

RCT Registration

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Title: Longer-Term Effects of Early Child Care Access on Maternal Labor-Market and Family Outcomes

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Abstract

This project studies the longer-term effects of a previously implemented randomized intervention that reduced barriers in the application process for early child care in Germany. The original intervention generated exogenous variation in access to early child care by providing families with information and personalized support during the application process.

In earlier work, we documented that the intervention increased child care applications and child care enrollment, especially among families with lower socioeconomic status. We also found positive short-run effects on maternal labor supply and intra-household gender equality. The present follow-up study examines whether these effects persist as children grow older and enter primary school.

Our primary focus is on mothers' longer-term labor-market outcomes. We use two complementary data sources: administrative employment records from the Institute for Employment Research (IAB) of the Federal Employment Agency, linked to our study sample for mothers who previously consented to this linkage, and newly collected data from a follow-up survey fielded in summer 2026. As secondary outcomes, we examine maternal well-being, paternal labor market outcomes, and child development.

Trial start date: 01 July 2026

Intervention start date: 01 July 2026

Intervention end date: 1 October 2026

Trial end date: 31 October 2028

Intervention

This registration concerns a longer-run follow-up of a previously implemented randomized controlled trial. The original intervention was designed to reduce barriers in the application process for early child care. Treated families received information about the child care application process and, where desired, personalized support with the application. The intervention was intended to reduce informational and administrative barriers that may prevent families from applying for and obtaining an early child care slot.

Hermes et al. (2025) describe the original intervention in detail and show that it increased application behavior and the probability of receiving an early child care slot, in particular among mothers with lower socioeconomic status (SES). Based on self-collected survey data, Hermes et al. (2024) further show that the intervention increased full-time employment among lower-SES mothers and improved intra-household gender equality between mothers and fathers.

The original baseline sample consisted of 607 families. In a previous follow-up, Hermes et al. (2024) re-surveyed 481 of these families. In the current project, we re-contact the original sample of 607 families and expect approximately 450 families to participate in the new follow-up survey. As in previous survey waves, we aim to interview the mothers in this follow-up survey.

No new intervention is administered in this trial. The current project collects longer-term outcomes through a new follow-up survey and administrative labor-market records. Consent for linking survey data to IAB administrative employment records was collected in a previous survey wave using a separate consent procedure developed in consultation with the IAB. Only mothers who provided consent will be included in the administrative data linkage.

Data sources and outcome measurement

Our main maternal labor market outcomes are measured using two data sources.

First, we use administrative employment records from the Institute for Employment Research (IAB) of the Federal Employment Agency for mothers who consented to the data linkage (note that consenting to the data linkage is not affected by treatment status).

These data allow us to trace labor-market outcomes over time and to measure longer-term employment and earnings outcomes in administrative records.

Second, we collect new data in a follow-up survey administered in two parts (because of the survey length, the survey has two parts for which participants receive separate invitations) in summer 2026, when the children in the original study are approximately eight years old and mostly attend primary school.

Combining both data types not only maximizes the analysis sample but also allows us to estimate effects over time. While Hermes et al. (2024) examine labor-market outcomes for mothers when their children are 2–3 years old (about eighteen months after the intervention), the administrative data enable us to trace dynamic effects from immediately after the treatment through at least 2024. The survey data will capture mothers' prior and current employment outcomes, allowing us to complement the administrative records and measure longer-run effects when children are around eight years old. Wherever possible, we will pool the administrative and survey data to estimate treatment effects on the largest feasible sample. However, for certain years or outcomes, estimation will necessarily be restricted to one source only, either because the relevant data are unavailable in a given year or because a particular variable is captured in only one of the two datasets.

Note that in most cases, the mother participated in the prior surveys and potentially gave consent to the data linkage. Thus, information about the partner/father and child outcomes mainly comes from survey data reported by the mother.

Primary outcome:

Our analysis focuses on the long-term effects of the original treatment on longer-term maternal labor-market attachment. We focus on lower-SES mothers, defined as mothers without Abitur or Fachabitur at baseline.

- mothers' longer-term labor market outcomes, such as full-time employment and earnings

Secondary outcomes:

Secondary outcomes are grouped into the following pre-specified outcome families:

- mothers' well-being, such as quality of employment and life satisfaction
- fathers' outcomes, such as extent of labor supply and earnings
- children's development, such as SDQ and school outcomes
- family environment, such as division of paid/unpaid work and activities with the child

IRB

IRB Name

Ethics Commission, Department of Economics, University of Munich

IRB Approval Date

2026-03-30

IRB Approval Number

2026-07

Pre-analysis plan

Empirical strategy

We will estimate the effects of our treatment by regressing a specific outcome on the randomized treatment indicator interacted with an indicator for lower-SES using OLS models. We focus on the effects for lower-SES mothers, as our prior work Hermes at al. (2024, 2025) shows treatment effects only for this subgroup. 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 the strata variables and baseline socio-demographic variables that are expected to predict the 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. Whenever possible, we will also include baseline levels for the respective outcome variable. In all our analyses, we will generally follow the procedures implemented in Hermes at al. (2024, 2025).

Our main specification will be the following:

$$Y_i = \alpha + \beta_1 T_i + \beta_2 HigherSES_i + \beta_3 T_i * HigherSES_i + \gamma X_i + \delta Y_{i,t-1} + \varepsilon_i$$

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

HigherSES: Dummy equal to 1 if mother has a university entrance qualification (Abitur or Fachabitur)

β_1 : Coefficient of interest, treatment effect for lower-SES mothers

X_i : Vector of baseline 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_1 represents the estimated causal effect of our treatment on the respective outcome for lower-SES individuals; our focus is on lower-SES mothers in most of the analysis. All control variables are measured at baseline and are therefore predetermined with respect to treatment assignment. Vector of control variables includes variables used for stratification (city (2 values), child's birth quarter (4 values), child lives with both parents (yes/no), and (a proxy for) first-time mother

(yes/no))¹, as well as socio-demographic control variables that include household income, age of the mother, a dummy for migration background (indicator for the mother being born in Germany), whether she planned to work or was actually employed, and whether she was the main caregiver. For outcomes measured for fathers/partners, we include the corresponding baseline controls for the father/partner whenever available.

Randomization Checks and Attrition

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. Because our main analyses focus on lower-SES mothers, we will also check for balancing within the lower-SES and higher-SES subsamples.

Moreover, we will assess differential attrition by estimating treatment effects on survey participation and linkage consent. We will also test baseline covariate balance among follow-up respondents. As robustness checks, we will report inverse-probability-weighted estimates using baseline predictors of response and bounding analysis for key outcomes.

Main Analyses

Our main focus will be on evaluating how the treatment affected lower-SES mothers' longer-term labor market outcomes using both administrative data and survey information. As secondary analyses, we will estimate treatment interactions with pre-birth labor supply and baseline labor-market plans.

As secondary outcomes, we also investigate effects on mothers' well-being, paternal outcomes, child development, and family environment.

Pre-registration and PAP for the underlying RCT:
<https://www.socialscienceregistry.org/trials/3181>

¹ We include the stratification variables linearly in our regressions rather than as stratum fixed effects. Given the large number of strata relative to the sample size, including a full set of stratum dummies would result in a substantial loss of degrees of freedom and potentially reduce estimation precision.

References

Hermes, H., P. Lergetporer, F. Peter, and S. Wiederhold (2025). Application Barriers and the Socioeconomic Gap in Child Care Enrollment. *Journal of the European Economic Association* 23 (3), 1133–1172.

Hermes, H., M. Krauß, P. Lergetporer, F. Peter, and S. Wiederhold (2024). Early Child Care, Maternal Labor Supply, and Gender Equality: A Randomized Controlled Trial. CESifo Working Paper No. 10178, Center for Economic Studies.