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Discrimination in the Child Care Market: A Nationwide Field Experiment

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Frauke Peter [4]   Simon Wiederhold [5]

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[5]Halle Institute for Economic Research, and Halle University

EEA Annual Conference

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Motivation

- Migrant-native **gaps** in **early child care** enrollment (OECD, 2020; Cascio, 2021)
  - Germany: Enrollment gap of migrants compared to natives in early child care of **12 pp** (Jessen et al., 2020)

Motivation

- Migrant-native **gaps** in **early child care** enrollment (OECD, 2020; Cascio, 2021)
  - Germany: Enrollment gap of migrants compared to natives in early child care of **12 pp** (Jessen et al., 2020)
- Reasons for migrant-native gaps not well understood
  - Almost no gap in parental **demand** (Jessen et al., 2020)
  - Gaps despite highly **subsidized** child care (OECD, 2020)

Motivation

- Non-monetary barriers (Dynarsky et al., 2021; Hermes et al., 2021)
    - **Complexity** of the market
    - **Rationing** and **competition**

Motivation

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- **Admission decisions** made by child care center managers
    - Non-transparent
    - Decentral

Motivation

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- **Admission decisions** made by child care center managers
    - Non-transparent
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$\rightarrow$ This paper focuses on the **supply-side** to explain migrant-native enrollment gaps

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Research Question

Do child care center managers **discriminate** against parents with a migration background in their **information provision** for the enrollment process?

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Experimental Design

- Migrant treatment: Signal migrant background using the **name** of the sender
  - Typical **German** (Native) and **Turkish** (Migrant) names
  - Use 16 (8 Turkish; 8 German) **most common names**

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Experimental Design

- Migrant treatment: Signal migrant background using the **name**
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Experimental Design

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    - Typical **German** (Native) and **Turkish** (Migrant) names
    - Use 16 (8 Turkish; 8 German) **most common names**
- Higher education signal for mechanism analysis
- Vary treatments in a **2×2 design**
- Stratified randomization
    - Strata by federal state, urban category, and provider type

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The Email

Dear Sir or Madam,

We are looking for a child care slot for our [son/daughter] starting in January 2022. [He/she] is now 1 year and 5 months old.

Do you still have a slot available? How can we apply for a slot?

Thank you!

Sincerely,
[Name]

[Name], Bachelor of Arts (FH)
Email: [Name]@ ...

▶ Example Emails

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Analysis

- Sample:
  - Contacted **~60%** of all early child care centers in Germany
  - Sample consists of **~18'700 emails** with **~12'500 responses** (~67% average response rate)
  - **Balanced** across treatments

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    - **Email content** (y/n):

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Analysis

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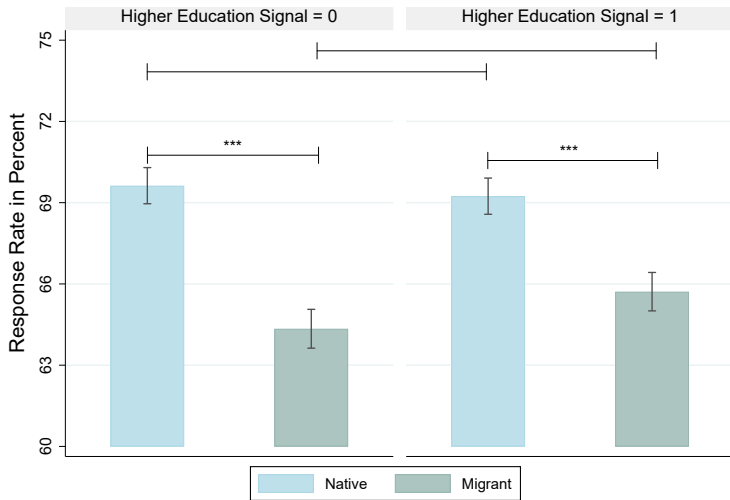   - Helpful, encouraging, recommendable

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    - **Email content** (y/n):
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        - Helpful, encouraging, recommendable
        - Above median response length
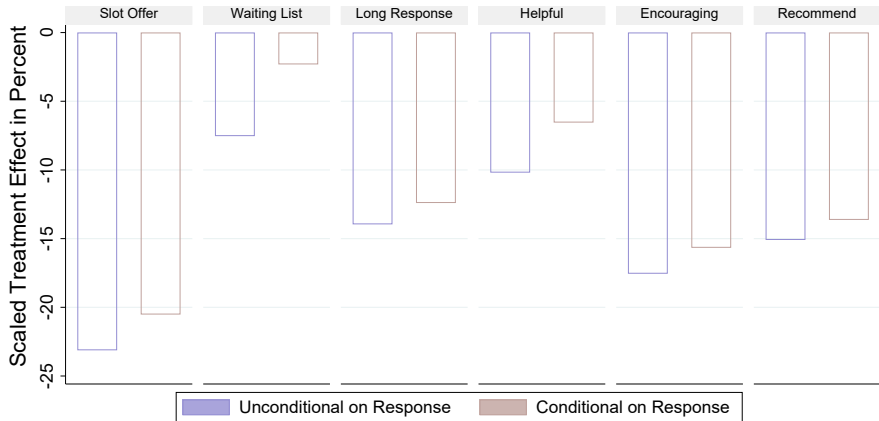
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Response Rate

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Response Rate

	(1)	(2)	(3)	(4)
Migrant treatment	-0.044***	-0.044***	-0.054***	-0.053***
	(0.007)	(0.007)	(0.010)	(0.010)
Migrant treatment × Higher edu.			0.019	0.018
			(0.014)	(0.014)
Higher education signal			-0.003	-0.004
			(0.009)	(0.009)
Controls	No	Yes	No	Yes
Control group mean (Native Sender)	0.707	0.707	0.707	0.707
Scaled treatment effect	-6.3	-6.2	-7.6	-7.5
N	18663	18663	18663	18663

▶ Table Notes

Response Rate

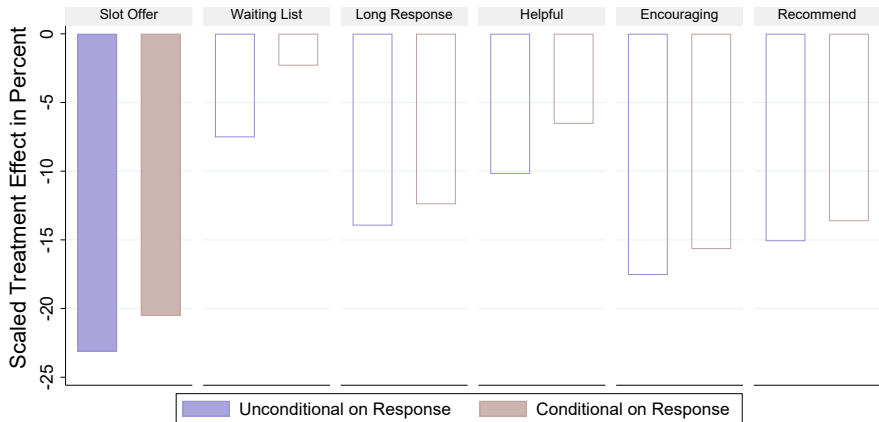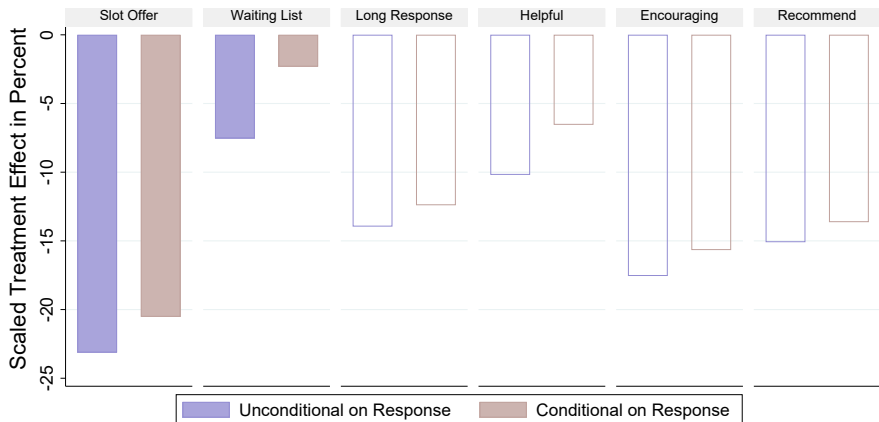|	(1)	(2)	(3)	(4)
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▸ Table Notes

Treatment Effects on Content Outcomes

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Treatment Effects on Content Outcomes

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Treatment Effects on Content Outcomes

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Treatment Effects on Content Outcomes

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Potential Channel

	Response Rate			
	(1)	(2)	(3)	(4)
Migrant treatment	-0.046***	-0.046***	-0.046***	-0.122***
	(0.007)	(0.007)	(0.007)	(0.019)
× Share of migrant children in care (std.)	0.012*			
	(0.007)			
× Right-wing vote share (std.)		-0.020***		
		(0.007)		
× Staff-to-child ratio (std.)			0.019***	
			(0.007)	
× Migrant incentive				0.090***
				(0.020)
Controls	Yes	Yes	Yes	Yes
Observations	17,425	17,412	17,425	18,663

▶ Heterogeneity

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Robustness Checks

- Effects are **robust** to …
    - … randomization inference
    - … multiple-hypothesis testing

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Robustness Checks

- Effects are **robust** to ...
    - ... randomization inference
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    - ... probit estimations
    - ... including ZIP code fixed effects

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Robustness Checks

- Effects are **robust** to ...
    - ... randomization inference
    - ... multiple-hypothesis testing
    - ... probit estimations
    - ... including ZIP code fixed effects
    - ... accounting for rater specific use of rating scales
    - ... different constructions of the binary outcome measures

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Robustness Checks

- Effects are **robust** to ...
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    - ... multiple-hypothesis testing
    - ... probit estimations
    - ... including ZIP code fixed effects
    - ... accounting for rater specific use of rating scales
    - ... different constructions of the binary outcome measures
    - ... computational classification using a pre-trained BERT model

▸ MHT

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Conclusion

- First evidence for **discrimination** against families with migration background in the **early child care** market

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Conclusion

- First evidence for **discrimination** against families with migration background in the **early child care** market
- Sizable and robust **negative effect** of migrant treatment on:
    - Response rates (extensive margin)
    - Email content, i.e., slot offers (intensive margin)

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Conclusion

- First evidence for **discrimination** against families with migration background in the **early child care** market
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    - Email content, i.e., slot offers (intensive margin)
- Potential **channel**:
    - Contact hypothesis (share of migrant children in care)
    - Animus toward migrants (right-wing vote share)
    - Additional effort (staff-to-child ratio & migrant incentive)

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- First evidence for **discrimination** against families with migration background in the **early child care** market
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- Potential **channel**:
  - Contact hypothesis (share of migrant children in care)
  - Animus toward migrants (right-wing vote share)
  - Additional effort (staff-to-child ratio & migrant incentive)
- For **gender effects** see the AEA P&P (Hermes et al., 2023)

Appendix - Overview

1. Presentation

   ▸ Motivation ▸ Experimental Design ▸ Email ▸ Analysis ▸ Main Results

   ▸ Content Outcomes ▸ Mechanism Analysis ▸ Robustness

2. Appendix

   ▸ References ▸ Application Process ▸ Institutional Background ▸ Example Emails

   ▸ Balancing Analysis Sample ▸ Balancing Sent Emails ▸ Estimation Equation

   ▸ Probit Regressions ▸ Heterogeneity Offer ▸ Content Results ▸ MHT

   ▸ Standardized Content ▸ ZIP FE ▸ BERT ▸ Rating Procedure ▸ Deception

   ▸ Table Notes

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Cascio, E. U. (2021). Early Childhood Education in the United States: What, When, Where, Who, How, and Why. *National Bureau of Economic Research*, Working Paper No. 28722.

Dynarski, S., Libassi, C. J., Michelmore, K., & Owen, S. (2021). Closing the Gap: The Effect of Reducing Complexity and Uncertainty in College Pricing on the Choices of Low-Income Students. *American Economic Review*, 111(6), 1721-56.

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Hermes, H., Lergetporer, P., Peter, F., Mierisch, F., & Wiederhold, S., (2023). Males should Mail? Gender Discrimination in Access to Childcare. *AEA Papers & Proceedings*, forthcoming.

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OECD (2020). Is Childcare Affordable? Policy Brief on Employment, Labour and Social Affairs. Organisation for Economic Co-Operation and Development. Paris, France.

Institutional Setting

Application Process at a Specific Early Child Care Center
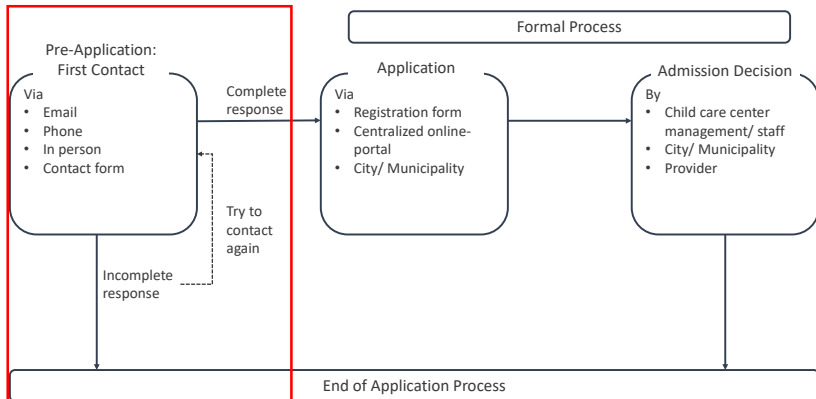
Institutional Background - Child Care in Germany

- Focus: Early child care below the age of 3
- Excess demand (rationing): 31% enrollment, 44% demand (Jessen et al., 2020)
    - But: Legal entitlement to child care for children aged 1 and older (since 2013)
- Decentralized allocation of child care slots, admission process non-transparent
- Provision and financing of early child care: Heavy public subsidization

Example Emails

Dear Sir or Madam,

We are looking for a child care slot for our son starting in January 2022.
He is now 1 year and 5 months old.

Do you still have a slot open? How can we apply for a slot?

Thank you!

Sincerely,
Eylül Yildirim

Dear Sir or Madam,

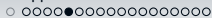We are looking for a child care slot for our daughter starting in January 2022.
She is now 1 year and 5 months old.

Do you still have a slot open? How can we apply for a slot?

Thank you!

Sincerely,
Sebastian Müller

Sebastian Müller, Bachelor of Arts (FH)
Email: Sebastian.Müller0528@gmail.com

Sample Characteristics and Balancing

| | Native (Control) | | | | Migrant (Treatment) | | | |
| | Higher edu. = 0 | | Higher edu. = 1 | | Higher edu. = 0 | | Higher edu. = 1 | |
	Mean	SD	Diff (mean)	p-Value	Diff (mean)	p-Value	Diff (mean)	p-Value
Sender characteristics								
Sender male	0.50	0.50	0.00	0.779	0.00	0.926	-0.01	0.605
Child male	0.50	0.50	-0.00	0.977	0.00	0.876	0.01	0.448
Child care center characteristics								
Center's maximum capacity	68.38	40.09	0.95	0.291	0.23	0.810	-0.51	0.571
Kindergarten (age 3–6 years)	0.93	0.25	0.00	0.465	-0.00	0.856	-0.01	0.120
Daycare (age >6 years)	0.09	0.29	-0.00	0.994	0.00	0.573	0.00	0.472
Provider								
Church	0.25	0.43	0.00	0.872	0.00	0.957	-0.01	0.410
Else	0.57	0.49	-0.00	0.969	0.00	0.967	0.01	0.430
Public	0.18	0.38	-0.00	0.896	-0.00	0.909	-0.00	0.928
Regional Characteristics								
Urban class								
City	0.44	0.50	-0.00	0.812	-0.00	0.939	0.00	0.734
Intermediate	0.37	0.48	0.00	0.879	0.00	0.900	0.00	0.911
Rural	0.18	0.39	0.00	0.908	-0.00	0.953	-0.00	0.563
Share of migrants (in percent)	15.46	9.05	-0.13	0.480	-0.08	0.675	0.04	0.828
Share of migrant children in care (in percent)	29.84	13.03	-0.22	0.403	-0.08	0.765	-0.07	0.796
Staff-to-child ratio	0.13	0.024	0.01	0.451	0.00	0.667	0.00	0.593
Right-wing vote share (in percent)	9.76	5.78	0.09	0.461	0.04	0.709	0.09	0.476
Incentive for migrant children	0.87	0.33	-0.01	0.485	0.02	0.842	-0.05	0.769
Total (N=18'663)	4682		4631		4661		4689	
Bounces (N= 3'795)	941		974		956		924	
Sent (N=22'458)	5623		5605		5617		5613	

◂ Back
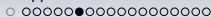
Balancing Sent Emails

| | Native (Control) | | | | Migrant (Treatment) | | | |
| | Higher edu. = 0 | | Higher edu. = 1 | | Higher edu. = 0 | | Higher edu. = 1 | |
	Mean	SD	Diff (mean)	p-Value	Diff (mean)	p-Value	Diff (mean)	p-Value
Sender characteristics								
Sender male	0.50	0.50	0.00	0.720	0.00	0.865	-0.00	0.791
Child male	0.50	0.50	-0.00	0.881	-0.00	0.807	0.00	0.665
Child care center characteristics								
Center's maximum capacity	67.98	39.70	0.93	0.243	0.28	0.734	-0.53	0.507
Kindergarten (age 3–6 years)	0.93	0.25	0.00	0.521	-0.00	0.868	-0.01	0.119
Daycare (age >6 years)	0.10	0.29	-0.00	0.534	0.00	0.985	0.00	0.435
Provider								
Church	0.24	0.43	0.00	0.977	-0.00	0.920	-0.00	0.896
Else	0.59	0.49	0.00	0.975	0.00	0.915	0.00	0.965
Public	0.17	0.38	-0.00	0.941	-0.00	0.980	0.00	0.927
Regional characteristics								
Urban class								
City	0.43	0.49	0.00	0.839	0.00	0.901	-0.00	0.918
Intermediate	0.38	0.49	-0.00	0.936	-0.00	0.912	0.00	0.939
Rural	0.19	0.39	-0.00	0.875	-0.00	0.984	0.00	0.972
Share of migrants (in percent)	15.33	8.97	-0.06	0.710	-0.08	0.636	-0.05	0.745
Share of migrant children in care (in percent)	29.77	13.02	0.18	0.944	-0.12	0.623	-0.03	0.917
Staff-to-child ratio	0.13	0.024	0.00	0.878	0.00	0.453	0.00	0.911
Right-wing vote share (in percent)	9.81	5.69	-0.02	0.882	0.00	0.995	0.09	0.418
Incentive for migrant children	0.88	0.33	-0.02	0.680	-0.01	0.971	-0.02	0.976
State								
Baden Wurttemberg	0.16	0.37	-0.00	0.937	-0.00	0.938	0.00	0.904
Bavaria	0.15	0.36	0.00	0.984	-0.00	0.998	-0.00	0.995
Berlin	0.06	0.24	0.00	0.903	0.00	0.957	-0.00	0.953
Brandenburg	0.03	0.16	0.00	0.930	0.00	0.945	-0.00	0.943
Bremen	0.01	0.08	-0.00	0.921	-0.00	0.914	-0.00	0.995
Hamburg	0.03	0.16	0.00	0.977	0.00	0.947	-0.00	0.990
Hesse	0.06	0.24	-0.00	0.941	-0.00	0.918	0.00	0.953
Mecklenburg-Western Pomerania	0.01	0.11	-0.00	0.676	-0.00	0.868	0.00	0.936
Lower Saxony	0.08	0.27	0.00	0.960	0.00	0.959	0.00	0.963
North Rhine-Westphalia	0.23	0.42	0.00	0.838	0.00	0.834	-0.00	0.878
Rhineland-Palatinate	0.04	0.20	-0.00	0.915	-0.00	0.896	0.00	0.862
Saarland	0.01	0.12	0.00	0.984	0.00	0.867	-0.00	0.928
Saxony	0.05	0.22	-0.00	0.965	-0.00	0.944	-0.00	0.952
Saxony-Anhalt	0.01	0.11	-0.00	0.740	-0.00	0.798	0.00	0.866
Schleswig-Holstein	0.03	0.18	-0.00	0.892	-0.00	0.967	-0.00	0.907
Thuringia	0.02	0.15	-0.00	0.924	0.00	0.993	0.00	0.961
Bounces (N= 3,795)	0.17	0.37	0.01	0.365	0.00	0.687	-0.01	0.196
Sent (N= 22,458)	5,623		5,605		5,617		5,613	

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Estimation Equation

Pre-registered main specification (AEARCTR-0007389):

$$Y_{ij} = \gamma_0 + \gamma_1 \, Migrant_j + \gamma_2 \, HigherEdu_j \\ + \gamma_3 \, Migrant_j * HigherEdu_j + Controls_{ij} + \upsilon_{ij} \tag{1}$$

Y_{ij}:	Outcome of interest of fictitious parent j sending an email to child care center i
$Migrant_j$:	Dummy equal to 1 if fictitious email signals migrant background (Migrant), 0 otherwise
$HigherEdu_{ij}$:	Dummy equal to 1 if fictitious email signals tertiary education (Higher Education Signal), 0 otherwise
$Controls_{ij}$:	Vector of control variables for child care center including strata FE, child care center characteristics, and regional characteristics. Missing values are imputed and imputation dummies added.
υ_{ij}:	Idiosyncratic error term

Probit Regressions

	(1) Response Rate	(2) Slot Offer	(3) Waiting List	(4) Long Response	(5) Helpful	(6) Encouraging	(7) Recommend
Migrant treatment	-0.127***	-0.137***	-0.111***	-0.159***	-0.102***	-0.125***	-0.171***
	(0.020)	(0.036)	(0.019)	(0.024)	(0.020)	(0.024)	(0.020)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Marginal effect	-0.044	-0.011	-0.043	-0.058	-0.035	-0.026	-0.063
N	18,617	17,678	18,652	12,529	18,633	18,623	18,634

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Content Outcomes

	(1) Slot Offer	(2) Waiting List	(3) Long Resp.	(4) Helpful	(5) Encouraging	(6) Recomm.
Panel A (Unconditional)						
Migrant treatment	-0.011***	-0.043***	-0.065***	-0.035***	-0.028***	-0.063***
	(0.003)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Control mean (Native sender)	0.049	0.566	0.467	0.346	0.157	0.419
Scaled treatment effect	-23.1	-7.5	-14.0	-10.2	-17.5	-15.1
N	18,663	18,663	18,663	18,663	18,663	18,663
Panel B (Conditional)						
Migrant treatment	-0.010**	-0.013*	-0.058***	-0.023**	-0.025***	-0.057***
	(0.004)	(0.007)	(0.009)	(0.007)	(0.007)	(0.009)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Scaled treatment effect	-20.5	-2.3	-12.4	-6.5	-15.7	-13.6
N	12,547	12,547	12,547	12,547	12,547	12,547

Heterogeneity Analysis: Slot Offer

	Slot Offer			
	(1)	(2)	(3)	(4)
Migrant treatment	-0.012***	-0.012***	-0.012***	-0.027**
	(0.003)	(0.003)	(0.003)	(0.012)
× Share of migrant children in care (std.)	0.009**			
	(0.004)			
× Right-wing vote share (std.)		-0.015***		
		(0.005)		
× Staff-to-child ratio (std.)			0.009**	
			(0.004)	
× Migrant incentive				0.018
				(0.012)
Controls	Yes	Yes	Yes	Yes
Observations	17,425	17,412	17,425	18,663

Multiple Hypothesis Testing

	Coefficient (1)	p-value Main Table (2)	Rand. Inference (3)	List-Shakih-Xu (4)	Westphal-Young (5)	Romano-Wolf (6)
Panel A: Migrant and Higher Education Signal						
Migrant treatment	-0.044***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Migrant treatment × Higher edu.	0.018	0.203	0.181	0.216	0.203	0.221
Panel B: Content Outcomes - Unconditional						
Slot Offer	-0.011***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Waiting list	-0.043***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Long response	-0.065***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Helpful	-0.035***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Encouraging	-0.028***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Recommendation	-0.063***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Panel C: Content Outcomes - Conditional						
Offer	-0.010**	**0.018**	**0.012**	**0.017**	**0.018**	**0.018**
Waiting list	-0.013*	**0.073**	**0.061**	**0.065**	**0.074**	**0.073**
Long response	-0.058***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**
Helpful	-0.023**	**0.013**	**0.013**	**0.012**	**0.013**	**0.014**
Encouraging	-0.025***	**0.001**	**0.000**	**0.002**	**0.001**	**0.002**
Recommendation	-0.057***	**0.000**	**0.000**	**0.001**	**0.000**	**0.001**

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Robustness Including ZIP-FE

	(1) Response Rate	(2) Slot Offer	(3) Waiting List	(4) Long Response	(5) Helpful	(6) Encouraging	(7) Recommendation
Migrant treatment	-0.047***	-0.012***	-0.052***	-0.071***	-0.039***	-0.026***	-0.065***
	(0.008)	(0.003)	(0.009)	(0.009)	(0.008)	(0.006)	(0.008)
Controls incl. ZIP FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control mean (Native sender)	0.707	0.049	0.566	0.467	0.346	0.157	0.419
Scaled treatment effect	-6.7	-23.8	-9.2	-15.1	-11.3	-16.3	-15.6
N	16,917	16,917	16,917	16,917	16,917	16,917	16,917

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Standardized Rating Results

	Slot Offer		Waiting List		Helpful		Encouraging		Recommendation	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Migrant treatment	-0.112***	-0.076***	-0.102***	-0.062***	-0.110***	-0.078***	-0.131***	-0.106***	-0.144***	-0.156***
	(0.015)	(0.017)	(0.015)	(0.018)	(0.015)	(0.018)	(0.015)	(0.017)	(0.014)	(0.018)
Conditional on response	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	18,663	12,547	18,663	12,547	18,663	12,547	18,663	12,547	18,663	12,547

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Rater Check

	1 Reviewer		2 Reviewers		3 Reviewers		4 Reviewers		5 Reviewers	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Offer										
Migrant treatment	-0.024***	-0.023***	-0.014***	-0.013***	-0.011***	-0.010**	-0.009***	-0.007*	-0.006***	-0.005
	(0.004)	(0.006)	(0.003)	(0.005)	(0.003)	(0.004)	(0.003)	(0.004)	(0.002)	(0.003)
Control group mean (Native sender)	0.103	0.103	0.060	0.060	0.049	0.049	0.041	0.041	0.028	0.028
Scaled treatment effect	-22.9	-22.2	-23.3	-21.1	-23.1	-20.5	-21.2	-17.1	-22.3	-17.7
Waiting List										
Migrant treatment	-0.054***	-0.022***	-0.050***	-0.021***	-0.043***	-0.013*	-0.039***	-0.010	-0.042***	-0.018**
	(0.007)	(0.005)	(0.007)	(0.006)	(0.007)	(0.007)	(0.007)	(0.008)	(0.007)	(0.008)
Control group mean (Native sender)	0.650	0.650	0.608	0.608	0.566	0.566	0.537	0.537	0.494	0.494
Scaled treatment effect	-8.3	-3.4	-8.3	-3.4	-7.5	-2.3	-7.3	-1.9	-8.5	-3.7
Helpful										
Migrant treatment	-0.050***	-0.032***	-0.048***	-0.035***	-0.035***	-0.023**	-0.024***	-0.012	-0.012**	-0.002
	(0.007)	(0.009)	(0.007)	(0.009)	(0.007)	(0.009)	(0.007)	(0.009)	(0.006)	(0.008)
Control mean (Native sender)	0.483	0.483	0.410	0.410	0.346	0.346	0.276	0.276	0.183	0.183
Scaled treatment effect	-10.4	-6.7	-11.6	-8.4	-10.2	-6.5	-8.8	-4.5	-6.4	-1.2
Encouraging										
Migrant treatment	-0.055***	-0.041***	-0.042***	-0.032***	-0.028***	-0.025***	-0.017***	-0.018***	-0.009***	-0.008**
	(0.007)	(0.009)	(0.007)	(0.009)	(0.005)	(0.007)	(0.003)	(0.005)	(0.003)	(0.004)
Control mean (Native sender)	0.461	0.461	0.312	0.312	0.157	0.157	0.061	0.061	0.038	0.038
Scaled treatment effect	-11.9	-8.8	-13.3	-10.4	-17.5	-15.7	-28.6	-30.0	-24.3	-21.5
Recommendation										
Migrant treatment	-0.061***	-0.033***	-0.065***	-0.051***	-0.063***	-0.057***	-0.054***	-0.055***	-0.030***	-0.033***
	(0.007)	(0.006)	(0.007)	(0.008)	(0.007)	(0.009)	(0.006)	(0.009)	(0.005)	(0.007)
Control mean (Native sender)	0.636	0.636	0.521	0.521	0.419	0.419	0.276	0.276	0.124	0.124
Scaled treatment effect	-9.5	-5.2	-12.5	-9.8	-15.1	-13.6	-19.5	-20.1	-23.9	-26.4
Conditional on response	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	18,663	12,547	18,663	12,547	18,663	12,547	18,663	12,547	18,663	12,547

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Computational Classification Using BERT

	Slot Offer (BERT)		Waiting List (BERT)	
	(1)	(2)	(3)	(4)
Migrant treatment	-0.014***	-0.014***	-0.045***	-0.016**
	(0.004)	(0.005)	(0.008)	(0.007)
Conditional on response	No	Yes	No	Yes
Controls	Yes	Yes	Yes	Yes
Control Mean (Native Sender)	0.066	0.066	0.565	0.565
Scaled Treatment Effect	-21.9	-21.4	-8.0	-2.9
N	17,563	11,447	17,563	11,447

Rating Procedure

- Five RAs (two male, three female, three master, two bachelor)
- Rated emails on different content dimensions:
    - Whether the email contains a slot offer for a slot before August 2022 (Offer).
    - Whether the email contains an offer for a slot on a waiting list (Waiting List).
    - Whether the email is perceived as helpful (Helpful).
    - Whether the email is perceived as encouraging (Encouraging).
    - Whether one would recommend contacting the child care center for a befriended couple with a child of 1.5 years (Recommendation).
- Coded binary variable as 1, if three or more raters rated the email as category 3 or 4 on a four-point Likert scale ("Somewhat a Offer/..." or "Clearly a Offer/..."), zero otherwise.
- Calculated inter-rater reliability. Cohen's Kappa and Krippendorf's Alpha of around 0.6 to 0.7 for most measures.

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A Note on Deception and Costs

- Ground for using deception is §22 Allgemeines Gleichbehandlungsgesetz: Beweislast & methodological guidelines by Federal Anti-Discrimination Agency (Expertise: Die Anwendbarkeit von Testing-Verfahren im Rahmen der Beweislast, § 22 Allgemeines Gleichbehandlungsgesetz, 2011)
- Other correspondence studies in Germany, e.g., Bartoš et al. (2016); Hemker and Rink (2017)
- Ethical approval from the ethics board of LMU.
- Careful power calculation
    - Different effect size expected

Notes Table Response Rate

Notes: Table shows treatment effects on an indicator for whether or not a child care center responds to the email, based on multivariate OLS regressions. Migrant treatment is a dummy variable taking a value of one if the email sender's name signals a migration background, and zero if the email sender's name signals a native background. Higher education signal is a dummy variable taking a value of one if the email includes a signature that indicates a higher education background of the sender, and zero if the email does not include a signature. Controls include strata fixed effects, additional randomly assigned attributes of the emails (child and sender gender), as well as characteristics of the contacted child care center and the municipality where it is located (see Section 4.2 for details). Scaled treatment effect expresses the treatment effect relative to the mean of the respective outcome in the control group of native senders in percent. Robust standard errors in parentheses. Significance levels: $* \ p < .10$, $** \ p < .05$, $*** \ p < .01$. We additionally report p-values based on randomization inference and correcting for multiple hypothesis testing in Table B4.