.909)	(1.910)
Survey year = 2017		-2.380	-3.690	-4.637	-5.055	-4.842
		(5.127)	(5.134)	(5.135)	(5.239)	(5.230)
Survey year = 2018		-2.118	-3.722	-4.477	-6.100*	-5.596
		(3.562)	(3.545)	(3.565)	(3.641)	(3.643)
UE-rate 1st-district (Dec-2012)		0.287	-0.073	-0.281		
		(0.237)	(0.317)	(0.346)		
Survey year = 2017		0.075	0.155	0.115	0.299	0.129
× UE-rate 1st-district		(0.319)	(0.318)	(0.319)	(0.333)	(0.343)
Survey year = 2018		0.949***	0.972***	0.928***	1.037***	0.698**
× UE-rate 1st-district		(0.303)	(0.303)	(0.303)	(0.311)	(0.354)
Population density per sqkm (Dec-2012)		-0.004***	-0.004***	-0.002**		
		(0.001)	(0.001)	(0.001)		
Survey year = 2017		0.003***	0.003**	0.003**	0.002*	0.002**
× Population density per sqkm		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Survey year = 2018		0.001	0.000	0.000	-0.000	0.000
× Population density per sqkm		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Refugees' share district pop (Dec-2012)		10.409***	12.031***	8.942***		
		(2.297)	(2.634)	(2.782)		
Survey year = 2017		-7.635**	-4.844	-4.672	-4.445	-3.548
× Refugees' share district pop		(3.125)	(3.140)	(3.155)	(3.229)	(3.262)
Survey year = 2018		-6.991**	-4.024	-3.803	-3.061	-1.016
× Refugees' share district pop		(3.015)	(3.030)	(3.030)	(3.077)	(3.230)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.344	0.347	0.368	0.374	0.392	0.392
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes

Notes: The dependent variable is the cultural similarity index. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), and dummies for the composition of questions included in the cultural similarity index. The reference value for country of birth is Syria. Column 2 adds interactions between year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Columns 3, 4, and 5 add respectively federal state, NUTS-2 region, and district fixed effects to the specification of column 2. Column 6 includes the interaction between months since arrival and the standardized threat index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.11. Cultural convergence by question

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Risk preference	Negative reciprocity	Positive reciprocity	Trust	Locus of control	Egoistic-altr. society	Politics interest	Leisure, cultural activity
MSA	0.051	0.070	0.078	-0.077	-0.099	-0.013	0.139***	0.255***
	(0.138)	(0.068)	(0.035)	(0.060)	(0.079)	(0.025)	(0.036)	(0.035)
	[0.891]	[0.683]	[0.139]	[0.683]	[0.683]	[0.891]	[0.010]	[0.010]
Person-Year observations	11,837	6,263	6,390	3,259	2,666	2,909	12,227	7,913
Person observations	6,552	6,263	6,390	3,259	2,666	2,909	6,666	5,094
R2 adjusted	0.087	0.114	0.238	0.102	0.050	0.060	0.084	0.149
Dep. var. mean	-3.994	-2.330	-1.385	-0.764	-1.021	-0.595	-1.288	-0.940
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects								
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variables are the components of the cultural similarity index detailed in Table A.3. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. P-values, shown in brackets, are adjusted for multiple hypotheses testing by controlling the familywise error rate (FWER) using the Romano-Wolf procedure (Clarke et al., 2020; Romano & Wolf, 2016, 2005a,b). Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.12. Economic assimilation and local threat: All coefficients

	(1)	(2)	(3)	(4)	(5)	(6)
	Refugees' relative employment (mean: -0.504)					
MSA	0.778***	0.757***	0.760***	0.776***	0.771***	0.772***
	(0.029)	(0.042)	(0.041)	(0.041)	(0.042)	(0.042)
MSA × Threat						0.016
						(0.032)
Female	-17.168***	-17.077***	-16.690***	-16.630***	-16.635***	-16.626***
	(0.847)	(0.843)	(0.833)	(0.822)	(0.837)	(0.837)
At least 1 child in HH	-4.129***	-4.136***	-4.106***	-4.237***	-3.984***	-3.983***
(born before arrival of hh head)	(0.936)	(0.933)	(0.928)	(0.917)	(0.923)	(0.923)
Age	1.637***	1.584***	1.552***	1.573***	1.502***	1.503***
	(0.229)	(0.227)	(0.224)	(0.222)	(0.225)	(0.225)
Age squared	-0.024***	-0.024***	-0.023***	-0.023***	-0.023***	-0.023***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Partner lives in:						
Household	-5.456***	-5.704***	-5.796***	-5.730***	-6.408***	-6.420***
	(1.037)	(1.028)	(1.021)	(1.009)	(1.023)	(1.023)
Elsewhere in Germany	-3.155	-3.797	-4.913*	-4.665*	-5.136**	-5.154**
	(2.669)	(2.678)	(2.636)	(2.635)	(2.611)	(2.608)
Not in Germany	1.167	0.970	0.817	1.215	1.152	1.160
	(1.730)	(1.732)	(1.705)	(1.705)	(1.721)	(1.721)
Missing	-2.879	-3.217	-3.109	-2.630	-3.001	-3.001
	(2.768)	(2.739)	(2.697)	(2.681)	(2.625)	(2.624)
Work Exp bef. leaving home country	-0.104*	-0.099*	-0.082	-0.078	-0.082	-0.082
	(0.055)	(0.055)	(0.055)	(0.055)	(0.054)	(0.054)
Compulsory school leaving certificate	4.459***	4.413***	4.299***	4.055***	4.206***	4.207***
	(0.965)	(0.959)	(0.951)	(0.940)	(0.933)	(0.934)
Secondary school leaving certificate	6.800***	6.613***	6.281***	6.260***	6.196***	6.195***
	(0.919)	(0.912)	(0.906)	(0.899)	(0.895)	(0.895)
Country of birth:						
Afghanistan	-1.661	-1.262	-1.042	-0.599	-0.416	-0.399
	(1.160)	(1.152)	(1.151)	(1.141)	(1.152)	(1.152)
Iraq	-4.053***	-3.607***	-3.350***	-3.391***	-2.532**	-2.540**
	(1.055)	(1.051)	(1.061)	(1.071)	(1.101)	(1.101)
Iran	-3.617	-3.669	-3.549	-3.602	-4.611**	-4.623**
	(2.240)	(2.251)	(2.301)	(2.243)	(2.332)	(2.332)
Africa	-0.104	0.364	0.646	1.511	1.645	1.646
	(1.988)	(1.974)	(1.964)	(1.945)	(1.988)	(1.988)
West Balkan	6.955**	7.543***	9.294***	8.987***	8.852***	8.815***
	(2.837)	(2.855)	(2.844)	(2.799)	(2.867)	(2.867)
Former USSR	-0.300	-0.843	-0.841	-1.324	-1.458	-1.513
	(2.540)	(2.584)	(2.543)	(2.595)	(2.568)	(2.574)
Eritrea	-0.152	0.195	0.190	0.884	1.066	1.021
	(1.924)	(1.926)	(1.909)	(1.907)	(1.950)	(1.952)
Other	1.375	1.394	1.771	1.662	1.461	1.458
	(2.171)	(2.159)	(2.137)	(2.116)	(2.113)	(2.114)

Table A.12. Continued

Survey year = 2017		1.966	1.150	0.860	2.600	2.643
		(2.167)	(2.173)	(2.189)	(2.340)	(2.340)
Survey year = 2018		2.106	1.103	0.355	1.734	1.813
		(2.917)	(2.909)	(2.916)	(3.007)	(3.011)
UE-rate 1st-district (Dec-2012)		0.393**	-0.537**	-0.583*		
		(0.179)	(0.273)	(0.298)		
Survey year = 2017		-0.568**	-0.418*	-0.452*	-0.550**	-0.587**
× UE-rate 1st-district		(0.239)	(0.241)	(0.242)	(0.254)	(0.262)
Survey year = 2018		-0.711**	-0.495	-0.502*	-0.592*	-0.665*
× UE-rate 1st-district		(0.302)	(0.303)	(0.304)	(0.313)	(0.341)
Population density per sqkm		0.001	0.000	0.002**		
		(0.001)	(0.001)	(0.001)		
Survey year = 2017		-0.001	-0.001	-0.001	-0.001	-0.001
× Population density per sqkm		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Survey year = 2018		-0.001	-0.001	-0.001	-0.001	-0.001
× Population density per sqkm		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Refugees' share district pop		-11.611***	-4.081**	-5.733***		
		(1.712)	(2.027)	(2.216)		
Survey year = 2017		3.907*	3.920*	3.642	2.514	2.704
× Refugees' share district pop		(2.347)	(2.338)	(2.362)	(2.462)	(2.493)
Survey year = 2018		7.278**	6.762**	6.668**	5.616*	6.056**
× Refugees' share district pop		(2.858)	(2.857)	(2.863)	(2.923)	(3.052)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.155	0.161	0.172	0.181	0.196	0.195
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is refugees' relative employment. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables and individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival). The reference value for country of birth is Syria. Column 2 adds interaction between year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Columns 3, 4, and 5 add respectively federal state, NUTS-2 region, and district fixed effects to the specification of column 2. Column 6 includes the interaction between months since arrival and the standardized threat index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.13. Economic assimilation: Self-reported wages

	(1)	(2)	(3)	(4)	(5)	(6)
	Refugees' relative log gross wage (mean: -0.877)					
MSA	1.224***	0.801***	0.792***	0.845***	0.778***	0.785***
	(0.190)	(0.247)	(0.246)	(0.244)	(0.279)	(0.279)
MSA × Threat						0.107
						(0.238)
Person-Year observations	2,097	2,097	2,097	2,097	2,097	2,097
Person observations	1,570	1,570	1,570	1,570	1,570	1,570
R2 adjusted	0.091	0.107	0.106	0.117	0.142	0.141
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes
District controls × survey year	No	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 1,570 employed refugees for a total of 2,097 refugee-year observations. The dependent variable is refugees' relative self-reported wages. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status, and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.14. Economic assimilation: Survey and administrative information (record linkage)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Refugees' relative employment				Refugees' relative log wage			
Source:	Reclink		Survey		Reclink		Survey	
MSA	0.746***	0.755***	0.937***	0.943***	0.684*	0.675*	0.869**	0.858**
	(0.057)	(0.057)	(0.059)	(0.058)	(0.380)	(0.381)	(0.355)	(0.355)
MSA × Threat		0.077*		0.053		-0.120		-0.158
		(0.042)		(0.043)		(0.328)		(0.305)
Person-Year observations	7,618	7,618	7,618	7,618	1,028	1,028	1,028	1,028
Person observations	3,914	3,914	3,914	3,914	781	781	781	781
R2 adjusted	0.174	0.174	0.217	0.217	0.179	0.178	0.163	0.162
Dep. var. mean	-0.528		-0.483		-0.758		-0.718	
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects								
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 3,914 refugees for a total of 7,618 refugee-year observations that were matched to their administrative data through record linkage (see Section C.1). Columns 5 to 8 are restricted to employed refugees (sample: 1028 refugees). The dependent variable is i) refugees' relative employment, from administrative records (columns 1 and 2) and self-reported (columns 3 and 4); and, ii) refugees' relative log wages, from administrative records (columns 5 and 6) and self-reported (columns 7 and 8). MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.15. Assimilation and local threat: Gradually including controls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Panel A. Cultural similarity index (mean: -1.905)						
MSA	0.119***	0.121***	0.099**	0.091**	0.101**	0.120***	0.125***
	(0.040)	(0.041)	(0.042)	(0.042)	(0.041)	(0.041)	(0.042)
MSA × Threat	0.112***	0.113***	0.111***	0.083***	0.088***	0.080**	0.075**
	(0.027)	(0.027)	(0.027)	(0.032)	(0.031)	(0.031)	(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.332	0.332	0.346	0.348	0.369	0.374	0.392
	Panel B. Refugees' relative employment (mean: -0.504)						
MSA	0.791***	0.799***	0.757***	0.766***	0.762***	0.777***	0.772***
	(0.030)	(0.044)	(0.042)	(0.041)	(0.041)	(0.041)	(0.042)
MSA × Threat	-0.013	-0.011	-0.021	0.016	0.014	0.010	0.016
	(0.030)	(0.030)	(0.028)	(0.032)	(0.031)	(0.031)	(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.075	0.075	0.159	0.163	0.173	0.181	0.195
Individual controls	No	No	Yes	Yes	Yes	Yes	Yes
Fixed Effects							
Federal-State	No	No	No	No	Yes	No	No
NUTS-2	No	No	No	No	No	Yes	No
District	No	No	No	No	No	No	Yes
Survey year	No	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	No	No	No	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B). MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables. Column 2 adds survey year fixed effects. Column 3 adds individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival). Column 4 adds interaction between year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Columns 5, 6, and 7 add respectively federal state, NUTS-2 region, and district fixed effects to the specification of column 4. Panel A always controls for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.16. Cultural and economic assimilation: Disaggregation of threat

	(1)	(2)	(3)	(4)
	Panel A. Cultural similarity index (mean: -1.905)			
MSA	0.125***	0.117***	0.120***	0.126***
	(0.042)	(0.042)	(0.042)	(0.042)
MSA × PC 1: Contemporary anti-immigrant sentiments	0.075**			0.072**
	(0.032)			(0.032)
MSA × PC 2: Historical anti-immigrant sentiments		0.045		0.044
		(0.028)		(0.028)
MSA × PC 3: Contemporary openness			-0.077***	-0.074***
			(0.026)	(0.026)
Person-Year observations	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691
R2 adjusted	0.392	0.392	0.392	0.393
	Panel B. Refugees' relative employment (mean: -0.504)			
MSA	0.772***	0.770***	0.771***	0.772***
	(0.042)	(0.042)	(0.042)	(0.042)
MSA × PC 1: Contemporary anti-immigrant sentiments	0.016			0.017
	(0.032)			(0.032)
MSA × PC 2: Historical anti-immigrant sentiments		0.031		0.031
		(0.030)		(0.030)
MSA × PC 3: Contemporary openness			0.024	0.025
			(0.028)	(0.028)
Person-Year observations	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691
R2 adjusted	0.195	0.195	0.196	0.196
Individual controls	Yes	Yes	Yes	Yes
Fixed Effects				
District	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B). MSA refers to months since arrival. PC1, PC2 and PC3 are the principal components with Eigenvalue greater than 1 (see Table A.18) and measure respectively contemporary and historical anti-immigrant sentiments, and contemporary openness among locals, and are z-standardized within each estimated model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Panel A always controls for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.17. Threat index: Component-wise

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Threat component of interest:	Baseline: All included	Pogroms in the 1920s	Vote for NSDAP in 1933	Vote for NPD in 2013	Mosque attack (2001-2011)	Right-wing marches (2005-2012)	Big-5 open	Agree to attacks immig.	Immigrant adaptation	Labor market competition	Prohibit political activity	Inter-marriage
	Panel A. Cultural similarity index (mean: -1.905)											
MSA	0.125***	0.136***	0.118***	0.120***	0.118***	0.122***	0.118***	0.118***	0.121***	0.124***	0.123***	0.124***
	(0.042)	(0.052)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA × Threat component	0.075**	-0.032	0.013	0.017	0.018	0.069**	-0.097***	-0.011	0.044	0.103***	0.065**	0.062**
	(0.032)	(0.052)	(0.028)	(0.031)	(0.026)	(0.032)	(0.028)	(0.028)	(0.029)	(0.030)	(0.028)	(0.029)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.392	0.392	0.392	0.392	0.392	0.392	0.393	0.392	0.392	0.392	0.392	0.392
	Panel B. Refugees' relative employment (mean: -0.504)											
MSA	0.772***	0.749***	0.771***	0.769***	0.772***	0.772***	0.771***	0.771***	0.769***	0.771***	0.772***	0.775***
	(0.042)	(0.052)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA × Threat component	0.016	0.038	0.036	-0.017	-0.050*	0.014	-0.028	0.003	-0.025	0.003	0.018	0.039
	(0.032)	(0.056)	(0.030)	(0.030)	(0.028)	(0.028)	(0.029)	(0.030)	(0.031)	(0.030)	(0.030)	(0.031)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.195	0.196	0.196	0.195	0.196	0.195	0.195	0.195	0.196	0.195	0.195	0.196
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects												
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 12,334 refugees for a total of 6,691 refugee-year observations in both panels. The dependent variable is the cultural similarity index (resp. refugees' relative employment) for Panel A (resp. Panel B), calculated with the baseline specification of Threat with all components and referred throughout the paper (column 1). Then, specifications with the single components of the threat index are used (from column 2 to 12). See Table A.1 for the exact source and definition of each component of the threat index. MSA refers to months since arrival. Threat index in column 1 and threat components in columns 2-12 are z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Additionally, regressions with cultural similarity as outcome (Panel A) include composition dummies. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.18. Principal component analyses: Factor loadings

	(1)	(2)	(3)	(4)
	Eigenvalue	Difference	Proportion	Cumulative
PC 1	4.167	2.580	0.379	0.379
PC 2	1.587	0.380	0.144	0.523
PC 3	1.207	0.257	0.110	0.633
PC 4	0.950	0.156	0.086	0.719
PC 5	0.794	0.104	0.072	0.791
PC 6	0.690	0.196	0.063	0.854
PC 7	0.494	0.063	0.045	0.899
PC 8	0.431	0.096	0.039	0.938
PC 9	0.335	0.127	0.031	0.969
PC 10	0.209	0.072	0.019	0.988
PC 11	0.136	0.000	0.012	1.000
	PC 1	PC 2	PC 3	PC 4
Vote for NPD in 2013	0.434	-0.060	0.092	0.254
Vote for NSDAP in 1933	0.102	0.550	0.324	-0.338
Mosque attacks	-0.180	-0.031	-0.654	0.251
Big-5 Openness	-0.040	-0.471	0.508	-0.029
Pogroms in the 1920s	0.008	0.507	0.223	0.592
Right-wing marches	0.376	-0.080	0.129	0.353
Agreement to attacks against immigrants	0.256	-0.396	0.069	0.076
Immigrant adaptation	0.355	0.126	-0.206	0.148
Labor market competition	0.389	0.061	-0.022	-0.099
Prohibition of political activity	0.332	0.143	-0.180	-0.485
Intermarriage	0.416	-0.103	-0.232	-0.100

Notes: The top panel indicates for each principal component: i) its eigenvalue (column 1); ii) the difference to the next principal component (column 2); iii) the proportion and cumulative proportion of the sum of eigenvalues represented by this principal component (columns 3 and 4). The bottom panel indicates the weight of each threat variable in the first four principal components.

Table A.19. Absolute cultural change: Women's rights

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Women's rights									
	Working makes women more independent (1 not agree - 7 agree)		Married women should work to be indep. (1 not agree - 7 agree)		If women earn more, this creates problems (1 agree - 7 disagree)		Sons' education more important (1 agree - 7 disagree)		Husband should have the last word (1 agree - 7 disagree)	
Method:	Metric	Dummy	Metric	Dummy	Metric	Dummy	Metric	Dummy	Metric	Dummy
MSA	0.143	0.088	0.151	0.167	0.327**	0.405***	0.439***	0.418***	0.490***	0.394***
	(0.140)	(0.143)	(0.141)	(0.141)	(0.149)	(0.145)	(0.134)	(0.135)	(0.138)	(0.139)
MSA × Threat	-0.074	-0.063	0.015	-0.013	0.028	-0.010	0.177	0.138	0.238*	0.294**
	(0.125)	(0.129)	(0.125)	(0.131)	(0.143)	(0.137)	(0.139)	(0.139)	(0.130)	(0.131)
Person-Year observations	6,304	6,304	6,303	6,303	6,145	6,145	6,321	6,321	6,381	6,381
Person observations	6,304	6,304	6,303	6,303	6,145	6,145	6,321	6,321	6,381	6,381
R2 adjusted	0.053	0.034	0.068	0.052	0.055	0.054	0.096	0.088	0.080	0.075
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects										
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variables are responses of refugees' to survey questions that represent attitudes to women's rights, with both metric and dummy specifications: i) Having work makes women independent, ii) Also married women should work to be independent, iii) If women earn more, this creates problems, iv) Sons' education more important, v) Husband should have the last word. A detailed breakdown of the corresponding survey questions that are used to construct the variables and threshold values are presented in Table C.1. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model, along with dependent variables. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.20. Absolute cultural change: Support for democracy and religion

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	System of government						Religion	
	Democracy best system (1 disagree - 7 agree)		Strong leader (1 agree - 7 disagree)		Experts should decide (1 agree - 7 disagree)		Importance of religion (1 low - 4 very important)	Freq. church and relig. events attendance (1 never - 5 daily)
Method:	Metric	Dummy	Metric	Dummy	Metric	Dummy		
MSA	0.137	0.009	0.175	0.188	0.362**	0.221	-0.247	0.392***
	(0.176)	(0.174)	(0.156)	(0.158)	(0.163)	(0.164)	(0.153)	(0.137)
MSA × Threat	0.061	0.112	0.429***	0.383***	0.393**	0.377**	0.039	-0.211*
	(0.171)	(0.168)	(0.142)	(0.144)	(0.157)	(0.158)	(0.145)	(0.120)
Person-Year observations	6,039	6,039	5,158	5,158	5,121	5,121	4,954	8,004
Person observations	6,039	6,039	5,158	5,158	5,121	5,121	4,954	5,127
R2 adjusted	0.044	0.031	0.067	0.064	0.066	0.066	0.086	0.176
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects								
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variables are survey responses of refugees to the survey questions that represent their attitudes on system of governance (from column 1 to 6) and attitudes on religion (from column 7 to 8) with both metric and dummy specifications: For governance, variables are: i) democracy best system , ii) having a strong leader, iii) experts should decide, and for religion: i) importance of religion, and ii) frequency of church and religious events attendance. Detailed breakdown of the corresponding survey questions used to construct the variables and threshold values are presented at Table C.1. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model, along with dependent variables. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, highest education among 4 categories, and migration background: none, indirect, 5 years ago or less, 6-10 years, more than 10 years), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.21. Locals' response to refugees: Endogamy and counter-mobilization

	(1)	(2)	(3)	(4)	(5)	(6)
	1[Partner German born]					
	All	Female	Male	Donated to refugees	Worked on site with refugees	Demonstrated to support refugees
Refugee share	0.145	0.231	0.051	-2.270**	-0.446	0.519
	(0.182)	(0.258)	(0.367)	(1.052)	(0.669)	(0.602)
Refugee share × Threat	0.316*	0.654***	-0.018	0.427	0.228	-0.516
	(0.169)	(0.231)	(0.240)	(0.606)	(0.382)	(0.353)
Person-Year observations	92,813	43,409	49,404	25,092	25,035	25,011
Person observations	20,016	9,200	10,816	14,267	14,256	14,251
R2 adjusted	0.041	0.072	0.054	0.144	0.055	0.048
Dep. var. mean	0.944	0.951	0.937	0.291	0.071	0.054
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
District	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is a dummy for: i) having a German-born partner (columns 1 to 3); ii) donating to support refugees, working on-site with refugees, and demonstrating to support refugees the previous year (columns 4, 5, and 6). Refugee share refers to the percent of refugees in the district measured on December 31 of the year prior to the interview. Threat is the threat index described in the text, and is z-standardized within each model. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, highest education among 4 categories, and migration background: none, indirect, 5 years ago or less, 6-10 years, more than 10 years), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix B: Robustness Checks

B.1 Testing for *Ex-ante* Selection

In Table B.1, we examine whether there is evidence of *ex-ante* selection of refugees with different characteristics across different types of regions. We begin with three regional characteristics: unemployment rate below or above the sample median (Panel A), continuous unemployment rate (Panel B), and urban-rural status (Panel C).[55] Next, in Table B.2, we consider: the threat index above or below the sample median (Panel A); and, the continuous threat index (Panel B). In columns 1 to 4, refugees' individual characteristics are: a dummy equal to one for female respondents; age; years of work experience before migration; and, a dummy for reporting Syria as the origin country. To test whether the assignment probability based on pre-entry characteristics changed over time, we interact the latter with arrival year, using 2015 as the reference year. Given that refugee flows were very low prior to 2015, we combine arrival years 2013 and 2014 to obtain enough observations per cell.[56] Reassuringly, there is no evidence that the allocation of refugees with different characteristics across different regions changed over time.

In columns 5 to 7, we investigate the possibility of *ex-ante* cultural selection on the side of refugees. Since we cannot observe the preferences of refugees before their arrival, this exercise can be conducted only for recently arrived refugees, under the assumption that they had less time to converge to local culture. We experiment with different definitions of "recent refugees", considering those arrived less than 8, 10, or 12 months prior to the interview, respectively.[57] Since the survey only started in 2016, we cannot observe recent arrivals for years 2013 and 2014. We thus restrict attention to changes in the cultural composition of recent arrivals between 2015 (omitted category) and 2016. Also in this case, we find no evidence that the cultural composition of refugees changed over time (and that this was correlated with the region of assignment).

[55] Unemployment rate is measured in December 2012 (at the NUTS-2 region level). Urban status is measured in 2018, but the classification is virtually constant over time, since status changes only in the case of a foreseeable permanent under- or over-run of the thresholds used. To increase precision, we use district, rather than region, to define a location as urban or rural. To classify districts into urban or rural we use the same criteria adopted in BBSR (2018): the population share in large and medium-sized cities, the population density of the district region, and the population density of the district region without taking into account the large and medium-sized cities.

[56] Results are unchanged if we consider the two years separately.

[57] The exact threshold used to define recent refugees does not change any of our results.

B.2 Ruling Out *Ex-post* Sorting

A key concern when interpreting our results may be that, despite the initial allocation, refugees might have moved from regions where they had a low cultural match to those with a better fit – and that the degree of cultural fit were correlated with local threat. As explained in the main text, we implement an ITT strategy, using the region of assignment (rather than of residence) to measure both threat and refugees' outcomes. This deals with the potential concern of refugees' *ex-post* sorting.

To more directly inspect the potential for *ex-post* sorting, in Table B.3, we measure threat in the region of assignment, but consider outcomes relative to the region of residence for different sub-samples of refugees. Column 2 reports the coefficient from our baseline specification to ease comparisons. In column 4, we zoom in on a sub-group of refugees that were granted asylum in Germany after the introduction of the Federal Integration act in August 2016. Depending on the Federal state of assignment, these refugees were not allowed to move out of their district of assignment even after asylum approval, at least as long as they were not able to make their own living. This restriction reduces the sample by 75%, and, not surprisingly, the estimates become very noisy. However, and reassuringly, the coefficient on both MSA and the interaction term remains close to that reported in column 2.

Next, in columns 6 and 8, we split the sample between refugees who remained in the region of assignment (about 75% of our sample) and those that moved out of their region of assignment to conduct a placebo exercise. One would expect threat in the region of assignment to influence assimilation only for those refugees that remained in the region. In other words, threat in the region of assignment should not impact outcomes for refugees who moved. Columns 6 and 8 confirm our conjecture: the interaction between threat and MSA is larger in magnitude and more precisely estimated for stayers (column 6), while it is close to zero and not statistically significant for movers (column 8).

In Panel A of Table B.4, we go one step further, and re-estimate our baseline equation (including additional controls from column 1 to column 5) defining the dependent variable as a dummy for moving from one German region to another. For brevity, we focus on column 5, which reports our preferred specification. The coefficient on MSA is positive and statistically significant. This is to be expected: as refugees spend more time in Germany, they become better able to relocate. However, and importantly, the coefficient on the interaction between MSA and the threat index is small and statistically insignificant. This indicates that there is no evidence of internal migration of refugees

over time between more or less threatening areas. Note that, even if such relocation process were to take place, our ITT approach would take care of it. However, we find it even more reassuring for our design that no differential migration patterns are detected between regions with different levels of threat.

While the ITT design addresses the potential relocation of refugees, it does not deal with the possibility that locals moved away from a region, following the inflow of refugees (a process often referred to as "white flight"; see Boustan, 2010, among others). If such migration response were also correlated with the characteristics of locals who were moving, this may change the composition of locals interacting with refugees. Even though we fix preferences of locals at baseline, this may nonetheless influence the process of (economic and cultural) assimilation of refugees.

To address the concern that our findings may be driven by (selective) white flight, in Panel B of Table B.4, we restrict attention to locals, and define the dependent variable as a dummy equal to one for moving between a given survey and the next survey in which the respondent participated (between 2013 and 2018).[58] We estimate regressions that control for gender, age, age squared, highest education (4 categories), and migration background (no, indirect, 5 years ago or less, 6-10 years, more than 10 years). All regressions also include interactions between year dummies and district baseline (2012) characteristics: unemployment rate, population density, and refugee share. The main regressors are the refugee share in the district of residence of the respondent at the end of the year before the interview and its interaction with the threat index of the corresponding region.

Reassuringly, the point estimates on both regressors in column 1 are small and not statistically significant. Next, in columns 2 to 4, we augment the previous specification by also including the triple interaction between the refugee share, the threat index and respondents' attitudes towards refugees.[59] Importantly, the coefficient on the triple interaction is always close to zero and never statistically significant.[60]

B.3 Ruling Out Selective Attrition

In Table B.5, we address the possibility that changes in the sample composition may be driving our results through selective attrition. In particular, one may be concerned

[58] The SOEP has information on the respondents' place of residence at the time of the interview.

[59] All regressions are fully saturated, but we do not report coefficients on lower order terms to save space.

[60] Specifically, we measure attitudes towards refugees as the assessment of their impact on: the economy (column 2), cultural life (column 3), and, the overall quality of life (column 4). Higher values indicate a more positive perception of refugees.

that less assimilated refugees drop out of the survey over time, leaving us with a more culturally similar (and economically integrated) pool. This would be problematic for our design if selective attrition were more (or less) likely to occur in regions with higher levels of threat.

To address this concern, we exploit the fact that some refugees were interviewed multiple times, and define the dependent variable as the probability of disappearing from the subsequent survey wave. That is, we create a dummy variable equal to one if a refugee present in one wave did not appear in the following one. In column 1, we regress this indicator against MSA, separately controlling for individual characteristics and interactions between survey year fixed effects and baseline district characteristics. As expected, the probability of attrition increases with time spent in Germany.

In column 2, we include the cultural similarity index and its interaction with MSA, to verify that refugees that are culturally more similar are not more likely to drop out of the survey at different points in time. Reassuringly, the coefficient on the interaction term is close to zero and not statistically significant, suggesting that there is no selective attrition (by cultural similarity) of refugees over time. In column 3, we examine whether refugees assigned to regions with a higher threat index are more likely to drop out of the sample over time. Reassuringly, also in this case, the interaction term between MSA and threat is small and not statistically significant.[61]

In column 4, we simultaneously include the cultural similarity and the threat index, as well as their interactions with MSA. Once again, there is no evidence of selective attrition along either dimension. Finally, in column 5, we estimate a specification that also includes the triple interaction between MSA, threat, and cultural similarity. The point estimate is very close to zero and not statistically significant. This weighs against the possibility that less assimilated refugees drop out at differential rates in regions characterized by different levels of threat.

B.4 Alternative Measures of Cultural Similarity

As an additional robustness exercise, we replicate our main estimation table (Table 2 in the main text), using different statistical measures for our cultural assimilation outcome. In Panel A of Table B.6, we replace the Euclidean cultural similarity index with the Canberra index – another entropy measure of the Minkowski family, which standardizes each sub-component of the index by the maximum distance observed in the data. This mea-

[61] Note that the threat index is absorbed by district fixed effects.

sure captures whether cultural convergence comes from the combination of questions rather than a specific subset of questions.[62] As shown in Table A.11, cultural assimilation in our baseline estimation stems from questions on reciprocity, type of leisure activities, and interest in politics. Not surprisingly, given the feature of the Canberra index, coefficients become quantitatively smaller but remain precisely estimated.

In Panel B, we focus on the most restrictive measure of cultural similarity, namely the Herfindahl index. This index captures *exact* preference matches between refugees and locals. In contrast to the Minkowski distances (Euclidean and Canberra), the Herfindahl index measures the likelihood that a refugee and a randomly drawn local give the exact same response to a specific attitudinal question. If refugees became culturally close, but not exactly the same as locals, this would not be captured by the Herfindahl index. Under this strict cultural similarity definition, we do not find that refugees assimilate to locals. This is consistent with our main findings, which document partial (and not complete) convergence over time.[63]

In addition, we document that results are not driven by the exact set of questions considered to define cultural preferences. As described in Section 3, the baseline cultural similarity index includes questions that are available for both refugees and locals and adhere to a strict definition of culture in the form of stated beliefs and preferences. By relaxing the definition of "culture", we can use the full set of overlapping variables (Table A.4), and expand the cultural similarity index to 12 dimensions, including feelings of social inclusion, self-attitudes, and worries. Results are reported in Table B.7 (Panel A), where we document that coefficients become slightly smaller in size, but more precisely estimated.

Next, we verify that results are robust to restricting attention to native-born respondents when defining the baseline local culture. Since 17% of respondents in the SOEP are not born in Germany (Table 1), one may be worried that cultural convergence may be over-stated, if immigrants and refugees have more similar preferences than refugees and the average native-born local. Reassuringly, results are unchanged when the cultural similarity index is constructed restricting the sample of locals to those born in Germany (Table B.7, Panel B).

Finally, we address the concern that results might be driven by a single component

[62] Formally, the Canberra index can be written as $D_{Ca} = \sum_{i=1}^{d} \frac{|P_i - Q_i|}{P_i + Q_i}$, with P_i and Q_i representing two probability density functions. In comparison to the Euclidean distance, the Canberra distance decreases the weight of outliers. In other words, if refugees converge to locals only along one cultural dimension, this would be captured in the Euclidean index, and would be discounted in the Canberra index.

[63] It is possible that over longer periods (recall that average MSA lies at 29 months), we would observe convergence even along the Herfindahl index.

of the cultural similarity. In Table B.8, we omit one component of the CSI at the time (from columns 2 to 9). Reassuringly, results are always very close to those from our baseline specification, reported in column 1 to ease comparisons.

B.5 Addressing Potential Endogeneity of Local Culture

It is possible that refugee inflows led to broader changes in locals' ideology. Since in our main analysis we fixed local culture at baseline, one may be worried that our results over-state convergence if refugee inflows triggered changes in local preferences, more so in regions with higher levels of threat. We tackle this concern in different ways.

First, we replicate the analysis conducted in Panel A of Table 2 by constructing the CSI using locals' preferences measured at endline, rather than baseline. Specifically, we use the latest available survey year for locals for each of the questions included in the index. Results are reported in Panel B of Table B.9, which also presents those from the preferred specification to ease comparisons in Panel A. Reassuringly, coefficients on both MSA and the interaction between MSA and threat are close to – if anything larger than – those obtained when measuring CSI at baseline. This indicates that fixing locals' preferences before the inflow of refugees does not lead us to over-state refugees' cultural convergence.

Second, we directly inspect the relationship between locals' preferences and refugee inflows for each of the eight cultural traits used to construct the CSI. This analysis mirrors that conducted in Table A.11 for refugees, with two differences. First, the sample of respondents is now composed of locals. Second, instead of MSA, the main regressor is the refugee share in the district of residence of the respondent at the end of the year before the survey was conducted. All regressions control for district and survey year fixed effects, for individual characteristics, and for interaction between district baseline variables and year dummies. As for Table A.11, we adjust confidence intervals for multiple hypothesis testing.

Panel A of Table B.10 reports results obtained when only including the refugee share in the district. Coefficients are never statistically significant. Moreover, no clear pattern emerges. Panel B augments this specification by also interacting the refugee share with the threat index prevailing in the region. Again, once confidence intervals are adjusted for multiple hypothesis testing, none of the coefficients on either the refugee share or its interaction with threat is statistically significant at conventional levels. Also in this case, there is no systematic trend.

Taken together, results in Tables B.9 and B.10 suggest that refugees' inflows did not significantly alter locals' preferences, and that our results are unlikely to be over- or understated due to endogenous changes in local culture.

B.6 Robustness to Measurement of Threat

In this section, we conduct two exercises to probe the robustness of results to the definition of threat. First, we replicate the baseline specification omitting each component of the threat index, and computing the principle component using the remaining 10 dimensions. Results, reported in columns 2 to 12 of Table B.11, are always very similar to those from the baseline index, presented in column 1 to ease comparisons.[64]

Second, we address the concern that our results may be biased by the fact that refugee inflows changed local threat differentially across regions. In the preferred specification, we fix threat at baseline (i.e., prior to 2013) to rule out the possibility that our key regressor of interest were endogenous, i.e., influenced by the inflow of refugees. Yet, one may be worried that this choice leads to under- or over-estimation of the impact of local hostility on assimilation.[65] Hence, we construct the threat index replacing its baseline components with endline ones.

In Table B.12, we replicate our baseline results, presenting the relationship between cultural (Panel A) and economic (Panel B) assimilation and each component of threat measured at endline in columns 1 to 9.[66] Consistent with the decomposition of the baseline threat index (Table A.17), the vote share of the Alternative for Germany (AfD) or the NPD do not seem to influence refugees' cultural assimilation over time (columns 1 and 2). Instead, again similar to the pattern observed in Table A.17 for the baseline counterparts, lower locals' openness (column 3) and higher participation in far-right demonstrations (column 4) are associated with stronger cultural convergence among refugees over time. Likewise, all crime categories have a statistically significant and quantitatively meaningful impact on refugees' cultural convergence (columns 5 to 9).[67] In column 10, we report results for the first principal component of the variables considered in columns 1 to 9, and document that they are in line with those from the baseline specification (Table 2, column 6).

[64] See Table A.1 for a detailed description of each component included in the threat index.

[65] If threat increased (more) in high threat regions, this would lead to downward bias in our estimates. However, one may be worried that regions with relatively low values of threat before 2013 "caught up", experiencing a stronger increase in locals' hostility. If this were to be the case, our results might be upward biased.

[66] See Appendix C.3 for a detailed description of contemporaneous threat. The correlation between our main baseline threat index and the first principal component of contemporaneous threat is 0.82.

[67] These results mirror those reported in columns 8 to 12 of Table A.17 for the baseline index.

In Panel B of Table B.12, we verify that, as for the baseline specification, none of the components of the threat index (nor the first principal component) influences refugees' economic convergence.

B.7 Varying Levels of Aggregation

Our baseline specification considers economic and cultural convergence to locals living in the same NUTS-2 region. It is not obvious whether refugees should converge to the culture of their NUTS-2 region, or to the culture of a smaller or differently-shaped geographic unit that is not defined by administrative boundaries. To alleviate these concerns, in Table B.13 we vary the size and the composition of the regions used to measure convergence.

In column 1 of Table B.13, we study the effect of NUTS-2 level threat on cultural (Panel A) and economic convergence (Panel B) towards locals living in the same federal state.[68] Consistent with our baseline findings, we find a positive and significant effect of threat on the speed of cultural but not economic assimilation.

In column 2, we measure assimilation towards locals living in the same NUTS-2 region, replicating our baseline findings for comparison. Next, in column 3, we generate 38 alternative regions that are constructed using a data-driven approach. We aggregate districts based on geographic and cultural proximity without taking administrative divisions into account. The alternative regions are constructed to minimize the intra-region cultural variance. First, we randomly choose a set of contiguous counties to create 38 cultural regions. We then iteratively optimize the cultural regions by examining all possible ways of moving a district from one region to another, minimizing the intra-region cultural variance. We stop when the partition is locally optimal, i.e., when swapping a county for another does not decrease cultural variance. This algorithm may get stuck in a local minimum: to overcome this issue, we repeat the process starting from 100 different initial cultural regions, and choose the one with the smallest cultural variance. We find consistent results for the data-driven regions, indicating that administrative borders capture the relevant cultural space in as far as they also capture geographic proximity.

Next, in column 4 we measure cultural similarity to respondents living in the same district. There are 401 districts in Germany that correspond to NUTS-3 regions. We find that threat speeds up cultural assimilation towards people living in the same district. One challenge in measuring cultural assimilation at a more granular level is that out of

[68] There are 16 federal states, typically comprised of 2-3 NUTS-2 regions

the 401 districts in Germany, around 60% contain less than 30 respondents. To avoid the issues of districts not having enough observations, we take another approach: for districts that do not have enough locals (less than 30), we compute the local culture by including some neighboring districts until the number of locals answering each question used in the cultural index is at least 30. We supplement respondents from the neighboring district that is most similar to the refugees' district of assignment. The final aggregation is as follows: 38% of districts do not need to be aggregated to other districts, 39% only need one neighboring district, 20% need two districts added, and 2.5% need three extra districts. The coefficient of interest in column 5 is slightly smaller but statistically indistinguishable from our main result.

B.8 Adjusting Standard Errors for Spatial Correlation

As explained in the main text, following Abadie et al. (2017), we cluster standard errors at the person level. In Table B.14, we verify that our estimates remain statistically significant when adjusting standard errors for potential spatial correlation in the error term. First, in column 2, we cluster standard errors at the district level. The coefficient on the main effect of MSA remains statistically significant at the 5% level both for cultural (Panel A) and for economic (Panel B) assimilation. Turning to the interaction term, the coefficient in Panel A becomes statistically significant at the 10%, with a p-value of .093.

Next, in columns 3 to 6, we adjust standard errors using the Conley (1999) procedure, which we implement using the code by Colella et al. (2019), applying different geographic lags. In columns 3 and 4, we use as distance parameter: the median distance between centroids of adjacent districts in Germany (33.15 km); and, twice this distance (66.3 km).[69] In column 5, we allow correlation across adjacent districts. In column 6, we extend this to neighbors of neighbors. Reassuringly, while standard errors are slightly larger than in the baseline specification (column 1), the point estimate on the interaction between threat and MSA in Panel A is always statistically significant at the 10% level.

B.9 Additional Robustness Checks

Finally, we conduct additional robustness checks in Table B.15. To ease comparison, in column 1, we report results from our baseline specification for cultural and economic

[69] This guarantees that neighboring districts are considered correlated, but also handles cases where districts are separated by a small district.

assimilation in Panels A and B, respectively. In column 2, we interact year dummies with a dummy for regions belonging to East Germany.[70] Since substantial cultural and political differences between former Eastern and Western Germany – including support for right-wing parties, attitudes towards immigration, and preferences for redistribution (Lange, 2021) – still persist until today, it is important to verify that such differences do not drive our results. The interaction between the East Germany and the year dummies makes sure that differential responses to the refugee influx of 2015 are accounted for.

In columns 3 and 4, we consider the possibility that refugees from different regions of origin were differentially assigned across German areas and had a differential propensity to assimilate to local culture. To do so, we interact year dummies with, respectively, origin country dummies and the distance (in km) from the closest border of the refugees' origin countries to the centroid of the NUTS-2-region of assignment.[71] In column 5, we check that results are robust to including dummies for year of arrival (in addition to all other controls). Next, in columns 6 and 7, we replicate the analysis by trimming the sample and by dropping individuals with cultural similarity and relative employment at the top (resp. bottom) 1st (resp. 99th) percentile, respectively.

In column 8, we address recent concerns on DD settings with staggered treatment adoption. In particular, it is possible that, in two-way fixed effects estimate of DD, already treated units are used as controls, and this might introduce bias in the presence of heterogeneous effects across groups experiencing treatment at different points in time (De Chaisemartin & d'Haultfoeuille, 2020; Goodman-Bacon, 2021).[72] To address this issue, we restrict the sample to individuals who were surveyed only once. Reassuringly, results remain unchanged.

Finally, in column 9, we present 2SLS estimates, using region of assignment as an instrument for the region of residence. Results are again unchanged.[73]

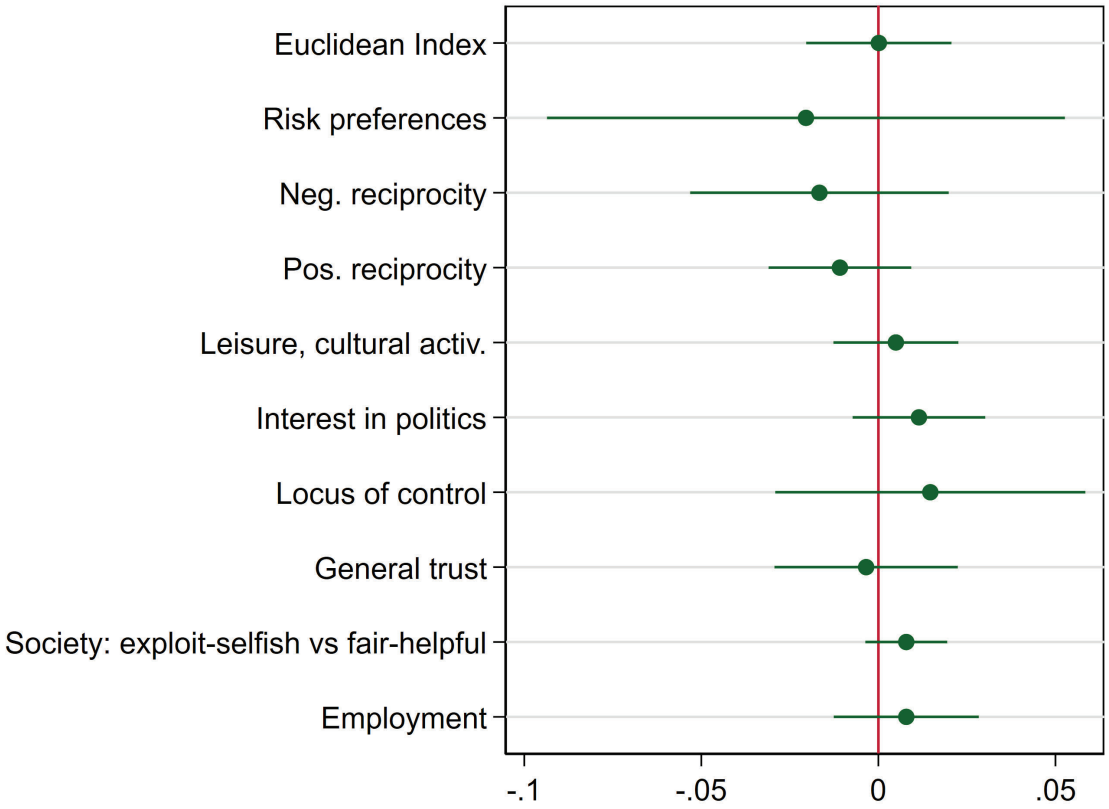
[70] East Germany includes former GDR states Brandenburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt, Thuringia, and Berlin. The data does not allow to distinguish East and West Berlin.

[71] We consider distance from country of origin and German NUTS-2-region because this variable may influence the probability of assignment of a refugee to a given local area.

[72] More generally, two-way fixed effects estimates can be viewed as a weighed sum of the average treatment effects (ATE) in each group and period, with weights that may be negative.

[73] At the bottom of the table, we report the Cragg-Donald Wald and the Kleibergen-Paap Wald F-statistics. Both are well above conventional levels, indicating that the first stage is strong.

Figure B.1. Convergence of movers (by question)



Notes: The graph plots the coefficient (with corresponding 95% confidence intervals) of a dummy variable for *movers* (refugees living out of the region of assignment at the time of the interview) in a regression with dependent variable: i) the cultural similarity index (first line); ii) the different dimensions of the similarity index; and, iii) employment relative to locals (last line). The underlying regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. The regression for the first line includes controls for dummies for the composition of questions included in the cultural similarity index. Standard errors are clustered at the person-level.

Table B.1. Probability of assignment to region type by pre-entry characteristic

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
					CSI		
Characteristic:	Gender	Age	Work exp.	Origin Syria	8 months	10 months	12 months
	Panel A. Above (=1) vs. below (=0) unemployment (NUTS-2, Dec-2012)						
Variable	-3.732**	0.078	-0.218**	3.781*	-2.939	-0.951	2.578
	(1.590)	(0.099)	(0.110)	(2.036)	(6.050)	(2.713)	(1.754)
Arrival year: 2013, 2014 × variable	-0.436	0.070	0.106	-3.795			
	(2.434)	(0.140)	(0.154)	(3.504)			
2016 × variable	3.019	0.096	0.130	-1.675	6.514	-0.392	-3.370
	(3.084)	(0.164)	(0.187)	(4.277)	(7.167)	(4.693)	(3.506)
Observations	6,522	6,522	6,111	6,522	202	607	1,292
Household observations	4,367	4,367	4,133	4,367	174	500	1,021
R2 adjusted	0.069	0.069	0.071	0.064	0.130	0.133	0.123
Dep. var. mean	0.485	0.485	0.484	0.485	0.500	0.484	0.475
	Panel B. Unemployment rate in percent (NUTS-2, Dec-2012)						
Variable	-11.784	0.703	-0.423	6.001	-63.815*	-22.956	-6.580
	(7.989)	(0.490)	(0.560)	(10.042)	(33.830)	(14.597)	(9.491)
Arrival year: 2013, 2014 × variable	-4.787	-0.446	-0.064	-5.484			
	(12.178)	(0.714)	(0.825)	(18.084)			
2016 × variable	16.996	0.857	0.681	12.144	47.584	-2.048	-6.708
	(15.437)	(0.809)	(0.937)	(21.364)	(39.635)	(22.977)	(18.051)
Person observations	6,522	6,522	6,111	6,522	202	607	1,292
Household observations	4,367	4,367	4,133	4,367	174	500	1,021
R2 adjusted	0.109	0.109	0.107	0.103	0.220	0.217	0.176
Dep. var. mean	7.395	7.395	7.366	7.395	8.087	7.734	7.728
	Panel C. Urban (=1) vs. rural (=0) district						
Variable	2.274*	0.081	-0.015	0.348	2.776	0.053	-1.459
	(1.323)	(0.079)	(0.090)	(1.626)	(4.984)	(2.393)	(1.542)
Arrival year: 2013, 2014 × variable	-1.437	-0.021	-0.074	-1.803			
	(2.008)	(0.114)	(0.125)	(2.841)			
2016 × variable	-1.681	-0.166	0.031	-1.779	0.976	0.740	1.084
	(2.625)	(0.136)	(0.161)	(3.472)	(6.025)	(3.811)	(2.755)
Person observations	6,522	6,522	6,111	6,522	202	607	1,292
Household observations	4,367	4,367	4,133	4,367	174	500	1,021
R2 adjusted	0.270	0.270	0.267	0.267	0.214	0.280	0.294
Dep. var. mean	0.692	0.692	0.691	0.692	0.693	0.674	0.659

Notes: The sample consists of the earliest observation of 6,522 refugees arriving between 2013 and 2016. Columns 5 to 7 restrict the sample to refugees that arrived less than 8, 10, and 12 months before the interview. The dependent variable is a characteristic of the location of assignment of the refugee, measured in December 2012: i) whether the NUTS-2 region is above median unemployment (Panel A); ii) the unemployment rate of the NUTS-2 region (Panel B); iii) whether the district is urban (Panel C, based on BBSR 2018). Median values are measured within each sample. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival, except the characteristic of interest in columns 1 to 4), and the interaction of arrival year categories and district controls (unemployment rate except for Panel A and B, share of refugees, and population density except for Panel C), all measured in December 2012. Columns 5 to 7 additionally control for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the household-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.2. Probability of assignment to region type by pre-entry characteristic: Threat

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
					CSI		
Characteristic:	Gender	Age	Work exp.	Origin Syria	8 months	10 months	12 months
	Panel A. Threat index above (=1) vs. below (=0) median (NUTS-2)						
Variable	-0.439	0.086	-0.083	4.060**	-15.113**	-6.182***	-1.912
	(1.456)	(0.091)	(0.100)	(1.886)	(7.541)	(2.372)	(1.602)
Arrival year: 2013, 2014 × variable	-2.918	-0.140	-0.129	-2.164			
	(2.303)	(0.130)	(0.141)	(3.291)			
2016 × variable	-0.540	0.018	-0.045	3.926	13.952	2.747	-0.679
	(2.879)	(0.160)	(0.183)	(4.027)	(8.814)	(4.049)	(2.937)
Person observations	6,522	6,522	6,111	6,522	202	607	1,292
Household observations	4,367	4,367	4,133	4,367	174	500	1,021
R2 adjusted	0.197	0.197	0.194	0.195	0.293	0.303	0.303
Dep. var. mean	0.507	0.507	0.509	0.507	0.485	0.491	0.483
	Panel B. Continuous threat measure (NUTS-2)						
Variable	1.499	-0.111	0.120	3.002	-26.114**	-6.193*	1.892
	(2.482)	(0.146)	(0.167)	(3.143)	(12.569)	(3.690)	(2.492)
Arrival year: 2013, 2014 × variable	-7.604**	0.002	0.084	-0.027			
	(3.739)	(0.218)	(0.241)	(5.346)			
2016 × variable	0.720	0.010	-0.127	8.431	19.818	4.767	-1.920
	(4.589)	(0.237)	(0.275)	(6.267)	(14.755)	(6.352)	(4.716)
Person observations	6,522	6,522	6,111	6,522	202	607	1,292
Household observations	4,367	4,367	4,133	4,367	174	500	1,021
R2 adjusted	0.450	0.450	0.453	0.443	0.423	0.508	0.539
Dep. var. mean	0.000	0.000	-0.004	0.000	0.000	0.000	-0.000

Notes: The sample consists of the earliest observation of 6,522 refugees arriving between 2013 and 2016. Columns 5 to 7 restrict the sample to refugees that arrived less than 8, 10, and 12 months before the interview. The dependent variable is a characteristic of the location of assignment of the refugee, measured in December 2012: i) whether the NUTS-2 region has above median threat index (Panel A); and, ii) the threat index of the NUTS-2 (Panel B). Threat is the threat index described in the text, and is z-standardized within each sample. Median values are measured within each sample. Coefficients and standard errors are multiplied by 100 for presentation All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival, except the characteristic of interest in columns 1 to 4), and the interaction of arrival year categories and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Columns 5 to 7 additionally control for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the household-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.3. Cultural assimilation, economic assimilation, and mobility

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sample:	All		Residency obligation		Stayers		Movers	
	Panel A. Cultural similarity index							
MSA	0.118***	0.125***	0.095	0.094	0.096**	0.109**	0.080	0.080
	(0.042)	(0.042)	(0.085)	(0.085)	(0.046)	(0.047)	(0.096)	(0.096)
MSA × Threat		0.075**		0.098		0.101***		0.005
		(0.032)		(0.066)		(0.036)		(0.071)
Person-Year observations	12,334	12,334	3,767	3,767	9,225	9,225	3,109	3,109
Person observations	6,691	6,691	2,813	2,813	5,091	5,091	1,728	1,728
R2 adjusted	0.392	0.392	0.416	0.416	0.398	0.399	0.399	0.398
Dep. var. mean	-1.905	-1.905	-1.877	-1.877	-1.916	-1.916	-1.881	-1.881
	Panel B. Refugees' relative employment							
MSA	0.771***	0.772***	0.499***	0.500***	0.774***	0.781***	0.602***	0.602***
	(0.042)	(0.042)	(0.086)	(0.086)	(0.050)	(0.050)	(0.103)	(0.102)
MSA × Threat		0.016		-0.080		0.053		-0.084
		(0.032)		(0.068)		(0.037)		(0.068)
Person-Year observations	12,334	12,334	3,767	3,767	9,225	9,225	3,109	3,109
Person observations	6,691	6,691	2,813	2,813	5,091	5,091	1,728	1,728
R2 adjusted	0.196	0.195	0.187	0.187	0.198	0.198	0.197	0.197
Dep. var. mean	-0.504	-0.504	-0.529	-0.529	-0.507	-0.507	-0.494	-0.494
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects								
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. Columns 3-4 restrict attention to refugees arrived after the Federal Integration Act became effective in 2016, who were prevented from moving out of the region of assignment. Columns 5-6 (resp. 7-8) consider only refugees who remained in (resp. moved out of) the region of assignment. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B), measured in the region of assignment. MSA refers to months since arrival. Threat is the threat index described in the text, measured in the region of assignment, and is z-standardized within each estimated model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Panel A always controls for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.4. Probability of ex-post sorting: Refugees and locals

	(1)	(2)	(3)	(4)	(5)
	Probability of moving out				
	Panel A. Refugees moving out from assignment region (mean: 0.252)				
MSA	0.100*	0.093*	0.109**	0.100*	0.184***
	(0.056)	(0.056)	(0.054)	(0.052)	(0.050)
MSA × Threat	0.078**	0.043	0.022	0.004	-0.010
	(0.032)	(0.039)	(0.039)	(0.037)	(0.035)
Person-Year observations	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.009	0.012	0.074	0.156	0.355
Individual controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects					
Federal-State	No	No	Yes	No	No
NUTS-2	No	No	No	Yes	No
District	No	No	No	No	Yes
Survey year	Yes	Yes	Yes	Yes	Yes
District controls × survey year	No	Yes	Yes	Yes	Yes
	Panel B. Locals moving between survey years (mean: 0.012)				
Refugee share	0.024	-0.383	-0.260	-0.285	
	(0.113)	(0.296)	(0.296)	(0.294)	
Refugee share × Threat	0.036	-0.079	-0.086	0.006	
	(0.072)	(0.203)	(0.193)	(0.203)	
Refugee share × Threat		0.020			
× Impact refugees on economy		(0.028)			
Refugee share × Threat			0.020		
× Impact refugees on cultural life			(0.025)		
Refugee share × Threat				0.005	
× Impact refugees on Germany as place to live				(0.030)	
Person-Year observations	113,711	33,234	33,234	33,234	
Person observations	30,073	21,266	21,266	21,266	
R2 adjusted	0.017	0.023	0.023	0.023	
Individual controls	Yes	Yes	Yes	Yes	
Fixed Effects					
District	Yes	Yes	Yes	Yes	
District controls × survey year	Yes	Yes	Yes	Yes	

Notes: In Panel A, the sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is a dummy indicating whether the respondent lives at the time of the interview in a region different from the region of assignment. In Panel B, the sample consists of 30,073 locals for a total of 113,711 local-year observations for years 2013-2018. The dependent variable is a dummy indicating whether the respondent moved out of the region the year following the observation. MSA refers to months since arrival. Refugee share, in percent, is the refugee share in the district population, measured on December of the year prior to the interview. Threat is the threat index described in the text, and is z-standardized within each model. Coefficients and standard errors are multiplied by 100 for presentation. Locals' assessment of refugees measured in survey years 2016 and 2018. In Panel A, all regressions include dummies for missing control variables and survey year, and individual controls (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival). Column 2 adds the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Columns 3, 4 and 5 add federal state, NUTS-2 region, and district fixed effects. In Panel B, all regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, highest education among 4 categories, and migration background: none, indirect, 5 years ago or less, 6-10 years, more than 10 years), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.5. Probability of panel attrition: Threat and cultural similarity (CS)

	(1)	(2)	(3)	(4)	(5)
	Probability of attrition (mean: 0.347)				
MSA	0.151**	0.149**	0.156**	0.155**	0.156**
	(0.061)	(0.061)	(0.061)	(0.061)	(0.061)
CS		1.007		1.006	1.077
		(1.321)		(1.321)	(1.320)
MSA × CS		-0.006		-0.006	-0.007
		(0.046)		(0.046)	(0.045)
MSA × Threat			0.057	0.055	0.057
			(0.054)	(0.054)	(0.054)
Threat × CS					-0.188
					(1.308)
MSA × Threat × CS					-0.015
					(0.047)
Person-Year observations	8,643	8,643	8,643	8,643	8,643
Person observations	6,331	6,331	6,331	6,331	6,331
R2 adjusted	0.073	0.074	0.074	0.074	0.073
Individual controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects					
District	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,331 refugees for a total of 8,643 refugee-year observations. The dependent variable is a dummy equal to one if the refugee dropped out of the survey in the next year. MSA refers to months since arrival. CS is the cultural similarity index. Threat is the threat index described in the text. Threat and cultural similarity are z-standardized within each estimated model. Coefficients and standard errors multiplied by 100 for presentation. The table presents: i) the effect of months since arrival alone on attrition (column 1); ii) the effect of its interactions with cultural similarity index and threat index, separately and together (columns 2, 3, and 4); and iii) the triple interaction of months since arrival, threat index and cultural similarity index (column 5). All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Columns 2, 4 and 5 control for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.6. Cultural assimilation: Alternative index

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Euclidean Canberra index (mean: -0.352)					
MSA	0.023***	0.024***	0.027***	0.029***	0.028***	0.029***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
MSA × Threat						0.008*
						(0.005)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.205	0.211	0.239	0.244	0.264	0.264
	Panel B: Herfindahl index (mean: 0.704)					
MSA	-0.007	-0.010	-0.008	-0.006	-0.008	-0.007
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
MSA × Threat						0.007
						(0.005)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.272	0.278	0.296	0.310	0.314	0.315
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes
District controls × survey year	No	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the Canberra (resp. Herfindahl) cultural similarity index in Panel A (resp. Panel B). MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, for the composition of questions included in the cultural similarity index, and individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival). Column 2 adds interaction between year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Columns 3, 4, and 5 add respectively federal state, NUTS-2 region, and district fixed effects to the specification of column 2. Column 6 includes the interaction between months since arrival and the standardized threat index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.7. Cultural assimilation: Alternative definitions

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A. Cultural similarity index, 12-components (mean: -1.740)					
MSA	0.103***	0.098***	0.099***	0.109***	0.113***	0.118***
	(0.030)	(0.032)	(0.031)	(0.030)	(0.031)	(0.031)
MSA × Threat						0.059***
						(0.023)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.229	0.234	0.259	0.265	0.288	0.288
	Panel B. Cultural similarity index, native-born only (mean: -1.900)					
MSA	0.085**	0.081*	0.101**	0.120***	0.127***	0.135***
	(0.041)	(0.043)	(0.042)	(0.041)	(0.042)	(0.042)
MSA × Threat						0.078**
						(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.336	0.339	0.360	0.365	0.384	0.384
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes
District controls × survey year	No	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the 12-component cultural similarity index (resp. the cultural similarity index to native-born Germans only) in Panel A (resp. Panel B). MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, for the composition of questions included in the cultural similarity index, and individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival). Column 2 adds interaction between year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Columns 3, 4, and 5 add respectively federal state, NUTS-2 region, and district fixed effects to the specification of column 2. Column 6 includes the interaction between months since arrival and the standardized threat index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.8. Cultural similarity index: Step-wise drop of components

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CSI component omitted:	Baseline: All included	Risk	Negative reciprocity	Positive reciprocity	Leisure activities	Politics	Locus of control	Trust	Egoistic society
MSA	0.263***	0.296***	0.259***	0.229***	0.115	0.268***	0.273***	0.320***	0.306***
	(0.088)	(0.060)	(0.090)	(0.085)	(0.084)	(0.087)	(0.086)	(0.094)	(0.095)
MSA × Threat	0.159**	0.134***	0.125*	0.140**	0.157**	0.158**	0.149**	0.163**	0.176**
	(0.067)	(0.044)	(0.068)	(0.064)	(0.063)	(0.063)	(0.066)	(0.072)	(0.072)
Person-Year observations	12,334	12,325	12,334	12,331	12,322	12,270	12,333	12,334	12,334
Person observations	6,691	6,689	6,691	6,691	6,686	6,658	6,691	6,691	6,691
R2 adjusted	0.392	0.701	0.368	0.440	0.416	0.429	0.417	0.305	0.291
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects									
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is the z-standardized cultural similarity index. Column 1, shows the baseline CSI with all components and referred throughout the paper. Then, the index is calculated with step-wise omission of its components (from column 2 to 9). See Table A.3 for the exact source and definition of each component of the cultural similarity index (CSI). MSA refers to months since arrival. Threat is the threat index described in the text. Threat and cultural similarity are z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Additionally, all regressions include composition dummies. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.9. Cultural assimilation: Measuring locals' preference at endline

	(1)	(2)	(3)	(4)	(5)	(6)
	Cultural similarity index					
	Panel A. Local culture measured at baseline (mean: -1.905)					
MSA	0.081**	0.076*	0.094**	0.113***	0.118***	0.125***
	(0.040)	(0.042)	(0.041)	(0.041)	(0.042)	(0.042)
MSA × Threat						0.075**
						(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.344	0.347	0.368	0.374	0.392	0.392
	Panel B. Local culture measured at endline (mean: -1.892)					
MSA	0.101***	0.096**	0.110***	0.126***	0.125***	0.135***
	(0.038)	(0.039)	(0.038)	(0.038)	(0.039)	(0.039)
MSA × Threat						0.111***
						(0.029)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.367	0.369	0.387	0.392	0.410	0.410
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
Federal-State	No	No	Yes	No	No	No
NUTS-2	No	No	No	Yes	No	No
District	No	No	No	No	Yes	Yes
District controls × survey year	No	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the cultural similarity index, where local culture is measured at baseline in Panel A (identical to the main specification), and at endline in Panel B. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, for the composition of questions included in the cultural similarity index, and individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival). Column 2 adds interaction between year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Columns 3, 4, and 5 add respectively federal state, NUTS-2 region, and district fixed effects to the specification of column 2. Column 6 includes the interaction between months since arrival and the standardized threat index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.10. Refugee inflows and changes in local culture

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Risk preference	Negative reciprocity	Positive reciprocity	Leisure, Cultural activity	Politics interest	Locus of control	Trust	Egoistic-altr. society
	Panel A. Refugee share only							
Refugee share	-0.300	-4.244	-6.864	2.010	1.314	0.801	-1.015	-1.256
	(0.545)	(5.293)	(5.889)	(1.116)	(0.467)	(5.450)	(1.273)	(1.433)
	[0.990]	[0.990]	[0.960]	[0.911]	[0.564]	[0.990]	[0.990]	[0.990]
Person-Year observations	205,833	36,197	36,229	40,437	198,992	34,894	40,980	39,832
Person observations	48,860	28,950	28,954	30,453	48,378	27,964	29,521	28,944
R2 overall	0.011	0.001	0.000	0.000	0.000	0.000	0.000	0.000
	Panel B. Refugee share and interaction with threat							
Refugee share	0.116	-4.219	-6.877	1.672	1.421	0.801	-1.094	-1.897
	(0.558)	(5.292)	(5.889)	(1.145)	(0.479)	(5.450)	(1.299)	(1.459)
	[0.990]	[0.980]	[0.980]	[0.970]	[0.584]	[0.990]	[0.980]	[0.970]
Refugee share × Threat	-1.180	5.604	-4.381	0.861	-0.292	3.504	0.236	2.014
	(0.339)	(3.659)	(4.069)	(0.658)	(0.289)	(3.742)	(0.774)	(0.863)
	[0.465]	[0.970]	[0.980]	[0.97]	[0.980]	[0.980]	[0.980]	[0.841]
Person-Year observations	205,833	36,197	36,229	40,437	198,992	34,894	40,980	39,832
Person observations	48,860	28,950	28,954	30,453	48,378	27,964	29,521	28,944
R2 overall	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects								
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 48,860 locals for a total of 205,833 local-year observations between survey years 2010-2019. The dependent variables are the dimensions of the cultural similarity index detailed in Table A.3, and are z-standardized within each model. Refugee share refers to the percent of refugees at district-level measured on December 31 of the year prior to the interview. Threat is the threat index described in the text, and is z-standardized within each model. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, highest education among 4 categories, and migration background: none, indirect, 5 years ago or less, 6-10 years, more than 10 years), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. P-values, shown in brackets, are adjusted for multiple hypotheses testing by controlling the familywise error rate (FWER) using the Romano-Wolf procedure (Clarke et al., 2020; Romano & Wolf, 2016, 2005a,b). Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.11. Threat index: Step-wise drop of components

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Threat component omitted:	Baseline: All included	Pogroms in the 1920s	Vote for NSDAP in 1933	Vote for NPD in 2013	Mosque attack	Right-wing marches	Big-5 open	Agree to attacks immig.	Immigrant adaptation	Labor market competition	Prohibit political activity	Inter-marriage
	Panel A. Cultural similarity index (mean: -1.905)											
MSA	0.125***	0.125***	0.125***	0.126***	0.126***	0.125***	0.125***	0.126***	0.125***	0.124***	0.124***	0.124***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA × Threat	0.075**	0.076**	0.075**	0.088***	0.080**	0.072**	0.073**	0.083***	0.073**	0.061*	0.068**	0.072**
	(0.032)	(0.032)	(0.032)	(0.031)	(0.032)	(0.031)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.392
	Panel B. Refugees' relative employment (mean: -0.504)											
MSA	0.772***	0.772***	0.772***	0.773***	0.772***	0.772***	0.772***	0.773***	0.773***	0.773***	0.772***	0.772***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA × Threat	0.016	0.016	0.014	0.024	0.011	0.016	0.015	0.018	0.024	0.017	0.013	0.011
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.195	0.195	0.195	0.196	0.195	0.195	0.195	0.195	0.195	0.195	0.195	0.195
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects												
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 12,334 refugees for a total of 6,691 refugee-year observations in both panels. The dependent variable is the cultural similarity index (resp. refugees' relative employment) for Panel A (resp. Panel B), calculated with the baseline specification of Threat with all components and referred throughout the paper (column 1). Then, specifications with step-wise omission of components of Threat are used (from column 2 to 12). See Table A.1 for the exact source and definition of each component of the threat index. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Additionally, regressions with cultural similarity as outcome (Panel A) include composition dummies. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.12. Cultural and Economic assimilation, threat at endline

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					Right-wing crimes against refugees (2015-2018)					
Threat component of interest:	AfD voting share 2017	NPD voting share 2017	Openness 2017	Right-wing extr. demos, 2015-2018	Physical assault and murder	Incitement to commit crimes	Arson, damage to property, theft	Threat or insult	Other	PC 1
	Panel A. Cultural similarity index (mean: -1.905)									
MSA	0.121***	0.121***	0.119***	0.121***	0.121***	0.120***	0.120***	0.122***	0.118***	0.123***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA × Threat component (at endline)	0.034	0.024	-0.100***	0.054*	0.053*	0.122***	0.119***	0.068**	0.055**	0.091***
	(0.029)	(0.031)	(0.026)	(0.029)	(0.032)	(0.027)	(0.030)	(0.031)	(0.028)	(0.031)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.392	0.392	0.393	0.392	0.392	0.393	0.393	0.392	0.392	0.392
	Panel B. Refugees' relative employment (mean: -0.504)									
MSA	0.769***	0.772***	0.771***	0.770***	0.773***	0.771***	0.772***	0.774***	0.771***	0.771***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA × Threat component (at endline)	-0.019	0.015	-0.020	-0.017	0.031	0.004	0.028	0.040	-0.044	0.006
	(0.028)	(0.029)	(0.027)	(0.027)	(0.032)	(0.028)	(0.031)	(0.032)	(0.027)	(0.030)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.195	0.195	0.196	0.195	0.196	0.195	0.195	0.196	0.196	0.195
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects										
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B). MSA refers to months since arrival. Threat is the threat index measured at endline described in Appendix C.3, and is z-standardized within each estimated model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, for the composition of questions included in the cultural similarity index only in Panel A, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Column 1 through 4 include various threat components measured at endline, and are AfD voting share in 2017, NPD voting share in 2017, Big-5 Openness measured in 2017, and the number of right-wing extremist demonstrations between 2015 and 2018. Column 5 through 9 present different categories of right-wing crimes against refugees between 2015-2018 which are: i) physical assault and murder (column 5); incitement of the people or to commit crimes; including the use of swastikas (column 6); arson, damage to property, theft committed against refugees (column 7); threats or insults (column 8); and, other actions that would be considered as a right-wing crime against refugees. (column 9). Lastly, the first principal component of threat at endline is used (column 10). Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.13. Varying regional levels for outcomes

	(1)	(2)	(3)	(4)	(5)
Measurement level:	16 federal states	38 NUTS-2 regions	38 data-driven cultural regions	401 NUTS-3 districts	Data-driven districts aggregated to ≥ 30 locals
	Panel A. Cultural similarity index				
MSA	0.266***	0.263***	0.259***	0.189**	0.241***
	(0.088)	(0.088)	(0.088)	(0.089)	(0.088)
MSA × Threat	0.174***	0.159**	0.165**	0.158**	0.111*
	(0.067)	(0.067)	(0.067)	(0.068)	(0.067)
Person-Year observations	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.393	0.392	0.393	0.379	0.379
	Panel B. Refugees' relative employment				
MSA	2.004***	1.997***	2.007***	1.829***	1.829***
	(0.109)	(0.109)	(0.109)	(0.100)	(0.100)
MSA × Threat	0.042	0.042	0.042	0.038	0.038
	(0.083)	(0.083)	(0.083)	(0.076)	(0.076)
Person-Year observations	12,334	12,334	12,334	12,334	12,334
Person observations	6,691	6,691	6,691	6,691	6,691
R2 adjusted	0.191	0.196	0.188	0.326	0.326
Individual controls	Yes	Yes	Yes	Yes	Yes
Fixed Effects					
District	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 12,334 refugees for a total of 6,691 refugee-year observations in both panels. The dependent variable is the cultural similarity index (resp. refugees' relative employment) for Panel A (resp. Panel B), measured at federal state level (column 1), 38 NUTS-2 region level (column 2), 38 data-driven regions level (column 3), district-level (column 4), and districts aggregated to having at least 30 locals (column 5). Outcomes are always z-standardized. MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. For column 4, we end up with 354 districts that are used in the analysis, due to the locations of respondents out of the 401 NUTS-3 districts of Germany. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Additionally, regressions with cultural similarity as outcome (Panel A) include composition dummies. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.14. Alternative standard errors

	(1)	(2)	(3)	(4)	(5)	(6)
			Conley standard errors			
	Baseline	Cluster district	Spatial: distance 33.15 km	Spatial: distance 66.30 km	Network: direct neighbor	Network: neighbor of neighbor
	Panel A. Cultural similarity index (mean: -1.905)					
MSA	0.125***	0.125**	0.125***	0.125***	0.125***	0.125***
	(0.042)	(0.050)	(0.047)	(0.042)	(0.048)	(0.047)
MSA × Threat	0.075**	0.075*	0.075*	0.075*	0.075*	0.075*
	(0.032)	(0.045)	(0.043)	(0.040)	(0.041)	(0.044)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations (clusters)	6,691	354	6,691	6,691	6,691	6,691
R2 adjusted	0.392	0.392	0.412	0.412	0.412	0.412
	Panel B. Refugees' relative employment (mean: -0.504)					
MSA	0.772***	0.772***	0.818***	0.818***	0.818***	0.818***
	(0.042)	(0.044)	(0.046)	(0.045)	(0.046)	(0.048)
MSA × Threat	0.016	0.016	0.016	0.016	0.016	0.016
	(0.032)	(0.039)	(0.038)	(0.040)	(0.033)	(0.036)
Person-Year observations	12,334	12,334	12,334	12,334	12,334	12,334
Person observations (clusters)	6,691	354	6,691	6,691	6,691	6,691
R2 adjusted	0.195	0.195	0.221	0.221	0.221	0.221
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects						
District	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B). MSA refers to months since arrival. Threat is the threat index described in the text, and is z-standardized within each model. See Table D.3 for the definition of mediators. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Panel A always controls for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are: i) clustered at the person-level (column 1); ii) clustered at the district-level (column 2); iii) Conley standard errors allowing correlation between districts whose borders are less than 33.15 km (resp. 66.30 km) away (column 3, resp. column 4); and iv) Conley standard errors allowing correlation with neighboring districts (resp. neighboring districts and neighbors of neighbors) in column 5 (resp. column 6). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.15. Additional robustness checks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Robustness check	Baseline	East Germany × survey year	Origin country group × survey year	Origin country distance × survey year	Arrival year fixed effects	Exclude outliers (1-99 pctile)	Exclude threat outliers	Include only 1st person observation	2SLS
	Panel A. Cultural similarity index (mean: -1.905)								
MSA	0.125***	0.126***	0.134***	0.128***	0.059	0.083**	0.132***	0.123**	0.133***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.108)	(0.040)	(0.043)	(0.050)	(0.042)
MSA × Threat	0.075**	0.083**	0.072**	0.073**	0.072**	0.074	0.095***	0.139***	0.095**
	(0.032)	(0.035)	(0.032)	(0.032)	(0.032)	(0.030)	(0.031)	(0.049)	(0.039)
Person-Year observations	12,334	12,334	12,334	12,333	12,334	11,991	11,902	6,665	12,334
Person observations	6,691	6,691	6,691	6,690	6,691	6,613	6,485	6,665	6,691
R2 adjusted	0.392	0.392	0.393	0.392	0.393	0.354	0.392	0.270	0.391
Cragg-Donald Wald F-statistic									412.7
Kleibergen-Paap Wald rk F-statistic									735.3
	Panel B. Refugees' relative employment (mean: -0.504)								
MSA	0.772***	0.772***	0.772***	0.775***	0.904***	0.761***	0.770***	0.774***	0.774***
	(0.042)	(0.042)	(0.042)	(0.042)	(0.103)	(0.042)	(0.043)	(0.042)	(0.042)
MSA × Threat	0.016	0.008	0.012	0.015	0.006	-0.009	0.021	0.063	0.020
	(0.032)	(0.035)	(0.032)	(0.032)	(0.032)	(0.032)	(0.031)	(0.041)	(0.040)
Person-Year observations	12,334	12,334	12,334	12,333	12,334	11,991	11,902	6,665	12,334
Person observations	6,691	6,691	6,691	6,690	6,691	6,613	6,485	6,665	6,691
R2 adjusted	0.195	0.195	0.197	0.195	0.197	0.190	0.196	0.127	0.196
Cragg-Donald Wald F-statistic									412.4
Kleibergen-Paap Wald rk F-statistic									733.9
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects									
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,691 refugees for a total of 12,334 refugee-year observations. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B). MSA refers to months since arrival. Threat is the threat index described in the text. See Table D.3 for the definition of mediators. Threat is the threat index described in the text, and is z-standardized within each model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Panel A always controls for dummies for the composition of questions included in the cultural similarity index. Column 1 presents the baseline regression (column 6 of Table 2). Columns 2, 3, and 4 add interactions between year dummies and, respectively: East Germany; origin country groups (Syria, Afghanistan, Iraq, Iran, Africa, Western Balkans, former USSR, Eritrea, and other) and the distance between the origin country and centroid of the region of assignment. Column 5 includes arrival year fixed-effects. Column 6 excludes observations where either the cultural similarity index or the relative employment is within above (resp., below) the 99th (resp., 1st) percentile. Column 7 excludes the 2 regions (out of 38) with the highest threat. Column 8 reports results using using refugees who were interviewed only once and, for those who were interviewed multiple times, considers only the first date of interview. Column 9 estimates 2SLS regressions, instrumenting threat in the region of residence using threat measured in the region of assignment. Column 9 additionally reports the Cragg-Donald Wald F-statistic for the overall strength of instruments and the Kleibergen-Paap Wald rk F-statistic for the joint significance of instruments used in the specification. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix C: Additional Datasets

C.1 Administrative Data

As explained in the main text, we take advantage of a novel feature of the refugee survey, which allows us to link individual respondents to administrative data on daily employment and wages (Keita & Trübswetter, 2020). If informed consent for record linkage is obtained from respondents, the person-survey-ID is connected to social security records as part of the Integrated Employment Biographies (IEB) dataset of the Institute for Employment Research (IAB). The IEB is daily accurate spell data on employment (marginal and subject to social security), receipt of social benefits, registered job search, and participation in training measures (all through the Federal Employment Agency).[74] We can only link refugees that are dependently employed and not public servants. According to the official IAB data report by Keita & Trübswetter (2020), 84% of all respondents gave their consent to data linkage and about 60% (over 70% of those who had consented) could be linked. In our data, we end up with a linked sample of 7,618 refugee-year observations from 3,914 refugees (87% of individuals that were linked by Keita & Trübswetter, 2020).

This dataset is used to compute alternative measures of economic assimilation (relative employment and relative wages to local population) for the record linkage sample. These measures help us address potential concerns about misreporting of employment or wages in the survey sample. We also retrieve the share of foreigners (non-German citizens) working in the company where refugees are employed the day of the survey.[75]

C.2 "Core" Cultural Values

In this section, we detail the construction of the index for "core" cultural values, used in Section 5.2.3 of the paper. When defining the index for women's rights, we combine information from five separate survey questions (all available only for first-time respondents of all survey years). All variables, which are reported in Table C.1 together with the exact wording of the question, range from 1 to 7, with higher (resp., lower) values reflecting more liberal views towards the role of women when a question reflects agreement (resp., disagreement) with the proposed statement. We proceed by first creating

[74] The IEB includes employees that are compulsorily registered for health, pension and statutory nursing care insurance. Also included are trainees and interns. Civil servants, self-employed persons, family workers, soldiers, and people in military or alternative service are excluded.

[75] The share of foreigners in the firm refers to June-30 of the survey year. This information is provided by Keita & Trübswetter (2020) in a separate enterprise file that can be merged based on the identifier of the company.

dummies for each individual question if the answer given by the respondent is strictly greater than 4 (or, in the case of disagreement, weakly below 3).[76] Then, we derive the share of items (out of 5) for which the aforementioned dummy is equal to 1. Finally, to ease the interpretation of results, we standardize the index to have zero mean and standard deviation equal to 1.

To define the index of support for democracy, we proceed in a similar way. We first select the three questions available in the refugee survey that allow us to measure an individual's institutional preferences. As for women's rights, the answers range from 1 to 7 (Table C.1). Then, we create dummy variables using the same thresholds as for women's rights if an individual thinks that: the country should be democratic (answer strictly greater than 4); a strong leader should not over-rule the Parliament or election results (answer weakly lower than 3); and, that the government, rather than experts, should decide what is best for the country (answer weakly lower than 3).[77] Finally, we derive the share of items (out of 3) for which the indicator is equal to 1, and standardize the index to have zero mean and standard deviation equal to 1.

For both importance of religion and frequency of attendance of religious events, we could only find one question (each) in the survey. Thus, we only standardize the variables (to make them comparable to the index described above). However, in the analysis, we check the robustness of results to using (standardized) dummy variables.

C.3 Contemporaneous Threat

As described in Appendix B.6, we replicate results using a threat index measured at endline, rather than at baseline. To the extent possible, we take the same variables used in the construction of the baseline index (measured at a different point in time). We select nine variables, and then take their first principal component. First, we consider the vote share of the Alternative for Germany (AfD) and the NPD during the 2017 Federal elections, measured at the NUTS-2 regional level.[78] Second, we take the Big-5 personality traits dimension "Openness" averaged across SOEP respondents in each NUTS-2 region in survey year 2017. Third, we rely on data from Kanol & Knoesel (2021) to calculate the cumulated number of participants in far-right demonstrations at the NUTS-2 level between 2015 and 2018, per 100,000 inhabitants as of 2015. Finally,

[76] Results are not sensitive to the threshold chosen to dichotomize each question.

[77] As before, results are unchanged when using different thresholds to define the dummy variables.

[78] Similarly to vote shares as part of our main threat index, we use the second votes, which are pivotal for the representation of parties in the German Parliament. The data comes from the *Bundeswahlleiter*, the Federal Returning Officer (Bundeswahlleiter, 2020).

we use data on right-wing crimes against refugees committed between 2015 and 2018 at the NUTS-2 level, collected from the Federal government to parliamentary queries of the party *Die Linke*. We classify anti-refugee crimes into five categories: *i*) physical assault and murder; *ii*) incitement to commit crimes or use of swastikas; *iii*) arson, damage to property, and theft; *iv*) threat or insult; and, *v*) any other crime.[79] Based on the described variables, we compute the first principal component to construct an aggregate measure of contemporaneous threat. Each component and the index are then used in Appendix B.6 (Table B.12).

C.4 Twitter Data

To measure the possible pro-refugee attitudes prevailing among locals, we rely on Twitter data. We scrape the universe of German-language tweets and retweets containing the hashtag *#refugeeswelcome* (the most common pro-refugee hashtag on Twitter in Germany) posted between January 2013 and December 2018.[80] Following the existing literature (Hatte et al., 2021; Fujiwara et al., 2021; Müller & Schwarz, 2020), we use the location indicated by users in their profile (when available) to map tweets to NUTS-2 regions. More precisely, we compare the location to a large dataset of existing locations provided by the website Openstreetmap.org to obtain the coordinates of the location.[81] We then exclude tweets: 1) whose users do not provide a valid location (e.g., "Narnia"); 2) that map to a location outside Germany; and, 3) that map to an area larger than a NUTS-2 region. We then assign each tweet to a NUTS-2 region. We end up with 182,000 geo-localized tweets, or 47% of the universe of 387,000 tweets.

Tweets containing the hashtag #refugeeswelcome, could express both pro- and anti-refugees views. To address this concern, we proceed in two steps. First, we manually classify a random sample of 1,000 tweets, and verify that only 7% of the tweets express anti-refugee views. Then, we use the sentiment classification neural network from Guhr et al. (2020) to classify tweets between positive, neutral, and negative sentiment.[82] We find that the manual and the neural network classifications of negative and positive tweets perfectly overlap in the sample of 1,000 tweets. This is true despite the fact that

[79] We thank Julia Bredtmann (RWI, Leibniz Institute for Economic Research) for kindly sharing the data on anti-refugee crimes with us. As many as 8,767 right-wing crimes against refugees were reported between 2015 and 2018. Their distribution was as follows: 21% physical assault or murder; 40% incitement to commit crimes of use of swastikas; 19% arson, damage to property, and theft; 17% threat or insult; 3% any other crime.

[80] The data were downloaded from https://developer.twitter.com/en/products/twitter-api/academic-research.

[81] This step was performed using the geocoding engine https://nominatim.org/.

[82] The classification algorithm is based on a German-language version of the BERT architecture (Devlin et al., 2018), and its training data contains a sample of tweets.

the neural network classification cannot distinguish between a pro- and an anti-refugee sentiment such as "it is completely unacceptable that we don't accept more refugees" and "it is completely unacceptable that we accept so many refugees". We are thus confident that classification based on the hashtag #refugeeswelcome already provides a selection of tweets that are overall positive.[83]

Since scraping was conducted in September 2021, our data set may differ from the one that would have been obtained by scraping the tweets during the period of interest. This can be for at least two reasons. First, we are only able to obtain tweets from users with active accounts, implying that we cannot measure tweets of users that deleted their account. Second, users may have changed their location between the time they tweeted about refugees and the time we scraped the data. In this case, we would locate the tweet at the new location of the user.[84]

In order to account for local Twitter penetration, we additionally collect a measure of Twitter usage for each NUTS-2 region in each year from 2013 to 2018. We sample 2 million tweets by selecting 20,000 random instants during this period and by collecting 100 tweets and retweets in German at each instant.[85] We locate tweets using the geographic information provided by the users. This gives us an estimate of the rate of tweets posted at each instant from each region (expressed as tweets per second), which is then aggregated at the region-year level. To proxy for the number of Twitter users in a NUTS-2 region, we instead rely on the number of users observed in the sample of tweets we collected at random instants.

In Appendix D.3, we use these data to define the number of tweets and retweets containing the hashtag *#refugeeswelcome* in a NUTS-2 region in each year: *i*) in levels; *ii*) scaled by 100,000 residents.[86] In addition, we define the number of tweets and retweets containing the hashtag *#refugeeswelcome* in a NUTS-2 region in each year both as a share of all tweets and scaled by the number of users.[87]

[83] We confirm this by running the analysis in Appendix D.3 on the sample of all tweets and the sample of tweets classified as positive by the neural network and come to similar results.

[84] Similarly, users may have changed their profile or their stated (previously accurate) location to an invalid location.

[85] Since the Twitter API does not allow to search directly for all tweets in German, we search for tweets containing the 100 most frequent words in German, as listed by Sharoff (2006) on the website http://corpus.leeds.ac.uk/frqc/.

[86] See Table A.8 (Panel C) for the summary statistics.

[87] In a placebo exercise, we also use the number of tweets and the number of users separately. In Appendix D.3, we also check that results are unchanged when restricting attention to tweets that we classified as "positive" with the procedure described above.

C.5 NGO Dataset

To the best of our knowledge, no exhaustive dataset with information about the presence of NGOs across German NUTS-2 regions over time exists. We use the website *Refugeeswelcomemap.de* to collect the (time-invariant) number of NGOs in a region.[88] Importantly, the NGOs listed there include only organizations that offer assistance services to refugees. Since postal codes determine the relevant NUTS code, we scrape the website and use geo-coordinates of NGOs to allocate the latter across German NUTS-2 regions. Using this approach, we compiled a list of 1,000 NGOs located in Germany, which offered a variety of services (or, initiatives).

For each NGO, we could retrieve the following information: geographic location, contact information, and a two-level classification system for the type of services offered. The first level of such classification has four categories, which broadly group assistance services of the NGO into: *i*) Bureau/agency, public institution; *ii*) organizations for refugee aid or integration; *iii*) topic; and, *iv*) other. Each category is further divided in more detailed groups, in a second layer of classification. We do not cut the data across categories since, especially for initiatives in the second layer, definitions are often too specific to be considered separately. Instead, we count the number of initiatives (or, services) offered by each NGO. Our dataset includes a total of 4,356 initiatives (or, 4.3 initiatives per NGO).

According to the website, the list of initiatives refers to the year 2017. We thus take it as an approximate snapshot of the presence and activity of pro-refugee NGOs in a NUTS-2 region as of 2017. The dataset does not include the date of establishment, and we acknowledge that the list we were able to obtain is probably non-exhaustive. Nevertheless, we use this dataset in Appendix D.3 to complement the survey analysis presented in the main paper and the results obtained from Twitter data (also presented in Appendix D.3).

We define as dependent variable the number of NGO-led initiatives, and the number of NGO-led initiatives per 100,000 residents in a NUTS-2 region. Summary statistics for both variables are presented in Panel C of Table A.8.

[88] The exact link used is: http://refugeeswelcomemap.de/deutschland/. The data was last accessed in September 2021.

Table C.1. Survey questions used to measure "core values"

Outcome variables				
Category	Variable	Survey question	Scale	= 1 if
Women's rights	Having work makes women independent	Having a job is the best way for a woman to be independent.	1 - 7	> 4
	Married women should work to be independent	Even a married woman should have a paid job so that she can be financially independent.	1 - 7	> 4
	If women earn more, this creates problems	If a woman earns more money than her partner, this inevitably leads to problems.	1 - 7	≤ 3
	Sons' education more important	For parents, vocational training or higher education for their sons should be more important than vocational training or higher education for their daughters.	1 - 7	≤ 3
	Husband should have the last word	At home, the husband should have the final say	1 - 7	≤ 3
System of government	Democracy best system	There should be a democratic system.	1 - 7	> 4
	Strong leader	You need a strong leader who does not have to be concerned with a Parliament or elections.	1 - 7	≤ 3
	Experts should decide	Experts, not the Government, should decide what is best for the country.	1 - 7	≤ 3
Religion	Importance of religion	It's possible to be religious even if you're not a member of a religious community. How important is your faith or religion for your well-being and your life satisfaction?	1 - 4	
	Freq. visit church or religious events	Now some questions about your leisure time. Please indicate how often you take part in each activity: daily, at least once per week, at least once per month, seldom or never? Going to church, attending religious events.	1 - 5	

Notes: The table lists the survey questions used to construct the variables for measurement of the absolute convergence among refugees, their classification in categories, the range of possible answers and threshold values for dummy variable construction. Women's rights and System of government questions were only asked for first-time respondents of all survey years. Importance of religion was asked to everyone in 2017 but only first-time-respondents in 2018, and frequency of religious practicing was asked to everyone both in 2017 and 2018.

Appendix D: Additional Results

D.1 Far-Right Demonstrations Experienced Early On

In this section, we provide additional evidence that exposure to local threat increases refugees' cultural convergence. Using data from Kanol & Knoesel (2021), for each refugee, we compute the number of far-right demonstrations that occurred in the region of assignment in the first months since arrival. To reduce concerns that the number of demonstrations might be endogenous to refugee inflows, we focus on events happening within a short period of time since the arrival of individual respondents.[89] Another reason why we focus on episodes occurring during the first months since arrival is that refugees' perceptions of local hostility are likely to be shaped by what she experiences early on. This would be consistent with the psychological literature on "synaptic tagging and capture" (Frey & Morris, 1997), according to which strong experiences induce more stable connections between synapses, and are more likely to be remembered (Richter-Levin & Akirav, 2003; Talarico et al., 2004). Demonstrations happening in the first period of stay might also act as "belief twisting events" (Cogley & Sargent, 2008; Friedman & Schwartz, 2008), which might have long-lasting effects on refugees' perceptions and behavior.

In columns 1 to 3 of Table D.1, we regress a refugee's CSI against the number of demonstrations that occurred in the first month since arrival, holding constant the months spent in Germany (i.e., controlling for MSA). Column 1 reports results for the full sample, while columns 2 and 3 split refugees between those assigned to regions with threat above and below the sample median. Refugees exposed to far-right marches early on are significantly more likely to converge to local culture. This effect is driven by individuals assigned to high-threat regions, where the number of demonstrations is larger than in low-threat regions. Results are similar when considering demonstrations occurring within 3 (columns 4 to 6), 6 (columns 7 to 9), and 9 (columns 9 to 12) months since a refugee's arrival. Interestingly, and consistent with early demonstrations having a more profound impact on refugees' perceptions, the coefficient falls as the number of months considered increases.

[89] Note that the individual respondent is unlikely to be the "marginal" refugee responsible for the outbreak of the far-right march. However, one may be worried that the respondent arrived during a particularly large refugee wave, which was responsible for the demonstration and independently influenced the assimilation of the respondent through other channels. To address this concern, in unreported results we verified that results are unchanged when controlling for refugee inflows in the year prior to the arrival of the individual respondent.

D.2 Other Determinants of Refugees' Assimilation

In this section, we consider additional forces that may influence the assimilation trajectories of minorities. This also allows us to address the potential concern that our findings may be partly driven by the spurious correlation between threat and other forces that might independently affect refugees' integration. We present results for cultural and economic convergence in Panels A and B of Table D.2 respectively. We report the interaction between MSA and the threat index in column 1, and standardize all variables introduced in subsequent columns, so that the magnitude of coefficients can be consistently compared across mediators.[90]

In column 2, we consider the size of the ethnic enclave, measured as the share of individuals born in the same country of origin of the refugee living in the region as of 2012 (relative to total region population). A large literature has studied the effects of group size on labor market outcomes of minorities, finding mixed results. On the one hand, a larger ethnic enclave can help minorities find a job through ethnic networks (Battisti et al., 2021; Edin et al., 2003). The faster economic integration might, in turn, promote cultural assimilation as well. On the other hand, a larger ethnic enclave might lower incentives to exert effort to learn the language or acquire skills (as well as culture) useful in the host country, slowing down economic or cultural assimilation, or both (Abramitzky et al., 2020b; Advani & Reich, 2015; Eriksson, 2020). The interaction term is positive, but imprecisely estimated for cultural convergence, possibly reflecting the ambiguous predictions just described. When focusing on employment, instead, assimilation is lower where the ethnic enclave is larger.[91]

In column 3, we ask whether cultural and economic convergence vary with the employment rate prevailing among individuals from the same group of countries of origin at baseline.[92] A higher employment rate within one's own network might foster economic integration by providing access to jobs in the region, something that might also speed up cultural convergence. It might also proxy for more favorable economic conditions and a more open (social and economic) local environment. As in column 2, the coefficient on the interaction term is close to zero and imprecisely estimated for cultural convergence. Conversely, it is positive and statistically significant for economic convergence.

[90] The number of observations is slightly lower than in Table 2, because we restrict the sample to individuals for which all regional mediators can be included. Mediators are all measured before 2013. Table D.3 presents the definition and source of all variables introduced in this section.

[91] In addition to the mechanisms discussed above, a larger enclave might lower prospects for economic integration by increasing labor market competition for newly arrived individuals. We cannot rule out the possibility that refugees living in larger enclaves enter the labor market through the informal sector (and prefer not to disclose this in the survey).

[92] Due to the small sample size by country of origin, we use group of countries rather than countries (Table D.3).

The lack of cultural convergence, despite economic assimilation, is consistent with two, non-mutually exclusive mechanisms. First, refugees may choose to exert lower effort to adopt local culture if they have easier access to the local labor market. Second, a higher employment rate within a minority community might be indicative of a more open (i.e., less threatening) environment. This may reduce incentives to assimilate culturally. At the same time, the negative effects on incentives just described might be offset by the fact that economic integration promotes cultural assimilation and favors inter-group contact.

In columns 4 and 5, we turn to measures of task diversity and skill complexity.[93] Regions characterized by higher skill complexity or task diversity may offer more opportunities for refugees, because of labor market complementarities with locals (Peri & Sparber, 2009). For cultural convergence, the predictions are *ex-ante* less clear-cut: while economic integration might favor inter-group interactions and, in turn, foster assimilation, a more diverse economy may be correlated with more open social views among locals. Lower threat may then reduce incentives to exert effort to adopt local culture among refugees. Results indicate that, even though task diversity does not influence the speed of either cultural or economic convergence, skill complexity increases refugees' assimilation along both margins.

Finally, in columns 6 and 7, we ask whether refugees' assimilation depends on the distinctiveness (relative to national culture) and on the degree of heterogeneity of local culture prevailing in the region. For both mediators, predictions are ambiguous. A more distinct local culture may make it easier for refugees to understand the core (local) values, favoring their cultural convergence; yet, higher distinctiveness may be the result of locals' weariness towards outsiders – something that would hinder inter-group interactions. Likewise, a more homogeneous local culture may facilitate refugees' learning; however, it might also reflect locals' reluctance to accept diverse ideas. Perhaps reflecting such ambiguity, coefficients on interactions between MSA and both cultural distinctiveness and cultural dispersion are quantitatively small and not statistically significant.

In column 8, we conclude by conducting a horse-race, including simultaneously interactions between MSA and each of the forces analyzed in isolation thus far. To probe the robustness of our key findings, we also add the interaction between MSA and threat. Starting from cultural convergence, we observe that, once all factors are simultaneously

[93] Task diversity is defined as in Dengler et al. (2014): we first assign the task structure from David & Dorn (2013) to each occupation; then, we average across occupations (over task) within each region, and construct a Herfindahl index. Skill complexity is constructed in a similar way: using 5-digit occupation codes (KldB2010 – very similar to ISCO08), we calculate the skill requirement of each occupation. Defining four broad categories (helper; skilled worker; specialist; and, expert), we calculate the share of employees in each of them, relative to all employed individuals in the region. Finally, as before, we calculate a Herfindahl Index. See also Table D.3.

included, the interactions between MSA and network size, network employment, and task diversity all become quantitatively large (and positive) and statistically significant. The other coefficients are similar to those prevailing when analyzing factors in isolation. When considering economic convergence, the horse-race confirms the patterns prevailing in previous columns, except for cultural dispersion, which becomes statistically significant at the 5% level (but remains negative, as in column 7).

Perhaps most importantly for our purposes, the coefficient on the interaction between MSA and threat remains in line with that in column 1. That is, threat increases the pace of cultural convergence, but has no statistically significant effect on economic assimilation. The effect of threat on cultural convergence is sizeable, and close to that of the size of ethnic enclaves or the employment rate of their members. The horse-race reported in column 8 also reduces concerns that our findings may be driven by the spurious correlation between the level of hostility prevailing in the region and other forces, although we cannot rule out the possibility that factors other than those considered here may be driving our results.

D.3 Additional Evidence on Counter-mobilization

As explained in the main text, it is possible that the stronger hostility prevailing in high-threat regions led some locals and non-profit organizations to coordinate efforts to facilitate the cultural integration of refugees. We already documented that no evidence emerges for such hypothesis from survey data (Table A.21, columns 4 to 6). We now provide additional, suggestive evidence against pro-refugee activism in regions with higher threat.

In Table D.4, we estimate region-level regressions that include region fixed effects, interactions between year dummies and 2012 regional controls (unemployment rate, population density, and refugee share of the population), the refugee share of the population, and its interaction with the threat index.

In columns 1 and 2, the dependent variable is the number of #refugeeswelcome tweets and the number of #refugeeswelcome tweets per 100,000 residents defined in Appendix C.4. Refugee inflows are positively correlated with the frequency of pro-refugee tweets. However, the coefficient on the interaction term is negative and, in column 2, marginally significant, indicating that, if anything, refugee inflows are associated with fewer pro-refugee tweets in regions characterized by a higher threat index. Columns 3 and 4 replicate the analysis by scaling the number of #refugeeswelcome tweets and

re-tweets by the number of tweets and the number of users in a region-year, respectively. Also in this case, results are noisy and the coefficient on the interaction term is negative. In Table D.5, we replicate columns 1 to 4 of Table D.4 restricting attention to tweets that are classified as positive according to the approach described in Appendix C.4. Also in this case, there is no evidence that refugee inflows lead to more pro-refugee tweets or higher twitter activity. Finally, in columns 5 and 6 of Table D.4, we conduct a placebo check and show that the inflow of refugees is not associated with more (or less) Twitter activity or users in more threatening regions.[94]

We further corroborate this evidence by estimating simple cross-sectional regressions that correlate the number of NGO-led initiatives (column 7) and the number of NGO-led initiatives per 100,000 residents (column 8) in a region with the share of refugees and its interaction with the threat index.[95] The coefficient on the refugee share is negative but not statistically significant for the total number of NGO-led initiatives. The coefficient on the interaction is also negative and, again, imprecisely estimated. In column 8, there is no correlation between the refugee share and the number of NGO-led initiatives per 100,000. However, as for tweets, the coefficient on the interaction term is negative. Moreover, it is also quantitatively large and precisely estimated. Given the cross-sectional nature of this analysis, we interpret results as merely suggestive.

Overall, despite its suggestive nature, the evidence provided in this section does not indicate any pattern of stronger pro-refugee activism among locals living in regions with a higher threat index.[96]

[94] In unreported analysis, we verified that results were similar when considering the overall number of tweets per user.

[95] Regressions also include the uninteracted threat index and control for the 2012 unemployment rate, population density, and refugee share of the population.

[96] We cannot rule out the possibility that such activism emerged through channels other than those measured here.

Table D.1. Far-right marches in first months of stay and cultural convergence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Demonstrations in first:	1 month			3 months			6 months			9 months		
Threat level:	All	High threat	Low threat	All	High threat	Low threat	All	High threat	Low threat	All	High threat	Low threat
MSA	0.139***	0.251***	0.036	0.147***	0.264***	0.038	0.149***	0.287***	0.007	0.150***	0.271***	0.019
	(0.043)	(0.064)	(0.056)	(0.044)	(0.065)	(0.057)	(0.045)	(0.066)	(0.059)	(0.046)	(0.068)	(0.061)
Right-wing demonstrations	1.419**	2.012*	0.678	1.029**	1.498**	0.527	0.596*	1.456***	-0.455	0.619**	1.275***	-0.206
	(0.722)	(1.033)	(0.997)	(0.479)	(0.678)	(0.673)	(0.360)	(0.519)	(0.499)	(0.295)	(0.437)	(0.398)
Person-Year observations	12,328	6,307	6,021	12,309	6,297	6,012	12,279	6,281	5,998	12,094	6,159	5,935
Person observations	6,690	3,396	3,294	6,681	3,391	3,290	6,673	3,388	3,285	6,595	3,335	3,260
R2 adjusted	0.392	0.395	0.392	0.393	0.396	0.392	0.393	0.397	0.392	0.394	0.397	0.393
Dep. var. mean	-1.905	-1.904	-1.906	-1.905	-1.904	-1.905	-1.905	-1.904	-1.905	-1.902	-1.901	-1.904
Mean # of demonstrations	0.724	1.013	0.420	1.492	2.041	0.918	2.660	3.553	1.725	3.807	5.015	2.554
SD # of demonstrations	0.842	0.887	0.668	1.542	1.644	1.181	2.579	2.764	1.978	3.609	3.886	2.792
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects												
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The dependent variable is the cultural similarity index. Columns 1-3, 4-6, 7-9, 10-12 gradually increase the number of months since the arrival of the refugee in which we count the number of experienced right-wing extremist demonstrations. Furthermore, we split samples by type of region (in terms of our main threat variable) at baseline. MSA refers to months since arrival. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. All specifications control for the composition of questions. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table D.2. Cultural and economic assimilation: Horse-race

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A. Cultural similarity index (mean: -1.905)							
MSA	0.111***	0.101**	0.105**	0.103**	0.115***	0.105**	0.106**	0.095**
	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
MSA × Threat	0.069**							0.093**
	(0.032)							(0.040)
MSA × Network size		0.043						0.090***
		(0.032)						(0.034)
MSA × Network employment			0.018					0.106***
			(0.029)					(0.033)
MSA × Task diversity				0.016				0.085**
				(0.028)				(0.033)
MSA × Skill complexity					0.089***			0.156***
					(0.028)			(0.036)
MSA × Local cultural distinctiveness						-0.017		-0.034
						(0.027)		(0.028)
MSA × Local cultural dispersion							0.008	0.016
							(0.027)	(0.028)
R2 adjusted	0.392	0.392	0.392	0.392	0.392	0.392	0.392	0.393
	Panel B. Refugees' relative employment (mean: -0.504)							
MSA	0.784***	0.803***	0.775***	0.785***	0.789***	0.784***	0.779***	0.792***
	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)	(0.043)
MSA × Threat	0.014							-0.025
	(0.032)							(0.041)
MSA × Network size		-0.126***						-0.103***
		(0.033)						(0.036)
MSA × Network employment			0.065**					0.090**
			(0.031)					(0.036)
MSA × Task diversity				-0.017				0.020
				(0.030)				(0.036)
MSA × Skill complexity					0.059*			0.095**
					(0.031)			(0.041)
MSA × Local cultural distinctiveness						0.022		0.027
						(0.028)		(0.029)
MSA × Local cultural dispersion							-0.044	-0.061**
							(0.029)	(0.031)
R2 adjusted	0.193	0.195	0.194	0.193	0.194	0.193	0.193	0.195
Person-Year observations	12,053	12,053	12,053	12,053	12,053	12,053	12,053	12,053
Person observations	6,528	6,528	6,528	6,528	6,528	6,528	6,528	6,528
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects								
District	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample consists of 6,528 refugees for a total of 12,053 refugee-year observations, restricted to observations for which all mediators are non-missing. The dependent variable is the cultural similarity index (resp. refugees' relative employment) in Panel A (resp. Panel B). MSA refers to months since arrival. Threat is the threat index described in the text. See Table D.3 for the definition of mediators. Threat and mediators are z-standardized within each estimated model. Positive coefficients indicate a reduction in distance to locals. Coefficients and standard errors are multiplied by 100 for presentation. All regressions include dummies for missing control variables, individual characteristics (gender, age, age squared, kids born before arrival in Germany living in the household, country of origin, marital status and location of partner as well as work experience and education upon arrival), district fixed effects, and the interaction of year dummies and district controls (unemployment rate, share of refugees and population density), all measured in December 2012. Panel A always controls for dummies for the composition of questions included in the cultural similarity index. Standard errors, in parentheses, are clustered at the person-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table D.3. Description of mediators

Variable	Definition	Source
Network size	Share of individuals born in the same country of origin as the refugee living in the region as of 2012, relative to total region population.	German Federal Statistical Office
Network employment	Employment rate among individuals from the same region of origin at baseline. We use region instead of country of origin due to small samples in the data. Origin regions include: MENA, Afghanistan, sub-Saharan Africa, West Balkans and former USSR.	Federal Employment Agency (Bundesagentur für Arbeit, 2020)
Task diversity	Defined as in Dengler et al. (2014): we first assign the task structure from David & Dorn (2013) to each occupation; then, we average across occupations (over task) within each region, and construct a Herfindahl index.	Federal Employment Agency (Bundesagentur für Arbeit, 2020)
Skill complexity	Using 5-digit occupation codes (KldB2010 – very similar to ISCO08), we calculate the skill requirement of each occupation. Defining four broad categories (helper; skilled worker; specialist; and, expert), we calculate the share of employees in each of them, relative to all employed individuals in the region. Finally, as before, we calculate a Herfindahl Index.	Federal Employment Agency (Bundesagentur für Arbeit, 2020)
Local cultural distinctiveness	Euclidean distance between the vector of the averages of cultural dimensions over locals and the averages over all Germany.	German Socio-Economic Panel (SOEP)
Local cultural dispersion	On local individual, we calculate the mean over all 8 cultural variables of the distance to locals, then take the standard deviation over the NUTS-2 region.	German Socio-Economic Panel (SOEP)

Notes: The table lists the definition and source of the mediators used in the regressions presented in Table D.2.

Table D.4. Locals' counter-mobilization: Twitter and NGO presence

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	All *#refugeeswelcome* tweets and retweets						NGO-led initiatives	
	Number	Per 100,000 people	Per 100,000 total tweets & retweets	Per 100,000 users	Total number of tweets (in 100,000s)	Number of Twitter users	Number	Per 100,000 people
Refugee share	284.852	3.728	-0.660	-5,717.247	-1.739	-141.879	-5.977	0.119
	(302.049)	(6.568)	(7.541)	(17,053.737)	(1.539)	(115.599)	(7.829)	(0.315)
Refugee share × Threat	-19.858	-2.952*	-2.312	-4,705.760	-0.337	-28.439	-2.108	-0.304**
	(35.873)	(1.629)	(1.386)	(2,898.957)	(0.311)	(23.206)	(2.441)	(0.125)
NUTS-2-Year observations	150,552	150,552	150,552	150,552	150,552	150,552		
NUTS-2 observations	38	38	38	38	38	38	38	38
R2 adjusted	0.930	0.917	0.886	0.901	0.996	0.996	0.724	0.691
Dep. var. mean	674.456	28.813	31.062	69,524.505	18.945	876.022	14.974	0.679
Fixed Effects								
NUTS-2	Yes	Yes	Yes	Yes	Yes	Yes	No	No
NUTS-2 controls × survey year	Yes	Yes	Yes	Yes	Yes	Yes	No	No

Notes: The sample consists of i) 150,522 NUTS-2-year observations for years 2013 to 2018 (columns 1-6), and ii) 38 NUTS-2 observations (columns 7 and 8). Column 1 (resp. column 2) presents the number of tweets and retweets in German (resp. per 100,000 people) posted that year by users located in the NUTS-2 region and containing the hashtag *#refugeeswelcome*. Column 3 (resp. column 4) presents the number of tweets and retweets containing *#refugeeswelcome* per 100,000 of all tweets and retweets (resp. per 100,000 users in the region) that year in a NUTS-2 region. Column 5 (resp. column 6) presents the total number of all tweets in 100,000s (resp. a proxy for distinct users) that year in a NUTS-2 region. Column 7 (resp. column 8) presents the number of NGOs assisting refugees (resp. per 100,000 people). The construction of these variables is detailed in Appendix C. Refugee share refers to the percent of refugees at the district-level measured on December 31 of the year prior to the interview. Threat is the threat index described in the text, and is z-standardized within each model. Columns 1 to 6 include NUTS-2 fixed effects, and the interaction of survey year dummies and NUTS-2 controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Standard errors, in parentheses, clustered at the NUTS-2 region-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table D.5. Locals' counter-mobilization: Positive tweets only

	(1)	(2)	(3)	(4)
	Positive *#refugeeswelcome* tweets and retweets			
	Number	Per 100,000 people	Per 100,000 total tweets & retweets	Per 100,000 users
Refugee share	36.164	0.562	0.038	-207.038
	(34.212)	(0.672)	(0.736)	(1,638.295)
Refugee share × Threat	0.734	-0.152	-0.115	-189.416
	(4.062)	(0.128)	(0.114)	(219.296)
NUTS-2-Year observations	150,552	150,552	150,552	150,552
NUTS-2 observations	38	38	38	38
R2 adjusted	0.916	0.921	0.887	0.902
Dep. var. mean	55.737	2.363	2.501	5,639.754
Fixed Effects				
NUTS-2	Yes	Yes	Yes	Yes
NUTS-2 controls × survey year	Yes	Yes	Yes	Yes

Notes: The sample consists of 150,522 NUTS-2-year observations for years 2013 to 2018. Column 1 (resp. column 2) presents the number of tweets and retweets in German (resp. per 100,000 people) posted that year by users located in the NUTS-2 region and containing the hashtag *#refugeeswelcome*. Column 3 (resp. column 4) presents the number of tweets and retweets containing *#refugeeswelcome* per 100,000 of all tweets and retweets (resp. per 100,000 users in the region) that year in a NUTS-2 region. Refugee share refers to the percent of refugees at the district-level measured on December 31 of the year prior to the interview. Threat is the threat index described in the text, and is z-standardized within each model. Columns 1 to 4 include NUTS-2 fixed effects, and the interaction of survey year dummies and NUTS-2 controls (unemployment rate, share of refugees, and population density), all measured in December 2012. Standard errors, in parentheses, clustered at the NUTS-2 region-level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.