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Early Childhood Education and Care Quality in the Socio-Economic Panel (SOEP) - the K2ID-SOEP Study

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Data Observer

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1 Motivation

Since 2000, Germany is experiencing an expansion of early childhood education and care (ECEC) institutions for children younger than three as well as increasing availability of full-day care for children aged three or older. More and more children attend ECEC centres for increasingly longer hours. Thus, ECEC centres are becoming an increasingly important environment for children and their parents. Given this background, an increasing number of economists are working on issues related to ECEC – with respect to either parental labour force participation or child outcomes. The K₂ID-SOEP data sets are of particular interest to these researchers – and to all other social scientists investigating the impact of early childhood education and care across a variety of domains.

The Socio-Economic-Panel Study (SOEP), as the largest and longest running multidisciplinary household panel in Germany (Wagner et al. 2007), started collecting information on ECEC centre attendance since its first wave in 1984. Irregularly, the SOEP collects information on the costs for ECEC care and the provider type. To learn more about the institutional context of ECEC, the aim of a larger research and data project funded by the Jacobs Foundation was to collect information from ECEC

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centres that are attended by children in the SOEP. Moreover this information of an institution survey was combined with the individual data of the SOEP.¹ This approach, which takes individual data as a starting point, differs from other data sets that collect comparable information in ECEC centres, such as the National Education Panel Study (NEPS), NEPS-starting cohort 2 (e. g. Blossfeld et al. 2011), which started with a sample of ECEC centres and planned to followed all children in the centres. The main aim of our K²ID-SOEP study (short: K²ID-SOEP) was to collect information on the quality of ECEC centres of all SOEP children in such centres. ECEC quality is a key feature that affects child development and other parental outcomes, such as parental employment and parental wellbeing (see e. g., Schober et al. 2016; Anders 2013). The K²ID-SOEP study was realized between 2013 and 2015. K²ID is an acronym for ‘**K**inder und **K**itas **I**n **D**eutschland’ (‘Children and Childcare Centres in Germany’). The K2ID-SOEP study encompasses two surveys, a Parent Survey and an Institution Survey.

2 Survey description

In a first step, the parents of all SOEP children below school age were surveyed to investigate the parental decision-making process and subjective evaluations with respect to ECEC quality of the institutions attended by their children. In a second step, K²ID-SOEP collected information from the directors and group educators of the ECEC institutions attended by these children. These data include various quality indicators, primarily indicators of structural and orientation quality (for more details see below). By combining institutional information on the educational context with individual and household data collected in the SOEP, the data set allows examining how quality characteristics of ECEC institutions relate to parental choices of ECEC institutions, to parental outcomes, and, lastly, to children’s development during early childhood, during school years, and through to adulthood. Researchers may analyse the transition into institutions of varying levels of quality by socio-economic status and the effects of ECEC quality on parental employment and wellbeing as well as on the socio-emotional development of children. Hence, the study provides information on possible direct consequences of ECEC quality on children’s short, medium, and long term educational and labour market outcomes and intergenerational mobility, as well

¹ The SOEP has experience in conducting organizational or institutional surveys that are linked to SOEP households. During the 2012 SOEP wave, addresses from panelists’ workplaces were collected, which, later in the same year, were used for an enterprise survey (SOEP-LEE, for details see Weinhardt et al. 2016).

as indirect effects on child outcomes through parental employment and wellbeing. Moreover, it enables researchers to investigate both the socio-economic selectivity in parental choices of ECEC quality and information asymmetries between mothers and ECEC providers. A summary of the project, the data collection and related publications are posted on www.k2id.de. The data were collected in collaboration with the institute ‘TNS Infratest’. A detailed description on the data is given in a special DIW data documentation by Schober et al. (2017).²

2.1 Sample and survey design

The sampling system of the K2ID-SOEP study is based on all households with children below school age in the SOEP. More precisely, target households comprised those with a child born on September 1, 2007, or later, who participated in the 2013 wave and did not refuse participating in the 2014 wave from the outset. Therefore, at the beginning of fieldwork in October 2013, target children were between zero and six years of age.

The SOEP is augmented by several supplementary studies, for our purpose most importantly the ‘Families in Germany’ study (FiD, ‘Familien in Deutschland’) (Schröder et al. 2013). FiD is a data set of households with young children and households with special needs (low income, single parents, and large families). Since 2014, the FiD sample is part of the SOEP (for further details see <http://www.diw.de/fid-soep>, download: January 2018). SOEP and FiD data can be analysed jointly using sampling weights. For the K2ID-SOEP study, all main SOEP and FiD subsamples questioned in 2013 were taken into account. As an exception, we postponed sampling and data collection by one year with respect to sample M, a newly added subsample consisting of households with a migration background (wave 2 in 2014/2015). All parents in households meeting the aforementioned criteria were asked to participate in the Parent Survey. The final gross sample covered 3,916 children from 906 SOEP households, 527 households of the SOEP Migrations Sample M, and 1,632 households of the FiD sample. Starting from a gross sample of 3,916 children in 3,065 households, the net sample of children for whom information was provided amounts to 2,841 children in 2,227 households. Thus, the overall response rate equals 73 percent, but varies across subsamples and waves

² In September 2016, the institute was renamed ‘Kantar TNS’ (see <http://www.tns-infratest.com/>). Moreover, in a related project, the Institution Survey was also conducted among ECEC centres attended by 5-year old twins who participated in the SOEP-Related Study ‘TwinLife’. This is a representative behavior genetic study of twins and their families. Information specific to the TwinLife sample are provided in a separate report.

(Table 1). In the course of data collection, 1,528 valid addresses of ECEC institutions attended by SOEP and FiD children were retrieved, covering 2,074 children. The centres were spread across the entire country, as shown in Figure 1.

Table 1: Sample and results of Parent Survey by wave.

	Wave 1 Parent Survey		Wave 2 Parent Survey		Total	
	N	%	N	%	N	%
Households						
Gross sample	2538		527		3065	
At least one questionnaire answered	1870	73.7%	357	67.7%	2227	72.7%
Children						
Gross sample	3240		676		3916	
Questionnaire answered	2388	73.7%	453	67.0%	2841	72.5%
Long questionnaire	1201	50.3%	0	0.0%	1201	42.3%
Short questionnaire	1081	45.3%	453	100.0%	1534	54.0%
CATI	106	4.4%	0	0.0%	106	3.7%
Child visits ECEC institution	1924		309		2233	
			Wave 1 Institution Survey	Wave 2 Institution Survey		Total
Institutions						
Addresses reported on time		1275		292		1567
School/childminder		5		3		8
Double/not eligible ('QNA')		26		5		31
Adjusted gross sample		1244		284		1528

Source: Schober et al. (2017: Table 2 adapted).

Parent Survey. On the basis of the results of pretests (see Schober et al. 2017) and expert advice, a longer and a shorter version of the final paper-and-pencil survey instrument was developed and implemented in the field. While a longer instrument was used for FiD households, a shorter questionnaire was used for all subsamples of the SOEP, which were expected to have a greater risk of non-response. In case of non-response, FiD households were asked to answer the shorter version. Some of the questions are also part of the Institution Survey. The questionnaire for the main caregiver within each household covered information on attitudes towards ECEC, attendance at an ECEC centre, name, address and

Table 2: Sample and results of Institution Surveys by wave.

	Wave 1		Wave 2		Total	
	N	%	N	%	N	%
Institutions						
Gross sample	1,244	100.0	284	100.0	1,528	100.0
Non-response	564	45.3	110	38.7	674	44.1
Total response	680	54.7	174	61.3	854	55.9
Fully realized	445	65.4	110	63.2	555	65.0
Partially realized	73	10.7	26	14.9	99	11.6
Compressed questionnaire	162	23.8	38	21.8	200	23.4

Source: Schober et al. (2017: Table 3).

opening hours of ECEC institutions, individual criteria for choosing the ECEC centre, satisfaction with educational support and care in centre, participation in centre activities, name of child's group within the institution, information on caregivers in institution, activities in group and parental perceptions of ECEC institution and staff.

Institutional Surveys. 854 out of 1,528 ECEC centres from across Germany provided valid information. This implies a response rate of 56 percent at the centre level (for details on response rates see Table 2).³ In principle, two questionnaires for ECEC institutions were used, one for directors and one for the pedagogic staff. These were also pretested. The two questionnaires designed for ECEC institutions partly overlap with respect to questions for the directors and educators. The *questionnaire for directors* focuses on aspects of structural quality, pedagogic orientations, and satisfaction with various education and care aspects. Specifically, it covers the following aspects: Organizational aspects of the centre, attending children, group structure, parental involvement and quality development, facilities and local conditions, pedagogical work, satisfaction with different aspects of the centre, perceived responsibilities and satisfaction with other aspects and personnel resources. The last section captures the director's personal information like gender, birth year, schooling, type of professional qualification and specialization, work and leadership experience, weekly working hours (in contract and actual hours), and whether he or she participated in further training during the last year. Some questions were the same as for the parents.

³ Child minders or family daycare homes were not surveyed, as they usually care for a small number of children, meaning that identification of individual children could be possible if only few child minders worked in a municipality.



Figure 1: Locations of institutions attended by children in the K2ID-SOEP study.

Note: This map is for illustrative purposes only and shows the locations of an incomplete list of centres. Source: Schober et al. (2017: 6), Map provided by TNS Infratest/Kantar Public.

The questionnaire for the educators of the specific groups attended by SOEP and FID children (from now on only SOEP) concentrates on surveying the frequency of various activities performed with the children, in addition to pedagogic orientations of the staff and satisfaction with the quality of education and care provided. Specifically, it includes questions on group structure and attending children, staff and space, equipment of the group and frequencies of certain activities. Another section focuses on educator attitudes as measures of orientation quality. The perceptions about pedagogical work, satisfaction with different aspects of the centre, and educators' satisfaction with health and personal income are covered as well as educators' personal characteristics such as gender, birth year, qualifications, work

experience, contractual and actual weekly working hours, participation in further training in the past year and educators' overall life satisfaction. Again some questions were the same as for the parents, to capture differences in assessments of ECEC quality between parents and ECEC directors or educators, respectively.

The institutional surveys were conducted via paper and pencil or via telephone. These methods were favoured over personal interviews since they presumably interfered less with daily routines of ECEC staff, parents, and children. Moreover, survey-based methods of collecting ECEC quality data appeared particularly advantageous in the context of the SOEP. Observations in classrooms of ECEC centres attended by SOEP children would have been very costly and inefficient, given that only very few children attended the same centre. For a discussion on the collection of quality information via surveys see also McCabe and Ackerman (2007). In order to further ensure the validity of the applied self-reported measures of ECEC quality, a small-scale pedagogical study was conducted by Anders and Hachfeld. The study compared the survey-based measures of ECEC quality developed in the K2ID-SOEP study with assessments of professional observers. To this end, 29 ECEC centres outside the K2ID-SOEP sample were assessed using the German version of the ECERS Scale, the "Kindergarteneinschätzungsskala" to measure ECEC-Quality (Tietze et al. 2007). A separate report on this validation study is available (Hachfeld and Anders 2016).

3 Survey preparation and implementation

The implementation of both surveys consisted of three core steps. First, the questionnaires for the Parent and Institution Surveys were designed and tested. Second, the households and ECEC institutions were surveyed. Third, the periods of data collection were partially accompanied by follow-ups in order to increase participation rates. The entire period of data collection lasted from August 2013 through December 2015. As non-response could be an issue, study-specific weights are available. Using available data on households and their members, we calculated statistical weights that correct for selective unit non-response, then combine these with the already existing design and survey weights for SOEP data. This procedure resulted in two weights, one for analysing the Parent Survey only and one for analyses including ECEC information from the Institution Survey.

While the survey procedure of the parents questionnaire did not vary substantially from the normal SOEP procedure, the procedure for the data collection on the ECEC centres was as follows. In combination with the questionnaires, the centres received a letter, a leaflet with details on the study, a data protection

sheet, and a prepaid return envelope via mail. To ensure high response rates, all ECEC institutions received vouchers upon completion of each questionnaire, plus an additional voucher if all of the required questionnaires were returned. Also, directors could indicate if they would like to receive an information sheet with selected results at the end of the study. As part of the follow-up phase, the field institute TNS Infratest contacted ECEC institutions that had not yet responded as of March 2014 via telephone. Those who stated a general interest in the survey when called, but who did not send the questionnaires back, received further reminders by phone starting in May. This time, we recruited early childhood education students with work experience in ECEC-related institutions or similar previous surveys from the Freie Universität Berlin to continuously follow up the responses of the institutions. The aim was to enable the student interviewers to build up a relationship with the ECEC directors of their assigned institutions. The students were trained by the K²ID research team and TNS Infratest. A compressed version of the questionnaire was additionally deployed. Its use was restricted to a postal non-response survey taking place between July and September among centres that had already refused participation.

Overall the survey instruments cover the following questionnaires: (1) Parent Questionnaire long: Wave 1; (2) Parent Questionnaire short: Wave 1 & 2; (3) Director Questionnaire: Wave 1 & 2; (4) Educator Questionnaire: Wave 1 & 2; and (5) Compressed Questionnaire: Wave 1 & 2. They are available together with the data. Further instruments include the questionnaires for the pretests and for the CATI follow-up, which are available upon request. All data sets are available to the SOEP user community starting with the SOEP data release in 2017. However, this special data set must be specifically requested; then users receive access to the data sets, all questionnaires, and the data documentation.

4 First publications based on the K²ID-SOEP data

As the K²ID-SOEP data set was generated as part of a larger research project, first publications based on these data are already published, thus demonstrating the potential of these data sets. One study by Stahl et al. (2017) examines whether children from potentially disadvantaged families attend ECEC centres of lower quality compared to more advantaged children. The findings provide evidence that migrant children and, in particular, children of low-educated parents experience moderately lower quality levels on some structural and orientation quality characteristics. Children from income poor or single parent households receive lower quality only on few, mostly hardly observable, characteristics. Another

analysis by Camehl et al. (2017) investigates information asymmetries in the German child care market between parents and ECEC professionals. Here we compare quality perceptions by parents and pedagogic staff. We detect considerable information asymmetries between these groups, which differ across quality measures but little by parental socio-economic background or centre characteristics. Stahl and Schober (2016) investigate how maternal working hours and hourly wages after labor market return relate to different quality aspects of the ECEC centres attended by their children. The findings show that higher levels of quality with respect to child-teacher-ratio, activities promoting child learning, and offered services for parents are partly associated with greater increases in working hours and hourly wages for mothers when compared to the year before using the ECEC centre. No significant relationships emerged for group size.

A policy report by Camehl et al. (2015) addresses the question if higher quality and lower cost of day care are reflected in more satisfied parents. We examine satisfaction with different aspects related to organization, equipment and resources, pedagogic staff, activities with the children, cooperation with parents, and, specifically, cost. The analyses show that while parental satisfaction is generally high, satisfaction is lowest with cost and with opportunities for parental involvement in the ECEC centre. With regard to overall satisfaction with the childcare ECEC centre, however, cost plays no role at all – here, the key factors are staffing and particularly parents' perceptions of whether their wishes are taken into consideration.

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