RCT Registration

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This updated version: 5ᵗʰ of May 2019 (adding a detailed pre-analysis plan)

"Information Kid – Effects of Information Provision and Application Assistance on Childcare Participation and Life Outcomes

PIs:

Henning Hermes (Norwegian School of Economics)

Philipp Lergetporer (ifo Institute Munich)

Frauke Peter (DIW Berlin)

Simon Wiederhold (KU Eichstätt-Ingolstadt)

Abstract

In the past two decades, early childcare has become an essential tool to support child development and to increase employment opportunities of parents in many European countries. However, children from disadvantaged families tend to start childcare at later age, although – according to well-identified economic studies – these children would benefit more from enrollment into childcare than their peers from more advantaged backgrounds. Lack of information about both the availability of childcare facilities and financial support for taking up childcare as well as difficulties to navigate through the application process have been put forward as likely explanations for lower childcare usage among disadvantaged families. In this project, we conduct a randomized controlled trial (RCT) in Germany to investigate how alleviating these barriers affects participation in early childcare ("Krippe"). To this end, we offer a randomly selected group of parents practical and legal childcare-related information as well as assistance in the application process for a childcare slot. We conduct the RCT in two cities with a high share of parents from disadvantaged backgrounds (i.e., parents with migration background or single parents). We also specifically target first-time parents. We aim at answering whether our treatment (1) affects parents' application intentions and behavior, and (2) increases childcare enrollment. If our treatment increases childcare enrollment, we (3) also plan to investigate the effects of childcare participation on child development and parental labor-market participation. Given our conservative cost calculations, we envisage a sample size of 600 parents with children aged one to two years (at the start of the childcare year). In case the field work is less costly than planned, we will continue sampling up to 800 parents.

Trial start date: 6 August 2018
Intervention start date: 6 August 2018
Intervention end date: 31 May 2019
Trial end date: 31 October 2021

Intervention

Our RCT investigates the effects of providing parents with childcare-related information and assistance in the application for a childcare slot on (i) parents' intentions to apply for a childcare slot and application behavior, (ii) actual enrollment into childcare, and (iii) child development and parental labor-market involvement (provided that childcare enrollment increases).

In the following, we first describe our general setting, and then provide details about the data collection and intervention.

General procedure

The intervention will be implemented in the cities of Kaiserslautern and Ludwigshafen (Rhineland-Palatine, Germany) from August 2018 onwards. Both municipalities provided us with register data to identify parents of recently born children. Specifically, our study focuses on children aged one to two years in the beginning of the preschool year 2019/2020 (i.e., in fall 2019). (In Germany, children from age one onward enjoy a legal right to a childcare slot.) We implement a stratified randomization procedure in which parents are randomly assigned to treatment group or control group within blocks (defined by basic characteristics such as child's age or single-parent status).

Data collection and intervention

First wave of data collection and intervention

In August 2018, our interviewers will visit (control-group and treatment-group) parents at their homes to conduct an incentivized baseline survey with them. While the interview ends after survey completion for the control group, the treatment group will additionally be provided practical information about childcare (e.g., legal right to a childcare slot, costs of a childcare slot, application process for childcare, etc.). Treated parents will also be offered assistance to navigate through the application process for a childcare slot. The assistance includes, for instance, help in the completion of the childcare application, exploring the possibility of applying for government financial aid for childcare (and support in the application therefor), as well as sending reminders of deadlines.

Second wave of data collection

In June 2019, we will re-survey parents. The planned survey mode is CATI (computer-assisted telephone interview). The survey will be similar to the baseline survey, but a particular focus will be set on parents' application intentions and behavior.

Third wave of data collection

In the beginning of 2020, we will re-survey parents. The planned survey mode is CATI (computer-assisted telephone interview). The survey will be similar to the preceding surveys, but a particular focus will be set on childcare take-up. The information collected in waves two and three are our primary outcome variables of interest.

Further waves of data collection

Conditional on a positive effect of the intervention on childcare take-up, we plan to field further waves of data collection from fall 2020 onwards. In these waves, we will focus on the effects of children's childcare participation on parents' labor market participation and child development. These will be our further outcome variables of interest (which will be collected only if there is a significant effect of our treatment on childcare take-up).

Primary outcomes:
- Parental application intentions and behavior for a childcare slot (e.g., number of applications, number of visits at open house presentations).
- Childcare take-up.
- (Contingent on a significant "first stage"): Parental labor-market participation.
- (Contingent on a significant "first stage"): Child development.

Secondary outcomes:
- Parent's beliefs about childcare (availability, costs, eligibility).
- Heterogeneity analysis by (i) parental socioeconomic status, (ii) prior childcare enrollment intention, (iii) admission prioritization criteria.

Experimental design:

We conduct a randomized field experiment in which participants are randomly assigned to treatment or control within strata (also see "Intervention"). We plan to sample a minimum of 600 parents (up to a maximum of 800 if permitted by the actual cost of field work; also see "Experiment characteristics").

Randomization Method:
- Stratified randomization
- Randomization done with computer in office

Randomization unit:

Individual randomization (parent-child pair level)

Was the treatment clustered?
No.

Experiment characteristics

Sample size: Planned numbers of clusters
600 parent-child pairs (300 in control group; 300 in treatment group); (maximum: 800, conditional on cost of field work)
Sample size: planned number of observations
600 parents-child pairs (300 in control group; 300 in treatment group); (maximum: 800, conditional on cost of field work)

Sample size (or number of clusters) by treatment arms
There will two experimental groups:
Control group: 300 individual, independent observations
Treatment group: 300 individual, independent observations
According to our conservative cost calculations, we have sufficient funding for sampling 600 parents. In case that the field work is less costly than planned, we envisage to continue sampling up to a maximum number of 800 parents.

IRB
IRB Name
Joint Ethics Committee of the Faculty of Economics and Business Administration of Goethe University Frankfurt and the Gutenberg School of Management & Economics of the Faculty of Law, Management and Economics of Johannes Gutenberg University Mainz

IRB Approval Date
2017-09-04
IRB Approval Number
NA

Pre-analysis plan

Empirical strategy

We will estimate the effects of our treatment by regressing a specific outcome on the randomized treatment indicator using OLS models. Our main analyses will restrict the sample to the baseline interviews conducted with the mother of the child[1]. In order to increase precision (and to account for small imbalances between treatment and control group), we will add a vector of control variables to our main specification. This vector of controls will contain strata-dummies and pre-determined socio-demographic variables that we expected to be linked to our outcomes of interest. In order not to lose observations due to missing information on control variables (item non-response), we will impute missing control variables and add imputation-dummies to our regressions. If available, we will also include baseline levels for the respective outcome variable.

Our main specification will be the following:

$$Y_i = \alpha + \beta T_i + \gamma X_i + \delta Y_{i,t-1} + \varepsilon_i$$

with

Y_i: Outcome of interest for individual i after the intervention

T_i: Dummy equal to 1 if individual is assigned to the treatment condition, 0 otherwise

X_i: Vector of control variables for individual i (see below)

$Y_{i,t-1}$: Outcome of interest for individual i at baseline (if available)

ε_i: Idiosyncratic error term for individual i

Due to our randomized research design, β represents the estimated causal effect of our treatment on the respective outcome. Vector of control variables includes variables used for stratification (city (2 values), birth quarter of child (4 values), child lives with both parents (yes/no), and (a proxy for) first-time mother (yes/no)[2]) and socio-demographic control variables will include age of the child, gender of the child, household income, age of the mother, education of the mother, maternal labor market status, a dummy for migration background (mother born in Germany), and dummies for ZIP code area.

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[1] Based on our research questions, we specifically instructed our interviewers to conduct the interview with the mother of the child, if possible. However, for robustness we will also conduct estimations for the full sample.

[2] In our administrative data we observe whether the mother has other children up to age six years and interpret this as a proxy for first-time mother.

Randomization

We test for successful randomization by regressing baseline values of outcome variables and socio-demographic control variables on our treatment indicator. Successful randomization would imply that the share of significant relationships between socio-demographic characteristics and treatment status corresponds to the applied level of significance (alpha = 0.05). In addition, we will regress treatment status on baseline outcomes and socio-demographic characteristics jointly and test for joint significance using a joint F-test. Successful randomization would imply that the joint F-test is insignificant.

Main Analyses

In a first step, we will check whether our information treatment actually shifted knowledge and beliefs about costs for childcare. We do so by estimating the

1. Score on an index based on our knowledge questions
2. Beliefs about costs for childcare in EUR

Next, we will evaluate how our treatment affected intentions for childcare take-up, application behavior, and actual enrollment into childcare. As we are worried that rationing might substantially mask any treatment effect on take-up of childcare (because demand for childcare in Germany is much higher than the supply) we also focus on outcomes that measure application behavior and effort. Specifically, we will estimate:

3. Intention to enroll into childcare (measured by age at which enrollment should take place)
4. Applications for childcare (number of applications)
5. Enrolled into childcare or secured a slot for future enrollment (yes/no)

Finally, we analyze treatment-effect heterogeneity by socio-economic status. Therefore, we interact the treatment indicator with an indicator for low socio-economic status.

Exploratory Analyses

As our study is the first if its kind (providing information relevant for childcare enrollment and providing application assistance), we also conduct several exploratory analyses to learn more about the channels and mechanisms of our treatment. We anticipate that for (some of) these analyses, strata size will be binding to the extent that we will refrain from controlling for all variables we use in our main specification.

First, we want to analyze further potential heterogeneities of our treatment with respect to migration background, childcare eligibility criteria (e.g., whether the child has older siblings), city in which the intervention took place, and stated intention about enrolment prior to the intervention.

In a second set of analyses, we aim to understand whether our treatment was successful in changing specific behavior related to childcare take-up. Specifically, we will analyze the timing of parents' applications, whether they used other ways to apply than the standard online platform, how difficult they perceived the process of getting a slot, how much effort invested in applications, the price they effectively pay for childcare (because part of the treatment was supporting with applications for cost reduction), number of slots on a waiting list, number of slots offered to them, and whether they are more likely to have alternative care arrangements.

A third set of analyses will focus on whether the treatment affects parents' perception of childcare quality, and whether parents were more likely to secure a slot in a preferred and/or higher-quality childcare center.

Finally, we will also analyze parents that do not (yet) want to take-up childcare for their child. We will analyze what they state as a reason for this, and how their reservation price relates to actual and perceived costs.

Long-term outcomes

Contingent on a first stage (i.e., an actual increase in take-up of childcare in the treatment group) we also plan to evaluate effects of our treatment on outcomes in the area of child development and parental labor supply. Further details for these analyses will then be prespecified in a new version of this pre-analysis plan.