Pre-Analysis Plan Correspondence Study Child Care Market

Content

RCT Registration

Trial title: Detecting Discrimination in the German Child Care Market – A Correspondence Study

Status: In development

Country: Germany

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Key words: Education

Additional Keywords: Experiment, Discrimination

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Abstract (will be publicly available on the web page):

While a persistent enrollment gap in German early child care by socioeconomic status (SES) is well-documented, the reasons for lower enrollment rates among lower SES children are poorly understood. Focusing on the supply-side of child care markets, we plan to investigate whether admission decisions by child care center managers differ by parental SES. To this end, we will send out a standardized email to child care center managers, drafted to mimic real parental requests. The email includes implicit signals about parents' SES that we randomly vary across emails. By analyzing differences in response rates, response time, and quality of replies by parental SES signal, we examine to what extent child care center managers discriminate when responding to email inquiries.

Trial Start date: 2021-03-22

Intervention Start Date: 2021-03-22

Intervention end Date: 2021-03-25

Trial End Date: 2022-04-30

Sponsors: KU Eichstätt-Ingolstadt, ifo Institute Munich

Partners: None

Experimental Details:

Intervention (public):

We will send out fictitious email inquiries to child care centers in Germany. The emails include implicit signals of parents' SES that we vary across emails. In addition, a subset of the randomized emails also includes an email signature that informs about the sender's educational background. Hence, we randomize over four treatments (high vs. low SES signal; education marker yes vs. no). We then analyze whether response rates, the response time, and the quality of the answers differ by senders' background.

In order to contact child care centers, we use a commercial dataset that entails basic information (e.g., the email addresses) of more than 90 percent of all child care institutions in Germany. We will impose certain sample restrictions (e.g., we focus on child care centers open for children below the age of three years), which leaves us with an experimental sample of about 22,000 child care centers. We will then randomly assign child care centers to one of our four treatment conditions and send the respective email.

Intervention (Hidden):

The emails that we plan to send out are worded as follows [note that the names are just examples, see below for details]:

- Email 1 (no migration background and no education marker; translated from German to English):

  Subject: Request for a child care slot

  Dear Sir/Madam,

  We are looking for a child care slot for our [son/daughter] starting in January 2022. [He/she] is now 1 year and 3 months old.

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

  Thank you!

  Sincerely,

  Stefanie Müller

- Email 2 (migration background and no education marker; translated from German to English):

  Subject: Request for a child care slot

  Dear Sir/Madam,

  We are looking for a child care slot for our [son/daughter] starting in January 2022. [He/she] is now 1 year and 3 months old.

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

Thank you!

Sincerely,

Ömer Yildirim

- Email 3 (no migration background and education marker; translated from German to English):

  Subject: Request for a child care slot

  Dear Sir/Madam,

  We are looking for a child care slot for our [son/daughter] starting in January 2022. He/she is now 1 year and 3 months old.

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

  Thank you!

  Sincerely,

  Sebastian Schmidt

  Sebastian Schmidt, Bachelor of Arts (FH)
  SebastianSchmidt0528@gmail.com

- Email 4 (migration background and education marker; translated from German to English):

  Subject: Request for a child care slot

  Dear Sir/Madam,

  We are looking for a child care slot for our [son/daughter] starting in January 2022. [He/she] is now 1 year and 3 months old.

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

  Thank you!

  Sincerely,

  Eyül Ötztürk

  Eyül Ötztürk, Bachelor of Arts (FH)
  Eyül.Ötztürk0528@gmail.com

To balance any effects of child gender or sender characteristics (other than migration background), we additionally randomize (separately for migration and non-migration

background) the gender of the child (two alternatives), the gender of the sender (two alternatives) as well as the first name (two male, two female) and the surname (two alternatives) of the sender.

To indicate migration background we use two variations of the most common first names and surnames of people with Turkish migration background living in Germany, and people without migration background (e.g., Stefanie Müller, Sebastian Schmidt, Ömer Yildirim, Eyül Öztürk). The names in the emails (and email addresses) were chosen based on a survey that asked respondents to associate different names with different migration backgrounds.

Taken together, we send four different versions of the email inquiry from 16 email accounts. We also envisage sending out a second wave of emails to the same child care centers to facilitate within-institution comparisons.

Primary Outcomes:

- Response rate
- Response time
- Response quality

Secondary Outcomes:

Heterogeneity by provider type, location, size of the child care center, and share of migrants in a given region.

Experimental Design (Public)

We send out email inquiries to child care centers which are drafted according to real parental requests. They vary by whether they signal high or low SES of the sender, and whether they contain an email signature informing about the sender's educational background.

Randomization Method (e.g. public lottery, randomization done in office by a computer, coin flip):

- Stratified randomization
- Randomization and stratification carried out by the stratarand command in Stata

Randomization Unit: child care center level

Was the treatment clustered? No

Planned number of clusters: Clusters on individual level

Sample size:

In order to contact child care centers, we use a commercial dataset that entails basic information (e.g., the email addresses) of more than 90 percent of all child care institutions in Germany. We will impose certain sample restrictions (e.g., we focus on child care centers open for children below the age of three years), which leaves us with an experimental sample of about 22,000 child care centers. We will then randomly assign child care centers to one of our four treatment

conditions and send the respective email. We expect an email bounce rate of about 20% which leaves us with an expected final sample size of approximately 18,000.

Power Calculation/ Minimum Detectable Effect Size for Main Outcomes: With a mean response rate of 50% and 80% power at the 5% significance level, the minimum detectable effect size is at around 3 percentage points of a difference in the response rates between two treatment conditions.

IRB approval: LMU Munich 2021-03-18

Pre-Analysis Plan

Empirical Strategy

We will estimate treatment effects by regressing a specific outcome of interest (response rate, response time, response quality) on randomized treatment indicators using OLS models. In order to increase precision (and to account for small imbalances between treatment and control groups), we will include a vector of control variables in our main specification.

Our main specification will be the following:

$$Y_{ij} = \alpha + \beta Mig_{ij} + \gamma Edu_{ij} + \delta Mig_{ij} * Edu_{ij} + \mu X_i + \varepsilon_{ij}$$

Y_{ij}: Outcome of interest regarding fictitious parent j measured in child care center i

Mig_{ij}: Dummy equal to 1 if fictitious email signals migrant background, 0 otherwise

Edu_{ij}: Dummy equal to 1 if fictitious email signals high educational status, 0 otherwise

X_i: Vector of control variables for child care center (or child care center fixed effects)

ε_{ij}: Idiosyncratic error term

With our randomized research design, the causal treatment effects of migration on the respective outcome can be derived from β and δ. The vector of control variables includes strata fixed effects (comprised of provider type, federal state, and degree of urbanization), whether the center also caters to older children, the number of children enrolled in the center, and the share of migrants in the region. In order not to lose observations due to missing information on control variables, we will impute missing control variables and add imputation dummies to our regressions.

Main Analyses

In a first step, we will estimate, whether the migration background has an impact on child care center managers' responses to an inquiry. To this end, we will estimate treatment effects on the likelihood of receiving a response on an inquiry.

To further study how migration background affects answering behavior, we will investigate treatment effects on the time until the child care managers send an answer to our inquiry, and on the quality of the answer (e.g., measured by message length or tone).

In a second step, we aim to understand whether the effects of migration background on answering behavior are (partially) driven by child care center managers' beliefs about parental education (taste-based vs. statistical discrimination). To do so, we leverage the treatment in which we include an email signature that fixes educational background.

Using the random variation of child and parental gender, we will also test whether treatment effects vary based on these characteristics.

Further Analyses

Given the structure of our data, we will also be able to investigate heterogeneity of our treatment effects. We plan to compare treatment effects by provider type (e.g., public vs. ecclesiastic) and regional characteristics (population, degree of urbanization, and share of migrants).

Because of large differences in timing of application deadlines and other institutional factors across municipality, we will also conduct analyses accounting for this variation.

Add-On: Coding of E-Mails

We additionally conduct the following analysis:

We will employ five student assistants blind to treatment assignment who will rate each response we have received on the following metrics:

- Slot offer indicated in the response
- Sentiment conveyed in the response
- Informational content of the response

We will then estimate treatment effects on these metrics using the regression model outlined in the empirical strategy.