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Data Brief

The Individual in Context(s): Research Potentials of the Socio-Economic Panel Study (SOEP) in Sociology

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Abstract

The German Socio-Economic Panel (SOEP) study is a rich resource for sociologists, mainly because it offers direct measures of respondents' contexts. The SOEP data provide (i) information retrieved from individuals themselves, (ii) direct information retrieved from their parents, partners, and organizations, (iii) prospectively collected information on past characteristics, and (iv) regional and spatial identifiers allowing researchers to link the data with regional-level characteristics. As the study has been in the field since 1984, the data also reflect variation in institutional and structural settings over time. Regular refreshment samples provide options to identify cohort effects. Together, these features allow multi-layered contextual designs that offer substantive insights into the effects of formal and informal institutions on individual behaviour and living conditions. This article introduces the main types of SOEP-based sociological research designs and discusses their survey methodological origins. It also points to underexplored potentials as well as limitations of the SOEP. Finally, it offers basic suggestions for approaching the data in each of the research designs presented.

Introduction

The German Socio-Economic Panel (SOEP) is a randomly sampled survey of persons in private households in Germany, who are reinterviewed on an annual basis. It collects a wide range of demographic, socio-economic, behavioural, and attitudinal measures through individual- and household-level interviews. Running since 1984 with an average number of about 20,000 individual-level interviews per year, the SOEP has grown into one of the largest and longest-running panel surveys worldwide.[1] The data are part of Germany's research infrastructure;[2] they are provided free of charge to the international scientific community,[3] accompanied by various measures of knowledge transfer,[4] and embraced by a comprehensive online documentation system.[5]

Providing in-depth information on income and labour market characteristics, the SOEP has become a standard data source in economics (Goebel *et al.*, 2019).

Because the SOEP contains key indicators for social reporting (Schupp, 2019), it is also used widely by (inter)governmental organizations including the OECD (Piacentini, 2014), the International Monetary Fund (2007), and the German Federal Ministry of Labour and Social Affairs (2017) to track trends in poverty, inequality, and employment. The increasing usage of the SOEP in psychology and public health originates mainly from the addition of several experiments, personality tests, and subjective measures (Schupp Spieß and Wagner, 2008; Dohmen *et al.*, 2011).[6] Despite its multidisciplinary approach, however, the SOEP has a particularly close connection with sociology: It provides data on classic dimensions of inequality, but also reflects further facets of stratification (such as quality of life and time allocation), which are particularly relevant in sociology.[7] Furthermore, the survey addresses social action and interaction and their attitudinal outcomes (such as values, concerns, and perceived inequality).[8]

While the provision of important indicators forms a solid basis for the connection between SOEP and sociology, its strong bond is tied by structural features of the data: The survey focuses on individuals within various layers of their social contexts, and is therefore aligned with the basic model of explanatory sociology. This model portrays the individual as embedded in a contextual structure that provides resources, sets constraints, shapes living conditions (Granovetter, 1985), and, generally, defines a macro-level framework for individual-level outcomes (Coleman, 2000). This portrait of the embedded individual is reflected in the design of the SOEP (see also Wagner, Frick and Schupp, 2007), whose respondents are observed not just as economic actors, but also as *socialized* individuals within partnerships, families, households, communities, regions, organizations, cohorts, and the life course (see Figure 1). The SOEP therefore is inherently connected with sociology as a discipline that aims at modelling the complex interdependencies between individual and society—a discipline that asks how individuals are influenced by life course dynamics and processes of intergenerational transmission, by processes of (re)distribution within households and organizations, and by institutional frameworks anchored in spatial areas and in time periods.

Such questions about the impact of context are regularly explored with SOEP data. Between 2006 and 2018, 50 articles based on SOEP were published in the *European Sociological Review*.[9] Of these, 44 (88 per cent) took a life course perspective (either explicitly, in studying biographical transitions or trajectories, or implicitly, in seeking to validate causal interpretations using longitudinal data). Allowing multiple counts, 20 articles (40 per cent) employed a multi-actor design linking information collected from household or family members. Eleven SOEP-based articles (22 per cent) in ESR used geospatial references to link regional information, and seven articles (14 per cent) employed a cohort design. Finally, 11 studies (22 per cent) used the SOEP in the context of cross-country analyses, combining SOEP data with other (cross-)national household panel data.[10]

This article is devoted to summarizing and highlighting the potential of contextual information in the SOEP for sociologists. Each section discusses one specific contextual research design. In these sections, we motivate SOEP-based applications and reveal their survey methodological roots. Furthermore, we discuss underexplored potentials, but also provide some practical guidelines and address typical pitfalls and 'best practices' for using the SOEP in the different analytical scenarios.

The Life Course as Context: Linking Individual Measures over Time

Understanding individual living conditions and behaviour from a life course perspective has a long tradition in sociology. Early life course research was devoted primarily to studying how historical shocks impact life course dynamics (see, e.g. Elder, 1974), whereas contemporary sociology rather regards the life course as a function of institutional regulation: By providing entry and exit ports to the various domains of life (education, employment, family), institutions map the macro-level differentiation of modern societies diachronically on the individual level (Mayer and Tuma, 1990; Mayer, 2009). Consequently, the life course is institutionalized as a sequence of biographical segments including, e.g. childhood, career, and parenthood. Regulating entries into and living conditions within these segments, institutions affect the development of inequalities between individuals over time. In this light, the life course appears as a medium within which institutions translate heterogeneities chronologically into patterns of inequality (Mayer and Blossfeld, 1990; Mayer, 2009). At the same time, the life course does not just act as mediator of institutional effects, but also as a contextual layer in itself (Kohli, 1985, 2007) and thus constitutes a genuine element of an individual's social structure (Mayer, 2009). In research practice, this dual role of the life course as a *context within contexts* (Bernardi, Huinink and Settersten, 2018) translates into two different types of

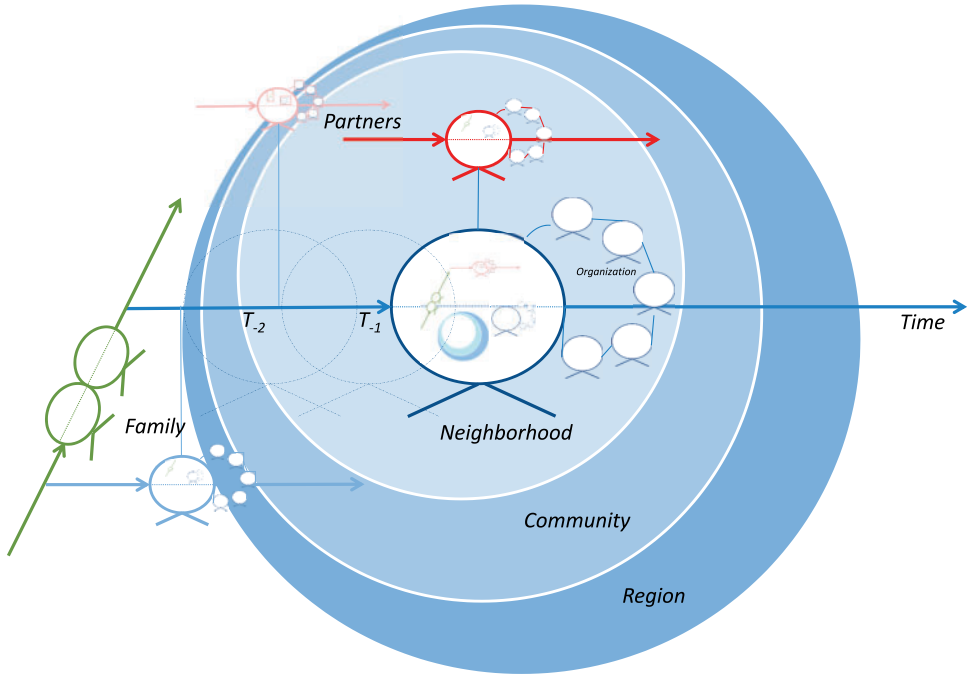

Figure 1. The SOEP respondent embedded within multi-layered social contexts. Living conditions and behaviour reflect (i) the individual's position within the life course (temporal axis), (ii) past conditions (T_{-x}), (iii) partnerships, (iv) membership in organizations, (v) social background, and (vi) placement in spatial units.

empirical analyses: transition-centered and holistic life course designs.[11]

Transition-Centered Life Course Designs

Transition-centered life course designs focus on the entry and exit ports of life course segments. At these transition points, privileges and disadvantages unfold into measurable patterns of inequality. Consequently, sociologists aim at modelling both the determinants and the outcomes of such transitions. To identify the determinants, techniques of event history analysis (Blossfeld, 2009) are generally used. To identify their outcomes, either simple before–after comparisons or event-centered trajectories are estimated (Allison, 2004; Giesselmann *et al.*, 2018).

SOEP's potentials for transition-centered life course analysis are rooted in its basic sample properties. In SOEP Version v33.1, released in 2017 and containing data from 1984 to 2016, around 86,000 adults were interviewed in at least 1 year. On average, each of these respondents provided about seven annual interviews. As individuals are followed across households and attrition rates are moderate (about 9 per cent on average),[12] even critical life events that involve a household separation are generally surrounded by prospective individual-level measures (i.e. measures which stem from current interviews, not from retrospective surveys). Such prospective measures allow accurate and consistent modelling of transition-centered research questions. Furthermore, lagged intra-individual reference measures provide beneficial estimators of counterfactuals in causal analyses, as unit-specific unobservables are implicitly held constant (Gangl, 2010), and processes of reversed causality can be controlled (at least to some degree, depending on process time and measurement interval) (Blossfeld, 2009).[13]

The lower part of Figure 2 illustrates SOEP's potentials for life course designs by presenting the numbers of SOEP respondents who experienced demographic or economic transitions within their observational windows.[14] Only transitions validated by prospective information were taken into account. Furthermore, for each type of transition, we counted only one event per respondent. Therefore, for transitions to non-finite states (marriage, divorce, job loss), the reported transitions are lower than the overall number of transitions observable in the data.

Between 1984 and 2016, the transition from the education system to the labour market, as modelled, for instance, by Scherer (2005) to estimate determinants of stable vs. unstable employment, was prospectively

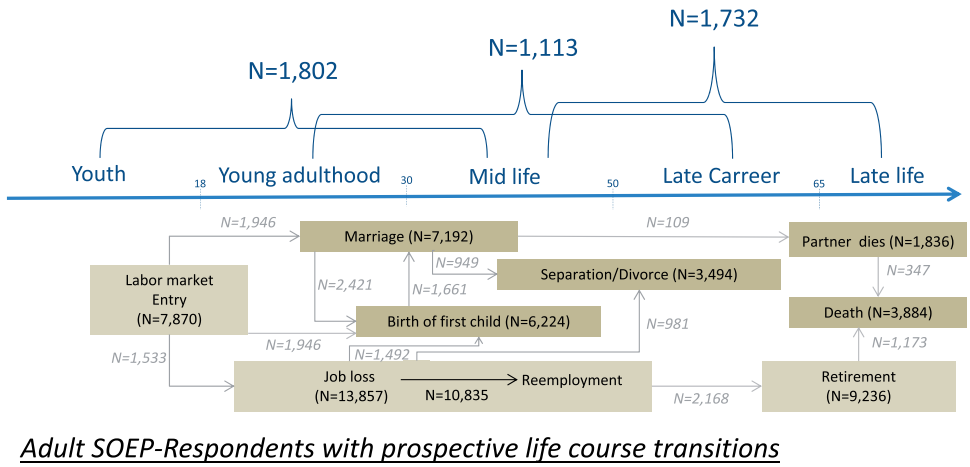

Figure 2. Longitudinal and life course related SOEP sample characteristics (SOEP v33.1, 1984–2016, prospective data only). Respondents with long observation windows (*blue numbers*), observed transitions (*black numbers*), and observed networks of transitions (*grey numbers*).

observed for about 7,900 SOEP respondents. A job-loss is experienced by roughly 13,900 SOEP respondents, of which about 10,900 also re-enter into employment during their observational windows. These cases allow researchers to explore determinants of labour market entry and exit (e.g. Biegert and Kühhirt, 2018), employment trajectories following labour market re-entry (e.g. Voßemer and Schuck, 2016), as well as income dynamics after episodes of unemployment (e.g. Schmelzer, 2012).

The SOEP also provides rich information on demographic transitions, which are often analyzed to study the imprint of gendered inequalities ingrained in formal and informal institutions. For example, Kühhirt (2012) finds that the transition to parenthood (about 6,200 events in the SOEP) fosters a gendered division of labour in couples, while Andreß *et al.* (2006) show that marriage dissolution (about 3,500 events in the SOEP) leads to differing patterns of economic well-being for men and women. Late life transitions such as retirement, death, and widowhood (see, e.g., Kröger *et al.*, 2017) have not yet been exhaustively examined on the basis of the SOEP in sociological research. With increasing interest in aging societies and health-related inequalities, however, the several thousand observable late-life events in the SOEP offer substantial potential for future research.

The lower half of Figure 2 also reveals SOEP's potential for analyzing networks of events: Grey figures and grey arrows indicate the numbers of respondents with prospectively observed *sequences* of transitions. To what extent does labour market entry accelerate the transition to parenthood? Is the effect of labour market entry on a person's welfare position reinforced through homogamy and therefore accentuated at marriage? For both these sequences of transitions, the SOEP provides about 1,900 respondents with prospective measures. These constitute an underexplored and steadily growing potential of the SOEP to analyze interdependencies between events across different life domains and to identify biographical path-dependencies transcending spheres of life. Such designs mark the intersection with more holistic approaches to the life course.

Holistic Life Course Designs

Holistic life course designs are not focused on single transitions but on sequences of biographical segments or generative processes. Typically, these designs are rather data-driven and explorative. They may, for example, describe prototypical sequences of life course segments (Aisenbrey and Fasang, 2010) or map wide trajectories of economic indicators to show how resources and disadvantages accumulate over the life course (DiPrete and Eirich, 2006; Becker and Blossfeld, 2017).

In practice, empirical studies related to the life course often contain both holistic and transition-centered elements. Schmelzer (2012), for example, uses SOEP data to trace income dynamics over more than 10 years following labour market re-entry. Zagel (2014) estimates SOEP-based employment trajectories using up to 18

annual repeated measures following the transition to (lone) motherhood. Other types of such 'hybrid' life course designs are studies concerned with interrelated networks of events (Vandecasteele, 2011), studies that combine exploratory holistic elements and statistical models (Brüderl, Kratz and Bauer, 2018), and studies that model current outcomes (e.g. marital disruptions) as dependent on conditions during past biographical segments (e.g. childhood or young adulthood, see Luijkx and Wolbers, 2009).

Holistic empirical designs require wide observational windows. In the SOEP, nearly 23,000 respondents provide at least 10 subsequent person-level interviews, about 9,000 respondents are observed for 20 or more years, and about 1,400 respondents from the original 1984 sample were constantly observed until 2016. Thus, generally, the SOEP allows for analyses with prospectively collected data that transcend life course segments or rely on wide age intervals.[15]

The upper half of Figure 2 illustrates this potential: About 1,800 SOEP respondents were observed during their youth below the age of 18 and also in mid-life above the age of 30, when most have completed occupational training or higher education. This sub-sample allows for a detailed, generic perspective on the process of early career development. It also makes it possible to study the relationship between goals, skills, social backgrounds or time allocation during youth[16] and early career transitions or (proxies of) lifetime resources (Brady *et al.*, 2018). Furthermore, a total of 1,113 SOEP respondents have been surveyed throughout the core phase of working life, providing prospective interviews from below the age of 30 to above the age of 50, making it possible to track the process of status accumulation from early to late stages of the career. Finally, 1,732 respondents have been interviewed prospectively from mid-life (30–49) through late-life (65 or older). This sub-sample makes it possible to track the process leading up to retirement and to detect how variation in occupational and marital characteristics develop into differing late-life conditions. While most existing SOEP-based analyses over broader sequences of the life course use retrospective information from biographical interviews (e.g. Hillmert, 2015), the increasing capacities of prospective SOEP data for such holistic life course designs remain to be explored.

As a starting point for life course analyses, SOEP files containing sample information and individual sample biographies ('ppathl [ppfadl]')[17] can be used to define the analytical sample (see Goebel *et al.*, 2019, for details on the structure of the SOEP data). Users can identify life course transitions on the basis of sequences of prospective yearly measures in the main data files ('pl' and 'pgen'). Alternatively, SOEP users can retrieve information on transitions from generated, user-friendly biography files (such as 'artkalen' and 'biobirth', see Goebel, 2017). The information in these files is checked for intra-respondent plausibility and includes information on short-term segments from retrospective monthly calendar questionnaires (such as a 3-month unemployment spell not indicated in the annual measures). These generated biographical datasets, which are organized in either spell or calendar format, exist for occupational, marital, and educational biographies. By merging transitions from biographical files with regular individual and household-level data, life course transitions can be studied in relation to long- or short-term developments in any socio-economic outcome or indicator available in the SOEP.

Social Background as Context: Linking Individuals with Parental Information

The family is widely accepted as *the* fundamental socializing unit and main contextual determinant of individual outcomes in Western societies (Maccoby, 1992). Functionalist accounts emphasize the regulatory role of the family as a socializing institution in which social norms and identities are handed down to the next generation (Parsons *et al.*, 1956). However, much of the current empirical research on the individual effects of parental background rather follows a conflict theory agenda, which perceives the intra-familiar socialization process as problematic insofar as it contributes to the persistence and reproduction of inequalities (Farrington and Chertok, 2009). Against this theoretical background, linking characteristics of parents and children allows researchers to analyze the reproduction of socio-economic inequalities (Wiborg and Hansen, 2009) and the intergenerational transmissions of norms (Platt and Polavieja, 2016), health (Singh-Manoux and Marmot, 2005), political participation (Gidengil, Wass and Valaste, 2016), and preferences (Dohmen *et al.*, 2012).

Due to its household-oriented sample design and the principle of following individuals across households, the SOEP allows for different types of intergenerational analyses (see Figure 3). Individuals may enter the SOEP as adults by living in or moving into a sampled household. For these respondents (Figure 3, black centre circle, upper row), usually only proxy information on basic parental characteristics is available (reported by the respondents about their parents and not by the parents

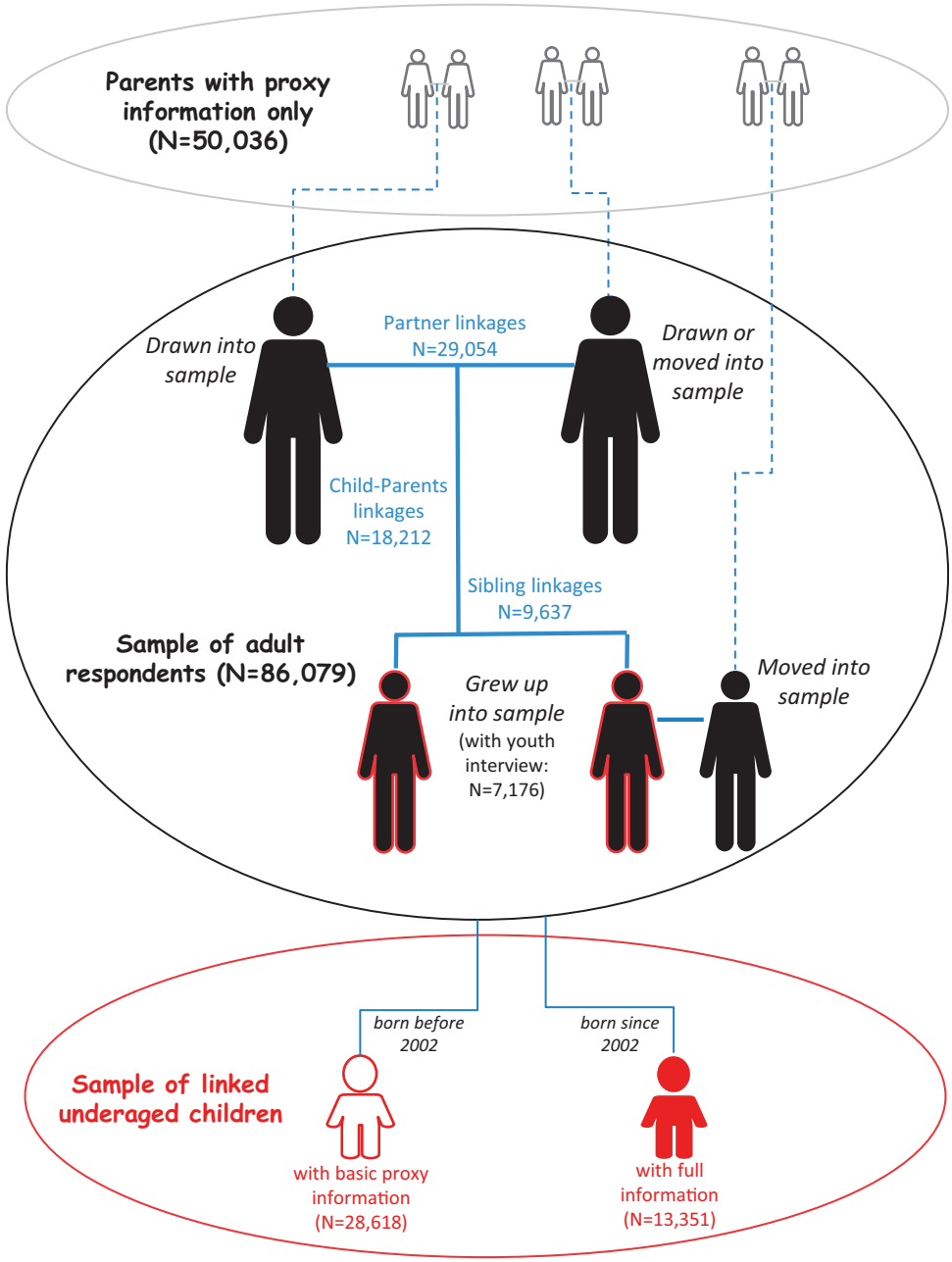

Figure 3. Sample Entry Modes and Multi-Actor Linkages in SOEP (v33.1, 1984–2016). Number of sample units (black/red) and multi-actor linkages (blue). Each partnership and each pair of siblings is only counted once.

Notes: From each adult sample member, only one intergenerational link (to mother, to father, or to both) is counted. Counted children (<18) and adult sample members with direct parental information from parents, however, may overlap. For 17,831 adult respondents, neither proxy nor direct parental information is available.

themselves). This information is collected retrospectively at the first contact and includes information on the parents' education and occupation when the respondent was 15.

Individuals may, alternatively, enter the SOEP as children who live in (or move into) a sampled household. These children automatically become regular respondents as soon as they reach the age of 17

(Figure 3, black centre circle, lower row), and remain in the sample after they move out and establish their own household. For these adult sample members, who have *grown up into the study*, prospective and direct information from and on parents is available. As of SOEP version v.33.1, there are 18,212 such adult respondents. The value of this sub-sample for intergenerational analyses, however, depends largely on specifics of the research question: The number of usable cases is considerably reduced, if, for example, parents and adult children need to be observed at the same age (2,243 cases) or if adult children need to be of a certain age, e.g. 35 or over (3,100 cases). The analytical sample might be reduced to below 1,000 for data-demanding research designs such as the estimation of intergenerational income elasticities, which require several observations of income within a particular age range for both generations (Schnitzlein, 2016). Possibly due to these limitations, many of the existing intergenerational studies based on SOEP's adult population use retrospectively obtained proxy information on parents (Figure 3, grey upper circle) rather than direct information from both generations.

The SOEP data also provide information on childhood and adolescence for underage individuals who grow up in a SOEP household (Figure 3, red lower circle). While only limited proxy information is available for children born before 2002 (type of school and care model, contact with friends and relatives; $n = 28{,}618$), much more detailed information, ideally from birth to adolescence, is available for children born since 2002 ($n = 13{,}351$). For these later birth cohorts, parents provided detailed information on child development and conditions of upbringing every 2 years, including indicators of mental and physical development, parenting practices, childcare arrangements, and many more items. From the age of 12 onwards, these children themselves were interviewed on topics such as education, leisure time activities, social networks, preferences, and personality traits. Additionally, the SOEP youth questionnaires provide detailed information on adolescence (age 16–17) for all birth cohorts born after 1983. For all these underage children, direct parental information covering the full SOEP research program is available for linkages.

Taken together, these resources open up various options to reveal processes of intergenerational transmission. Grätz (2015), for example, investigates whether negative effects of parental separation on teenagers' educational outcomes and fathers' involvement with children after parental separation varies with socio-economic background. Combining an intergenerational design with a life course perspective, Schneider (2008) finds that parents' influence on schooling outcomes decreases with the age of the children. Especially the growing database on early and mid-childhood bears increasing potential for sociological research focused on such mechanisms.

Basic information on parents as well as parental identifiers that allow linking directly collected parental data with measures of *adult respondents* are provided in the generated data file 'bioparen'. This file prioritizes direct and prospective information, but also includes proxy information whenever the former is not available. To link parental information to *underage children*, parental identifiers can be obtained from child-centered datasets 'bioagel', 'biopupil', and 'kidl'. While the latter contains basic proxy information on all children, the former contain the complete rich information on those children born or sampled into the SOEP since 2002.

The Household as Context: Linking Individuals with Partners' Characteristics

In addition to the parental household of origin, the current household is also an important contextual layer because it shapes the social foundations of individual economic living conditions and also embeds the individual's most important social relationships.[18] Sociologists may address the household context from an *indicator*, *context*, or *relational* perspective. The indicator perspective stresses pooled resources as measures of an individual's economic position. Such indicators, as being poor vs. middle class vs. rich, are standard measures used in social reporting and in social stratification research. They are based on the assumption that individual standards of economic well-being are generated within the household either directly (through household production) or indirectly, by sharing and pooling resources and benefiting from economies of scales in consumption. The context perspective, in contrast, deals with genuine household characteristics, such as household size or type. These measures are usually employed to illustrate the diversity and change in socio-demographic household arrangements (Goebel and Krause, 2018). Finally, the relational perspective addresses characteristics of linked household members (partners, parents, children, siblings) and is used to reveal within-household distributions, transmissions, and spillover effects. A typical application is the analysis of crosswise impacts, for instance, in subjective well-being, personality traits, or physical and mental health (Rammstedt *et al.*, 2013). Other applications address social relations within the household, such as the division of labour, or gender and

inequality ratios (Krause, 2008; Wieber and Holst, 2015; Lersch, Jacob and Hank, 2017).

One of the most important sample features of the SOEP, relevant for all three household perspectives, is that every adult member of sampled households is surveyed directly: As illustrated in Figure 3, individuals moving into a sampled household automatically become respondents in their own right (black centre circle, right columns). This sampling strategy leads to 29,054 dyads of cohabiting partners with direct information on both sides—a solid empirical basis for in-depth analysis of social relations and interdependencies within the household. It also allows the aggregation of individual information on household level, as well as the disaggregation of common indicators to all household members. Furthermore, researchers may construct new household-type indicators, summary indices of within-household characteristics, alternative equivalence scales, or analyze the allocation of resources within households (Grabka, Marcus and Sierminska, 2015).

While individual identifiers ('pid') in the SOEP are fixed over time, household identifiers ('hid') may vary within individuals after household splits. These two identifiers allow researchers to connect the individual with the household level. The household case identifiers ('cid'), by contrast, always refer to the root household of an individual. To connect respondents with information from their partners, researchers can use provided partner identifiers (e.g. in the file 'ppathl [ppfadl]') to create a linked-actor file.

Region as Context: Linking Individuals with Spatial and Regional Information

Regional sociological analysis goes back to the work of Durkheim (1897). He found that individual behaviour varies systematically across geospatial units and discussed the explanatory power of collective regional forces. In this tradition, the Chicago School of Urban Sociology conceptualized regional entities as genuine institutional frameworks (Park, 1915). Beginning in the 1920s, a long series of theoretical and empirical studies emerged, all based on the idea that urban, regional, and neighbourhood conditions have a close connection with individual behaviour and social problems. Today, different conceptualizations of space and the neighbourhood exist (e.g. Löw, 2016), but even if physical distances and barriers are shrinking as a result of technological progress, institutional entities such as the state, county, or municipality still matter (Tickamyer, 2000). In this light, it may come as a surprise that more recent empirical sociology has not shown particular interest in geographic and regional contexts. Yet recent publications show an emerging renaissance of regional context analysis: Of the eleven SOEP-based studies published in ESR between 2006 and 2018 using regional or spatial identifiers, the majority (seven) have appeared since 2016.

The SOEP provides an exhaustive data source to model the regional contexts of individuals. First, the data contain variables that indicate the place of residence of each respondent at the time of the interview. These indicators refer to different regional levels (districts, cities, municipalities, and postal codes) and allow matching SOEP micro data with official, scientific, commercial, or digital regional macro data. Schober and Stahl (2016), for example, have linked individual SOEP measures with administrative county-level data on the childcare system to explore the genuine contextual effects of full-day childcare on maternal life satisfaction. Second, SOEP data are already linked with data on the surrounding neighbourhood (Goebel *et al.*, 2007). Using this resource, Dittmann and Goebel (2010) show that socio-economic neighbourhood composition matters for individual subjective well-being. And third, SOEP data can be analyzed with the exact geocoded address of the household to match spatial information. This approach was used by Krekel and Zerrahn (2017) to show how living in proximity to wind turbines affects general life satisfaction.

All three aforementioned SOEP studies (as well as all SOEP-based regionalized studies in ESR) employ *variable-oriented* cross-regional designs, directed at estimating the effects of contextual regional characteristics (and not directed at comparing concrete regions). Table 1 gives an overview of the number of regions in Germany at different regional levels and the (average) number of clustered SOEP respondents. The broad clusters marked by spatial planning regions (96 *Raumordnungsregionen* in Germany) all contain at least 33 SOEP households and an average of 310 successful interviews. On fine-grained regional levels (municipalities or postcodes), however, only a small fraction of regional units actually contain SOEP households—and within these regions, the mean number of household interviews is smaller than ten. These sample properties on lower regional levels do not restrict SOEP's suitability for variable-oriented, cross-regional multilevel analysis (Maas and Hox, 2005). *Case-oriented* regional designs, by contrast, aimed at describing or comparing structural distributions of specific regional units, are difficult to employ given the small sizes of fine-grained regional clusters.

More pragmatic limitations of using the SOEP for regionalized or spatial analyses relate to data access:

Table 1. Number of regions and household-level and individual-levels interviews by different regional levels in Germany

Regional Level	Year	# with SOEP HH	# w/out SOEP HH	Mean # SOEP HH (range)	Mean # SOEP Respondents
Planning Regions	1995	97	0	71 (14–337)	142
	2000	96	0	137 (34–518)	256
	2016	96	0	172 (33–675)	310
Counties	1995	382	20	18 (1–337)	36
	2000	398	4	33 (1–518)	62
	2016	402	0	41 (1–675)	74
Municipalities	1995	1,508	9,682	5 (1–337)	9
	2000	2,032	9,158	6 (1–518)	12
	2016	3,167	8,023	5 (1–675)	9
Postal codes	1995	2,314	5,894	3 (1–23)	6
	2000	2,962	5,246	4 (1–29)	8
	2016	4,432	3,776	4 (1–32)	6

Table 2. Overview of availability and access regulation for regional-level SOEP data

Level	Available since	Data access	Data protection
States (Bundesländer)	1984	Standard SOEP dataset	Regular data distribution contract
Municipal size classes	1984	Standard SOEP dataset with special password	Expanded data distribution contract
Spatial planning regions (geocodes)	1985	Standard SOEP dataset plus SOEP geocode disk	Expanded data distribution contract
Official county codes	1985	SOEPremote (online access) or visit at the SOEP Research Data Center at DIW Berlin	Expanded data distribution contract
Official municipality key	2000	Use of data only at the SOEP Research Data Center at DIW Berlin	Only by personal arrangements in the framework of the SOEP in residence program
Postal codes	1993		
Microm neighbourhood data	2000		
Geocoordinates	2000		

The provision and use of regional indicators is subject to data protection restrictions that differ depending on the regional level (see Table 2). Regional and spatial indicators are provided only under a separate contract, by remote execution, or in the context of a research visit to DIW Berlin (using a secure computer on site).

Cohort as Context: Comparing Individuals across Birth– or Transition–Year

Cohort is an important sociological context and also a relevant explanatory variable for empirical research (Mayer, 2009) because differences in living conditions across cohorts are a major indicator of social and policy change (Blossfeld, 1986). Furthermore, cohort-specific differences in outcomes may be considered as less prone to carry the influence of unobservable macro-level characteristics than, e.g., cross-country variation, thus allowing for a more robust identification of (causal) contextual effects (Ziefle and Gangl, 2014).

Because institutional impacts on individuals generally unfold diachronically, cohort designs are frequently combined with a life course perspective (Becker and Blossfeld, 2017). In many such research scenarios, the moderating cohort variable does not categorize individuals by birth year, but rather by the date of life course transitions: Critical life events (such as labour market entry or parenthood) often constitute the appropriate reference point in the life course for measuring effects of (changing) institutions. The SOEP provides data for

Table 3. Number of SOEP Respondents with life-history information through prime age (17–40), SOEP v33.1

<1910	1910s	1920s	1930s	1940s	1950s	1960s	1970s
853	1,195	3,278	6,403	7,736	8,861	10,837	4,849

both birth-year and transition-year-related longitudinal cohort designs: All respondents entering the sample answer retrospective questions on their education, employment, and marital status during previous periods of the life course. Therefore, birth-year-related cohort designs restricted to basic life history generally include all adult sample members. Due to regular SOEP refresher samples (see Goebel *et al.*, 2019), every decennial cohort from the 1920s to the 1970s contains at least 3,000 adult respondents with complete basic life history information from the 17th to 40th year of life (see Table 3). As demonstrated by Leopold, Skopek and Schulz (2018), these cohorts now also provide a considerable number of *prospective* longitudinal observations, allowing researchers to trace cohort differences in more elusive individual outcomes, such as time use.

Similarly, numerous critical life-events are prospectively observed in every decade since the 1990s (Table 4). As in many other countries, Germany's institutions have been subject to major changes during these decades. Examples are labour market, tax, educational, and social reforms. Against this background, SOEP data allows powerful comparisons of transition-year-related cohorts: Has welfare-state retrenchment in the early 2000s changed conditions for different cohorts of labour market entrants (Giesselmann, 2009; Bartels and Pestel, 2016)? Has family policy change in the early and late 2000s altered employment trajectories around the transition to parenthood (Ziefle and Gangl, 2014) or influenced economic consequences of partnership dissolution across cohorts of separated persons (Bröckel and Andreß, 2015)? Also for studies on more recent societal changes, e.g. the minimum wage reform (Caliendo *et al.*, 2018) or the refugee influx in 2015 (Brücker *et al.*, 2019), the SOEP provides an increasingly valuable data pool.

Transition-year-related cohort analyses can be implemented by differentiating transition-centered life course designs by year (or month) of the event. Birth-year-related cohort designs usually rely on basic demographic information (from the individual-level metadata 'ppathl [ppfadl]') and then add domain-specific information on life histories from generated, user-friendly event history datasets (see Goebel, 2017, for details).

Table 4. Number of SOEP Respondents with (prospectively observed) life course transitions, SOEP v33.1

	1980s	1990s	2000s	2010s
Marriage	936	2,016	2,334	1,906
Parenthood	619	1,585	2,148	1,872
Divorce	369	868	1,231	1,026
Labour Market Entry	1,134	2,071	2,634	2,031
Unemployment	1,310	4,501	4,490	2,981
Retirement	874	2,596	3,375	2,002

Organizations as Contexts: Linking Employees with Their Employers

The social sciences are increasingly recognizing that organizational data are crucial for addressing a range of research questions. This is especially true for economic and sociological labour market research, network and social capital research, health research, studies on economic structural change, and inequality research (Tomaskovic-Devey and Avent-Holt, 2019). Specifically in models explaining social inequality, organizations may play an important role both as contexts and as actors.

To model organizations as contexts, individual data on employees and employers need to be linked. The SOEP offers such links for a sub-sample of respondents: In 2012/13, a survey of German employers was conducted using face-to-face and paper-and-pencil interviews ($N = 1{,}708$). Employers were sampled based on address information provided by SOEP respondents. The information obtained from both surveys can be used to create a linked employer–employee data set, SOEP-LEE ($N = 1{,}834$, in most cases one employee per employer). The information collected enriches and enhances the existing individual-level and household-level SOEP data with detailed and supplementary contextual data about the workplace and working conditions. The LEE data can thus be used to investigate organizational impacts on the genesis of social inequalities and on the individual development of the life course (for details, see Weinhardt *et al.*, 2016, 2017). It is not part of the standard SOEP data release, but is provided on request.

Mobility across Contexts: Migration Research with SOEP

International migration could be considered one of the most important transitions in an individual's life course (Kley, 2011). The decision to migrate is not only the result of important life events and transitions, but may

also lead to fundamental changes in life contexts. Changes in the family domain as well as in educational and occupational domains, for instance, are considered to be major reasons for the decision to change one's country of residence (Kulu and Milewski, 2007). Conversely, international migration has a major impact on these domains in host countries (González-Ferrer, 2006; Kulu and Milewski, 2007). Indeed, questions surrounding the latter impacts are at the core of most theoretical discussions on assimilation and integration; in particular, on whether trends in convergence between immigrants' and non-immigrants' outcomes can be observed within and across generations (see, e.g. Esser, 2009). However, international migration and integration are not only embedded in individual life courses, families, and cohorts, but also in at least two other key contexts: the societal conditions in the migrant's country of origin and in the destination country (Van Tubergen, Maas and Flap, 2004). Both provide push and pull factors for migration (Borjas, 1987), and immigrants' 'contexts of reception' play an important role in the process of adaptation (Portes and Rumbaut, 2001).

In addition to the design suggestions in the previous sections (focusing on the individual life course, family background, cohorts, and organizations) migration research seeks to disentangle origin and destination effects, for instance through the use of multiple-origin-multiple-destination designs (Van Tubergen, Maas and Flap, 2004). The SOEP allows to specify such designs, since the data include a significant number of first-generation (around 30,000) as well as second and later-generation immigrants (around 15,000) from different countries of origin, including the classic 'guest worker' countries and the more recent refugee origin countries. At the same time, the fine-grained regional data allows internal destination comparisons. Although the use of such a multiple-origin-multiple-destination design is particularly relevant from a theoretical perspective, studies applying such a design with the SOEP (e.g. Tucci, 2004; Kogan *et al.*, 2011) remain rare in the research to date. For future migration research with the SOEP, we also suggest analyzing whether group differences in integration processes reflect differences in stable pre-existing group characteristics or, rather, group-specific reception contexts in different destination regions.

As a starting point for migration research with the SOEP, the files 'ppathl [ppfadl]' and 'bioimmig' can be used to identify the migrant population in the data. The file 'ppathl [ppfadl]' includes several generated user-friendly indicators, such as respondents' country of birth, year of immigration, and migration or refugee background. The file 'bioimmig' contains individual-level biographical information on immigrants such as residency status and reasons for migration. After defining the research population with these indicators, one can merge any related socio-cultural and economic outcomes available in the SOEP.

Outlook: SOEP and beyond

The direct measurement of multiple contexts in the SOEP is an enormous asset for empirical sociologists. Specifically, the SOEP allows combining different analytical levels to measure interdependencies across contextual layers. Cohort effects, for example, can be modelled from a life course perspective (Leopold, Skopek and Schulz, 2018), or partnership characteristics as a moderator of regional influences (Kern and Stein, 2018). Many SOEP-based studies published in ESR employ such multiple-context designs: Of the 50 articles based on SOEP-data published in ESR between 2006 and 2018, 41 (82 per cent) use direct information from at least two contexts in the explanatory part of the statistical model. In most of these studies, a life course perspective is combined with other contextual variables on regional, temporal, or national levels, corresponding to the idea of embeddedness in prevalent meta-theoretical life course frameworks (as the *life course cube*, see Bernardi, Huinink and Settersten, 2018).

As the SOEP is a constantly developing project, our portrayal of its contextual research potentials can be considered a snapshot of an ongoing process. For one, the SOEP naturally grows in complexity and offers increasing analytical options for measuring and combining contextual characteristics with each successive wave. In Figure 4, this process is illustrated on the example of two contextual layers: social background and the life course. The increasing number of longtime respondents with 20+ interviews (green line) does not just add statistical power for longitudinal analyses, but also continues to open up new research possibilities: Holistic life course designs with prospectively collected data that were impossible a few years ago (red and lilac line) now have a solid number of cases—and in the near future can be combined with other contextual layers (e.g. by adding cohort affiliation or regional characteristics as moderators).

SOEP research potentials are increasing even faster in the area of intergenerational analysis (as a result of SOEP's strict rules for including, following, and tracking every individual who has ever been part of a SOEP household): The number of intergenerational linkages of adult children with their parent(s), surveyed both directly and prospectively, doubled between SOEP v19 and SOEP

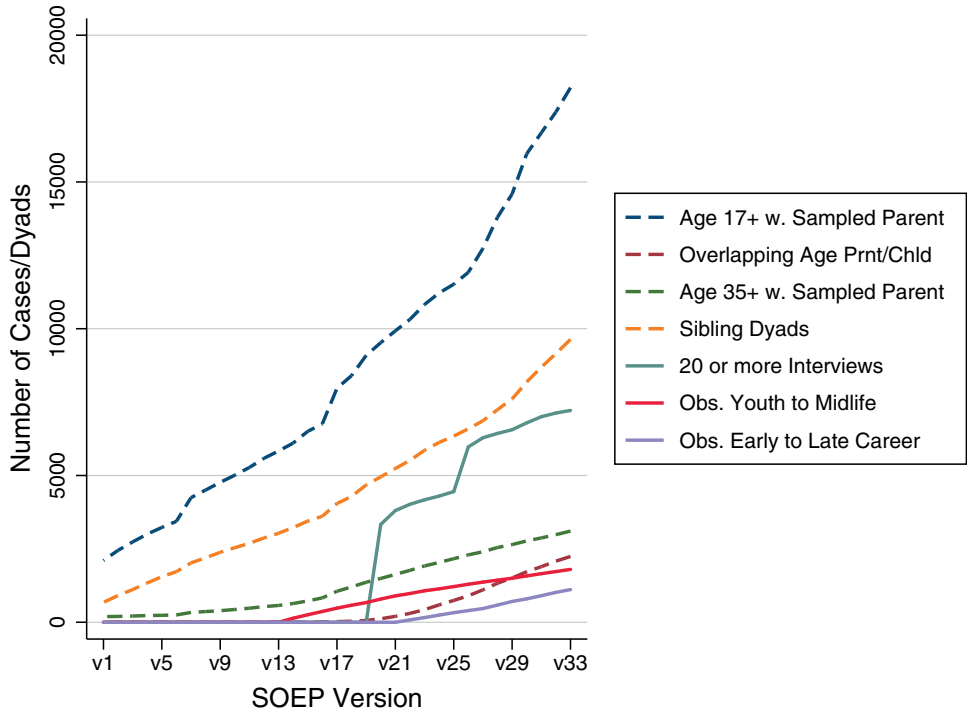

Figure 4. Development of SOEP potentials for life course and intergenerational analyses: Number of high-potential sample units

v33.1 (dashed blue line). Again, the quantitative increase offers substantive new research potentials: A few years ago, it was hardly possible to combine prospective information from parents and children referring to the same age (dashed red line). Today (as of 2019), we find numerous such dyads in the data. In coming years, this steady growth will manifest itself in dyads of parents and children that can be traced simultaneously throughout identical segments of the life course, and in dyads of children and grandparents with overlapping prospective information, to give just two examples. Additionally, the rapidly increasing number of dyads of adult siblings with direct prospective information (dashed orange line) hints at the growing potential for sibling designs with the SOEP and indicates an increasing potential to identify channels of intergenerational transmission.

Besides such 'natural' increases in the potential of SOEP data, plans are currently underway to systematically incorporate information from further contextual layers into the study. Efforts in this direction are primarily focused on integrating the SOEP into international research data infrastructures. This is based on the recognition that countries are a major institutional framework. When estimating the effects of institutions on individual outcomes, therefore, between-country variation—in addition to differences across cohorts, periods, or regions—plays an important role in empirical sociology. A number of properties qualify the SOEP for inclusion in case-oriented cross-national research designs: For one, its structure and content resembles the US Panel Study of Income Dynamics (PSID, see Johnson *et al.*, 2018) to a substantial degree, allowing researchers to integrate SOEP and PSID without sacrificing complexity on many life course related research questions (see, e.g., Brady *et al.*, 2018). The possibility to conduct cross-national comparisons is additionally facilitated through the provision of a harmonized subset of variables in the *Cross-National Equivalent File* (CNEF, Frick *et al.*, 2007). For many major national household panels, among them SOEP and PSID, the CNEF provides variables consistently defined across countries. These variables range from basic demographics and economic living conditions to subjective indicators of life satisfaction and health. Looking towards the future, a substantial increase can be expected in the number and types of harmonized variables within the CNEF project, allowing smoother processes of data management for researchers using case-oriented cross-country designs.

Other future plans by the SOEP to integrate more contextual information involve further linkages of the

SOEP with administrative data, for instance, from the German Pension Insurance and the Federal Employment Agency. Record-linked data, including exhaustive information on individual insurance biographies, will be provided to the research community for local use in 2022. Furthermore, the addition of additional samples such as households with LGBT members (fieldwork starting in 2019) and wealthy households (field work starting in 2019) to the SOEP survey will allow for differentiated analysis of the impacts of social background characteristics.

Given the increased interest in sociology in the significance of informal social networks—for example, in research on social influences and reproductive behaviour (Bernardi, Keim and von der Lippe, 2007)—further efforts at data improvement may focus on the provision of directly measured social network data. While SOEP data already map complex patterns of intra-familial relations, information on peers and friends outside the household has only been collected indirectly to date, making it difficult to study social influence, imitation, and spillover effects on individual behaviour. This highlights a key area for potential further development of the survey with the aim of enabling the sociological research community to gain deeper insights into contextual conditions and how they affect individual dispositions, decisions, and living conditions.

Notes

1 The survey started in 1984 with 11,957 adult respondents in 5,921 randomly selected households in Germany. Through the inclusion of an additional sample in the former German Democratic Republic, further refresher samples and the automatic inclusion of new household members, the sample has grown over time to 29,713 adult respondents in 2016 (see Goebel *et al.*, 2019 for details on sampling). The longest running household panel study worldwide, the Panel Study of Income Dynamics (PSID) at the Institute for Social Research, University of Michigan, started in 1968 (see Johnson *et al.*, 2018).

2 The SOEP is administered at the German Institute for Economic Research (DIW Berlin) under the umbrella of the Leibniz Association (WGL) and funded by Germany's Federal Ministry of Education and Research (BMBF) and state governments.

3 Data access is generally provided to all researchers who sign a data distribution contract (https://www.diw.de/en/diw_02.c.238223.en/contract_management.html). For details on registration and alternative modes of access, see Goebel *et al.*, 2019.

4 SOEPcampus (http://www.diw.de/soepcampus) is a modular training program that introduces new SOEP users to the data, guides users through processes of data management, and introduces users to new analytical techniques that enable them to utilize the potential of the data.

5 Questionnaires and various data documents can be found on the SOEP homepage (https://www.diw.de/en/soep). Additionally, Paneldata.org (https://paneldata.org) and SOEPinfo (http://panel.gsoep.de/soepinfo) are online documentation systems that allow users to search for topics, concepts, and variables.

6 Experimental researchers and behavioral scientists can also submit innovative scales, survey questions, and experiments for inclusion in the SOEP-IS survey (see Richter and Schupp, 2015).

7 See, for example, various SOEP-based studies published in the ESR dealing with childcare and housework activities (Koslowski, 2011; Grätz, 2015; Pollmann-Schult and Reynolds, 2017).

8 See, for example, various SOEP-based studies in the ESR modelling perceived economic injustice as an independent (Schunck, Sauer and Valet, 2015) or dependent (Schaeffer, 2018) variable.

9 This makes the SOEP one of the most frequently used datasets in this journal, only outnumbered by the European Social Survey (with about 70 publications).

10 We have reviewed all published articles in ESR back to Volume 22 that were found with the search terms "SOEP" and "ECHP" (as of November 2018). The term 'SOEP' produced 63 results, 46 of which were actually empirical analyses based on SOEP data. The term 'ECHP' produced 33 results, four of which used SOEP data, for a combined total of 50 articles. We performed the same review for other datasets. Detailed results from our ESR literature survey are available on request. We thank Tabea Naujoks for helping us to create this database.

11 For general overviews and discussions on the classification of different life course designs, see, e.g., Mayer, 2009, and Piccarreta and Studer, 2018.

12 For a more general overview on sampling, see Goebel *et al.* (2019). For details on attrition and weighting, see Kroh *et al.* (2018).

13 In some cases, the potential of longitudinal data to validate causal interpretations is motivated without explicit reference to a life course framework. In

particular, this applies to analyses of metric independent variables, as specified, for instance, by Schunck, Sauer and Valet (2015) to estimate the effects of perceived economic injustice on physical health.

14 All sample descriptives in this article refer to SOEP Version v33.1.

15 Additionally, the survey contains life course-related, retrospective information from biographical interviews (see Goebel *et al.*, 2019 for details). As retrospective surveys are prone to severe memory bias when it comes to characteristics such as income, preferences, time use, and life satisfaction, SOEP's biographical questionnaires are restricted to key demographic and employment variables (Schupp, 2019). We therefore focus here on prospectively collected longitudinal data, the key feature distinguishing SOEP in the context of life course research.

16 For details on the extended youth questionnaire given to SOEP household members at the age of 17, see Goebel (2017).

17 All references to data files relate to the SOEP version provided in the "long" format (unless stated otherwise).

18 Common (survey) definitions of households refer to family-like living arrangements. Further sociological definitions include other constellations (patchwork families), temporary living arrangements (sharing childcare after separation), and living-apart-together relationships (Asendorpf, 2008).

References

Aisenbrey, S. and Fasang, A. E. (2010). New life for old ideas: the "Second Wave" of sequence analysis bringing the "Course" back into the life course. *Sociological Methods & Research*, **38**, 420–462.

Allison, P. D. (2004). Using panel data to estimate the effects of events. *Sociological Methods & Research*, **23**, 174–199.

Andreß, H. J. *et al.* (2006). The economic consequences of partnership dissolution–a comparative analysis of panel studies from Belgium, Germany, Great Britain, Italy, and Sweden. *European Sociological Review*, **22**, 533–560.

Asendorpf, J. B. (2008). Living apart together: alters- und Kohortenabhängigkeit einer heterogenen Lebensform. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, **60**, 749–764.

Becker, R. and Blossfeld, H.-P. (2017). Entry of men into the labour market in West Germany and their career mobility (1945–2008). *Journal for Labour Market Research*, **50**, 113–130.

Bartels, C. and Pestel, N. (2016). Short- and long-term participation tax rates and their impact on labor supply. *International Tax and Public Finance*, **23**, 1126–1159.

Bernardi, L., Huinink, J. and Settersten, R. A. Jr. (2018). The life course cube: a tool for studying lives. *Advances in Life Course Research*, In Press, doi.org/10.1016/j.alcr.2018.11.004.

Bernardi, L., Keim, S. and von der Lippe, H. (2007). Social influences on fertility. *Journal of Mixed Methods Research*, **1**, 23–47.

Biegert, T. and Kühhirt, M. (2018). Taking lemons for a trial run: does type of job exit affect the risk of entering fixed-term employment in Germany? *European Sociological Review*, **34**, 184–197.

Blossfeld, H.-P. (1986). Career opportunities in the Federal Republic of Germany: a dynamic approach to the study of life-course, cohort, and period effects. *European Sociological Review*, **2**, 208–225.

Blossfeld, H.-P. (2009). Causation as a generative process. The elaboration of an idea for the social sciences and an application to an analysis of an interdependent dynamic social system. In Land, K., Engelhardt, H., Kohler, H.-P. and Fürnkranz-Prskawetz, A. (Eds.), *Causal Analysis in Population Studies*. Dordrecht: Springer Netherlands, pp. 83–109.

Borjas, G. (1987). Self-selection and the earnings of immigrants. *American Economic Review*, **77**, 531–553.

Brady, D. *et al.* (2018). How to measure and proxy permanent income: evidence from Germany and the U.S. *The Journal of Economic Inequality*, **16**, 321–345.

Bröckel, M. and Andreß, H.-J. (2015). The economic consequences of divorce in Germany: what has changed since the turn of the millennium? *Comparative Population Studies*, **40**, 277–312.

Brücker, H. *et al.* (2019). Language skills and employment rate of refugees in Germany improve with time. *DIW Weekly Report*, **9**, 51–61.

Brüderl, J., Kratz, F. and Bauer, G. (2018). Life course research with panel data: an analysis of the reproduction of social inequality. *Advances in Life Course Research*, In Press, doi.org/10.1016/j.alcr.2018.09.003.

Caliendo, M. *et al.* (2018). The short-run employment effects of the German minimum wage reform. *Labour Economics*, **53**, 46–62.

Coleman, J. S. (2000). *Foundations of Social Theory*. Cambridge, Mass: Belknap.

DiPrete, T. A. and Eirich, G. M. (2006). Cumulative advantage as a mechanism for inequality: a review of theoretical and empirical developments. *Annual Review of Sociology*, **32**, 271–297.

Dittmann, J. and Goebel, J. (2010). Your house, your car, your education: the socioeconomic situation of the neighborhood and its impact on life satisfaction in Germany. *Social Indicators Research*, **96**, 497–513.

Dohmen, T. *et al.* (2011). Individual risk attitudes: new evidence from a large, representative experimentally-validated survey. *Journal of the European Economic Association*, **9**, 522–550.

Dohmen, T. *et al*. (2012). The intergenerational transmission of risk and trust attitudes. *The Review of Economic Studies*, **79**, 645–677.

Durkheim, É. (1897). *Suicide. A Study in Sociology*. New York: Free Press.

Elder, G. H. (1974). *Children of the Great Depression. Social Change in Life Experience*. Chicago: University Press.

Esser, H. (2009). Pluralisierung oder Assimilation? Effekte der multiplen Inklusion auf die Integration von Migranten. *Zeitschrift für Soziologie*, **38**, 358–378.

Farrington, K. and Chertok, E. (2009). Social conflict theories of the family. In Boss P., Doherty W. J., LaRossa R., Schumm W. R. and Steinmetz S. K. (Eds.), *Sourcebook of Family Theories and Methods*. Boston, MA: Springer, pp. 357–384.

Frick, J. R. *et al*. (2007). The cross-national equivalent file (CNEF) and its member country household studies. *Schmollers Jahrbuch*, **127**, 627–654.

Gangl, M. (2010). Causal inference in sociological research. *Annual Review of Sociology*, **36**, 21–47.

German Federal Ministry of Labour and Social Affairs (2017). *Life Situations in Germany. German Federal Government's Report on Poverty and Wealth*. Berlin: BMAS.

Gidengil, E., Wass, H. and Valaste, M. (2016). Political socialization and voting. *Political Research Quarterly*, **69**, 373–383.

Giesselmann, M. (2009). Arbeitsmarktpolitischer Wandel in Deutschland seit 1991 und das Working Poor-Problem: einsteiger als Verlierer des Reformprozesses? *Zeitschrift für Soziologie*, **38**, 215–238.

Giesselmann, M. *et al*. (2018). Das Sozio-Oekonomische Panel als Datenbasis für die Arbeits- und Organisationspsychologie. *Zeitschrift für Arbeits- und Organisationspsychologie A&O*, **62**, 111–125.

Goebel, J. and Krause, P. (2018). Einkommensentwicklung – Verteilung, Angleichung, Armut und Dynamik. In Statistisches Bundesamt (Destatis), Wissenschaftszentrum Berlin für Sozialforschung (WZB) (Eds.), *Datenreport 2018. Ein Sozialbericht für die Bundesrepublik Deutschland*. Bonn: pp. 239–253.

Goebel, J. *et al*. (2007). *Die Verknüpfung des SOEP mit MICROM-Indikatoren: Der MICROM-SOEP Datensatz. Data Documentation 29*. Berlin: DIW.

Goebel, J. (Ed.) (2017). *SOEP-Core v32 – Documentation on Biography and Life History Data. SOEP Survey Papers 418: Series D*. Berlin: DIW.

Goebel, J. *et al*. (2019). The German socio-economic panel study (SOEP). *Journal of Economics and Statistics*, **239**, 345–360.

González-Ferrer, A. (2006). Who do immigrants marry? Partner choice among single immigrants in Germany. *European Sociological Review*, **22**, 171–185.

Grabka, M. M., Marcus, J. and Sierminska, E. (2015). Wealth distribution within couples. *Review of Economics of the Household*, **13**, 459–486.

Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*, **91**, 481–510.

Grätz, M. (2015). When growing up without a parent does not hurt: parental separation and the compensatory effect of social origin. *European Sociological Review*, **31**, 546–557.

Hillmert, S. (2015). Changing structures of opportunity: a life-course perspective on social mobility and reproduction. *European Sociological Review*, **31**, 184–196.

International Monetary Fund (2007). *World economic outlook October 2007. Globalization and inequality*. Washington, DC.

Johnson, D. S. *et al*. (2018). Fifty years of the panel study of income dynamics: past, present, and future. *The Annals of the American Academy of Political and Social Science*, **680**, 9–28.

Kern, C. and Stein, P. (2018). Modelling decision-making processes of regional mobility in a Dyadic framework. *European Sociological Review*, **34**, 433–451.

Kley, S. (2011). Explaining the stages of migration within a life-course framework. *European Sociological Review*, **27**, 469–486.

Kogan, I. *et al*. (2011). Individual resources and structural constraints in immigrants' labour market integration. In Wingens, M., Windzio, M., Valk, H. D. and Aybek, C. (Eds.), *A Life-Course Perspective on Migration and Integration*. Dordrecht: Springer, pp. 75–100.

Kohli, M. (1985). Die Institutionalisierung des Lebenslaufs. Historische Befunde und theoretische Argumente. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, **37**, 1–29.

Kohli, M. (2007). The institutionalization of the life course: looking back to look ahead. *Research in Human Development*, **4**, 253–271.

Koslowski, A. S. (2011). Working fathers in Europe: earning and caring. *European Sociological Review*, **27**, 230–245.

Krause, P. (2008). Redistributive impacts of government and private household activities. Trends in equivalized household net incomes and intra-household earnings in Germany, 1985-2005. *European Journal of Economics and Economic Policies: Intervention*, **5**, 129–153.

Krekel, C. and Zerrahn, A. (2017). Does the presence of wind turbines have negative externalities for people in their surroundings? Evidence from well-being data. *Journal of Environmental Economics and Management*, **82**, 221–238.

Kröger, H. *et al*. (2017). Einkommensunterschiede in der Mortalität in Deutschland – Ein empirischer Erklärungsversuch. *Zeitschrift für Soziologie*, **46**, 124–146.

Kroh, M., Kühne, S., Siegers, R. and Belcheva, V. (2018). *SOEP-Core – Documentation of Sample Sizes and Panel Attrition. SOEP Survey Papers 480*. Berlin: DIW.

Kühhirt, M. (2012). Childbirth and the long-term division of labour within couples: how do substitution, bargaining power, and norms affect parents' time allocation in West Germany? *European Sociological Review*, **28**, 565–582.

Kulu, H. and Milewski, N. (2007). Family change and migration in the life course. *Demographic Research*, **17**, 567–590.

Leopold, T., Skopek, J. and Schulz, T. C. D. (2018). Gender convergence in housework time: a life course and cohort perspective. *Sociological Science*, **5**, 281–303.

Lersch, P. M., Jacob, M. and Hank, K. (2017). Parenthood, gender, and personal wealth. *European Sociological Review*, **33**, 410–422.

Löw, M. (2016). *The Sociology of Space. Materiality, Social Structures, and Action*. New York, NY, Basingstoke: Palgrave Macmillan.

Luijkx, R. and Wolbers, M. H. J. (2009). The effects of non-employment in early work-life on subsequent employment chances of individuals in The Netherlands. *European Sociological Review*, **25**, 647–660.

Maas, C. J. and Hox, J. (2005). Sufficient sample sizes for multilevel modeling. *Methodology*, **1**, 86–92.

Maccoby, E. E. (1992). The role of parents in the socialization of children: an historical overview. *Developmental Psychology*, **28**, 1006–1017.

Mayer, K. U. (2009). New directions in life course research. *Annual Review of Sociology*, **35**, 413–433.

Mayer, K. U. and Blossfeld, H. P. (1990). Die gesellschaftliche Konstruktion sozialer Ungleichheit im Lebensverlauf. In Berger, P. A. and Hradil, S. (Eds.), *Lebenslagen, Lebensläufe, Lebensstile*. Göttingen: Schwartz, pp. 297–318.

Mayer, K. U. and Tuma, N. B. (1990). Life course research and event history analysis. An overview. In Mayer, K. U. and Tuma, N. B. (Eds.), *Event History Analysis in Life Course Research*. Madison, Wisconsin: University of Wisconsin Press, pp. 1–20.

Park, R. E. (1915). The city: suggestions for the investigation of human behavior in the city environment. *American Journal of Sociology*, **20**, 577–612.

Parsons, T. *et al*. (1956). *Family, Socialization and Interaction Process*. London: Routledge.

Piacentini, M. (2014). *Measuring Income Inequality and Poverty at the Regional Level in OECD Countries*. OECD Statistics Working Papers, 2014/03. Paris: OECD.

Piccarreta, R. and Studer, M. (2018). Holistic analysis of the life course: methodological challenges and new perspectives. *Advances in Life Course Research*. In Press, https://doi.org/10.1016/j.alcr.2018.10.004.

Platt, L. and Polavieja, J. (2016). Saying and doing gender: intergenerational transmission of attitudes towards the sexual division of labour. *European Sociological Review*, **32**, 820–834.

Pollmann-Schult, M. and Reynolds, J. (2017). The work and wishes of fathers: actual and preferred work hours among German fathers. *European Sociological Review*, **33**, 823–838.

Portes, A. and Rumbaut, R. G. (2001). *Legacies. The Story of the Immigrant Second Generation*. Berkeley, California: University Press.

Rammstedt, B. *et al*. (2013). Personality changes in couples. Partnership longevity and personality congruence in couples. *Personality and Individual Differences*, **54**, 832–835.

Richter, D. and Schupp, J. (2015). The SOEP innovation sample (SOEP IS). *Schmollers Jahrbuch*, **135**, 389–399.

Schaeffer, M. (2018). Social mobility and perceived discrimination: adding an intergenerational perspective. *European Sociological Review*, **35**, 65–80.

Scherer, S. (2005). Patterns of labour market entry - Long wait or career instability? An empirical comparison of Italy, Great Britain and West Germany. *European Sociological Review*, **21**, 427–440.

Schmelzer, P. (2012). The consequences of job mobility for future earnings in early working life in Germany—Placing indirect and direct job mobility into institutional context. *European Sociological Review*, **28**, 82–95.

Schneider, T. (2008). Social inequality in educational participation in the German school system in a longitudinal perspective: pathways into and out of the most prestigious school track. *European Sociological Review*, **24**, 511–526.

Schnitzlein, D. D. (2016). A new look at intergenerational mobility in Germany compared to the U.S. *Review of Income and Wealth*, **62**, 650–667.

Schober, P. S. and Stahl, J. F. (2016). Expansion of full-day childcare and subjective well-being of mothers: interdependencies with culture and resources. *European Sociological Review*, **32**, 593–606.

Schunck, R., Sauer, C. and Valet, P. (2015). Unfair pay and health: the effects of perceived injustice of earnings on physical health. *European Sociological Review*, **31**, 655–666.

Schupp, J. (2019). Paneldaten für die Sozialforschung. In Baur, N. and Blasius, J. (Eds.), *Handbuch Methoden der Empirischen Sozialforschung.2. Aufl., Band 2*, Wiesbaden: Springer, pp. 1265–1280.

Schupp, J., Spieß, C. K. and Wagner, G. G. (2008). Die verhaltenswissenschaftliche Weiterentwicklung des Erhebungsprogramms des SOEP. *Vierteljahrshefte zur Wirtschaftsforschung*, **77**, 63–76.

Singh-Manoux, A. and Marmot, M. (2005). Role of socialization in explaining social inequalities in health. *Social Science & Medicine*, **60**, 2129–2133.

Tickamyer, A. R. (2000). Space matters! Spatial inequality in future sociology. *Contemporary Sociology*, **29**, 805–813.

Tomaskovic-Devey, D. and Avent-Holt, D. (2019). *Relational Inequalities: An Organizational Approach*. New York: Oxford University Press.

Tucci, I. (2004). Konfliktuelle integration? *Berliner Journal für Soziologie*, **14**, 299–317.

Van Tubergen, F., Maas, I. and Flap, H. (2004). The economic incorporation of immigrants in 18 western societies: origin, destination, and community effects. *American Sociological Review*, **69**, 704–727.

Vandecasteele, L. (2011). Life course risks or cumulative disadvantage? The structuring effect of social stratification determinants and life course events on poverty transitions in Europe. *European Sociological Review*, **27**, 246–263.

Voßemer, J. and Schuck, B. (2016). Better overeducated than unemployed? The short- and long-term effects of an overeducated labour market re-entry. *European Sociological Review*, **32**, 251–265.

Wagner, G. G., Frick, J. R. and Schupp, J. (2007). The German socio-economic panel study (SOEP). Scope, evolution and enhancements. *Schmollers Jahrbuch: Zeitschrift für Wirtschafts- und Sozialwissenschaften*, **127**, 139–169.

Weinhardt, M. *et al*. (2016). *The Linked Employer–Employee Study of the Socio-Economic Panel (SOEP-LEE): Project Report. SOEP Papers 829*. Berlin: DIW.

Weinhardt, M. *et al*. (2017). The linked employer–employee study of the socio-economic panel (SOEP-LEE): content, design and research potential. *Jahrbücher für Nationalökonomie und Statistik*, **237**, 457–467.

Wiborg, O. N. and Hansen, M. N. (2009). Change over time in the intergenerational transmission of social disadvantage. *European Sociological Review*, **25**, 379–394.

Wieber, A. and Holst, E. (2015). *Gender Identity and Womens' Supply of Labor and Non-Market Work: Panel Data Evidence for Germany*. Berlin: DIW.

Zagel, H. (2014). Are all single mothers the same? Evidence from British and West German women's employment trajectories. *European Sociological Review*, **30**, 49–63.

Ziefle, A. and Gangl, M. (2014). Do women respond to changes in family policy? A quasi-experimental study of the duration of mothers' employment interruptions in Germany. *European Sociological Review*, **30**, 562–581.

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