

The German Family Panel: Study Design and Cumulated Field Report (Waves 1 to 13)

Release 13.0

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Contents

1.	Introduction	1
2.	The pairfam design.....	1
2.1.	Overview	1
2.2.	DemoDiff.....	3
2.3.	Sampling procedure.....	3
2.4.	Respondents and questionnaires	4
2.5.	Procedures to increase panel stability.....	6
2.6.	Sample refreshment in wave 11.....	8
2.7.	Design adaptations due to the COVID-19 pandemic in waves 12 and 13	9
3.	pairfam field report.....	10
3.1.	Detailed response rates by wave	10
3.1.1.	Wave 1	10
3.1.2.	Wave 2	11
3.1.3.	Wave 3	13
3.1.4.	Wave 4	16
3.1.5.	Wave 5	19
3.1.6.	Wave 6	21
3.1.7.	Wave 7	23
3.1.8.	Wave 8	25
3.1.9.	Wave 9	26
3.1.10.	Wave 10	28
3.1.11.	Wave 11	29
3.1.12.	Wave 12	32
3.1.13.	Wave 13	35
3.2.	Response development	37
3.2.1.	The step-up sample.....	37
3.2.2.	Corrected panel attrition.....	38
3.2.3.	Development of the panel sample	38
3.2.4.	Partner survey response	39
3.2.5.	Children survey response	40
3.2.6.	Parenting survey response	40
3.2.7.	Parent survey response.....	41
3.3.	Interview duration.....	42
4.	External validity of the original sample (as of 2010).....	43
4.1.	Validation with the German Family Survey	43
4.2.	Validation of family structure with the Mikrozensus 2008.....	46
4.3.	Validation of income measures with GSOEP data.....	48
5.	References	51

1. Introduction

The German Family Panel pairfam ('Panel Analysis of Intimate Relationships and Family Dynamics') is a longitudinal survey providing rich data on the formation and development of intimate relationships and families in Germany. This report has three goals:

- To give a detailed overview of the pairfam study design (Chapter 2)
- To describe pairfam response rates (Chapter 3; graphical overviews can be found in Section 3.2)
- To illustrate pairfam data validity via comparison with "benchmark" data (Chapter 4).

This report – Technical Paper No. 01 – summarizes the more detailed descriptions of study design and field reports that can be found in the Method Reports [Methodenberichte, only in German] available for each wave.

As pairfam is a panel study, Technical Paper No. 01 is updated for each wave. For a complete overview, see also the following documentation material:

- Reference Paper: A description of pairfam from a more substantive point of view, provided by Huinink et al. (2011).
- Data Manual: The pairfam Data Manual, available on the pairfam project website, describes the data in more detail.

2. The pairfam design

2.1. Overview

The pairfam study covers the main topics of partnership dynamics and partnership dissolution, fertility attitudes and generative behavior, parenting and child development, and intergenerational relationships. As an infrastructure project, the main goal of the pairfam project is to provide the collected data as an easily accessible Scientific Use File (SUF) for the international research community. The study is funded as a long-term project by the German Research Foundation (DFG) for a maximum of 14 years, ending in 2022. Principal investigators are Josef Brüderl and Sabine Walper (LMU Munich), Sonja Drobnič (University of Bremen), Karsten Hank (University of Cologne), and Franz J. Neyer (Friedrich Schiller University Jena).

The panel survey started in 2008 with a nationwide random sample of three age cohorts: 1971-73, 1981-83, and 1991-93 (aged 15-17, 25-27, or 35-37 years, respectively, in 2008) from the German population registers. Approximately 4,000 completed interviews were obtained from each cohort (12,402 interviews altogether) in wave 1. One-hour CAPI interviews have since been conducted annually in order to cover the most important family formation stages from age 15 up to age 50. In each subsequent wave, all participants of the previous wave who did not explicitly decline to participate are contacted again. Starting with wave three, non-participants from the previous wave are also contacted, including "soft refusals" (not reachable, no time, etc.). In sum, the survey design is non-monotonic with a maximum gap of one wave.

The goal of the survey is to obtain a full picture of a family's life. Respondents are thus referred to as "anchors", as they are also asked in each wave for their consent to approach their partner, parents

(up to wave 8), and children above age 8 for additional interviews. Interviews with anchors' partners and parents are conducted by PAPI (20-30 pages), while a 15 minute CAPI questionnaire is conducted with children aged 8 to 14. From age 15, these children become regular anchor respondents themselves, referred to as "step-ups". In addition, the anchor respondent and his/her partner are asked to fill out a parenting questionnaire in PAPI form (3 pages) for each CAPI child, as well as for any 6-7 year old children (as of wave 7). Starting in wave 9, a PAPI questionnaire (6 pages) was also developed for 16-22 year old children, and as of wave 11, an additional PAPI questionnaire for 0-6 year old children is distributed for partners only. The pairfam survey is, therefore, a multi-actor survey with various "alteri" respondents.

Anchor interviews cover a broad range of topics, including socio-demographics, education and employment, partners' socio-demographics, partnership quality, relationship with parents, parenting behavior, and fertility. In addition, for each child under the age of 8, the anchor CAPI questionnaire contains an age-specific child module. As a consequence, anchor interviews can last significantly longer than the average (one hour) if the anchor has a partner and several (young) children. In order to reduce respondents' time burden, it is essential to make full use of the technical possibilities provided by the CAPI format; more specifically, extensive routing. This allows interviewers to avoid asking unnecessary questions as the questionnaire is tailored to the respondents' specific situations. For instance, "event-triggered" modules on separations, new partners, newborn children, and other life events have been integrated. While this strategy may reduce respondent burden during the interview, it comes at the cost of a long and sophisticated CAPI program code, and a data structure that requires more effort on the part of the user. Another defining feature of the pairfam survey is the use of dependent interviewing (DI) in the anchor interview. With DI, information collected in the previous wave is fed forward to the current interview. The anchor CAPI interview makes extensive use of DI, with over 300 preloaded variables. In addition, a proactive DI approach is used in most instances, prompting respondents to validate whether specific information preloaded from the previous wave remains correct or has changed since the last interview.

DI is also used to collect information on the life course. This is done for anchors in an event history format: In each wave, retrospective questions covering partnership, employment, and residential histories are posed concerning changes since the last interview and their timing. To reduce respondent burden in these modules, pairfam implements a graphic event history calendar (EHC) to collect this information. A timeline is presented that contains preloaded information from the previous wave as a starting point. Respondents (with the help of the interviewer) then enter new information interactively into the EHC. In this way, both the interviewer and the respondent can see and edit a graphic representation of the anchor's life course over the last year (or two years, in the case of temporary dropouts). The combination of DI and the graphic EHC – introduced for the first time in a large population survey with pairfam – is designed to ease the cognitive task for the respondent, consequently producing more consistent data with less measurement error.

Due to the highly complex nature of the questionnaire and the broad scope of survey content, the questionnaire structure is modular, comprised of core modules, regular extended modules, and irregular extra modules. Core modules contain questions repeated annually that capture relevant information for a close description of decision-making processes from all main topics of the pairfam. Rotating regular extended modules yield more detailed information about specific subjects of interest. Finally, irregular extra modules are included either once, such as the retrospective childhood history module, or irregularly (e.g., child health).

2.2. DemoDiff

In 2009, the Max Planck Institute for Demographic Research (MPIDR) initiated and funded DemoDiff (Demographic Differences in Life Course Dynamics in Eastern and Western Germany), a panel study closely following the design of pairfam (Kreyenfeld et al. 2012). DemoDiff started in parallel to the second wave of pairfam and was conducted by the MPIDR for three waves. The DemoDiff sample was then fully integrated into the pairfam sample beginning with pairfam wave 5.

The main design differences between DemoDiff and pairfam can be summarized as follows:

- DemoDiff only sampled respondents residing in eastern Germany (excluding West Berlin) at the time of first interview.
- Only the cohorts 1971-1973 and 1981-1983 were sampled
- In three waves, DemoDiff only surveyed anchor respondents and their partners, not their children or parents.

Differences in questionnaire content can be summarized as follows:

- The DemoDiff wave 1 questionnaire was a shortened version of the pairfam wave 1 questionnaire. The psychological scales were excluded, shortening interview duration by approximately 15 minutes.
- The DemoDiff wave 2 questionnaire was based on the pairfam wave 3 questionnaire, excluding most psychological scales, so that the two studies were synchronized. However, some modules of pairfam's wave 2 questionnaire were also included (e.g., childhood history).
- The DemoDiff wave 3 questionnaire was identical with the pairfam wave 4 questionnaire, aside from the modules for gaining consent to the parent and children interviews.

At the beginning of the pairfam wave 5 field period, respondents of the DemoDiff sample received a letter announcing the change from DemoDiff to pairfam. From this wave onwards, DemoDiff respondents are treated as regular pairfam respondents.

This merger has had two major implications for pairfam. First, the two older cohorts were replenished, leading to larger subsamples. Second, respondents from the two older cohorts residing in eastern Germany in 2009 are overrepresented in the sample. Therefore, when analyzing both samples together, specific sample weights should be employed (for more details on weighting factors, see the Data Manual).

2.3. Sampling procedure

The pairfam target population includes all German-speaking individuals (irrespective of nationality) living in private households in Germany who were born within one of the following time periods:

- Cohort 1: 01.01.1991 - 31.12.1993
- Cohort 2: 01.01.1981 - 31.12.1983
- Cohort 3: 01.01.1971 - 31.12.1973

The goal of the first wave was to successfully complete 12,000 interviews, 4,000 from each cohort, with individuals from this population. Similarly, DemoDiff aimed to complete 1,400 interviews with individuals living in eastern Germany, with 700 interviews each from Cohort 2 and 3. A two-stage sampling procedure was applied:

1. Stage 1: Municipalities of the Federal Republic of Germany were sampled via stratified random sampling. The strata were defined via federal states of Germany, administrative districts and settlement structure. A proportional approach was then applied for the sampling: Selection probability of a municipality was defined proportionally to the size of the target population in that municipality (i.e., the sum of all three pairfam cohorts, the sum of the older two DemoDiff cohorts). A total of 350 sample points (271 in western Germany and 71 in eastern Germany) distributed over 343 different municipalities were drawn for the pairfam sample.¹ For DemoDiff, 60 sample points in eastern Germany distributed over 56 municipalities were drawn.
2. Stage 2: Individuals from the target population with a main residence within the selected municipalities were then sampled by municipality administrations based on local population registers. The total number of individuals as well as the selection process were pre-defined by the pairfam research team. In 25 (pairfam) and 4 (DemoDiff) cases, municipalities refused to provide addresses from local registry data. These were then replaced by structurally similar municipalities.

A total of 74,969 addresses were requested (DemoDiff: 11,520) in order to ensure a sufficient sample size after the cleaning process and for potential replacements of (neutral) non-responses. The addresses supplied by all municipalities were checked and cleaned. From this address pool, a baseline sample of 24,108 addresses (DemoDiff: 3,843) was drawn via systematic random sampling. However, the intended number of interviews was met neither for pairfam nor DemoDiff with this baseline sample. For this reason, additional samples were drawn during field time. In total, a gross sample of 42,074 addresses (DemoDiff: 6,787) were contacted with the following cohort distribution:

- Cohort 1: N = 9,648
- Cohort 2: N = 16,810 (DemoDiff: 3,354)
- Cohort 3: N = 15,616 (DemoDiff: 3,433)

2.4. Respondents and questionnaires

As a multi-actor survey, pairfam aimed to complete interviews not only with the primary anchor respondents, but also with several other family members, or “alteri” respondents. The first wave included only anchor respondents and their partners. From the second wave of pairfam onwards, (step) parents and children older than 8 were also included (provided consent from the anchor respondent).

¹ More sample points than municipalities existed due to some municipalities being randomly sampled more than once. Each sample point then defined the number of addresses to be sampled in the second step. If a municipality was drawn twice, two sample points existed for this municipality, resulting in twice as many addresses to be sampled.

Partner questionnaire: All anchor respondents with a current partner are asked for their consent to survey their partner, whether they live together in the same household or not. Partners are then contacted via a separate introduction letter with an enclosed drop-off PAPI questionnaire. In wave 1, four different language versions of the questionnaire were distributed (German, Turkish, Russian, and English), addressing the largest immigrant sub-populations in Germany. However, due to limited response rates of non-German partners, only the German version has been offered as of wave 2 (DemoDiff distributed a German version only in all waves). Partners have the option of either mailing in their completed questionnaire (postage paid) or having it picked up at another time by the interviewer. In case of separation between waves, ex-partners are not contacted again; instead, the new partner – if any – is interviewed.

Child interview: Starting with wave 2, children older than 8 are also included as alteri respondents. In wave 2, only the youngest child between 8 and 15 (biological, step, adopted, and foster children) living in the anchor's household was interviewed; in consecutive waves, these children are re-interviewed until the age of 15. From wave 3 onwards, all children between 8 and 15 in the anchor household are interviewed. Anchor persons are asked for their consent before the child interview can take place. Child interviews are conducted in CAPI format (approximately 15 minutes), most often directly after the anchor interview. In wave 8, a self-administered (CASI) section was introduced for sensitive questions (e.g., regarding conflicts in the family).

Parenting questionnaire: Anchors whose child(ren) participate in the children survey are asked to answer an additional brief questionnaire (PAPI, 3 pages) per child concerning parenting. If the anchor's partner lives in the same household, the anchor is also asked for their consent to their partner completing the parenting questionnaire. The parenting questionnaires may be mailed back (postage paid) or picked up by the interviewer at another time. In wave 6, three changes were implemented: 1) anchor respondents were asked to complete the parenting questionnaire even if they had not consented to the child interview, 2) respondents received the parenting questionnaire not only for the children eligible for the child interview, but also for biological and adoptive children of the same age group not living in the anchor's household, and 3) the question concerning consent to the partner parenting questionnaire was asked even if the anchor had not agreed to complete the parenting questionnaire themselves. In wave 7, the age range was broadened so that anchors and their cohabiting partners are also asked to complete parenting questionnaires for their 6-7 year old children living in the anchor's household. In wave 10, the age range was extended again to include children not living in the anchor's household.

Parenting Adolescents and Young Adults (PAYA) questionnaire: In wave 9, an additional parenting questionnaire for parents of adolescent children (16-22 years) was introduced. Anchors are asked to complete this additional PAPI questionnaire (6 pages) covering parenting topics for each adolescent child living in the household, as well as for each biological or adopted adolescent child living outside the anchor's household. Cohabiting partners are also asked to complete the PAYA questionnaire for each child living in the shared household as well as for all biological children of the couple. As with the original parenting questionnaires (for children aged 6-15), completed questionnaires can be mailed back (postage paid) or picked up by the interviewer at a later date.

Parenting U6 partner questionnaire: Starting with wave 11, a further parenting survey was introduced for partners only in order to gather information on children under the age of 6. This questionnaire corresponds to the module for babies and toddlers and the module for 3-5 year old

children in the anchor questionnaire. Partners are asked to complete the U6 questionnaire for each child under the age of 6 years living in their household. As with all other parenting questionnaires, completed U6 questionnaires can be mailed back (postage paid) or picked up by the interviewer at a later date.

Parent questionnaire: From waves 2 to 8, data from up to three of the anchor respondent's (step) parents were collected via an additional PAPI questionnaire. Biological parents had the highest priority; if stepparents existed, the mother's new partner (i.e., the stepfather) was recruited first, irrespective of whether he co-resided with or was married to the biological mother, otherwise the biological father's partner (i.e., stepmother) was included. The pairfam design accounts for families spanning different households; consequently, all (step)parents were eligible, irrespective of their relationship type and co-residence with each other (or with anchors). (Step)Parents for whom anchors gave consent to be interviewed and delivered their home addresses were mailed an invitation letter along with the PAPI questionnaire. Completed questionnaires were to be mailed in (postage paid). In waves 2 and 3, Turkish and Russian versions were available in addition to the German questionnaire. However, due to the small number of non-German speaking respondents, only a German parent questionnaire was made available from wave 4 onwards. In case of changes (e.g., the addition of a new stepfather), any previously interviewed alteri respondents were retained (if possible) in order to maximize comparability over time. In wave 8, the parent questionnaire was re-designed to focus on the grandparent-grandchild relationship, reducing the questionnaire to eight pages. Only parents of anchors with children were asked to participate in the grandparent survey. Due to the low response rate in wave 8 (see below), the (grand)parent questionnaire was discontinued after wave 8.

Step-up anchor respondents: Starting with wave 4, 15 year-old children who participated in the children survey in the previous wave enter into the sample of anchor respondents. They are then interviewed with the standard anchor questionnaire, and no longer the children's version. The multi-actor design for these "step-up" respondents differs from the standard design in that their parents are not surveyed, as one of their parents is already a pairfam anchor. Moreover, some additional modules concerning topics specifically relevant to adolescents (e.g., social media use and risk taking) are included into the step-up version of the anchor questionnaire. In their first year as new anchor respondents, step-up respondents receive a PAPI drop-off questionnaire with 25-30 retrospective biographical questions in addition to the standard anchor CAPI. From wave 9, this transitional PAPI questionnaire is part of the CAPI questionnaire.

2.5. Procedures to increase panel stability

In order to increase panel stability, a non-monotonic design for anchor respondents is implemented. Starting with wave 3, respondents who withdrew participation in the previous wave ("soft refusals": e.g., temporary time restrictions, contact difficulties) are re-contacted in the subsequent wave. Respondents who do not participate in two subsequent waves are excluded from the panel.

In addition, several standardized procedures are enforced in order to ensure long-time panel stability for the pairfam project.

- *Cover letters:* Each anchor respondent receives a personalized cover letter and data protection leaflet before the first contact with an interviewer. The cover letter briefly informs respondents

about the project's goals, panel design, expected interview duration, and monetary compensation for participation. An additional project flyer was enclosed in the first letter. Partners and parents receive separate cover letters along with a data protection leaflet and postpaid envelopes. Both partners and parents also receive a first reminder letter after two or three weeks, and a second reminder letter together with a copy of the questionnaire after another two to three weeks.

- *Incentives*: Monetary rewards have proven effective for in-person oral interviews; therefore, an incentive of 10 euro (cash) has been offered to each anchor respondent after the interview has been completed. In wave 9, the incentive for anchor respondents was increased to 15 euro. In addition, respondents of the refreshment sample received an unconditional incentive of 5 Euro with the first contact letter of wave 12 (their first panel wave). Partners and parents who completed a respective questionnaire received a lottery ticket worth 5 euro in the first six waves, and 5 euro (cash) in the seventh wave. Participating children are rewarded with 5 euro (cash), either handed directly to them or to their parent (i.e., the corresponding anchor respondent). No incentives are offered for completing the parenting questionnaire.
- *Hotline*: Before the first wave, a free hotline for survey participants was established. This hotline is announced in all cover letters. More than 900 respondents contacted the hotline between waves 1 and 2 (wave 2-3: about 350; wave 3-4: about 350), mainly in order to inform the project of address changes or appointment preferences, to withdraw their participation in the study, or to ask about the lottery tickets and study results. 103 respondents from the DemoDiff sample contacted the respective hotline in the first wave, mainly to refuse their participation in the study.
- *Homepage*: A special homepage for survey participants provides details on the background of the pairfam project, data protection regulations, and current results of the study (www.beziehungen-familienleben.de). This homepage is continuously evolving and updated, for example by integrating selected findings from recent survey waves. It also offers the opportunity for participants to communicate any address changes.
- *Thank-you card*: A thank-you card was sent to all interviewed respondents between the first and second survey wave. This card served as a means for increasing participants' commitment to the study, as well as to confirm their current mailing addresses.
- *Informational brochures*: After the successful completion of the second wave, a brochure with graphical illustrations of selected results from first wave data was sent to a total of 10,596 anchor respondents. A similar brochure with selected findings was prepared and sent to 8,776 participating anchor respondents one year later, in July 2011, and another year later to 7,643 anchor respondents in August 2012. This measure was not introduced for DemoDiff. This measure has been continued, with anchor respondents receiving an informational brochure a few weeks before the start of the fielding period. All previous brochures can be found in the method reports.
- *Panel database*: Closely related to sample retention in the narrow sense (i.e., measures to increase motivation to continuously participate in the panel survey), is address retention. Continuous mailing address updates are essential for following survey participants along their life course (i.e., "panel tracking"). Information on address changes come from various sources, including undeliverable post (cover letters, thank-you cards, brochures), survey participants themselves (hotline, homepage, questionnaire/interview), or from the interviewer during the contact phase of the fieldwork process. Incorrect addresses are continuously investigated with the help of official registration offices. All information is stored in a central panel database

created by TNS Infratest Sozialforschung. For each wave, the participating anchor respondents and their alteri are registered in this database with information on gender, year of birth, willingness to be interviewed, returned questionnaires or successful interviews, current address, planned moves, accessibility, etc. This database is regularly updated and extended and represents an important tool for fieldwork organization. As of wave 6, e-mail addresses are also collected to facilitate contact procedures.

2.6. Sample refreshment in wave 11

As sample sizes diminished over the first 10 waves due to attrition, a refreshment sample was drawn at the start of wave 11. The goal of the wave 11 refreshment was to increase the sample by 6,000 anchor respondents, whereby the two younger birth cohorts of the original sample (1981-1983 and 1991-1993) were to be refreshed with 1,500 anchor respondents each, and a new birth cohort (2001-2003) with a sample size of 3,000 anchor respondents was to be drawn. The oldest cohort (1971-73) was not to be refreshed. The resulting refreshment sample was designed to re-establish the original pairfam design from wave 1: three birth cohorts covering the life stages of adolescence (respondent age: 15-17), young adulthood (age: 25-27), and adulthood (age: 35-37) with approximately 3,000 respondents per cohort in wave 11.

The target population for the refreshment sample therefore includes all German-speaking individuals (irrespective of nationality) living in private households in Germany who were born within one of the following time periods:

- Cohort 4: 01.01.2001 - 31.12.2003
- Cohort 1: 01.01.1991 - 31.12.1993
- Cohort 2: 01.01.1981 - 31.12.1983

The sampling procedure remains identical to the sampling of the original sample: a two-stage sampling procedure in which at the first stage, 224 sample points distributed over 274 municipalities were randomly sampled, followed by a sample selection within these municipalities of individuals from the target population using local population registers. Overall, a gross sample of 24,000 addresses was used with the following cohort distribution:

- Cohort 4: N = 8,634
- Cohort 1: N = 7,683
- Cohort 2: N = 7,683

The refreshment sample was integrated into the panel from the beginning, with new anchor respondents receiving an identical question program to respondents from the original sample. Several additional modules covering sociodemographics, childhood history, as well as retrospective modules concerning past intimate relationships were also included. Fielding periods of both samples began in parallel, and aside from some differences adapted for establishing first contact, procedures for the refreshment sample were roughly identical to the original sample. For instance, respondents from the refreshment sample received a different announcement letter as well as a flyer in postcard format to motivate participation. As with the original sample, the complete multi-actor design was also implemented with the refreshment sample.

Unfortunately, fieldwork for the refreshment sample encountered various difficulties, including the delayed provision of sampled addresses from some sample points and insufficient interviewer activity throughout the fielding period. Therefore, sampled individuals were contacted and approached in tranches (in October, February, and April) and the fielding period for the refreshment sample was extended until August 2019 (original sample: May 2019). Moreover, bonus payments were introduced during the fielding period to increase interviewer motivation. Despite these measures, the planned number of cases was not attained; a total of 5,021 interviews were successfully conducted (see Section 3.1.11).

2.7. Design adaptations due to the COVID-19 pandemic in waves 12 and 13

Data collection of wave 12 was disrupted by the global COVID-19 pandemic in 2020. Due to increasing numbers of infections in Germany, face-to-face (CAPI) interviews were halted on March 20th, 2020. Respondents who had not yet participated received this information via letter. The pairfam team then made the decision to switch interview modes for both the anchor and child survey once it was clear the pandemic would disrupt standard interviewing for a longer period of time. As of April 24th, 2020 fieldwork for the anchor survey was continued in CATI mode with the CASI modules designed as a self-administered mail questionnaire (PAPI). Questions were slightly adapted to the new modes as interviewers had to read out the answer categories for each question. Some burdensome questions, in particular those with long answer lists, were therefore skipped. Several questions from the former CASI section relevant for later filters were shifted to the CATI questionnaire, and the filters in the PAPI (former CASI section) were simplified to conform to PAPI standards. The child survey was also switched to CATI, with the CASI section replaced by some questions concerning the child's situation during the pandemic. The partner and parenting questionnaires were not affected, as these were always administered as mail questionnaires. The partner questionnaire was sent to the partner's address as usual, and the parenting questionnaires were sent to the respondents together with the questionnaire containing the sensitive questions.

To increase acceptance of the new interview mode, CATI interviews were conducted by the interviewers originally assigned to the respective CAPI interviews instead of specialized CATI interviewers. The survey institute announced in a letter that the interviewer would contact the respondent via telephone in the near future to make an appointment for the telephone interview. In cases for which no phone number was available (roughly 1/3 of the sample), respondents were prompted to contact the pairfam hotline and communicate their current telephone number. As infections rates declined in June 2020, from June 17th, 2020 interviewers were once again permitted to contact assigned respondents at their homes to make an appointment for the CATI interview. This approach increased contact likelihood for respondents whose phone number was not available. The CATI/PAPI mode was continued until the end of the fielding period in July 2020.

For more information, see Gummer et al. (2020) and Bozoyan et al. (2021).

Wave 13 offered the possibility to conduct the anchor interview via CATI as an alternative to CAPI throughout the entire fielding period (October 2020 to April 2021). For CATI interviews, a PAPI questionnaire containing the sensitive questions usually part of the CASI module was sent to the respondents' address after completing the CATI. As in wave 12, both CAPI and CATI interviews were conducted by the same interviewers so that respondents and interviewers decided upon the

preferred mode and arranged the interview without further involvement of the survey institute. Respondents were also able to choose the survey mode (CAPI or CATI) for the child interviews. Sensitive questions (CASI section) were skipped if children were interviewed via CATI.

3. pairfam field report

3.1. Detailed response rates by wave

In the following section detailed response rates are provided for each wave and each element of the multi-actor survey. Response rates refer only to respondents of the three original pairfam cohorts (1991-1993, 1981-1983, 1971-1973). Respondents of the DemoDiff sample are included in the tables as a separate group as long as the DemoDiff study was conducted independently from pairfam. Step-up respondents are not included in this section.

3.1.1. Wave 1

As described above, 42,074 addresses were used in order to realize 12,402 interviews: 8,454 were invalid, outdated, or the language criterion was not met and were considered neutral non-response cases. The overall response rate was 37%, with a contact rate of 93% and a cooperation rate of 40% (see Table 1).

Table 1: Final dispositions and response rates by cohort after the first wave

	pairfam			DemoDiff	
	1991-93	1981-83	1971-73	Total	Total
Gross sample	9,648	16,810	15,616	42,074	6,787
Invalid addresses/out of scope	807	4,723	2,924	8,454	1,431
Net sample	8,841	12,087	12,692	33,620	5,356
<i>% of valid on gross sample</i>	<i>91.6%</i>	<i>71.9%</i>	<i>81.3%</i>	<i>79.9%</i>	<i>78.9%</i>
No contact/unknown eligibility	224	1,164	855	2,243	898
Eligible, no interview	4,279	6,913	7,783	18,975	2,969
Interviews	4,338	4,010	4,054	12,402	1,489
<i>% of gross sample</i>	<i>44.9%</i>	<i>23.9%</i>	<i>26.0%</i>	<i>29.5%</i>	<i>21.9%</i>
Field results (based on net sample)					
Contact rate ²	0.975	0.904	0.933	0.933	0.832
Refusal rate	0.497	0.572	0.613	0.564	0.554
Cooperation rate	0.503	0.367	0.343	0.395	0.334
Response rate	0.491	0.332	0.319	0.369	0.278

Cooperation varied substantially across the three cohorts: for the youngest cohort 8,841 addresses were fielded in order to obtain 4,338 interviews, whereas in the middle cohort 12,087 were

² All rates were calculated according to the CASRO/AAPOR definitions (<http://www.quantitativeskills.com/sisa/calculations/resprhlp.htm>).

necessary to obtain 4,010 and interviews, and for the oldest cohort 4,054 interviews were realized out of 12,692 addresses. Thus, the response rates for the three cohorts were 49%, 33% and 32% respectively. For the youngest cohort response was satisfactory, but not so for the two older cohorts. However, response rates below 40% are quite common for large scientific surveys run in Germany. For example, the response rates of ALLBUS 2008 within age groups comparable to our cohorts were 38% for the middle cohort and 39% for the oldest.

In addition, Table 1 reports response rates of the first wave of the DemoDiff study, which was conducted one year later than the first pairfam wave. The response rate is even lower (28%), mainly due to the high number of persons who could not be contacted.

The 7,234 pairfam respondents and 1,147 DemoDiff respondents who had reported to be in a relationship were requested for permission to contact their partners for the partner survey (see Table 2). Permission was granted in 5,231 cases in pairfam and 857 cases in DemoDiff, which corresponds to 73% of respondents with a partner (DemoDiff: 75%). The cooperation rate among partners was quite high: 72% (DemoDiff: 80%) of the questionnaires were returned, meaning that 3,743 anchors in pairfam and 684 in DemoDiff (52%/60% coverage³) can be matched with partner data. Cooperation was much higher in the middle and oldest cohorts in pairfam: 1,428 anchor-partner dyads of the middle cohort – equal to 52% of the potential dyads – and 1,977 of the oldest one – equal to a coverage rate of 59% – are available for analyses. As expected, figures are significantly lower in the youngest cohort: only 338 dyads are available for analyses – equal to a coverage rate of 30%.

Table 2: Response to the partner survey in the first wave

	pairfam			DemoDiff	
	1991-93	1981-83	1971-73	Total	Total
Total with partner	1,125	2,756	3,353	7,234	1,147
Permission granted	675	2,005	2,551	5,231	857
<i>% of with partner</i>	61.8%	73.7%	76.7%	73.2%	74.7%
Questionnaire returned	338	1,428	1,977	3,743	684
<i>% of contacted</i>	50.1%	71.2%	77.5%	71.6%	79.8%
Coverage rate (%)	30.0%	51.8%	59.0%	51.7%	59.6%

3.1.2. Wave 2

The net sample of the second wave is defined as all anchor respondents still living in a private household in Germany, who successfully completed the wave 1 interview and did not refuse to be re-interviewed. Of 12,402 respondents, 348 had requested that their contact data be deleted, whereas 6 were no longer living in a private household and 5 had passed away. In total, 9,069 interviews from the net sample of 12,043 persons were completed (see Table 3).

³ In the following, we report the percentage of potential secondary respondents who actually participated in our study under “coverage rate”. We want to distinguish clearly this figure, which represents the number of cases available for dyadic analyses, from the “response rates”, which are rather an indicator of the effectiveness of our field procedures.

In relation to the 12,402 interviews of wave 1, panel stability is 73%. Similar to response rates of wave 1, panel stability rates are cohort-specific: The youngest cohort shows a panel stability of 82%, whereas this rate is only 65% in the middle cohort and 71% in the oldest cohort. The low rate of cohort 2 is particularly due to a low contact rate, as this cohort is very mobile. A stability rate of approximately 70% is what one could expect from a well-managed panel conducted in contemporary Germany. Thus, panel stability is satisfactory for the youngest cohort, but the middle cohort is below our expectations.

Table 3: Final dispositions and panel stability by cohort after the second wave

	1991-93	1981-83	1971-73	Total
Gross sample	4,338	4,010	4,054	12,402
Deceased	0	1	4	5
Not eligible (opted out/private HH)	66	142	146	354
Net sample	4,272	3,867	3,904	12,043
No contact/unknown eligibility	226	524	283	1,033
Eligible, no interview	491	722	728	1,941
Interviews	3,555	2,621	2,893	9,069
% of gross sample (panel stability)	82.0%	65.4%	71.4%	73.1%

3,882⁴ anchor respondents agreed to the partner survey, which corresponds to 73% of all anchors with a partner (see

Table 4). In the youngest cohort the agreement rate only amounted to 61%, whereas among the older cohorts 75% and 77%, respectively, consented. In the aggregate, we received 2,688 completed partner surveys. Thus, the response rate adds up to 69% based on the number of persons whose partner agreed to this survey. The coverage rate over all cohorts is approximately 50%.

Table 4: Response to the partner survey in the second wave

	1991-93	1981-83	1971-73	Total
Total with partner	1,191	1,832	2,385	5,408
Permission granted	717	1,349	1,816	3,882
<i>% of with partner</i>	<i>60.8%</i>	<i>74.7%</i>	<i>76.9%</i>	<i>72.6%</i>
Questionnaire returned	302	952	1,434	2,688
<i>% of contacted</i>	<i>42.1%</i>	<i>70.6%</i>	<i>79.0%</i>	<i>69.2%</i>
Coverage rate (%)	25.4%	52.0%	60.1%	49.7%

For the child interview 1,329 children were identified as potential CAPI children. 944 anchor persons (71%) gave their permission to conduct the survey. In total, 862 children took part in the interview corresponding to a response rate of 91% of those children whose anchor parent consented. Overall, we collected data from 65% of the potential CAPI children.

⁴ This figure differs from that in the “Methodenbericht” by TNS Infratest Sozialforschung, as it also accounts for cases in which data from the partner survey are available, even if the interviewer keyed that the anchor refused the partner survey.

If the anchor persons consented to the child interview, they were additionally asked to fill out the PAPI parenting survey. 919 of the 944 anchor persons (97%) agreed to do so. If the partner lived in the same household (N=778), anchor persons were also asked for permission to submit the parenting survey to their partner. In 82% of these cases, consent was given. We obtained 1,169 completed parenting questionnaires – 722 from anchor respondents and 447 from their partners. This corresponds to a total response rate of 79% among the anchors and 70% among their partners.

Anchors gave direct permission to the parent survey for 43% of the relevant (biological/step/adoptive) parents. For an additional group of 1,303 parents (8%) consent was subject to obtaining parents' agreement. Of these, 927 parents finally consented to being contacted, whereas 376 did not. Overall, we obtained the permission for 51% of all eligible parents. The willingness to agree to this survey differs quite considerably among the cohorts: the agreement rate for mothers, for example, is 70% in cohort 1, 37% in cohort 2, and only 28% in cohort 3. In general, the consent rate to survey biological parents is higher than to survey stepparents (see Table 5); as 4% of all parents do not live in Germany, the eligible group is reduced by this portion. We received 5,015 completed questionnaires. Since 7,654 questionnaires were sent out using a correct address, this results in a response rate of 66%. Overall, we have information from the parents' survey for 30% of all eligible parents. In other words, information on at least one parent is available for 3,147 anchor persons (35%). These response rates are certainly not satisfactory; however, the absolute number of over 5,000 parents' questionnaires returned is nevertheless sufficient for detailed analyses.

Table 5: Outcomes of the parent survey in the second wave

	<i>Mother</i>	<i>Father</i>	<i>Step-father</i>	<i>Step-mother</i>	<i>Total</i>
Total eligible	8,113	6,981	1,286	457	16,837
<i>% permission granted immediately or after asking the parent</i>	<i>57.8%</i>	<i>47.8%</i>	<i>37.6%</i>	<i>23.0%</i>	<i>51.2%</i>
Questionnaires sent out	4,245	2,960	377	72	7,654
Received questionnaires	2,939	1,858	187	31	5,015
<i>Response rate (%)</i>	<i>69.2%</i>	<i>62.8%</i>	<i>49.6%</i>	<i>43.1%</i>	<i>65.5%</i>
<i>Coverage rate (%)</i>	<i>36.2%</i>	<i>26.6%</i>	<i>14.5%</i>	<i>6.8%</i>	<i>29.8%</i>

3.1.3. Wave 3

In wave 3 for the first time also “soft refusals” from the last wave were re-fielded as part of a non-monotonic design. Thus, the gross sample in wave 3 consists of the 9,069 successful interviews from wave 2 and the 1,692 “soft refusals” from wave 2. After cleaning the sample of the respondents who requested in wave 2 no further contacts and of those who had died or are out of scope, the net sample size amounted to 10,629 anchors. From these, 7,901 anchor persons were interviewed (73%) (see Table 6).

This should not be interpreted as a panel stability rate. We calculate panel stability only for those who were interviewed in wave t-1 by:

$$\frac{\text{interviews}_t}{\text{interviews}_{t-1}}$$

Note that this is also not a correct measure, as some of the non-respondents in wave t will return to the panel in wave t+1, i.e. this underestimates true panel stability (for a corrected attrition rate see section 3.2.2.). As can be seen in the second section of Table 6, panel stability in wave 3 is at 81%, well above the wave 2 rate of 73%. This is what can be expected in a well-managed panel.

In addition, we report the panel stability rate of the second wave of the DemoDiff survey. It can be seen from Table 6 that panel stability in the DemoDiff sample was higher than the corresponding rates of the older pairfam cohorts in wave 2 (79% vs. 65% and 71%).

Further, we report the response rate for soft refusals. As can be seen in the third panel of Table 6, response is with 31% substantially lower amongst wave 2 soft refusals than among wave 2 participants.

Table 6: Final dispositions and response rates by cohort after the third wave

	pairfam			DemoDiff	
	1991-93	1981-83	1971-73	Total	Total
Interviews in W2	3,555	2,621	2,893	9,069	1,489
Soft refusals in W2	331	797	564	1,692	0
Gross sample	3,886	3,418	3,457	10,761	1,489
Deceased	0	2	0	2	0
Not eligible	36	40	54	130	33
Net sample	3,850	3,376	3,403	10,629	1,456
No contact/unknown eligibility	235	378	217	830	116
Eligible, no interview	483	708	707	1,898	167
Interviews	3,132	2,290	2,479	7,901	1,173
<i>% of gross sample</i>	<i>80.6%</i>	<i>67.0%</i>	<i>71.7%</i>	<i>73.4%</i>	<i>78.8%</i>
Field results (interviews in W2)					
Interviews in W2	3,555	2,621	2,893	9,069	1,489
Interviews in W3	3,002	2,062	2,319	7,383	1,173
Panel stability	84.4%	78.7%	80.2%	81.4%	78.8%
Field results (soft refusals in W2)					
Soft refusals in W2	331	797	564	1,692	-
Interviews in W3	130	228	160	518	-
Response rate	39.3%	28.6%	28.4%	30.6%	-

Of the 4,892 pairfam respondents who were in a relationship 3,265 - corresponding to two thirds of the eligible anchors - gave permission to contact their partners (see Table 7).

Table 7: Response to the partner survey in the third wave

	pairfam			DemoDiff	
	1991-93	1981-83	1971-73	Total	Total
Total with partner	1,197	1,647	2,048	4,892	912
Permission granted	631	1,159	1,475	3,265	672
<i>% of with partner</i>	<i>53.0%</i>	<i>70.5%</i>	<i>72.1%</i>	<i>66.9%</i>	<i>63.7%</i>
Questionnaire returned	284	879	1,199	2,362	578
<i>Response rate (%)</i>	<i>45.0%</i>	<i>75.8%</i>	<i>81.3%</i>	<i>72.3%</i>	<i>86.0%</i>
<i>Coverage rate (%)</i>	<i>23.7%</i>	<i>53.4%</i>	<i>58.5%</i>	<i>48.2%</i>	<i>63.4%</i>

As in the previous waves, consent rates increase across the cohorts: among the youngest cohort 53% of anchors agreed to their partners being contacted for the partner survey, whereas in the middle and oldest cohorts consent rates were above 70%. Of partners we could contact, 72% returned a questionnaire. The conditional response rate ranged from 45% among the youngest cohorts to over 81% in the oldest. All in all, 2,362 anchor-partner dyads are complete, corresponding to an average coverage of 48%. In DemoDiff the conditional response rate was 86% across the two cohorts. With 578 complete anchor-partner dyads, a coverage rate of 63% was obtained.

In the third wave 1,294 anchor persons had at least one child eligible for the child interview: 1,156 had one, 132 two and 6three eligible children. In sum, 1,438 children fulfilled the criteria to be interviewed for the children survey. For 1,041 children permission for CAPI interview was (conditionally or unconditionally) obtained. A total of 987 children were interviewed, corresponding to roughly 95% of consented and almost 69% of all eligible children.

For 1,041 children permission for CAPI interview was obtained and for 1,024 the anchor respondent also accepted the parenting questionnaire. The total returned parenting questionnaires was 860, corresponding to a return rate of 84% and to a coverage of 83% of all children invited to take part to the children survey. Anchors agreed for their partner to be questioned in 728 cases, equal to a consent rate of 82%. 548 partner's parenting questionnaires were actually completed, corresponding to a return rate of 75% and to a 62% coverage rate of the children selected for the children survey.

For the parent survey 14,683 parents were eligible according to the pairfam design (see Table 8). On average, consent to contact the parents was obtained for roughly 42% of all eligible parents, but variance is still very large: the consent rate was highest for mothers (48%) and lowest for stepmothers (18%). Response rates based on the number of questionnaires sent are very good for a postal survey: among biological and adoptive parents, 70% of mothers and 65% of fathers returned their questionnaire whereas among the step-parents return rates are as high as 50% for step-fathers and 43% for step-mothers.

Table 8: Outcomes of the parent survey in the third wave

	<i>Mother</i>	<i>Father</i>	<i>Step-father</i>	<i>Step-mother</i>	<i>Total</i>
Total eligible	7,068	6,070	1,118	427	14,683
<i>% permission granted immediately or after asking the parent</i>	<i>47.7%</i>	<i>39.5%</i>	<i>28.8%</i>	<i>18.3%</i>	<i>42.0%</i>
Questionnaires sent out	3,243	2,280	294	67	5,884
Received questionnaires	2,286	1,485	146	29	3,946
<i>Response rate (%)</i>	<i>32.3%</i>	<i>24.5%</i>	<i>13.0%</i>	<i>6.8%</i>	<i>26.9%</i>
<i>Coverage rate (%)</i>	<i>70.5%</i>	<i>65.1%</i>	<i>49.7%</i>	<i>43.3%</i>	<i>67.1%</i>

In terms of coverage rates, there are also large differences between biological/adoptive parents and step-parents. All in all, about one third of the anchor-mother dyads and a fourth of the anchor-father dyads are available for dyadic analyses. Rates are fairly lower for step parents, reaching only 13% coverage for step-fathers and 7% for stepmothers.

When comparing success rates for biological/adoptive parents and stepparents, readers should bear in mind that the definition of step-parent in pairfam encompasses all partners of a biological or adoptive parent, irrespective of the duration of their relationship and their closeness to the anchor respondent. Such a comprehensive definition reduces bias caused by arbitrary inclusion criteria, but is bound to produce larger non-response rates. In the case of stepmothers, furthermore, consent and coverage rates are particularly low as the design foresees to include only up to 3 parents, and stepmothers were given the lowest priority of inclusion.

3.1.4. Wave 4

In wave 4 the gross sample encompassed 7,901 respondents and 321 “soft refusals” from the third wave. After subtracting two respondents who had passed away and 118 respondents who had communicated their wish to drop out of the panel, a total of 8,751 respondents were available for interview. Out of this net sample, 6,999 interviews were completed⁵. This corresponds to almost 79% of the gross sample.

⁵ Beginning with wave 4, former CAPI-children grow into the panel (so-called “step-ups”). In this section we report only data from the three original cohorts. Information on response and panel stability of the step-ups is reported in Section 3.2.1.

Table 9: Final dispositions and response rates by cohort after the fourth wave

	pairfam			DemoDiff	
	1991-93	1981-83	1971-73	Total	Total
Interviews in W3	3,132	2,290	2,479	7,901	1,161
Soft refusals in W3	306	365	299	970	175
Gross sample	3,438	2,655	2,778	8,871	1,336
Deceased	0	0	2	2	0
Not eligible	43	33	42	118	12
Net sample	3,395	2,622	2,734	8,751	1,324
No contact/unknown eligibility	261	220	87	568	80
Eligible, no interview	421	394	369	1,184	182
Interviews	2,713	2,008	2,278	6,999	1,074
<i>% of gross sample</i>	<i>78.9%</i>	<i>75.6%</i>	<i>82.0%</i>	<i>78.9%</i>	<i>80.4%</i>
Field results (interviews in W3)					
Interviews in W3	3,132	2,290	2,479	7,901	1,173
Interviews in W4	2,615	1,905	2,158	6,678	1,007
Panel stability	83.5%	83.2%	87.1%	84.5%	85.8%
Field results (soft refusals in W3)					
Soft refusals in W3	306	365	299	970	175
Interviews in W4	98	103	120	321	67
Response rate	32.0%	28.2%	40.1%	33.1%	38.3%

Panel stability increased to 85% overall (see Table 9). However, the youngest cohort didn't show such an increase. Here panel stability remained constant at 84%. This trend is not unexpected as the first cohort began leaving their parents' homes, becoming more mobile and therefore more difficult to reach.

The DemoDiff survey was conducted independently from pairfam in wave 4, but procedures and question programs of the anchor and partner surveys were identical. Table 9 shows that panel stability in DemoDiff was high (86%).

Of the 4,551 pairfam respondents who were in a relationship, 2,998 (almost two thirds of eligible anchors) gave permission to contact their partners (see Table 10). As in the previous waves, consent rates increased across the cohorts: among the youngest cohort, 54% of anchors gave consent to their partners being contacted for the partner survey, whereas in the middle and oldest cohorts, consent rates were approximately 70%. Of the partners we could contact, 73% returned a questionnaire. Conditional response rates ranged from 47% in the youngest cohort to over 82% in the oldest. Overall, 2,182 anchor-partner dyads are complete, corresponding to an average coverage rate of almost 48%. The figures for the DemoDiff respondents are somewhat higher than for the pairfam respondents, as Table 10 shows.

Table 10: Response to the partner survey in the fourth wave

	pairfam			DemoDiff	
	1991-93	1981-83	1971-73	Total	Total
Total with partner	1,169	1,479	1,903	4,551	849
Permission granted	630	1,030	1,338	2,998	629
<i>% of with partner</i>	<i>53.9%</i>	<i>69.6%</i>	<i>70.3%</i>	<i>65.9%</i>	<i>74.1%</i>
Questionnaire returned	294	784	1,104	2,182	550
<i>Response rate (%)</i>	<i>46.7%</i>	<i>76.1%</i>	<i>82.5%</i>	<i>72.8%</i>	<i>87.4%</i>
<i>Coverage rate (%)</i>	<i>25.1%</i>	<i>53.0%</i>	<i>58.0%</i>	<i>47.9%</i>	<i>64.8%</i>

In the fourth wave, 1,290 (pairfam) anchor persons had at least one child eligible for the child interview: 1,033 had one, 249 two, and 8 three eligible children. In sum, 1,555 children fulfilled the criteria to be interviewed for the children survey. For 1,171 of these, permission for CAPI interview was (conditionally or unconditionally) obtained. A total of 1,084 children were interviewed, corresponding to roughly 93% of consented to and a coverage rate of 70% of all eligible children.

For 1,144 children (about 98% of all eligible), the anchor respondent accepted the parenting questionnaire. A total of 958 parenting questionnaires were returned, corresponding to a return rate of 84% and to a coverage rate of 82% of the children allowed by the anchor persons to take part in the children survey. Anchors agreed to the contacting of their partner for the parenting questionnaire in 1,005 cases, corresponding to a consent rate of 75% (total eligible: 1,333). In sum, 618 partner's parenting questionnaires were delivered completed, corresponding to a return rate of 62% or a coverage rate of 62% of the children addressed for the children survey.

In wave 4, a total of 12,843 parents were deemed eligible, and for 5,091 permission to contact was obtained, which corresponds to a permission rate of almost 40%. As in the previous waves, a breakdown of the permissions to contact rates by type of relationship reveals large differences between biological and stepparents, with lower rates for the latter. Return rates based on the number of questionnaires sent out are very good, with two thirds of the mailed questionnaires being returned.

Compared to wave 3, permission rates dropped slightly in wave 4, whereas response rates are stable at the level of the previous wave. These data could be interpreted as either a change in the cooperation rates of the anchors, or a consequence of anchors anticipating their parents' reactions. All in all, parent data are available for about 26% of the targeted parents in wave 4. The best coverage rate was achieved for biological mothers with 31%; the lowest rate for stepmothers (5%).

Table 11: Outcomes of the parent survey in the fourth wave

	<i>Mother</i>	<i>Father</i>	<i>Step- father</i>	<i>Step- mother</i>	<i>Total</i>
Total eligible	6,205	5,294	965	379	12,843
<i>% permission granted immediately or after asking the parent</i>	<i>45.4%</i>	<i>37.0%</i>	<i>27.6%</i>	<i>12.9%</i>	<i>39.6%</i>
Questionnaires sent out	2,742	1,901	247	45	4,935
Received questionnaires	1,935	1,278	117	20	3,350
<i>Response rate (%)</i>	<i>70.6%</i>	<i>67.2%</i>	<i>47.4%</i>	<i>44.4%</i>	<i>67.9%</i>
<i>Coverage rate (%)</i>	<i>31.2%</i>	<i>24.1%</i>	<i>12.1%</i>	<i>5.3%</i>	<i>26.1%</i>

3.1.5. Wave 5

In wave 5 the DemoDiff sample was integrated in the pairfam sample, leading to a gross sample of 8,871 respondents, of which 7,698 were “original” pairfam respondents and 1,173 former DemoDiff respondents. In Table 12 we distinguish for the last time between pairfam and DemoDiff respondents. One can see that DemoDiff still has a higher panel stability of 1 to 3 percentage points. Overall panel stability (including DemoDiff) increased to 86%.

Table 12: Final dispositions and response rates by cohort after the fifth wave

	pairfam			DemoDiff		Total
	1991- 93	1981-83	1971-73	1981-83	1971-73	
Interviews in W4	2,713	2,008	2,278	538	536	8,073
Soft refusals in W4	304	228	167	49	50	798
Gross sample	3,017	2,236	2,445	587	586	8,871
Deceased	0	0	1	0	0	1
Not eligible	42	30	31	1	10	114
Net sample	2,975	2,206	2,413	586	576	8,756
No contact/unknown eligibility	197	107	48	23	9	384
Eligible, no interview	377	301	303	68	75	1,124
Interviews	2,401	1,798	2,062	495	492	7,248
<i>% of gross sample</i>	<i>79.6%</i>	<i>80.4%</i>	<i>84.3%</i>	<i>84.3%</i>	<i>84.0%</i>	<i>81.7%</i>
Field results (interviews in W4)						
Interviews in W4	2,713	2,008	2,278	538	536	8,073
Interviews in W5	2,270	1,715	1,997	477	474	6,933
<i>Panel stability</i>	<i>83.7%</i>	<i>85.4%</i>	<i>87.7%</i>	<i>88.7%</i>	<i>88.4%</i>	<i>85.9%</i>
Field results (soft refusals in W4)						
Soft refusals in W4	304	228	167	49	50	798
Interviews in W5	131	83	65	18	18	315
<i>Response rate</i>	<i>43.1%</i>	<i>36.4%</i>	<i>38.9%</i>	<i>36.7%</i>	<i>36.0%</i>	<i>39.5%</i>

5,044 anchor respondents had a partner at the time of the interview, and 3,372 of them gave permission to survey the partner (see Table 13). Consent rates were similar to the previous wave at around 70% in the two older cohorts and 53% in the youngest. In total, 2,529 partner questionnaires

were returned, corresponding to a response rate of 75%, conditional on the anchor’s consent, and a coverage rate of 50%.

Table 13: Response to the partner survey in the fifth wave

	1991-93	1981-83	1971-73	Total
Total with Partner	1,155	1,754	2,135	5,044
Permission granted	616	1,239	1,517	3,372
% of anchors with partner	53.3%	70.6%	71.1%	66.9%
Questionnaire returned	303	960	1,266	2,529
<i>Response rate (%)</i>	49.2%	77.5%	83.5%	75.0%
Coverage rate (%)	26.2%	54.7%	59.3%	50.1%

1,922 children were eligible for the child interview in the fifth wave: 1,254 anchor persons had one, 308 two, 16 three and 1 four eligible children. Of these, anchors consented to the child interview for 1,476 children. Interviews were conducted with 1,390 children, corresponding to a conditional response rate of 94% and a coverage rate of 72% of all eligible children.

The parenting questionnaire was accepted for 1,451 children. Of these, 1,216 questionnaires were returned, equaling to a response rate of 84% and a coverage rate of 82% of the children for whom permission to the child interview was given. These figures show a remarkable stability over time, as both response and coverage rates did not change from wave 4 to wave 5. In addition, anchor persons who consented to their children’s participation in the child interview and cohabited with their partner were asked for permission to submit the parenting questionnaire to their partner as well. Of the 1,284 children for whom this condition was fulfilled, for 1,050 children the partner’s parenting questionnaire was accepted, and in 806 cases returned. This corresponds to a conditional response rate of 77% and a coverage rate of 63%.

Table 14: Outcomes of the parent survey in the fifth wave

	Mother	Father	Stepfather	Stepmother	Total
Total eligible	6,580	5,571	1,053	427	13,631
<i>Permission granted immediately or after asking the parent</i>	2,946	2,098	306	68	5,418
% of eligible	44.8%	37.7%	29.1%	15.9%	39.7%
Questionnaires sent out	2,830	1,995	267	57	5,149
Received questionnaires	2,043	1,356	122	25	3,546
<i>Response rate (%)</i>	72.2%	68.0%	45.7%	43.9%	68.9%
Coverage rate (%)	31.0%	24.3%	11.6%	5.9%	26.0%

For the parent survey, a total of 13,631 eligible parents were identified. Consent was given for 5,418 parents, corresponding to a consent rate of 39.7%, which is nearly identical to the consent rate in wave 4. As in the previous wave, rates were highest for biological mothers, whereas consent to stepparents was given less frequently. About 69% of the questionnaires sent were completed, which is slightly more than in wave 4. Again, response rates conditional on anchor’s consent was highest for biological mothers at 72%, while only less than 50% of stepparents took part in the survey. In total, we obtained parent survey data for 26% of the eligible parents.

3.1.6. Wave 6

In wave 6, the gross sample amounted to 7,839 respondents (including both “original” pairfam respondents and former DemoDiff respondents), of whom 7,330 had participated in wave 5 and 591 were soft refusals. Overall panel stability increased again to 87%. As in the previous wave, panel stability is highest in the oldest cohort, which is now the largest of the three cohorts. In contrast to the older cohorts, a larger number of respondents in the youngest cohort could not be contacted by the interviewers. This may be due to the higher mobility in this age group.

Table 15: Final dispositions and response rates by cohort after the sixth wave

	1991-93	1981-83	1971-73	Total
Interviews in W5	2401	2293	2554	7330
Soft refusals in W5	236	198	157	591
Gross sample	2637	2491	2711	7839
Deceased	2	0	3	5
Not eligible	31	21	38	90
Net sample	2604	2470	2670	7744
No contact/unknown eligibility	140	98	57	482
Eligible, no interview	327	272	276	2685
Interviews	2137	2100	2337	6574
<i>% of gross sample</i>	<i>81,0%</i>	<i>84,3%</i>	<i>86,2%</i>	<i>83,9%</i>
Field results (interviews in W5)				
Interviews in W5	2401	2293	2554	7248
Interviews in W6	2020	2024	2273	6317
Panel stability	84,1%	88,3%	89,0%	87,2%
Field results (soft refusals in W5)				
Soft refusals in W5	236	198	157	591
Interviews in W6	117	76	64	257
Response rate	49.6%	38.4%	40.8%	43.5%

Of the 4,641 respondents who had a partner at the time of the interview, 3,053 consented to the partner survey (see Table 16), achieving a consent rate of 65.8%. In total, 2,357 were completed, corresponding to a response rate of 77% of contacted partners and a coverage rate of 51% of existing anchor-partner dyads.

Table 16: Response to the partner survey in the sixth wave

	1991-93	1981-83	1971-73	Total
Total with partner	1,060	1,632	1,949	4,641
Permission granted	558	1,148	1,347	3,053
<i>% of anchors with partner</i>	<i>52.6%</i>	<i>70.3%</i>	<i>69.1%</i>	<i>65.8%</i>
Questionnaire returned	300	918	1,139	2,357
<i>Response rate (%)</i>	<i>53.8%</i>	<i>80.0%</i>	<i>84.6%</i>	<i>77,2%</i>
Coverage rate (%)	28.3%	56.3%	58.4%	50,8%

A total of 1,995 children were eligible for the child interview in the sixth wave: 1,107 anchor persons had one, 395 two, and 32 three or four eligible children. Of the 1,505 children for whom consent

from the anchor was secured, interviews were conducted with 1,450 children, corresponding to a conditional response rate of 96% and a coverage rate of 73% of all eligible children.

In wave 6, two changes were implemented in the parenting questionnaire. First, anchor respondents were also asked to complete the parenting questionnaire if they had not consented to the child interview. Second, anchor respondents received the parenting questionnaire not only for the children eligible for the child interview, but also for children of the same age group not living in the anchor’s household. The total number of children relevant for the parenting questionnaire was 2,115 (1,995 children living in the anchor’s household plus 120 children living outside the anchor’s household). For 1,771 children, the parenting questionnaire was accepted, and 1,429 questionnaires were returned, corresponding to a response rate of 81% and a coverage rate of 68% of eligible children. This rate is lower than in previous waves, which is due to the changes in eligibility for the parenting questionnaire. Considerable differences in consent rates exist between children in and outside the household. Consent was provided for 86% of the children in the anchor’s household, but only for 53% of the children outside the household. Partners living in the anchor’s household were asked to complete the parenting questionnaire only for children in the household. Anchor persons were asked to consent to their partners completing the parenting questionnaire only if they had given consent to the child interview. This was the case for 1,341 children, for 80% of whom consent was secured (N=1,074). Of these partners’ parenting questionnaires, 822 were returned, corresponding to a conditional response rate of 77% and a coverage rate of 61%.

Table 17: Outcomes of the parent survey in the sixth wave

	<i>Mother</i>	<i>Father</i>	<i>Stepfather</i>	<i>Stepmother</i>	<i>Total</i>
Total eligible	5,949	5,024	935	383	12,291
<i>Permission granted immediately or after asking the parent</i>	2,669	1,863	260	52	4,844
<i>% of eligible</i>	44.9%	37.1%	27.8%	13.6%	39.4%
Questionnaires sent out	2,438	1,684	218	37	4,377
Received questionnaires	1,764	1,173	91	15	3,043
<i>Response rate (%)</i>	72.4%	69.7%	41.7%	40.5%	69.5%
Coverage rate (%)	29.7%	23.3%	9.7%	3.9%	24.8%

For the parent survey, 12,291 parents were identified as eligible. Anchors gave permission to contact 4,844 of them, corresponding to a consent rate of 39.4%. In total, 3,043 questionnaires were completed, which corresponds to a conditional response rate of 70% and a coverage rate of 25%. As in previous waves, consent and response rates are highest for biological mothers, for whom a coverage rate of 30% could be achieved, whereas coverage of stepmothers is only 4%. In wave 6, an experiment was conducted to test if the low consent rates are caused by interviewer behavior. A random subsample of 50% of respondents was asked for permission to contact their parents in the CASI section of the interview instead of being asked by the interviewer. Consent rates were not affected by the experiment: The consent rate averaged across all parents was 39% in the experimental group and 40% in the control group.

3.1.7. Wave 7

The gross sample in wave 7 consisted of 7,109 anchor persons of whom 6,574 had participated in wave 6 and 535 were soft refusals. Panel stability remained stable at 87%. The trend from the previous wave continued, so that the highest panel stability in wave 7 was also among respondents of the oldest cohort, which continues to be the largest cohort in the panel.

Table 18: Final dispositions and response rates by cohort after the seventh wave

	1991-93	1981-83	1971-73	Total
Interviews in W6	2,137	2,100	2,337	6,574
Soft refusals in W6	238	153	144	535
Gross sample	2,375	2,253	2,481	7,109
Deceased	0	0	1	1
Not eligible	25	24	28	77
Net sample	2,350	2,229	2,452	7,031
No contact/unknown eligibility	167	96	52	459
Eligible, no interview	311	232	253	2,357
Interviews	1,872	1,901	2,146	5,919
<i>% of gross sample</i>	78.8%	84.4%	86.5%	83.3%
Field results (interviews in W6)				
Interviews in W6	2,137	2,100	2,337	6,574
Interviews in W7	1,789	1,842	2,096	5,727
Panel stability	83.7%	87.7%	89.7%	87.1%
Field results (soft refusals in W6)				
Soft refusals in W6	238	153	144	535
Interviews in W7	83	59	50	192
Response rate	34.9%	38.6%	34.7%	35.9%

In wave 7, 4,268 respondents had a partner at the time of the interview and 2,805 of these consented to the partner survey (see Table 19) corresponding to a consent rate of 65.7%. In total, 2,170 partner questionnaires were completed, corresponding to a response rate of 77% of contacted partners and a coverage rate of 51% of existing partners.

Table 19: Response to the partner survey in the seventh wave

	1991-93	1981-83	1971-73	Total
Total with partner	999	1,490	1,779	4,268
Permission granted	543	1,038	1,224	2,805
<i>% of anchors with partner</i>	54.4%	69.7%	68.8%	65.7%
Questionnaire returned	325	811	1,034	2,170
<i>Response rate (%)</i>	59.9%	78.1%	84.5%	77.4%
Coverage rate (%)	32.5%	54.4%	58.1%	50.8%

1,977 children were eligible for the child interview in the seventh wave: 991 anchor persons had one, 425 two, 41 three, 2 four and 1 five eligible children. Of these, anchors consented to interviews for 1,509 children. Interviews were conducted with 1,438 children, corresponding to a conditional response rate of 95% and a coverage rate of 73% of all eligible children.

The group of children eligible for the parenting survey was again increased in wave 7 as starting with this wave parenting questionnaires were to be completed also for children aged 6 or 7 living in the anchor’s household. The total number of children relevant for the parenting questionnaire was 2,763 (1,977 children aged 8-15 living in the anchor’s household; 118 children of this age group living outside the anchor’s household; 668 children aged 6-7 living in the anchor’s household). The parenting questionnaire was accepted for 2,338 children, and of these, 1,811 questionnaires were returned, corresponding to a response rate of 85% and a coverage rate of 66% of all eligible children. Consent was provided for 86% of the children in the household of both age groups, but only for 64% of the children outside the household. Partners living in the anchor’s household were asked to complete the parenting questionnaire only for children in the household (but of both age groups). In wave 7, anchor persons were asked to consent to the parenting questionnaire for their partner even if they had not given consent to the child interview. 2,334 children were eligible for this questionnaire, and consent was provided for 67% (N=1,553). Of these partners’ parenting questionnaires, 1,078 were returned, corresponding to a conditional response rate of 69% and a coverage rate of 46%.

Table 20: Outcomes of the parent survey in the seventh wave

	<i>Mother</i>	<i>Father</i>	<i>Stepfather</i>	<i>Stepmother</i>	<i>Total</i>
Total eligible	5,306	4,446	829	350	10,931
<i>Permission granted immediately or after asking the parent</i>	2,163	1,513	201	41	3,918
<i>% of eligible</i>	<i>40.8%</i>	<i>34.0%</i>	<i>24.2%</i>	<i>11.7%</i>	<i>35.8%</i>
Questionnaires sent out	2,135	1,490	192	39	3,856
Received questionnaires	1,568	1,042	93	16	2,719
<i>Response rate (%)</i>	<i>73.4%</i>	<i>69.9%</i>	<i>48.4%</i>	<i>41.0%</i>	<i>70.5%</i>
Coverage rate (%)	29.6%	23.4%	11.2%	4.6%	24.9%

For the parent survey, a total of 10,931 eligible parents were identified. Consent was granted for 3,914 parents, corresponding to a consent rate of 36%. As the CAPI-CASI experiment in wave 6 did not provide evidence that asking for consent in the CASI section of the interview would yield higher consent rates, in wave 7 all respondents were asked for consent to contact their parents in the CAPI section. As in previous waves, consent rates were highest for biological mothers, whereas consent survey to stepparents was given less frequently. Approximately 71% of the 3,856⁶ questionnaires sent were returned completed (N=2,719), which is slightly more than in previous waves. Response rates conditional on anchor consent was highest for biological mothers with 73% of the sent questionnaires being returned, while only 41% of stepmothers took part in the survey. In total, we obtained parent survey data for 25% of all eligible parents.

⁶ Questionnaires could not be sent to 62 parents for whom consent was provided by the anchor in the CAPI because anchors did not provide complete address or because parents had refused further participation in the survey in one of the previous waves. For 4 parents, anchors consented to the survey after they had asked them (out of 70 for whom anchors had indicated the desire to consult with their parents before providing consent).

3.1.8. Wave 8

In wave 8, the gross sample encompassed 6,348 anchor persons of whom 6,919 had participated in wave 7 and 465 were soft refusals. Panel stability reached 89%. As in previous waves, panel stability was highest in the oldest cohort, which continues to be the largest cohort in the panel.

Table 21: Final dispositions and response rates by cohort after the eighth wave

	1991-93	1981-83	1971-73	Total
Interviews in W7	1,872	1,901	2,146	5,919
Soft refusals in W7	213	144	108	465
Gross sample	2,085	2,045	2,254	6,384
Deceased	2	1	2	5
Not eligible	9	16	26	51
Net sample	2,074	2,028	2,226	6,328
No contact/unknown eligibility	130	89	67	381
Eligible, no interview	225	181	175	2,075
Interviews	1,719	1,758	1,984	5,461
<i>% of gross sample</i>	82.4%	86.0%	88.0%	85.5%
Field results (interviews in W7)				
Interviews in W7	1,872	1,901	2,146	5,919
Interviews in W8	1,627	1,700	1,937	5,264
Panel stability	86.9%	89.4%	90.3%	88.9%
Field results (soft refusals in W7)				
Soft refusals in W7	213	144	108	465
Interviews in W8	92	58	47	197
Response rate	43.2%	40.3%	43.5%	42.4%

Of the 4,004 respondents who had a partner at the time of the interview in wave 8, 2,560 consented to the partner survey (see Table 22) corresponding to a consent rate of 63.9%. In total, 2,051 partner questionnaires were returned, corresponding to a response rate of 80% (conditional on the anchor's consent) and a coverage rate of 51%, which is similar to the rates in the previous wave.

Table 22: Response to the partner survey in the eighth wave

	1991-93	1981-83	1971-73	Total
Total with partner	966	1,403	1,635	4,004
Permission granted	550	957	1,053	2,560
% of anchors with partner	56.9%	68.2%	64.4%	63.9%
Questionnaire returned	367	759	925	2,051
<i>Response rate (%)</i>	66.7%	79.3%	87.8%	80.1%
Coverage rate (%)	38.0%	54.1%	56.6%	51.2%

2,012 children were eligible for the child interview in wave 8: 942 anchor persons had one, 434 two, 55 three, 8 four, and 1 five eligible children. Of these, anchors consented to interviews for 1,498 children. Interviews were conducted with 1,419 children, corresponding to a conditional response rate of 95% and a coverage rate of 71% of all eligible children.

The parenting questionnaire was accepted for 2,269 children. Of these, 1,772 questionnaires were returned, resulting in a response rate of 78% and a coverage rate of 66% of the children for whom permission to the child interview was given. 2,254 children were eligible for the partners' parenting questionnaire, and consent was provided for 64% (N=1,446). Of these, 1,075 were returned, corresponding to a conditional response rate of 74% and a coverage rate of 48%.

Table 23: Outcomes of the parent survey in the eighth wave

	<i>Mother</i>	<i>Father</i>	<i>Stepfather</i>	<i>Stepmother</i>	<i>Total</i>
Total eligible	2,040	1,600	305	131	4,076
Questionnaires sent	647	413	55	20	1,135
<i>% of eligible</i>	<i>31.7%</i>	<i>25.8%</i>	<i>18.0%</i>	<i>15.3%</i>	<i>27.8%</i>
Questionnaires returned	372	224	22	9	627
<i>% of questionnaires sent</i>	<i>57.5%</i>	<i>54.2%</i>	<i>40.0%</i>	<i>45.0%</i>	<i>55.2%</i>
<i>% of eligible parents</i>	<i>18.2%</i>	<i>14.0%</i>	<i>7.2%</i>	<i>6.9%</i>	<i>15.4%</i>

Due to the redesign of the parent survey, only 4,076 eligible parents were identified in wave 8. During the fielding time, the explicit consent question in the CAPI was changed so that respondents were no longer explicitly asked for consent. Therefore, consent rates are not included in Table 23. Approximately 55% of the 1,135 questionnaires sent were returned completed (N=627). As coverage rates show, acceptance of the new parent survey was low: Only 15% of eligible parents completed the questionnaire. This figure is even lower than in previous waves where survey data was obtained for roughly 25% of eligible parents.

3.1.9. Wave 9

In wave 9, the gross sample included 5,868 anchor persons of whom 5,461 had participated in wave 8, 407 were soft refusals. Panel stability reached 91%. As in previous waves, panel stability was highest among respondents of the oldest cohort, which continues to be the largest cohort in the panel.

Table 24: Final dispositions and response rates by cohort after the ninth wave

	1991-93	1981-83	1971-73	Total
Interviews in W8	1,719	1,758	1,984	5,461
Soft refusals in W8	166	128	113	407
Gross sample	1,885	1,886	2,097	5,868
Deceased	0	1	1	2
Not eligible	20	14	19	43
Net sample	1,865	1,871	2,077	5,813
No contact/unknown eligibility	119	59	47	225
Eligible, no interview	159	141	162	462
Interviews	1,587	1,671	1,869	5,127
<i>% of gross sample</i>	84,2%	88,6%	89,1%	87,4%
Field results (interviews in W8)				
Interviews in W8	1,719	1,758	1,984	5,461
Interviews in W9	1,512	1,616	1,817	4,945
Panel stability	88,0%	91,9%	91,6%	90,6%
Field results (soft refusals in W8)				
Soft refusals in W8	166	128	113	407
Interviews in W9	75	55	52	182
Response rate	45,2%	43,0%	46,0%	44,7%

Of the 3,810 respondents who had a partner at the time of the interview in wave 9, 2,477 consented to the partner survey (see Table 22) corresponding to a consent rate of 65%. In total, 1,946 partner questionnaires were returned, corresponding to a response rate of 79% (conditional on the anchor's consent) and a coverage rate of 51%, which is similar to the rates in the previous waves.

Table 25: Response to the partner survey in the ninth wave

	1991-93	1981-83	1971-73	Total
Total with partner	958	1,316	1,536	3,810
Permission granted	566	894	1,017	2,477
<i>% of anchors with partner</i>	59,1%	67,9%	66,2%	65,0%
Questionnaire returned	372	728	846	1,946
<i>Response rate (%)</i>	65,7%	81,4%	83,2%	78,6%
Coverage rate (%)	38,8%	55,3%	55,1%	51,1%

2,019 children were eligible for the child interview in the ninth wave: 921 anchor persons had one, 435 two, 61 three, 10 four and 1 five eligible children. Of these, anchors consented to interviews for 1,463 children. Interviews were conducted with 1,401 children, corresponding to a conditional response rate of 96% and a coverage rate of 69% of all eligible children, which is slightly lower than in previous waves.

The total number of children relevant for the parenting questionnaire was 2,652 (2,019 children aged 8-15 living in the anchor's household; 112 children of this age group living outside the anchor's household; 521 children aged 6-7 living in the anchor's household). The parenting questionnaire was accepted for 2,297 children, and of these, 1,791 questionnaires were returned, corresponding to a response rate of 78% and a coverage rate of 68% of all eligible children. Partners living in the anchor's household were asked to complete the parenting questionnaire only for children in the

household (but of both age groups). 2,243 children were eligible for this questionnaire, and consent was provided for 67% (N=1,499). Of these partners' parenting questionnaires, 1,128 were returned, corresponding to a conditional response rate of 75% and a coverage rate of 50%.

In wave 9, a "parenting adolescents and young adults" questionnaire for 16-22 year old children was introduced. The total number of children relevant for this questionnaire was 892 (688 16-22 year old children in the anchor's household; 204 biological or adoptive children of this age group outside the anchor's household). Questionnaires were accepted for 697 children and 542 were completed, corresponding to a response rate of 75% and a coverage rate of 59% of all eligible children. Partners living in the anchor's household were asked to complete this "parenting adolescents and young adults" questionnaire for children in the household and for common biological children outside the household. 622 children were relevant for the questionnaire, and consent was provided for 58% (N=360). 242 questionnaires were returned, corresponding to a response rate of 67% and a coverage rate of 39%.

3.1.10. Wave 10

The gross sample in wave 10 consisted of 5,457 anchor persons of whom 5,127 had participated in wave 9 and 330 were soft refusals. Panel stability (among respondents who had participated in the previous wave) was 90%. As in previous waves, panel stability was highest among respondents of the oldest cohort, which continues to be the largest cohort in the panel.

Table 26: Final dispositions and response rates by cohort after the tenth wave

	1991-93	1981-83	1971-73	Total
Interviews in W9	1587	1671	1869	5127
Soft refusals in W9	144	90	96	330
Gross sample	1731	1761	1965	5457
Deceased	1	0	2	3
Not eligible	11	16	14	41
Net sample	1719	1745	1949	5413
No contact/unknown eligibility	122	58	33	213
Eligible, no interview	160	130	160	450
Interviews	1437	1557	1756	4750
% of gross sample	83,0%	88,4%	89,4%	87,0%
Field results (interviews in W9)				
Interviews in W9	1587	1671	1869	5127
Interviews in W10	1371	1518	1712	4601
Panel stability	86,4%	90,8%	91,6%	89,7%
Field results (soft refusals in W9)				
Soft refusals in W9	144	90	96	330
Interviews in W10	66	39	44	149
Response rate	45,8%	43,3%	45,8%	45,2%

Of the 3,587 respondents who had a partner at the time of the wave 10 interview 2,272 consented to the partner survey (see Table 27) corresponding to a consent rate of 63.3%. In total, 1,931 partner questionnaires were completed, corresponding to a response rate of 85% of contacted partners and a coverage rate of 54% of existing partners.

Table 27: Response to the partner survey in the tenth wave

	<i>1991-93</i>	<i>1981-83</i>	<i>1971-73</i>	<i>Total</i>
Total with partner	879	1,266	1,442	3,587
Permission granted	511	839	922	2,272
% of anchors with partner	58.1%	66.3%	63.9%	63.3%
Questionnaire returned	334	675	790	1,799
<i>Response rate (%)</i>	<i>65.4%</i>	<i>80.5%</i>	<i>85.7%</i>	<i>79.2%</i>
Coverage rate (%)	38.0%	53.3%	54.8%	50.2%

1,917 children were eligible for the child interview in wave 10: 879 anchor persons had one, 401 two, 65 three, 9 four, and 1 five eligible children. Of these, anchors consented to interviews for 1,349 children. Interviews were conducted with 1,282 children, corresponding to a conditional response rate of 95% and a coverage rate of 67% of all eligible children.

The parenting questionnaire (anchor version) was accepted for 2,087 of 2,475 eligible children. Of these, 1,671 questionnaires were returned, resulting in a response rate of 80% and a coverage rate of 68% of the children for whom permission to the child interview was given. 2,108 children were eligible for the partners' parenting questionnaire, and consent was provided for 64% (N=1,347). Of these, 1,050 questionnaires were returned, corresponding to a conditional response rate of 78% and a coverage rate of 50%.

Parents of 1,052 children were eligible to the "parenting adolescents and young adults" questionnaire (anchor version). 801 questionnaires were accepted (76% of eligible) and 607 were completed, corresponding to a conditional response rate of 76% and a coverage rate of 58%. The partner version of the questionnaire was accepted for 385 children (52% of 739 eligible children) and 290 questionnaires were completed, corresponding to a conditional response rate of 75% and a coverage rate of 39% of all eligible children.

3.1.11. Wave 11

The gross sample in wave 11 consisted of 4,414 anchor respondents who had participated in previous waves before (excluding step-up respondents) and 5,021 new anchor respondents from the refreshment sample. In the following, results regarding the original panel sample (original pairfam and DemoDiff samples) are described first, followed by results for the refreshment sample.

In wave 10, 4,750 respondents from the original sample participated and 306 were soft refusals. Panel stability (among respondents who had participated in the previous wave) was 90% overall, highest among respondents of the older cohorts, with the oldest cohort continuing to be the largest cohort in the panel (see Table 28).

Table 28: Final dispositions and response rates by cohort after the eleventh wave

	1991-93	1981-83	1971-73	Total
Interviews in W10	1,437	1,557	1,756	4,750
Soft refusals in W10	136	89	81	306
Gross sample	1,573	1,646	1,837	5,056
Deceased	0	3	3	6
Not eligible	6	12	22	40
Net sample	1,567	1,631	1,812	5,010
No contact/unknown eligibility	89	42	34	165
Eligible, no interview	149	129	153	431
Interviews	1,329	1,460	1,625	4,414
% of gross sample	84,5%	88,7%	88,5%	87,3%
Field results (interviews in W10)				
Interviews in W10	1,437	1,557	1,756	4,750
Interviews in W11	1,269	1,424	1,600	4,293
Panel stability	88,3%	91,5%	91,1%	90,4%
Field results (soft refusals in W10)				
Soft refusals in W10	136	89	81	306
Interviews in W11	60	36	25	121
Response rate	44,1%	40,4%	30,9%	39,5%

Survey outcomes of the refreshment are listed in Table 29. As described above, 24,000 addresses were used, of which 3,179 were invalid, outdated, or the language criterion was not met and were considered neutral non-response cases. The overall response rate was 24%, with a contact rate of 80% and a cooperation rate of 30%

Table 29: Final dispositions and response rates by cohort in the refreshment sample

	2001-2003	1991-1993	1981-1983	Total
Gross sample	8,634	7,683	7,683	24,000
Invalid addresses/out of scope	611	1,546	1,022	3,179
Net sample	8,023	6,137	6,661	20,821
% of valid on gross sample	92,9%	79,9%	86,7%	86,8%
No contact/unknown eligibility	936	1,235	1,202	3,373
Eligible, no interview	4,340	3,463	3,861	11,664
Not-worked cases	271	234	258	763
Interviews	2,476	1,205	1,340	5,021
% of gross sample	28,7%	15,7%	17,4%	20,9%
Field results (based on net sample)				
<i>Contact rate</i>	85,0%	76,1%	78,1%	80,1%
<i>Refusal rate</i>	54,1%	56,4%	58,0%	56,0%
<i>Cooperation rate</i>	36,3%	25,8%	25,8%	30,1%
Response rate	30,9%	19,6%	20,1%	24,1%

Cooperation varied substantially across the three refreshment cohorts: 8,634 addresses were fielded in order to obtain 2,476 interviews from the youngest cohort, whereas in the two older cohorts 1,205 and 1,340 interviews were realized out of 7,683 addresses, respectively. Response rates for the refreshment sample are substantially lower as compared to wave 1. In 2008, the response rates for

the three cohorts – at the same ages as the refreshment sample in wave 11 – were 49%, 33%, and 32%, respectively -- 19, 13, and 12 percentage points higher than in the three equivalent refreshment sample cohorts. This is in part due to the conclusion of fieldwork in August 2019: At this point, 763 cases had not been started, and 835 cases had been contacted but not reached a final result. If these cases are considered neutral refusals, an overall response rate of 26% (instead of 24%) results, which is still remarkably lower than ten years ago. The main difference appears to lie in successfully contacting sampled individuals: The contact rate in the refreshment is only 80% across all cohorts, while it was as high as 93% in wave 1. The refusal rate, in contrast, is nearly identical to wave 1 with 56%.

Turning to the multi-actor elements of the study, we again differentiate between the original panel sample (original pairfam and DemoDiff samples) and the refreshment sample (see Table 30). Among the respondents of the panel sample, figures for wave 11 are similar to previous waves. Of the 3,393 respondents with a partner at time of the wave 11 interview, 2,115 consented to contacting the partner, corresponding to a consent rate of 63% across all three cohorts. Of the contacted partners, 1,686 participated in the partner survey, corresponding to a response rate of 80% of contacted partners and a coverage rate of 50%.

In the refreshment sample, consent rates are higher than in the panel sample. Across the three cohorts, 69% of refreshment sample respondents consented to pairfam contacting their partner. Response rates, however, were lower than in the panel sample: only 58% of the contacted partners participated in the survey, leading to a coverage rate of 40% of existing partners. As expected, rates are lowest in the youngest cohort (born 2001-2003) with only 20% of existing partners participating in the survey.

Table 30: Response to the partner survey in the eleventh wave

	<i>Original sample</i>			<i>Refreshment sample</i>		<i>Total</i>	
	<i>1991-93</i>	<i>1981-83</i>	<i>1971-73</i>	<i>2001-03</i>	<i>1991-93</i>		<i>1981-83</i>
Total with partner	875	1,175	1,343	581	836	1.138	5.948
Permission granted	502	791	822	282	603	867	3,867
% of anchors with partner	57.4%	67.3%	61.2%	48,5%	72,1%	76,2%	65.0%
Questionnaire returned	326	640	720	117	348	544	2.695
<i>Response rate (%)</i>	64.9%	80.9%	87.6%	41.5%	57.7%	62.7%	69.7%
Coverage rate (%)	37.3%	54.5%	53.6%	20.1%	41.6%	47.8%	45.3%

In total, 2,186 children were eligible for the child interview in wave 11. Whereas all 8-15 year old children of original sample respondents living in the anchor person’s household were invited to the interview, the children’s survey in the refreshment sample was limited to the youngest child in this age range, resulting in 401 eligible children. Accordingly, 797 anchor persons from the original sample were asked for their consent to interview one child, 398 two, 56 three, and 6 four children. Anchors consented to interviews for a total of 1,398 children, with consent rates lower among the refreshment sample (49% vs. 67%, respectively). Interviews were successfully conducted with 1,284 children (146 refreshment sample, 1,138 panel sample), corresponding to a conditional response rate of 92% (74% refreshment sample, 95% panel sample) and a coverage rate of 59% of all eligible children (36% refreshment sample, 64% panel sample).

The parenting questionnaire (anchor version) was accepted for 2,383 of 2,985 eligible children. Of these, 491 (of 699 eligible children) belonged to the refreshment sample. In total, 1,811 questionnaires were returned (of which 276 from the refreshment sample). The overall response rate is 76% and the coverage rate (of the children for whom permission to the child interview was given) is 61%. Participation is higher in the original panel sample than in the refreshment sample: While in the panel sample response rate is 81% and coverage rate 67%, the refreshment sample exhibits both a lower response rate (56%) and coverage rate (39%). 2,541 children were eligible for the partners' parenting questionnaire, and consent was provided for 63% (N=1,598). Of these, 1,144 questionnaires were returned, corresponding to a conditional response rate of 72% and a coverage rate of 45%. These lower rates are due to lower consent and response rates in the refreshment sample (response rate: 48%, coverage rate: 29%), whereas figures remained largely stable in the original panel sample (response rate: 78%, coverage rate: 50%).

Parents of 1,244 children were eligible for the "Parenting Adolescents and Young Adults (PAYA)" questionnaire (anchor version). 920 questionnaires were accepted (74% of all eligible children) and 689 were completed, corresponding to a conditional response rate of 75% and a coverage rate of 55%. The partner version of the questionnaire was accepted for 464 children (54% of 867 eligible children) and 342 questionnaires were completed, corresponding to a conditional response rate of 74% and a coverage rate of 39% of all eligible children. These figures are hardly affected by the refreshment, as only few respondents of the refreshment sample have adolescent children. Only 67 children were eligible for the anchor version of the questionnaire and 48 for the partner version. Of these, 39 and 15 questionnaires, respectively, were accepted and 18 and 9 completed.

A third parenting questionnaire was introduced in wave 11: If anchors reported to have 0-6 year old children, their partners were invited to a short parenting questionnaire including a number of questions concerning young children from the anchor questionnaire. 1,081 children in the panel sample and 1,147 in the refreshment sample resulted in 2,228 eligible cases. Anchors accepted the questionnaire for their partners in 1,538 cases (panel sample: 728, refreshment sample: 810), and 844 questionnaires were returned (panel sample: 440, refreshment sample: 404). Again, participation is higher in the panel sample with a response rate of 60% and a coverage rate of 41%, compared to the refreshment sample with a response rate of 50% and a coverage rate of 35%.

3.1.12. Wave 12

The gross sample in wave 12 consisted of 9,688 anchor respondents, of whom 6,435 had participated in wave 11, 253 were soft refusals (see Table 31). Panel stability was markedly lower than in previous waves, with 79.8% across all four cohorts. The reason for this is twofold: First, wave 12 was the first panel interview after recruitment in wave 11 for respondents of the refreshment sample. As attrition rates were also high in the original sample in the second panel wave, a higher attrition rate for refreshment sample respondents was expected. Second, fieldwork was halted in spring 2020 due to the global COVID-19 pandemic, and the remaining cases were interviewed in CATI/mail mode instead of the usual CAPI as face-to-face contacts were not possible due to contact restrictions (see 2.7). Response rates were lower for the CATI portion of fieldwork than the CAPI portion: Some respondents were not able to be contacted as their telephone numbers had not yet been collected, and some may have refused due to the unfamiliar interview mode or their specific situation during the pandemic.

Table 31: Final dispositions and response rates by cohort after the twelfth wave

	2001-03	1991-93	1981-83	1971-73	Total
Interviews in W11	2,476	2,534	2,800	1,625	9,435
Soft refusals in W11	0	114	77	62	253
Gross sample	2,476	2,648	2,877	1,687	9,688
Deceased	0	0	1	2	3
Not eligible	34	36	46	22	138
Net sample	2,476	2,648	2,876	1,685	9,685
No contact/unknown eligibility	173	214	159	37	583
Eligible, no interview	385	379	438	132	1,334
Interviews	1,884	2,019	2,233	1,494	7,630
CAPI	1,201	1,532	1,721	1,340	5,794
CATI	683	487	512	154	1,836
% of gross sample	76.1%	76.2%	77.6%	88.6%	78.8%
Field results (interviews in W11)					
Interviews in W11	2,476	2534	2800	1625	9435
Interviews in W12	1,884	1964	2210	1471	7529
Panel stability	76.1%	77.5%	78.9%	90.5%	79.8%
Field results (soft refusals in W11)					
Soft refusals in W11		114	77	62	253
Interviews in W12		55	23	23	101
Response rate		48.2%	29.9%	37.1%	39.9%

In the following, “normal” CAPI interviews are differentiated from CATI/mail cases processed during the COVID-19 pandemic to show the effect of the mode switch. This measure affected the refreshment sample more than the original sample (including DemoDiff), as most interviews in the latter group had already been completed by the time fieldwork was halted. Figured are therefore shown separately for the refreshment and original samples. The difference becomes clear in Table 32: In the original sample, 3,664 interviews had already been conducted when fieldwork stopped in March 2020, corresponding to a response rate of 78.5%. As 54% of the remaining interviews were successfully conducted in CATI mode, a total response rate of 87.7% was achieved – roughly the same level as in previous waves.

In contrast, only 42.4% of respondents from the refreshment sample had been interviewed by the time fieldwork was halted March 2020. This low number was not entirely unexpected, as the majority of this sample (i.e., 3,362 cases) had not been contacted until February 2020. The late fielding of part of the refreshment sample was a consequence of the delayed interviews in wave 11: As the latest interviews were conducted in August, a reasonable time period between the first and the second wave was pursued for the late respondents. Therefore, 49.7% of cases were still in the field when the CATI interviews started. Of these 2,494 cases, 56.3% were successfully interviewed, resulting in a total response rate of 70.4%. Clearly, this figure is not comparable to the response rate for the original sample, but it is also lower than in wave 2: 73.1% of wave 1 participants were re-interviewed in the second wave. The low response rate for the refreshment sample is thus most likely an effect of the unexpected mode switch caused by the pandemic.

Table 32: Response rates by interview mode

	<i>Original sample</i>	<i>Refreshment sample</i>	<i>Total</i>
Gross sample	4,667	5,021	9,688
CAPI interviews	3,664	2,130	5,794
% of gross sample	78.5%	42.4%	59.8%
Eligible for CATI	795	2,494	3,289
% of gross sample	17.0%	49.7%	33.9%
CATI interviews	431	1,405	1,836
% of gross sample	9.2%	28.0%	19.0%
% of cases eligible for CATI	54.2%	56.3%	55.8%
Total interviews (CAPI + CATI)	4,095	3,535	7,630
% of gross sample	87.7%	70.4%	78.8%

Of the 5,052 respondents who had a partner at the time of the wave 12 interview, 3,204 consented to the partner survey (see Table 33). This corresponds to a consent rate of 63.4%, which is similar to previous waves. In total, 2,418 partner questionnaires were completed, corresponding to a response rate of 76% of contacted partners and a coverage rate of 48% of existing partners.

Table 33: Response to the partner survey in the twelfth wave

	<i>Original sample</i>			<i>Refreshment sample</i>			<i>Total</i>
	<i>1991-93</i>	<i>1981-83</i>	<i>1971-73</i>	<i>2001-03</i>	<i>1991-93</i>	<i>1981-83</i>	
Total with partner	834	1,096	1,232	566	565	758	5,051
Permission granted	498	726	763	267	409	541	3,204
% of anchors with partner	59.7%	66.2%	61.9%	47.2%	72.4%	71.4%	63.4%
Questionnaire returned	346	594	654	141	282	401	2,418
<i>Response rate (%)</i>	69.5%	81.8%	85.7%	52.8%	68.9%	74.1%	75.5%
Coverage rate (%)	41.5%	54.2%	53.1%	24.9%	49.9%	52.9%	47.9%

In total, 1,961 children were eligible for the child interview in wave 12, and anchor respondents consented to interviews for 1,263 children. Interviews were conducted with 1,146 children (original sample: 997, refreshment sample: 149), corresponding to a conditional response rate of 91% (original sample: 92%, refreshment sample: 82%) and a coverage rate of 58% of all eligible children (original sample: 62%, refreshment sample: 43%). Most of the children were interviewed via CAPI (88%), the remaining 12% via CATI. Differences between original and refreshment sample are similar to the anchor interviews, with a higher share of CATI interviews in the refreshment than in the original sample (39% vs. 9%).

The parenting questionnaire (anchor version) was accepted for 2,232 of 2,665 eligible children. Of these, 469 (of 579 eligible children) belonged to the refreshment sample. In total, 1,731 questionnaires were returned (of which 321 from the refreshment sample). The overall response rate is 78% and the coverage rate (of the children for whom permission to the child interview was given) is 65%. As in wave 11, participation is higher in the original panel sample than in the refreshment sample: While the response rate is 80% and coverage rate 68% in the original sample, the refreshment sample exhibits both a lower response rate (68%) and coverage rate (55%). However, these figures from the refreshment sample are higher than in wave 11. Consent was provided for

1440 of 2,244 children for the partner parenting questionnaire. Of these, 1,050 questionnaires were returned, corresponding to a conditional response rate of 73% and a coverage rate of 47%. Again, rates are lower in the refreshment sample than in the original sample (response rate: 61% vs. 76%, coverage rate: 38% vs. 49%, respectively).

Parents of 1,311 children were eligible for the “Parenting Adolescents and Young Adults (PAYA)” questionnaire (anchor version). A total of 1014 questionnaires were accepted and 779 were completed, corresponding to a conditional response rate of 77% and a coverage rate of 59%. The partner version of this questionnaire was accepted for 512 of 902 children and 362 questionnaires were completed, corresponding to a conditional response rate of 71% and a coverage rate of 40% of all eligible children.

A total of 1,757 children were eligible for the partner parenting questionnaire for 0-6 year old children. Anchors accepted the questionnaire for their partners in 1,257 cases (original sample: 667, refreshment sample: 590), and 770 questionnaires were returned, resulting in an overall response rate of 61% and coverage rate of 44%.

3.1.13. Wave 13

In wave 13, the gross sample encompassed 8,562 anchor persons of whom 7,586 had participated in wave 12 and 976 were soft refusals. Panel stability was higher than in wave 12 at 82%, but still lower than in previous waves. This may have been partly due to the pandemic, but also due to lower panel attachment in the refreshment sample, as can be seen from the cohort differences. Panel stability was highest in the oldest cohort, which consists only of respondents from the pairfam original sample, and lowest in the youngest cohort, which includes only respondents from the refreshment sample; the other two cohorts, which comprise respondents from both samples, are in between. In addition, after a large number of respondents did not participate in wave 12 due to both the pandemic and lower willingness to participate among the respondents of the refreshment sample, the share of soft refusals in wave 13 was higher than in previous waves. Of these soft refusals, only 33 % participated in wave 13.

Table 34: Final dispositions and response rates by cohort after the thirteenth wave

	2001-03	1991-93	1981-83	1971-73	Total
Interviews in W12	1,867	2,001	2,224	1,494	7,586
Soft refusals in W12	289	296	316	75	976
Gross sample	2,156	2,297	2,540	1,569	8,562
Deceased	0	0	2	2	4
Not eligible	17	18	9	8	52
Net sample	2,139	2,279	2,529	1,559	8,506
No contact/unknown eligibility	145	171	135	34	485
Eligible, no interview	323	280	347	106	1,056
Interviews	1,688	1,846	2,056	1,419	7,009
CAPI	471	604	704	591	2,370
CATI	1,217	1,242	1,352	828	4,639
% of gross sample	78.3%	80.4%	80.9%	90.4%	81.9%
Field results (interviews in W12)					
Interviews in W12	1,867	2,001	2,224	1,494	7,586
Interviews in W13	1,594	1,756	1,953	1,384	6,687
Panel stability	85.4%	87.8%	87.8%	92.6%	88.1%
Field results (soft refusals in W12)					
Soft refusals in W12	289	296	316	75	976
Interviews in W13	94	90	103	35	322
Response rate	32.5%	30.4%	32.6%	46.7%	33.0%

Of the 4,769 respondents who had a partner at the time of the wave 12 interview, 2,994 consented to the partner survey (see Table 27), corresponding to a consent rate of 62.8%. In total, 2,385 partner questionnaires were completed, corresponding to a response rate of 80% of contacted partners and a coverage rate of 50% of existing partners.

Table 35: Response to the partner survey in the thirteenth wave

	2001-03	1991-93	1981-83	1971-73	Total
Total with partner	594	1,301	1,705	1,169	4,769
Permission granted	313	826	1,154	701	2,994
% of anchors with partner	52.7%	63.5%	67.7%	60.0%	62.8%
Questionnaire returned	177	638	951	619	2,385
<i>Response rate (%)</i>	56.5%	77.2%	82.4%	88.3%	79.7%
Coverage rate (%)	29.8%	49.0%	55.8%	53.0%	50.0%

In total, 1,880 children were eligible for the child interview in wave 13. Of these, anchors consented to interviews for 1,113 children. Interviews were conducted with 1,027 children, in 428 cases (42%) via CAPI and in 599 (58%) via CATI. This corresponds to a conditional response rate of 92% and a coverage rate of 55% of all eligible children. These figures are lower than in earlier waves, as anchor consent and children's participation are lower in both the refreshment sample and in CATI mode.

The parenting questionnaire (anchor version) was accepted for 2,241 of 2,534 eligible children. Of these, 1,815 questionnaires were returned, resulting in a response rate of 81% and a coverage rate of 71% of the children for whom permission to the child interview was given. A total of 2,161 children were eligible for the partner version of the parenting questionnaire, and consent was provided for

66% (N=1,417). Of these, 1,100 questionnaires were returned, corresponding to a conditional response rate of 78% and a coverage rate of 51%.

Parents of 1,391 children were eligible for the “parenting adolescents and young adults” questionnaire (anchor version). A total of 1,159 questionnaires were accepted (83% of eligible) and 960 were completed, corresponding to a conditional response rate of 83% and a coverage rate of 69%. The partner version of the questionnaire was accepted for 582 children (61% of 955 eligible children) and 469 questionnaires were completed, corresponding to a conditional response rate of 81% and a coverage rate of 49% of all eligible children.

A total of 1,588 children were eligible for the partner parenting questionnaire for 0-6 year old children. Anchors accepted the questionnaire for their partners in 1,162 cases, and 842 questionnaires were returned, resulting in an overall response rate of 72% and coverage rate of 53%.

3.2. Response development

This section documents how response in absolute numbers and in response rates has developed over time, as well as a brief overview of the main indicators of pairfam response. While the first subsection describes the development of the step-up sample, the remainder focuses on the original three pairfam cohorts (1971-1973, 1981-1983, 1991-1993). If not indicated explicitly, the DemoDiff sample is included in the figures (starting with wave 2 for anchor and partner data, and starting with wave 5 for parents, children, and parenting data).

3.2.1. The step-up sample

Beginning with wave 4, respondents of the children survey who reached the age of 15 were asked to continue in the panel as regular anchor respondents. As more and more children grow into eligibility, the number of observations steadily increases from wave to wave. The response rate of these so-called “step-up” respondents is shown in Table 36. The first-time response rate as well as panel stability are relatively high (above 80%) across all waves.

Table 36: Sample size and response rates among new respondents

	<i>Total</i>	<i>First-time participants (response rate)</i>		<i>Panel participants (panel stability)</i>	
Wave 4	50	50	(85%)	-	
Wave 5	82	40	(85%)	42	(84%)
Wave 6	136	64	(93%)	72	(85%)
Wave 7	190	74	(96%)	116	(81%)
Wave 8	240	73	(82%)	167	(83%)
Wave 9	320	110	(91%)	210	(82%)
Wave 10	410	122	(89%)	288	(83%)
Wave 11	483	135	(91%)	348	(80%)
Wave 12	567	128	(90%)	439	(85%)
Wave 13	606	95	(86%)	511	(86%)

3.2.2. Corrected panel attrition

Due to pairfam’s non-monotonic design, the panel stability rates listed above (Section 3.1) underestimate true panel stability. This section presents corrected rates, as it is necessary to account for “temporary dropouts” (i.e., respondents who did not participate in wave t but returned in wave $t+1$). The number of non-respondents in wave t overestimates attrition as some of these non-respondents will return in wave $t+1$. Therefore, the number of non-respondents has been corrected by subtracting the number of temporary dropouts. We call this corrected number “attriters” (i.e., non-respondents who never returned to the panel). Since information on whether a non-respondent in wave t returned in wave $t+1$ is only available after wave $t+1$ has been completed, corrected attrition rates can only be computed up to the penultimate wave.

The corrected attrition rate is calculated as

$$AR_t = \frac{\text{attr}_t}{\text{resp}_{t-1} + \text{tdrop}_{t-1}},$$

where attr_t is the number of attriters, resp_{t-1} is the number of respondents in wave $t - 1$, and tdrop_{t-1} is the number of temporary dropouts (i.e., participants in wave $t - 2$ who did not participate in wave $t - 1$). The numerator is self-explanatory. In the denominator, temporary dropouts from wave $t - 1$ are added as they are also at risk for attrition in wave t .

Table 37: Corrected attrition rates

	<i>pairfam original sample</i>	<i>DemoDiff sample</i>	<i>Refreshment sample</i>
Wave 2	22.70%		
Wave 3	14.24%	16.72%	
Wave 4	11.48%	10.48%	
Wave 5	10.73%	8.34%	
Wave 6	9.74%	11.19%	
Wave 7	10.01%	9.10%	
Wave 8	7.73%	7.69%	
Wave 9	6.71%	5.16%	
Wave 10	7.72%	7.39%	
Wave 11	7.23%	7.83%	
Wave 12	7.12%	7.03%	25.15%

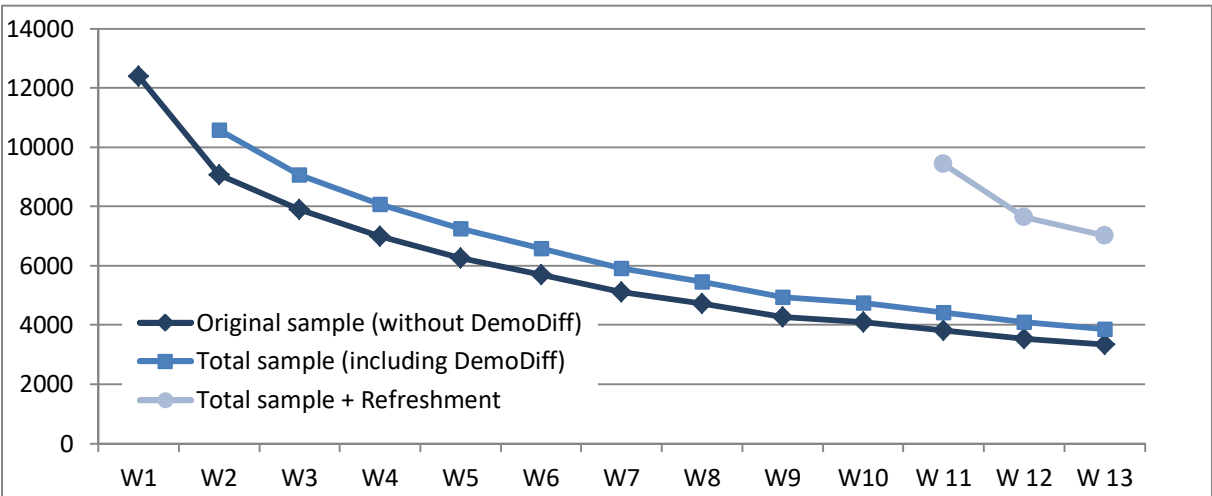
Table 37 lists the attrition rates for each of the pairfam samples separately. Attrition was quite high in wave 2 at 23% (uncorrected: 27%, see Section 3.1.2), however, it dropped quickly. As of wave 4, attrition is down to roughly 10% and has remained at approximately 7% since wave 9. Attrition in the refreshment sample was 25% in wave 12, higher than in wave 2 for the pairfam original sample. This may in part be due to the interview mode switch to CATI in spring 2020 due to the COVID-19 pandemic.

3.2.3. Development of the panel sample

Figure 1 shows the development of total response rate over the panel. By wave 6, more than half of the original pairfam sample had been lost to attrition, and by wave 10, only one-third of the initial

respondents were still participating in the panel. The wave 11 refreshment sample is also depicted. As expected, attrition is high in the refreshment sample in waves 12 and 13, as it was in waves 2 and 3 in the original sample.

Figure 1: Development of the pairfam sample over waves

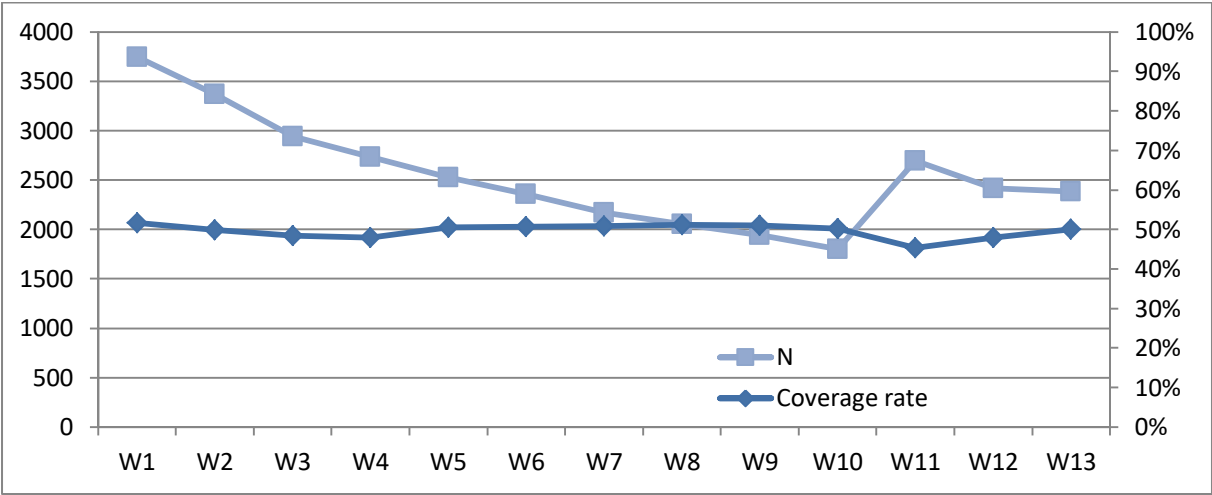


3.2.4. Partner survey response

Figure 2 shows the development of the number of partner interviews by means of coverage rates, which represent the percentage of potential partners for whom data are available.

The number of observations declined steadily over the waves whereas coverage rates remained quite stable across all waves at a rather high level. Approximately 50% of all eligible partners took part in the partners’ survey. Due to the refreshment in wave 11 the number of cases in the partner data increased while coverage decreased which is mainly due to the low partner participation in the youngest cohort of the refreshment sample. In wave 12, an increase in coverage as well as a drop in the number of observations due to panel attrition among anchor respondents can be seen. In wave 13, the coverage rate increased slightly and is now again at the same level as before the sample refreshment.

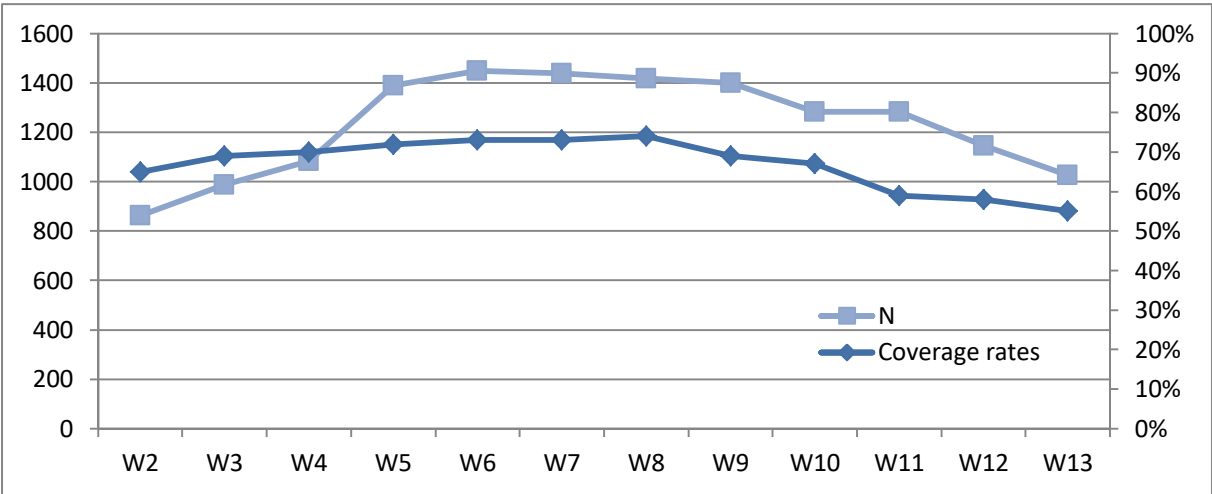
Figure 2: Sample size and coverage of the partner survey over waves (original sample)



3.2.5. Children survey response

Figure 3 shows how the response rate of the children survey has developed over time. The coverage rate increased from 65% in wave 2 to nearly 70% in wave 11. Absolute numbers have also increased as more children have grown into the eligible age range. In addition, the number of children interviewed increased between waves 4 and 5 as the DemoDiff sample was fully integrated into the pairfam sample. As of wave 11, data from the refreshment sample is included. This lead to an increase in cases but a decline in coverage rates as both consent and response rates are lower in the refreshment than in the original sample. In waves 12 and 13, both the number of observations and coverage rates declined, assumedly due to the interview mode change as a result of the pandemic, but also due to changes in the age structure of the sample. Children of anchor persons from the original sample grow out of the children survey so that the share of children from the refreshment sample increases. As both consent and participation rates are higher in the original than in the refreshment sample, this shift leads to the overall decrease in cases.

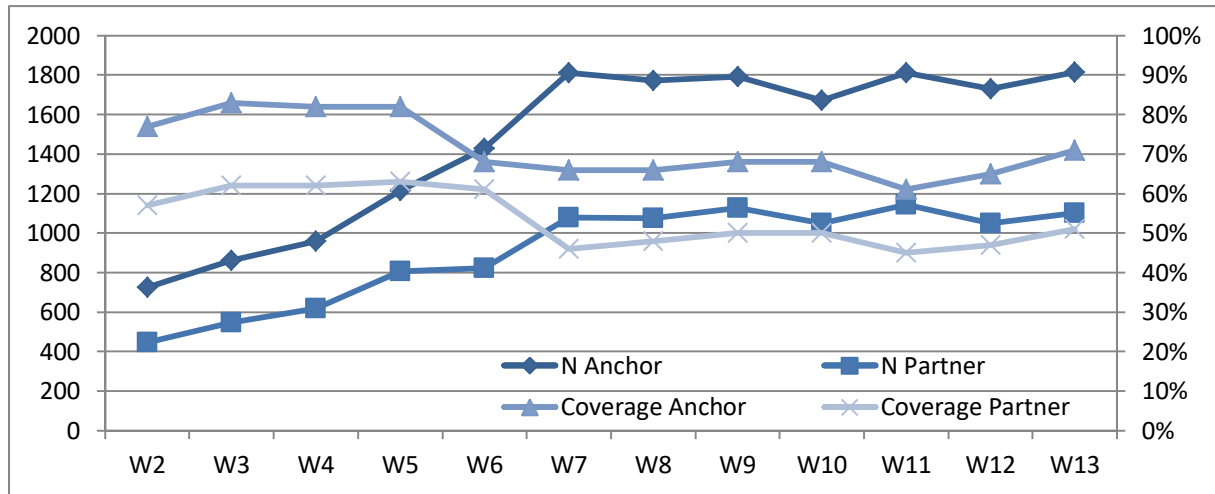
Figure 3: Sample size and coverage of the children survey over waves



3.2.6. Parenting survey response

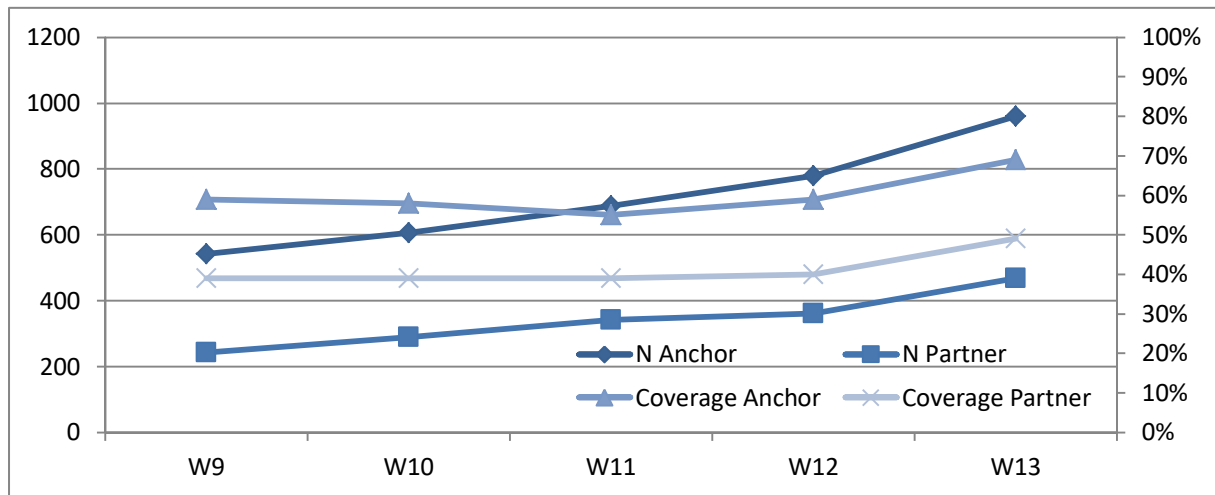
Figure 4 shows how the response rate of the parenting survey has developed over time. Absolute numbers increased strongly due to the integration of the DemoDiff sample in wave 5 as well as design changes in waves 6 and 7. The strong decrease in anchor coverage from wave 5 to 6 is due to the design changes described above. Similarly, a design change caused the drop in the partner coverage rate between waves 6 and 7. Again, the increase in the number of observations together with a drop in coverage due to the refreshment sample in wave 11 can be seen. In waves 12 and 13, the number of observations remains largely stable and the coverage rate increases to levels prior to the sample refreshment.

Figure 4: Sample size and coverage of the parenting survey



In wave 9, an additional survey regarding parenting of adolescents and young adults was introduced (see Section 2.4). Coverage remained stable across the three waves in which the survey was distributed, and absolute numbers increased slightly as more children have grown into the eligible age range (Figure 5). In waves 12 and 13, both the number of observations and coverage rates increased.

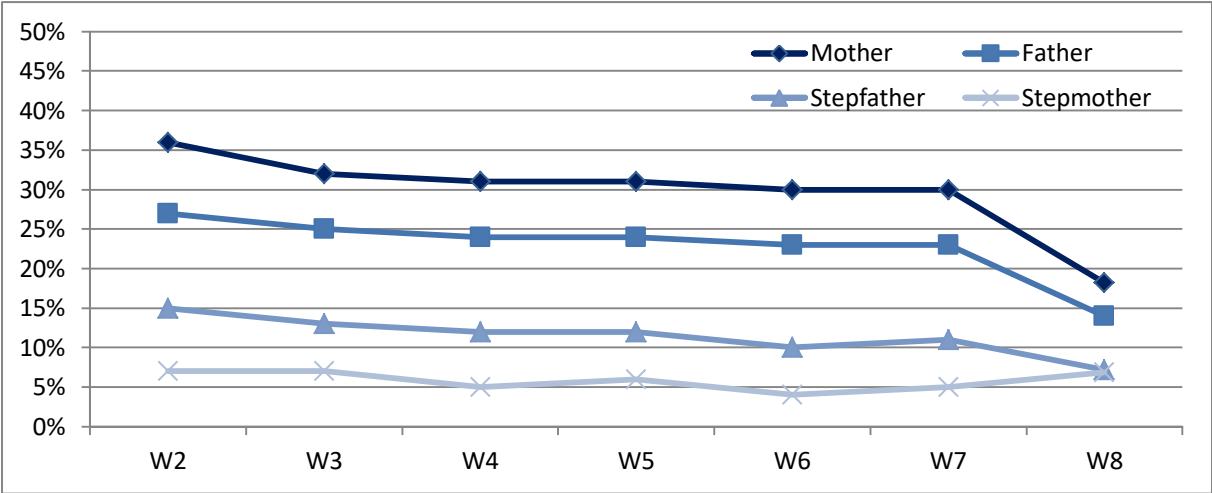
Figure 5: Sample size and coverage of the PAYA survey



3.2.7. Parent survey response

Figure 6 shows how response rates to the (grand)parent developed over time. All response rates decreased over the seven waves in which the questionnaire was distributed. The design change to focus on the grandparent-grandchild relationship caused a further drop in response rates, resulting in the discontinuation of the (grand)parent survey after wave 8.

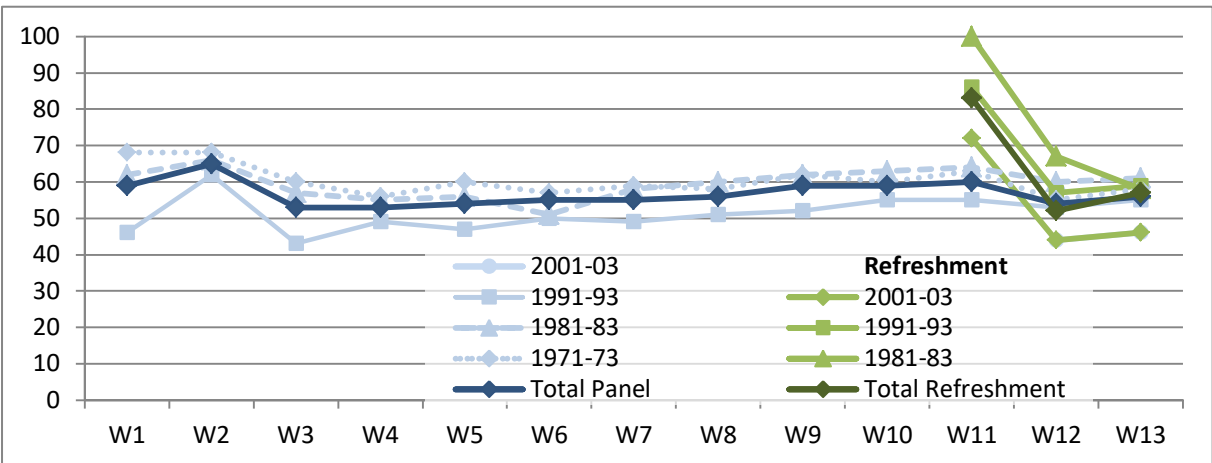
Figure 6: Coverage of the parent survey over waves



3.3. Interview duration

The mean interview duration across all three pairfam cohorts was 57 minutes in the first wave, 64 minutes in the second wave, and 52 minutes in the third wave. From this minimum, interview duration steadily increased over each wave up to 60 minutes in wave 9, and then remained stable until wave 11 (Figure 7).⁷ In wave 11, the original panel sample (with a mean duration of 60 minutes) is differentiated from the refreshment sample (with a mean duration of 83 minutes). In waves 12 and 13, interviews were shorter with mean durations of 54 and 56 minutes, respectively. This was mainly due to cuts in the question program. Note that for these two waves, durations of the CAPI-only interviews are reported in Figure 7, as CATI interviews were shorter with the CASI section relocated to a separate PAPI questionnaire and therefore not comparable to prior waves. On average, CATI interviews lasted 43 minutes and CAPI interviews 56 minutes in wave 13. Original and refreshment samples do not differ as they were surveyed with the same instrument.

Figure 7: Mean interview duration over waves



⁷ Implausibly low (under 20 minutes) and implausibly high (over 180 minutes) interview durations were excluded from the analyses. Due to issues with time stamps recorded during the CAPI interview, interview duration could not be recovered for 10% of wave 2 respondents.

In the original panel sample, interview duration was shortest for the youngest cohort, especially in the first few waves (roughly 46 minutes in wave 1, and 43 minutes in wave 3). As these respondents entered the panel as teenagers (aged 15 to 17 in 2008/09), they typically had fewer transitions to report prospectively, as most still lived with their parents, went to school, and were not yet engaged in family formation. They also had fewer transitions to report retrospectively, which could contribute to the large difference in interview duration compared to the older cohorts in waves 1 and 3, in which retrospective information was collected.

The same holds true for the youngest cohort of the refreshment sample (born 2001-2003): In wave 12, mean duration for these respondents was 44 minutes. In wave 11, respondents from this cohort completed the interview in approximately 72 minutes on average, nearly half an hour faster than the oldest cohort of the refreshment sample with a mean interview duration of 100 minutes. The extreme difference in duration (as well as the long overall mean duration) is due to the large number of retrospective modules that were particularly burdensome for respondents from the older two cohorts. While part of the question program of the original sample, these modules were distributed over the first three waves, whereas they were posed all together in the first interview for refreshment sample respondents (wave 11).

4. External validity of the original sample (as of 2010)

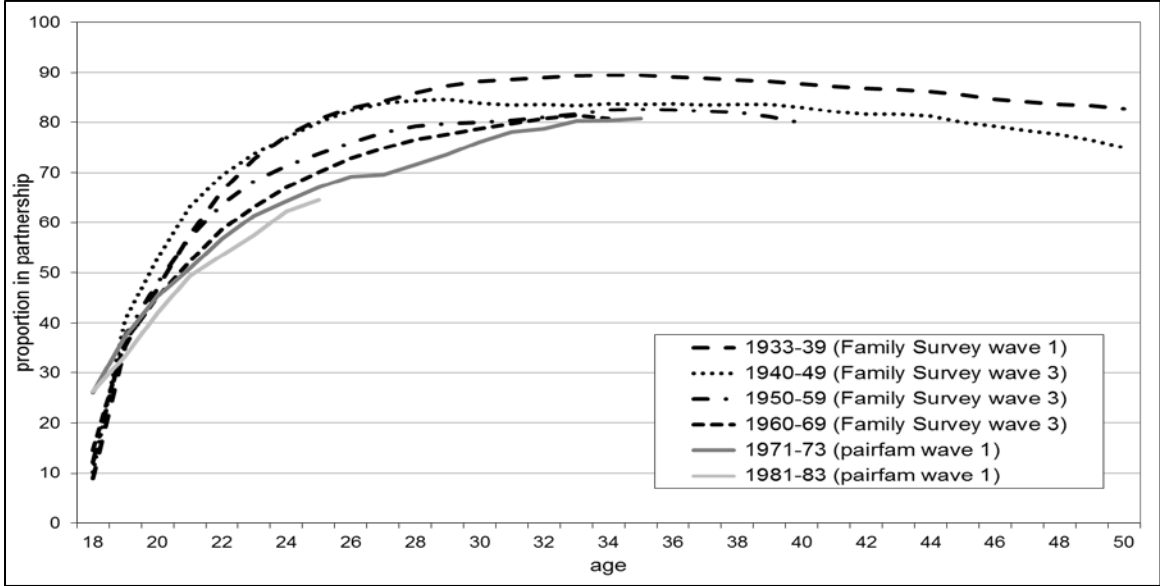
This chapter gives elaborates on external validity of the pairfam data. By comparing results obtained from pairfam data with results obtained from external datasets generally regarded as of high quality pairfam users can achieve a general understanding of whether biases exist in the pairfam data and, if so, in which direction.

Note: The following refers only to wave 1 of the original pairfam sample, without considering the DemoDiff subsample and the refreshment sample in wave 11. Moreover, analyses use weights provided in earlier releases but not those available since Release 12.0. For the weights available with Release 12.0, see Wetzal et al. (2021).

4.1. Validation with the German Family Survey

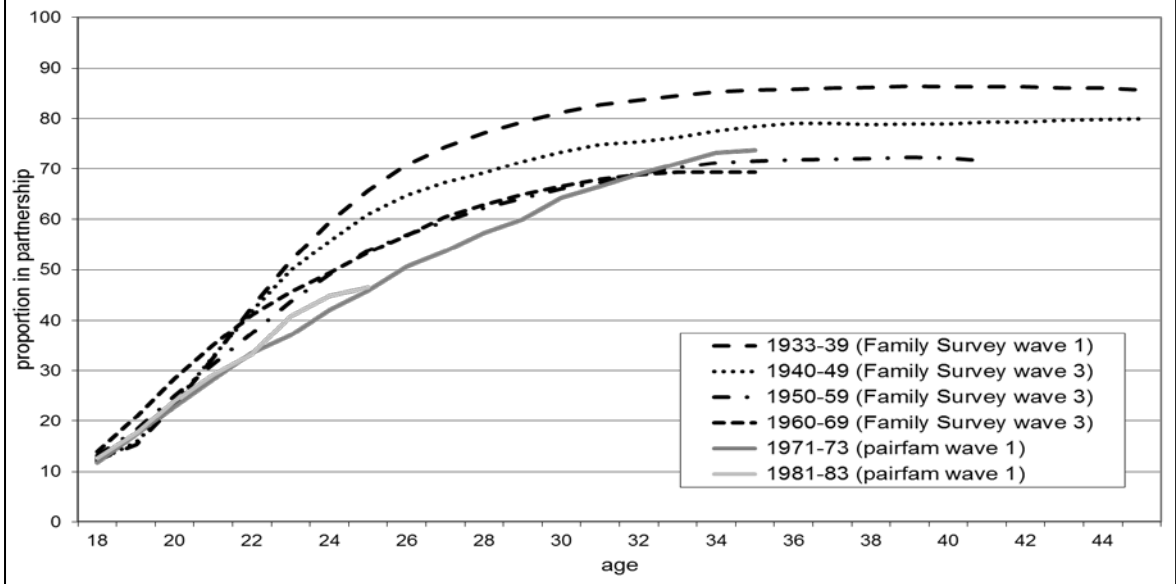
The German Family Survey (1988 and 2000) conducted by the Deutsches Jugendinstitut (DJI) has been widely used in German family research and is regarded as a high-quality data set. The retrospective partnership biographies in particular have been often exploited by German researchers and also served as a reference point for constructing the pairfam event history calendar. It is therefore reasonable to compare results on partnership histories obtained from both pairfam and the German Family Survey.

Figure 8: Proportion of women in a partnership lasting at least one year; birth cohorts from the German Family Survey and pairfam (results unweighted)



Results from the German Family Survey indicate an increasing tendency for women to remain single in Germany. For instance, Figure 8 shows that only 10% of all German women from the birth cohort 1933-39 were single around age 30 (Germany Family Survey data from 1988). In the cohort born 1960-69 (German Family Survey data from 2000), 20% were single. For men, the proportion of single respondents increased from 20% to 35% at age 30 from 1988 to 2000 (see Figure 9). As pairfam cohorts were born later than those in the German Family Survey, one can expect even higher proportions of single respondents (assuming the trend continues).⁸

Figure 9: Proportion of men in a partnership lasting at least one year; birth cohorts from the German Family Survey and pairfam (results unweighted)



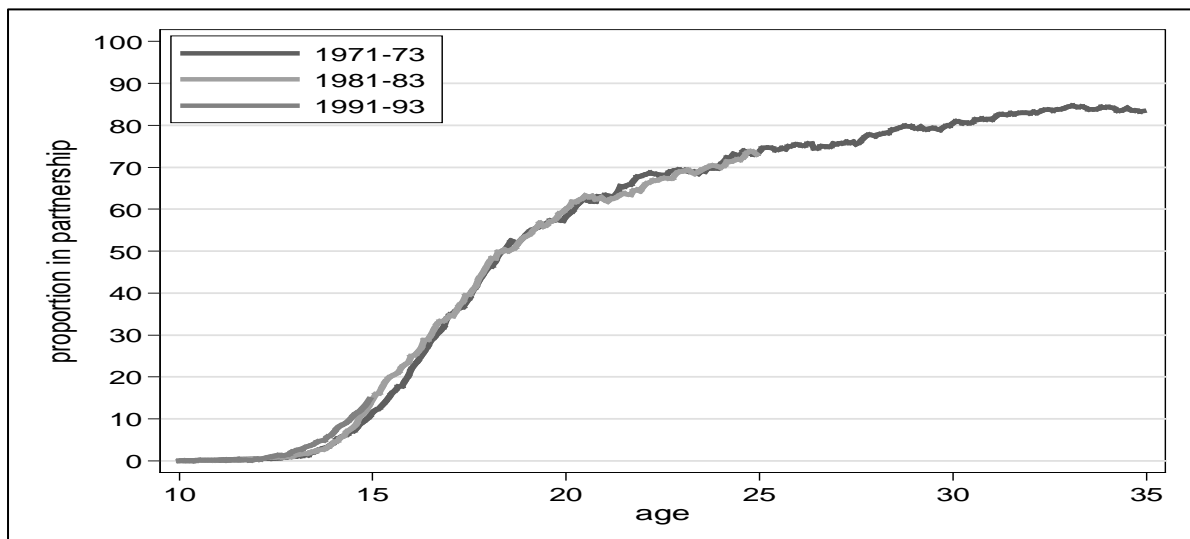
⁸ We are grateful to Jan Eckhard (University of Heidelberg) for providing the results from the German Family Survey.

The external validity of the pairfam data can be investigated by way of comparing results to the outcome of the German Family Survey. To do so, the definition of a partnership must be comparable. In the German Family Survey, a romantic partnership was only recorded if it lasted at least for one year. As pairfam does not apply this restriction, partnerships lasting less than one year must be excluded from the sample. For similar reasons, pairfam partnerships must also be restricted to heterosexual couples living in western Germany at the time of the interview. The generated *biopart* data set (version 1.0) is used, and the sample is restricted to partnership episodes of the two older cohorts, as the youngest cohort was only 15-17 at the time of the wave 1 anchor interview. Results from neither data set are weighted.

Figure 8 (women) and Figure 9 (men) show that pairfam results continue along the same trend toward an increasing proportion of single respondents. The curves of the oldest two pairfam cohorts lie below the youngest cohort of the German Family Survey (at least during respondents' early twenties). Above age 30, the pairfam trajectories begin to cross above the trends from the German Family Panel. Overall, the pairfam results match nicely to the results from the German Family Survey, which is an indication for the external validity of both(!) surveys. Such a clear-cut picture as observed in Figure 8 and Figure 9 is not observed in most other surveys that would allow for similar comparisons.

Furthermore, pairfam displays even more credibility for respondents under 20. In the German Family Survey, the proportion of single respondents under 20 are unrealistically high, reaching an unlikely 90% at age 18. In the pairfam data, the proportion of single respondents at age 18 is much lower, and more realistic, at approximately 75%. Thus, in this aspect, pairfam appears to generate even more plausible results than the German Family Survey.

Figure 10: Proportion of women in a partnership; pairfam birth cohorts (results weighted)



Another feature with which pairfam outperforms the German Family Survey is the fact that pairfam does not restrict partnerships to those lasting at least one year; instead, all partnerships of importance to the anchor respondent are to be reported. The corresponding entry to the event history calendar is formulated as follows: "We are interested in all relationships that were important to you. This means relationships that lasted longer than 6 months, or those in which you lived with your partner, or those that led to the birth of a child, or those that were important to you for other

reasons.” If the restriction of partnership length as dictated by the German Family Survey is removed, the graph in Figure 10 for women is produced with all available partnerships in the *biopart* data set (version 1.0)⁹. The proportion of single women under 20 is now even more plausible: 50% at age 18. However, the inference of a trend towards an increasing proportion of single respondents can no longer be made. The curves for all three cohorts are almost identical, a result that also holds true for men. The result from Figure 8 may therefore be an artifact due to the restrictive definition of partnerships used in the German Family Survey. Without this restriction, pairfam data show no trend towards increasing proportions of single respondents, which is quite an important finding.

Overall, this comparison shows that pairfam data are comparable to other related high-quality data sets, such as the German Family Survey. However, pairfam is additionally able to improve upon the quality of the information gathered due to less restrictive definitions of partnerships/living arrangements. This more relaxed approach to social definitions appears to be advantageous: it provides a less distorted picture of the social reality.

4.2. Validation of family structure with the Mikrozensus 2008

In order to ascertain whether participation in the first wave of pairfam was selective with regard to the number of children the anchor has, proportions of women with and without children in both the pairfam sample and the German Mikrozensus from 2008 (Statistisches Bundesamt and GESIS - Leibniz-Institut für Sozialwissenschaften 2011) were compared. This representative federal data set is well suited for such a comparison, as a (voluntary) question regarding the number of children born to each woman was included for the first time in 2008. The proportion of childless women in the first wave of pairfam was significantly lower than in the Mikrozensus, especially among women living in western Germany (cohort 2: 64% vs. 76%; cohort 3: 19% vs. 30%, respectively). To solve this selectivity problem, a new weighting factor *psweight*, which includes –among other variables – the number of children, was generated. Table 38 shows that the selectivity bias can be reduced substantially by weighting the data.

⁹ The graph in figure 10 can be reproduced with the syntax file “Quick Start biopart 1.do”.

Table 38: Share of women by number of children in the German Mikrozensus 2008 and in pairfam wave 1

	Mikrozensus 2008			pairfam wave 1, unweighted			pairfam wave 1, weighted using <i>psweight</i>		
	Germany	East Germany ¹	West Germany ¹	Germany	East Germany ¹	West Germany ¹	Germany	East Germany ¹	West Germany ¹
	<i>Women 25-27 years old</i>			<i>Cohort 2: Women 25-27 years old</i>			<i>Cohort 2: Women 25-27 years old</i>		
No children	75.0	68.3	75.9	61.6	50.7	64.1	72.0	63.5	73.2
1 child	16.1	22.9	15.0	23.0	34.1	20.5	16.7	25.3	15.4
2 children	7.2	7.3	7.4	12.0	14.2	12.0	8.9	8.4	9.1
3+ children	1.7	1.4	1.8	3.3	3.0	3.3	2.5	3.4	2.4
	<i>Women 35-37 years old</i>			<i>Cohort 3: Women 35-37 years old</i>			<i>Cohort 3: Women 35-37 years old</i>		
No children	28.6	18.0	29.7	19.0	16.0	19.2	28.6	18.6	29.7
1 child	26.3	37.8	24.3	25.3	32.2	23.3	22.2	30.5	20.2
2 children	32.6	34.6	32.9	37.7	36.6	38.3	33.1	36.2	33.1
3+ children	12.6	9.7	13.1	18.0	15.2	19.2	16.1	14.7	17.0

¹without Berlin

Remarks: pairfam: Number of biological children (*nkidsbio*); definition of eastern and western Germany according to the Federal State of the main residence;

Sources: pairfam wave 1 (own computations) and Mikrozensus 2008 (scientific use file, own computation).

4.3. Validation of income measures with GSOEP data

To validate the income measures used in pairfam, the distribution of the net monthly household income in pairfam waves 1 and 2 were compared with the respective data in the GSOEP 2008 and 2010 data sets (Wagner et al. 2010)

Important to note is that the wording of the questions concerning income is not identical in both data sets, and different methods of data processing are used. In the GSOEP, respondents are asked to indicate the current net monthly income of all household members (*hinc08*, *hinc10*). In the case of missing values due to item non-response, the household income was imputed (*i1hinc08*, *i1hinc10*). In pairfam, imputation is not applied. Respondents are asked to report the total net household income of the last month (*inc13*). In contrast to the GSOEP, respondents who do not give precise answers are asked to instead select an income category that best fits their situation. The midpoint of the respective income category is then assigned as their household income (*hhincnet*).

In the first wave of the pairfam study, respondents who lived alone were not asked about their monthly net household income. In order to compare this subgroup with the GSOEP data, the total income for one-person households in pairfam wave 1 was generated by totaling the amount of income reported for different sources listed in the questionnaire (e.g., earned income, child benefits, unemployment benefits, etc.). However, as some possible sources of income were not listed, the total income for one-person households may have been underestimated in wave 1. As one-person households have a lower household income on average than do co-residential partners, the mean adjusted household income (*hhincnet* including one-person households) is lower than the non-adjusted estimate (*hhincnet*). A consistency check was also included at this step: If the monthly net household income in wave 1 was lower than the reported individual earned income (*inc2*), household income (*hhincnet*) was increased by the difference between estimated household income and reported earned income. In wave 2, it was not necessary to adjust the net monthly household income for one-person households, as this subgroup was asked about their household income and a consistency check was implemented as part of the questionnaire. The equivalent income was then generated by dividing the net monthly household income by the weighted number of household members according to the new OECD scale. The pairfam data were weighted with a combination of design and post-stratification weights (*dxpsweight*) delivered with the data, and the SOEP data were weighted with the provided cross-sectional household weight variable (*\$hrf*).

For the comparison, similar samples were also necessary. As the income data reported by the youngest pairfam cohort (age: 15-17 in wave 1) are highly unreliable, they were excluded from the comparison with the GSOEP data. In the GSOEP, all individuals of a household over 16 are interviewed, and data sets are available in both individual and household format. To make the sample comparable to pairfam, information from the both individual GSOEP data sets (e.g., age) and the GSOEP household data sets (e.g., net monthly income, type of household) were used. In order to compare the GSOEP data with pairfam wave 1, the age groups 25-27 and 35-37 were determined in the GSOEP data from 2008. For pairfam wave 2, the age groups 26-28 and 36-38 from the GSOEP 2010 were used. If more than one person in a GSOEP household belonged to these age groups, only the first one was selected. Finally, similar household types had to be constructed. The GSOEP contain the following household types: couples with children and single parents, which both consist of

parents with minor children in the household or adult individuals living with their parent(s). For a satisfactory comparison with pairfam, each constellation is analyzed separately. In total, the following household types were considered: one-person household, couples without children, couples with underage children, single parent with underage children, adult living with both parents, adult living with one parent, and other undefined constellations.

Table 39: Mean net household income by household type (in euro)

	GSOEP				pairfam		
	2008		2010		Wave 1	Wave 2	
	<i>hinc08</i>	<i>i1hinc08</i>	<i>hinc10</i>	<i>i1hinc10</i>	<i>hhincnet</i>	<i>hhincnet adjusted</i>	<i>hhincnet</i>
Single person	1,493	1,505	1,512	1,511	-	1,418	1,498
Couples w/out children	2,746	2,722	3,005	2,988	2,804	2,810	2,930
Single parent w/ minor children	1,422	1,359	1,375	1,371	1,656	1,657	1,642
Adult children w/ one parent	1,950	1,976	2,098	2,115	2,175	2,175	2,214
Couple w/ minor children	2,804	2,777	2,973	2,966	2,676	2,691	2,923
Adult children w/ both parents	3,238	3,210	3,493	3,488	3,394	3,394	3,452
Other	2,738	2,689	2,836	2,794	1,549	1,550	1,758
Total	2,403	2,393	2,578	2,573	2,653	2,434	2,560
N	4,795	5,167	4,477	4,782	4,957	6,059	4,279

Data sources: GSOEP 2008 and 2010; households of respondents aged 25-27 and 35-37 or 26-28 and 36-38, respectively; weighted data; own computations; pairfam waves 1 and 2, cohorts 2 and 3; weighted data; own computations.

Overall, the pairfam income data do not differ substantially from the respective GSOEP data (see Table 39 and Table 40, row *Total*). This holds especially true for the adjusted household income in wave 1. In wave 2, the values for *hhincnet* (pairfam) and *hinc10/i1hinc10* (GSOEP) are nearly identical. However, there are some differences by household type: In wave 1, the mean income of one-person households in pairfam is lower than in the GSOEP. As indicated above, this may be due to the fact that the income of one-person households was generated with pairfam data in order to be comparable to the GSOEP data. In wave 2, the difference between the GSOEP and pairfam data is relatively small. In waves 1 and 2, the mean income of single parents is higher in the pairfam data than in the GSOEP. This could be due to the fact that single parents in pairfam have a somewhat better educational level and more often work full time than single parent GSOEP respondents. Other households, on the other hand, have a much higher household income in the GSOEP than they do in pairfam. This could be explained by the fact that the “other” category consists of different household types in the GSOEP than in pairfam: In the GSOEP, this category includes in particular three-generation households. In pairfam, this category mainly consists of (younger) respondents in flat shares that are not likely to share incomes, and thus more closely resemble one-person households.

Table 40: Mean equivalent household income by household type (in euro)

	GSOEP				pairfam		
	2008		2010		Wave 1	Wave 2	
	<i>hinc08</i>	<i>i1hinc08</i>	<i>hinc10</i>	<i>i1hinc10</i>	<i>hhincnet</i>	<i>hhincnet adjusted</i>	<i>hhincnet</i>
Single person	1,493	1,505	1,512	1,511	-	1,418	1,498
Couples w/out children	1,831	1,815	2,004	1,992	1,843	1,843	1,906
Single parent w/ minor children	977	941	930	928	1,052	1,052	1,046
Adult children w/ one parent	1,088	1,119	1,255	1,250	1,271	1,271	1,276
Couple w/ minor children	1,385	1,375	1,463	1,463	1,301	1,301	1,403
Adult children w/ both parents	1,390	1,388	1,533	1,517	1,450	1,450	1,476
Other	1,311	1,267	1,349	1,330	858	858	1,072
Total	1,459	1,449	1,539	1,534	1,427	1,425	1,501
N	4,795	5,167	4,477	4,782	4,957	6,059	4,279

Data sources: GSOEP 2008 and 2010; households of respondents aged 25-27 and 35-37 or 26-28 and 36-38, respectively; weighted data; own computations; pairfam wave 1 and 2, cohort 2 and 3; weighted data; own computations.

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