



The German Family Panel: Study Design and Cumulated Field Report (Waves 1 to 10)

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1. Introduction

The German Family Panel *pairfam* ('Panel Analysis of Intimate Relationships and Family Dynamics') is a panel 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; quick, graphical overviews can be found in Section 3.2)
- To show by comparison with "benchmark" data *pairfam* data validity (Chapter 4).

This report – Technical Paper No. 01 – gives a summary of the more detailed descriptions of the study design and field reports that can be found in the "Methodenberichte" [Methods Report, only in German] available for each wave. These methods reports are available – alongside more documentation – at the *pairfam* project website: pairfam.de

As this is a panel study, Technical Paper No. 01 is updated each year. For a complete overview on *pairfam*, see also the following two papers:

- 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 at the *pairfam* project website, describes the data in more detail.

2. The design of *pairfam*

2.1. Overview

The central *pairfam* topics cover 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 *pairfam* is to provide the data as a Scientific Use File (SUF) to family researchers. The study is funded as a long-term project by the German Research Foundation (DFG) for up to 14 years until 2022. Principal investigators of the German Family Panel are Josef Brüderl and Sabine Walper (LMU Munich), Sonja Drobnič (University of Bremen), Karsten Hank (University of Cologne), Franz J. Neyer (Friedrich Schiller University Jena), and Bernhard Nauck (Chemnitz University of Technology).

The survey started in 2008 with a nationwide random sample from the population registers for three age cohorts 1971-73, 1981-83, and 1991-93 (aged 15-17, 25-27, or 35-37 years in 2008). Approximately 4,000 interviews were obtained from each cohort (12,402 interviews altogether). One hour CAPI-interviews have been since conducted annually. Thus, in conjunction with our planned observation window of at least 10 years, we will be able to cover the most important family formation stages from age 15 up to age 50. All participants of the previous wave who did not decline explicitly are contacted again. Starting with wave three, non-participants from the last wave are contacted as well, even if they were "soft refusals" (not reachable, no time, etc.). In sum, the design is non-monotonic with a maximum gap of one wave.

Respondents are called “anchors”, because they are asked every year for permission to interview their partner, parents, and children above age 8 (multi-actor approach). This is done to get a full picture of a family’s life. Interviews with anchors’ partners and parents are conducted by PAPI (20-30 pages). A 15 minute CAPI is conducted with children aged 8 to 14 (from age 15, these children become regular anchor respondents themselves, called step-ups). In addition, the anchor and his/her partner fill out a parenting PAPI (3 pages) for each CAPI child as well as for 6-7 year old children (as of wave 7), and as of wave 9, a PAPI questionnaire (6 pages) for their 16-22 year old children.

Anchor interviews cover a broad range of topics, including socio-demographics, education and work conditions, partners’ socio-demographics and partnership quality, relationship with the anchor’s parents, parenting behavior, and fertility. In addition, for each child below age 8 the anchor CAPI contains an age-specific child module. As a consequence, anchor interviews last significantly longer than one hour if the anchor has a partner and several (young) children. In order to reduce respondents’ time burden we made full use of the technical possibilities provided by CAPI. Therefore, we decided to use routing extensively. This enables us to avoid asking unnecessary questions as we can tailor the questionnaire to the respondents’ specific situations. For instance, we have “event-triggered” modules on separations, new partners, newborn children, and so on. However, this comes at the cost of a long and sophisticated CAPI program code, and a data structure that requires much effort on the part of the user. Another feature of the *pairfam* panel is the use of dependent interviewing (DI) in the anchor interview. With DI we feed forward information collected in the prior wave to the present interview. We make extensive use of DI and preload over 300 variables. Further, we use a proactive DI approach in most instances, asking respondents to validate whether a given fact from the prior wave has changed or is still correct.

DI is also used for collecting information on the life course. We collect anchors’ life courses in an event history format, i.e. in each wave we ask retrospectively about changes since the last interview and their timing. This is done for partnership, employment, and residential histories. To reduce the burden to respondents we use a graphic event history calendar (EHC) to collect this information. A timeline is presented that already contains preloaded information from the last wave as a starting point. Respondents (with the help of the interviewer) then enter information on their life course interactively in the EHC. Thus, the interviewer and the respondent can see and edit a graphic representation of the life course over the last year (or two years in the case of temporary dropouts). The combination of DI and EHC – used for the first time in a large population survey – should ease the cognitive task of the respondent and produce more consistent data with less measurement error.

Due to the high complexity and the broad scope of survey contents, the questionnaire makeup is modular, comprising core modules, regular extended modules and irregular extra modules. Core modules contain questions repeated annually which capture relevant information for close description of decision-making processes. In each wave, core modules from all main topics of the *pairfam* panel are included. 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 very irregularly (e.g. questions on siblings).

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 parallel to the second wave of *pairfam* and was conducted by the MPIDR for three waves. *DemoDiff* was fully integrated into *pairfam* 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.
- It only sampled the cohorts 1971-1973 and 1981-1983.
- In its three waves, it only surveyed anchor respondents and their partners, not their children or parents.

There are also some differences in questionnaire content:

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

At the beginning of the field period of wave 5, 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 have been replenished, leading to higher *Ns*. Second, respondents from the two older cohorts residing in East Germany in 2009 are overrepresented in the sample. Therefore, when analyzing both samples together, special weights should be used (for more details, see the Data Manual).

2.3. Sampling procedure

The target population for the German Family Panel includes all German-speaking persons (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 aim of the first wave of *pairfam* was to realize 12,000 interviews with persons from this population, 4,000 from each cohort. Similarly, *DemoDiff* aimed at realizing 1,400 interviews with persons

living in East Germany, with 700 interviews from cohorts 2 and 3, respectively. A two-stage sampling procedure was applied:

1. In the first stage, municipalities of the Federal Republic of Germany were sampled. Municipalities were drawn by stratified random sampling. The strata were defined by the federal states of Germany, administrative districts and settlement structure. A proportional approach was applied for the sampling: Selection probability of a municipality was proportional to the size of the target population in this municipality (sum of all three cohorts for *pairfam*, sum of the older two cohorts for *DemoDiff*). A sample of 350 sample points (271 in West-Germany and 71 in East Germany) distributed over 343 different municipalities was realized.¹ For *DemoDiff* 60 sample points in East Germany distributed over 56 municipalities were drawn.
2. In the second stage, persons from the target population with their main residence in the selected municipalities were sampled. Sampling was realized by the municipality administrations using local population registers. They were told how many persons were to be selected and how the selection process was to be carried out. 25 municipalities refused to provide addresses in *pairfam*, and 4 in *DemoDiff*. They were replaced by structurally similar municipalities.

74,969 addresses were requested (*DemoDiff*: 11,520), in order to ensure a sufficient sample size after the cleaning process and for replacements of (neutral) non-responses. The addresses supplied by municipalities were checked in different ways and cleaned. From this address pool a baseline sample of 24,108 addresses (*DemoDiff*: 3,843) was drawn by systematic random sampling. However, the intended number of interviews could not be met with this baseline sample both in *pairfam* and in *DemoDiff*. Therefore during field time additional samples were drawn. Over all a gross-sample of 42,074 addresses (*DemoDiff*: 6,787) was used with the following distribution over cohorts:

- 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* tries not only to get interviews from the primary anchor persons, but also of several other family members (i.e., secondary respondents). The first wave included only anchor respondents and their partners. From the second wave of *pairfam* onwards, (step) parents and children above age 8 are interviewed, too.

Partner questionnaire: All anchor respondents who currently have a partner are asked for their consent to survey partners, whether they live together in the same household or not. Partners are contacted via a separate introduction letter with an enclosed paper-and-pencil drop-off questionnaire. In

¹ There were more sample points than municipalities because some municipalities were drawn more than once. A sample point defined the number of addresses to be sampled in the second step. If a municipality was drawn twice, there were two sample points in this municipality meaning that two times as many addresses had to be drawn.

wave 1, there were four different language versions of the questionnaire (German, Turkish, Russian, and English), addressing the largest immigrant groups in Germany. However, due to limited response of non-German partners, from wave 2 on only the German version has been offered (*DemoDiff* offered only the German version in all waves). Partners may either mail the questionnaire back (free of charge) or have it picked up by the interviewer. In case of separation between the waves, ex-partners are not contacted again; instead the new partner – if any – is surveyed.

Children CAPI: Starting with wave 2, children above age 8 are also included as secondary respondents. In wave 2 only the youngest child living in the anchor household aged between 8 and 15 (biological or social children, including adoptive and foster children) was interviewed; in consecutive waves, these children are re-interviewed until the age of 15. From wave 3 onwards, all children reaching the age of 8 are additionally recruited (this is also the case if a child between 8 and 15 enters the anchor's household between waves). From wave 3 onwards, more than one child per anchor household could be interviewed. Anchor persons are asked for their consent before the child interview can take place. Child interviews are conducted as a CAPI (about 15 minutes), most often directly after the anchor interview. In wave 8, a self-interview (CASI) section for sensitive questions (e.g., regarding conflicts in the family) was introduced.

Parenting questionnaire: Anchors with CAPI children are asked to answer additional short questionnaires (PAPI, 3 pages) on parenting topics (one questionnaire for each surveyed child). If a partner lives in the same household, the anchor is also asked whether the partner may be given the parenting questionnaires. Completed questionnaires are mailed back postage free or picked up by the interviewer. In wave 6 three changes were implemented: first, anchor respondents were asked to complete the parenting questionnaire even if they had not consented to the child interview. Second, 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. Third, the question concerning submitting the parenting questionnaire to the partner was asked even if the anchor had not consented to completing the parenting questionnaire. In wave 7, the age range was widened so that anchors and their cohabiting partners are also asked to complete parenting questionnaires for their 6 or 7 year old children if living in the anchor's household, and in wave 10 the age range was widened also for children not living in the anchor's household.

'Parenting adolescents and young adults' questionnaire: In wave 9, an additional parenting questionnaire for parents of adolescent children (16-22 years) was introduced. Anchors are asked to complete additional questionnaires (6 pages) on parenting topics for each child in the age group living in the household as well as for each biological or adoptive child outside the household. Partners living with the anchor are asked to complete the questionnaire for each child living in the household and for biological children of the couple. Like the original parenting questionnaires, completed questionnaires are mailed back postage free or picked up by the interviewer.

Parent questionnaire: From waves 2 to 7, data from up to three (step)parents of anchor persons have been collected via PAPI. Biological parents have the highest priority; if step-parents exist, the mother's new partner (i.e. the stepfather) is recruited first, irrespective of whether he is co-residing or married to the biological mother, otherwise the biological father's partner is included. In the *pairfam* design, it is acknowledged that families may span across different households; consequently, all (step)parents are eligible, irrespective of their relationship type and co-residence with each other (or with anchors). (Step)parents for whom anchors give consent and deliver home addresses are mailed

a welcome letter and a paper questionnaire; they are asked to send their answered questionnaires back (postage free). In waves 2 and 3, in addition to the German questionnaires also Turkish and Russian versions were available. However, due to the small number of non-German respondents, from wave 4 onwards only a German parent questionnaire is available. In case of changes concerning stepparents (e.g., addition of a new stepfather), any previously interviewed respondents are retained (if available) in order to maximize comparability over time. In wave 8 the parent questionnaire was redesigned to focus on the grandparent-grandchild relationship. Hence, the questionnaire was cut down to eight pages, and only parents of anchors with children were asked to participate in the survey. Due to the low response rate in wave 8 (see below), the parent questionnaire was conducted in wave 8 for the last time.

Step-up anchor respondents: Starting with wave 4, 15 year old children who participated in the children's survey in the previous wave (CAPI children) become new anchor respondents themselves. They are then interviewed with the anchor CAPI, and no longer the children's CAPI. The multi-actor design for the step-up respondents differs from the standard design in that their parents are not surveyed because one of their parents is already a *pairfam* anchor. Moreover, some additional modules concerning topics specifically relevant to adolescents (such as social media use and risk taking) are included into the anchor CAPI for the step-up respondents. In their first year as new anchor persons they get a PAPI drop-off questionnaire with 25-30 retrospective biographical questions in addition to the standard anchor CAPI. Beginning with wave 9, the PAPI questionnaire has been integrated in the CAPI.

2.5. Procedures to increase panel stability

In order to increase panel stability, a non-monotonic design for anchor persons is used. Starting with wave 3, respondents who dropped out in the previous wave because of "soft refusal" (e.g., due to temporary time restrictions, or no-contact), are re-contacted in the subsequent wave. Respondents who drop out twice in a row are dropped from the panel.

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

- *Cover letters:* Each anchor person receives a personalized cover letter and a data protection leaflet before the first contact with the interviewer. The cover letter briefly informs about the project goals, the panel design of the survey, the expected duration of the interview, and the monetary compensation for participation. An additional project flyer was enclosed in the first letter. Partners and parents receive separate cover letters with a data protection leaflet and postpaid envelopes. Both partners and parents get a first reminder letter after two or three weeks and a second reminder letter together with a copy of the questionnaire after another two or three weeks.
- *Incentives:* Monetary rewards have proven to be effective in personal oral interviews, therefore an incentive of 10 Euro in cash is given to each anchor person after the interview has been completed. In wave 9, the incentive for anchor persons was increased to 15 Euro. Partners and parents who filled in the questionnaire receive a 5 Euro lottery ticket in the first six waves, and 5 Euro in cash in the seventh wave. Participating children are rewarded with 5 Euro in cash handed to them or to their parent (i.e., the corresponding anchor person). There are no incentives for answering the parenting questionnaire.

- *Hotline*: Before the first wave, a free hotline for survey participants was established. The hotline is announced in the cover letter. More than 900 persons have made use of the hotline between waves 1 and 2 (between waves 2 and 3 about 350 persons, between waves 3 and 4 about 350 persons), mainly in order to inform the project of address changes or appointment preferences, to withdraw their consent to participate in the study, or to ask about the lottery tickets and study results. 103 persons from the *DemoDiff* sample have used the respective hotline in the first wave, mainly to refuse their participation in the study.
- *Homepage*: A specially created 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). The homepage is constantly developed and updated, e. g. by integrating selected findings from recent survey waves. It also offers the opportunity for participants to communicate any changes in contact addresses.
- *Thank-you card*: A thank-you card has been sent to all interviewed persons between the first and second survey wave. The card served as a means for increasing participants' commitment to the study as well as for checking 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 persons. A similar brochure with selected findings was prepared and sent to 8,776 still participating anchor persons one year later in July 2011, and another year later to 7,643 anchor persons in August 2012. This measure was not taken for *DemoDiff*. In the following waves, this measure was continued and anchor respondents received an informational brochure a few weeks before the start of the fielding period. These brochures can be found in the methods reports.
- *Panel database*: Closely related to sample retention in the narrow sense, i.e. measures for the backing of motivation to continuously take part in the panel survey, is address retention. Continuous updates of addresses are essential for following the survey participants across their life course ("panel tracking"). Information on address changes come from either undeliverable post (cover letters, thank-you cards, brochures), or from survey participants themselves (hotline, homepage, questionnaire/interview), or from the interviewer during the contact phase of the fieldwork process. Incorrect addresses are constantly 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 persons and their alters are registered in this database with information on their 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. It represents an important tool for fieldwork organization. As of wave 6, e-mail addresses have also been collected to facilitate contacting procedures.

3. pairfam field report

3.1. Detailed response rates wave 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).

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 necessary to obtain 4,010 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.

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

	<i>pairfam</i>			<i>DemoDiff</i>	
	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

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.

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

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

	<i>pairfam</i>			<i>DemoDiff</i>	
	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
% of with partner	61.8%	73.7%	76.7%	73.2%	74.7%
Questionnaire returned	338	1,428	1,977	3,743	684
% of contacted	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).

In relation to the 12,402 interviews of wave 1, panel stability is 73%. Similarly 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.

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 amount of cases available for dyadic analyses, from the “response rates”, which are rather an indicator of the effectiveness of our field procedures.

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.

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.

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.

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

	<i>pairfam</i>			<i>DemoDiff</i>	
	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

	<i>pairfam</i>			<i>DemoDiff</i>	
	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>
Coverage rate (%)	23.7%	53.4%	58.5%	48.2%	63.4%

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>	47.7%	39.5%	28.8%	18.3%	42.0%
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>	32.3%	24.5%	13.0%	6.8%	26.9%
<i>Coverage rate (%)</i>	70.5%	65.1%	49.7%	43.3%	67.1%

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.

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

	<i>pairfam</i>			<i>DemoDiff</i>	
	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>	78.9%	75.6%	82.0%	78.9%	80,4%
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.

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.

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

	<i>pairfam</i>			<i>DemoDiff</i>	
	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
% of with partner	53.9%	69.6%	70.3%	65.9%	74.1%
Questionnaire returned	294	784	1,104	2,182	550
Response rate (%)	46.7%	76.1%	82.5%	72.8%	87.4%
Coverage rate (%)	25.1%	53.0%	58.0%	47.9%	64.8%

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 step-parents, 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>	45.4%	37.0%	27.6%	12.9%	39.6%
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>	70.6%	67.2%	47.4%	44.4%	67.9%
<i>Coverage rate (%)</i>	31.2%	24.1%	12.1%	5.3%	26.1%

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

	<i>pairfam</i>		<i>DemoDiff</i>		<i>Total</i>	
	<i>1991- 93</i>	<i>1981-83</i>	<i>1971-73</i>	<i>1981-83</i>		<i>1971-73</i>
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
Panel stability	83.7%	85.4%	87.7%	88.7%	88.4%	85.9%
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
Response rate	43.1%	36.4%	38.9%	36.7%	36.0%	39.5%

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

	<i>1991-93</i>	<i>1981-83</i>	<i>1971-73</i>	<i>Total</i>
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>	<i>49.2%</i>	<i>77.5%</i>	<i>83.5%</i>	<i>75.0%</i>
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

	<i>Mother</i>	<i>Father</i>	<i>Stepfather</i>	<i>Stepmother</i>	<i>Total</i>
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>	<i>44.9%</i>	<i>37.1%</i>	<i>27.8%</i>	<i>13.6%</i>	<i>39.4%</i>
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>	<i>72.4%</i>	<i>69.7%</i>	<i>41.7%</i>	<i>40.5%</i>	<i>69.5%</i>
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
% of eligible	40.8%	34.0%	24.2%	11.7%	35.8%
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>	73.4%	69.9%	48.4%	41.0%	70.5%
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.

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.

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).

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>	<i>82.4%</i>	<i>86.0%</i>	<i>88.0%</i>	<i>85.5%</i>
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>	<i>66.7%</i>	<i>79.3%</i>	<i>87.8%</i>	<i>80.1%</i>
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 and 407 were soft refusals. Panel stability reached 91%. As in previous waves, the highest panel stability in wave 9 was 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
% of anchors with partner	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

	1991-93	1981-83	1971-73	Total
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	922	1.931
<i>Response rate (%)</i>	65,4%	80,5%	100,0%	85,0%
Coverage rate (%)	38,0%	53,3%	63,9%	53,8%

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.

3.2. Development of response over waves

In this section we document how response in absolute numbers and in response rates has developed over time. This provides 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). 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) if not indicated explicitly.

3.2.1. The step-up sample

Beginning with wave 4, CAPI-children who reached the age of 15 were asked to continue in *pairfam* as regular anchors. The response rate is shown in Table 28. The first-time response rate as well as panel stability are quite high (above 80%).

Table 28: 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%)

3.2.2. Panel attrition in the main sample (cohorts 1-3)

Due to *pairfam*'s non-monotonic design, the panel stability rates given above (in section 2.1) underestimate true panel stability. In this section we present corrected numbers that can only be calculated for each wave after the subsequent wave has been completed. Only then do we know how many of the non-respondents from wave t came back in wave $t+1$. Here we will use attrition rates (1 - panel stability): Only wave t non-respondent who do not participate in wave $t+1$ are "attriters", whereas those who return to the panel are termed "temporary dropouts". 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-explaining. In the denominator we add the temporary dropouts from wave $t - 1$ because these are also "at risk" to attrite in wave t .

Table 29: Corrected attrition rates

	<i>pairfam original sample</i>	<i>DemoDiff</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%

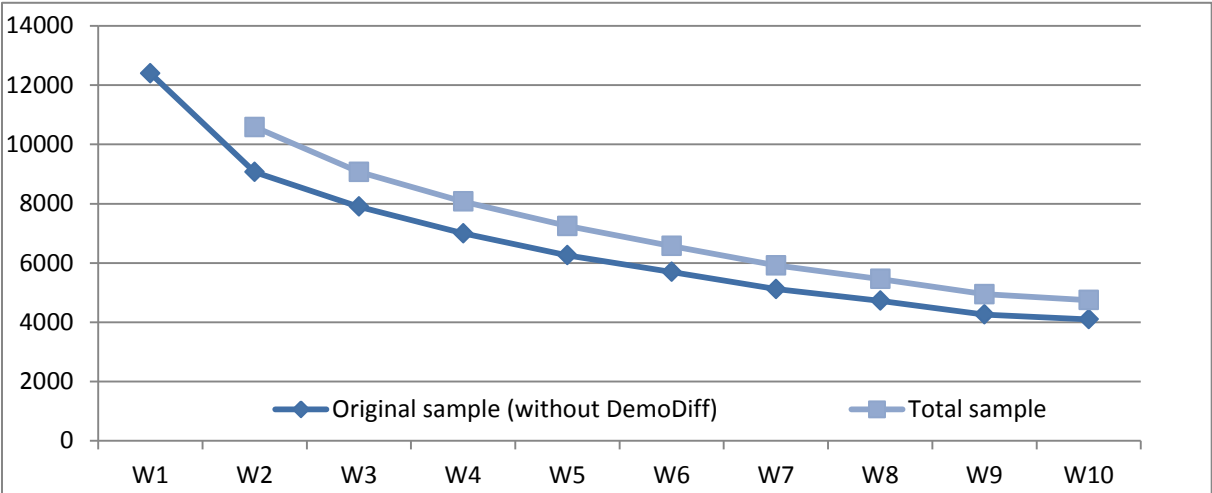
Table 29 lists the attrition rates (for the original *pairfam* sample and for the former *DemoDiff* sample separately). Attrition was quite high in wave 2 (23%) [note that from the panel stability rate we

would have inferred 27%], however, it dropped quickly. As of wave 4 is down to roughly 10% and reached 7% at wave 9.

3.2.3. Development of the panel sample over time

Figure 1 shows how interview numbers developed over the waves. By wave 6, we had lost more than half of the original *pairfam* sample, and by wave 10, one third of the initial respondents were still in the panel.

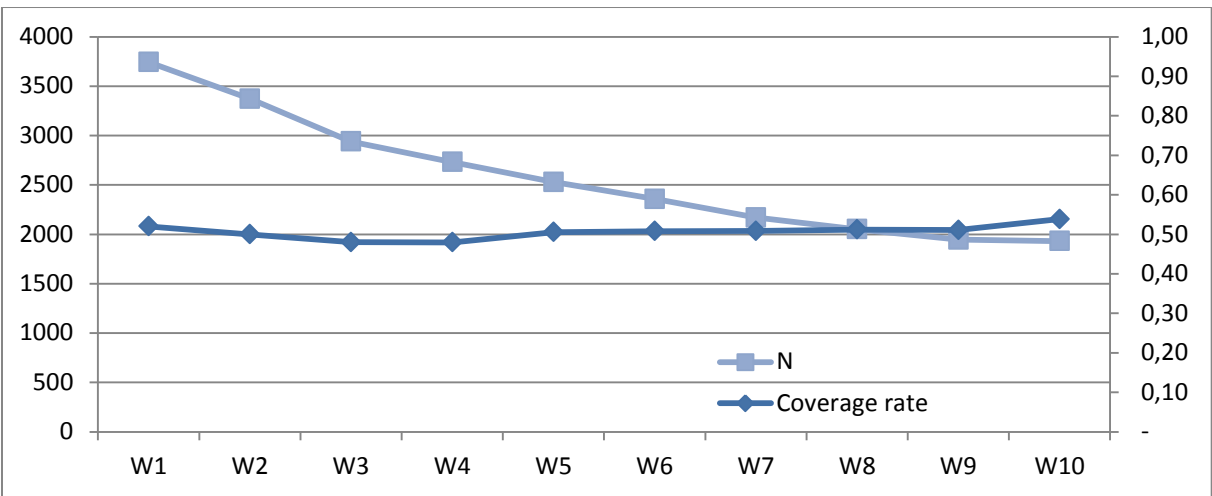
Figure 1: Development of the *pairfam* sample over waves



3.2.4. Response partner survey

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

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

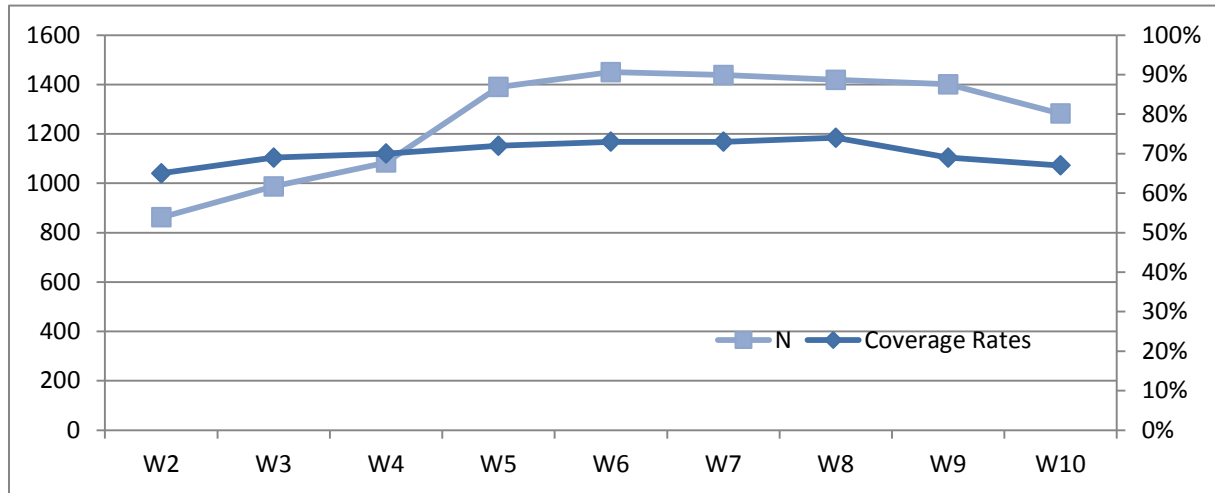


Partner coverage remained quite stable across all waves at a rather high level. Approximately 50% of all eligible partners took part in the partners’ survey.

3.2.5. Response children survey

Figure 3 shows how the children survey has developed over time. The coverage rate increased from 65% in wave 2 to now nearly 70%. The absolute numbers also increased as more and more children grew into the children CAPI. In addition, the number of children interviewed increased between waves 4 and 5 as the *DemoDiff* sample was added to *pairfam*.

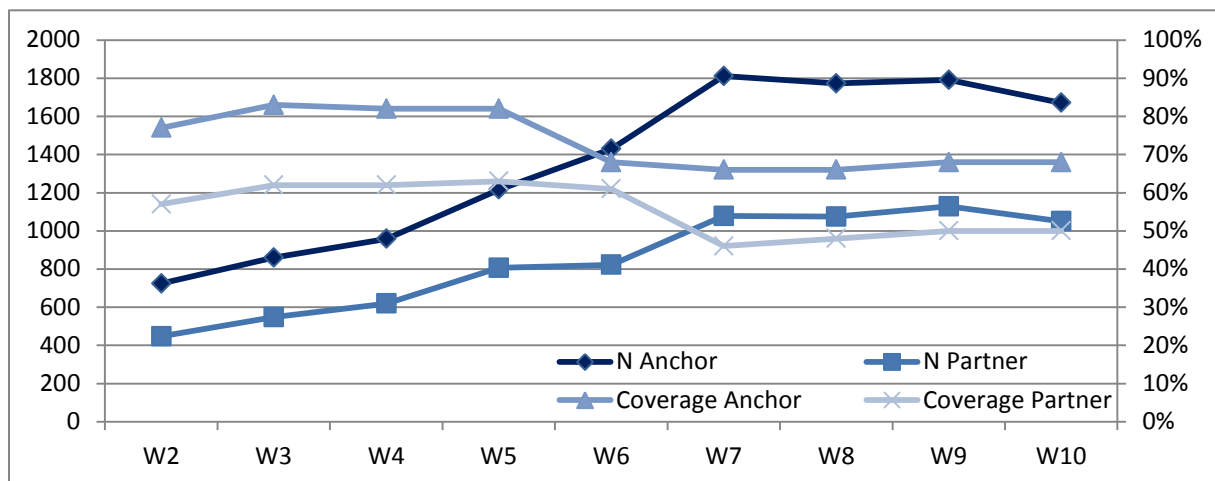
Figure 3: Sample size and coverage of the children survey over waves



3.2.6. Response parenting survey

Figure 4 shows how the parenting survey has developed over time. It can be seen that the absolute numbers have 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.

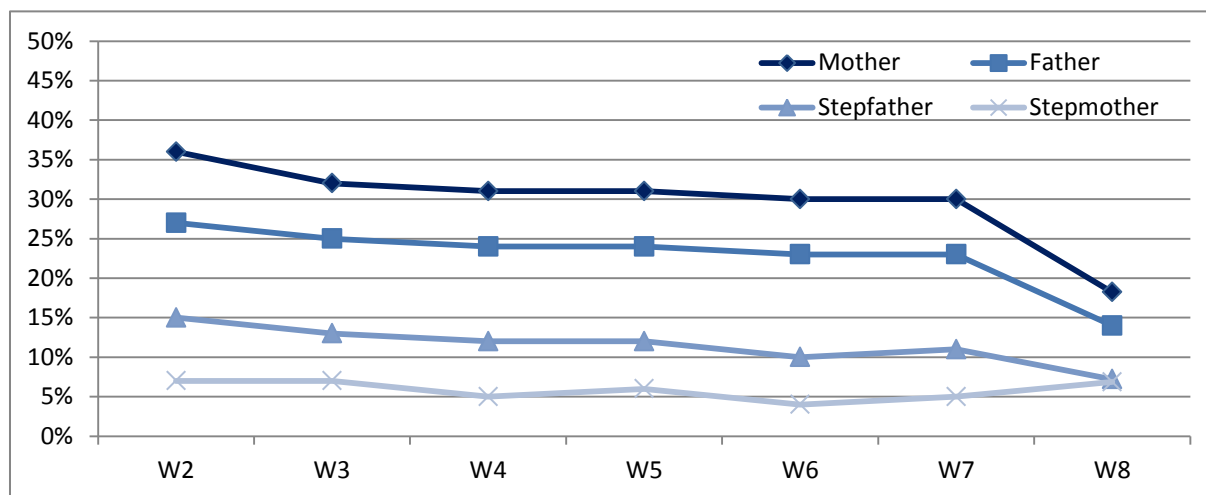
Figure 4: Sample size and coverage of the parenting survey



3.2.7. Response parent survey

Figure 5 shows how parents' response rates have developed over time. All response rates have decreased over the seven waves. The design change to focus on grandparent-grandchild relationships caused a further drop in response rates. The parent survey was discontinued after wave 8.

Figure 5: 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, 52 minutes in the third wave, and 52 minutes in wave 4. For the combined sample of *pairfam* and *DemoDiff*, mean interview duration was 53 minutes in wave 5, 54 minutes in waves 6 and 7, 56 minutes in wave 8, 59 minutes in wave 9, and 59 minutes in wave 10.⁷

Interview duration was shorter for the youngest cohort (about 15 minutes in wave 1, and approximately 4 minutes in wave 10). Since these respondents came into the panel as teenagers (aged 15 to 17 in 2008/09), they typically had fewer transitions to report prospectively when *pairfam* started since most of them still lived with their parents, went to school, and were not engaged in family formation. They also had fewer transitions to report retrospectively, which could be the reason for the large difference compared to the older cohorts in waves 1 and 3 when retrospective information was collected.

4. External validity of the realized *pairfam* sample

This chapter gives some indication as to the external validity of the *pairfam* data. We do this by comparing results obtained from *pairfam* data with results obtained from external data sets which are generally regarded as high-quality data sets. Thus, the *pairfam* user can generate some idea on

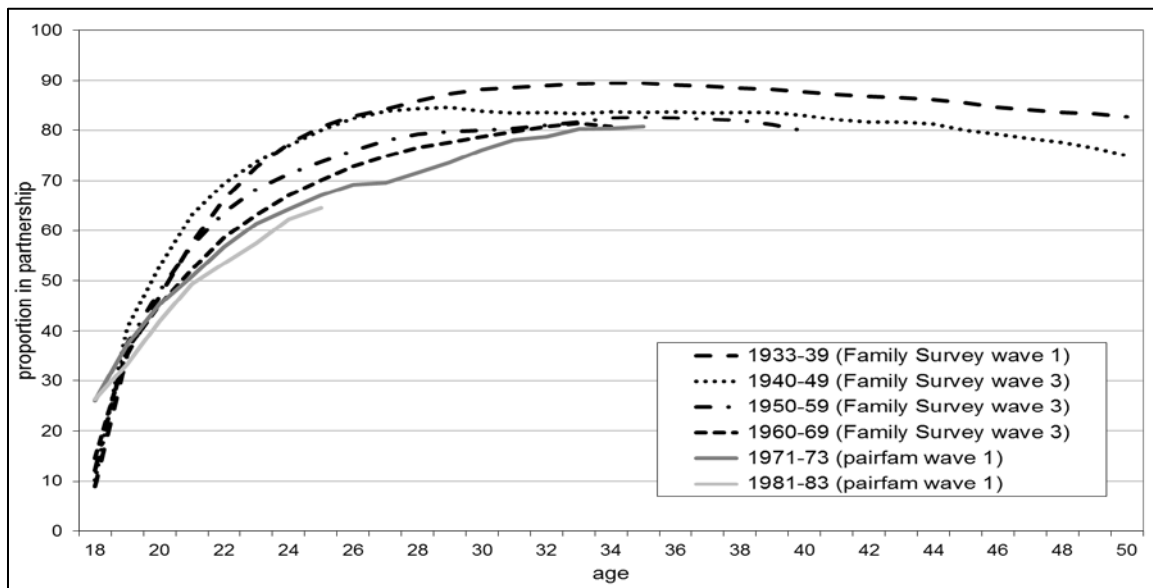
⁷ We excluded implausibly low (20 minutes and below) and implausibly high (more than 180 minutes) interview durations from the analyses. Due to problems with time stamps recorded during the CAPI interview, interview duration could not be recovered for 10% of wave 2 respondents.

whether there are biases in the *pairfam* data and, if so, into which direction. Note that the following refers only to the original *pairfam* sample, without considering the *DemoDiff* subsample.

4.1. Comparing *pairfam* results with those from 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. Especially, the retrospective partnership biographies collected in the Family Survey have been exploited often by German researchers and served as a reference point for building the *pairfam* event history calendar. Thus, it is reasonable to compare results on partnership histories obtained from these surveys.

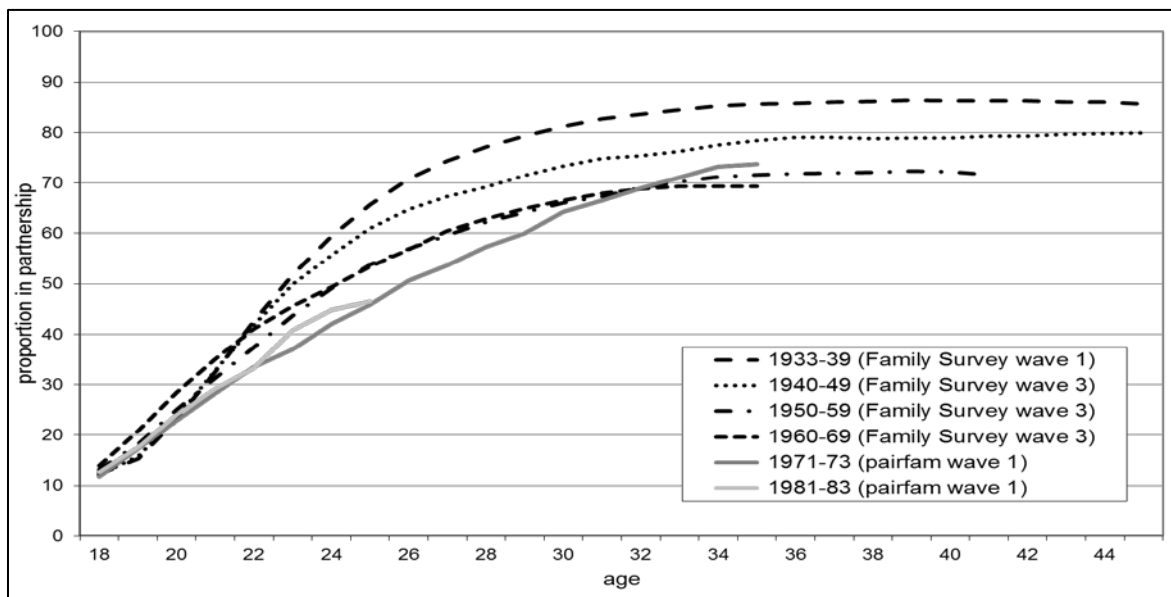
Figure 6: Proportion of women in a partnership lasting at least one year; birth cohorts from the Family Survey and *pairfam* (results unweighted)



Results from the Family Survey show that there is an increasing tendency to remain single in Germany. For instance, Figure 6 displays that only 10% of all German women from the birth cohort 1933-39 were single around age 30 (data are from the Family Survey 1988). In the cohort born 1960-69 20% were single (data from the Family Survey 2000). For men, the proportion of singles increased from 20% to 35% at age 30 (see Figure 7). As *pairfam* cohorts were born later than those in the Family Survey, one can expect even higher proportions of singles (if the trend continued).⁸

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

Figure 7: Proportion of men in a partnership lasting at least one year; birth cohorts from the Family Survey and pairfam (results unweighted)

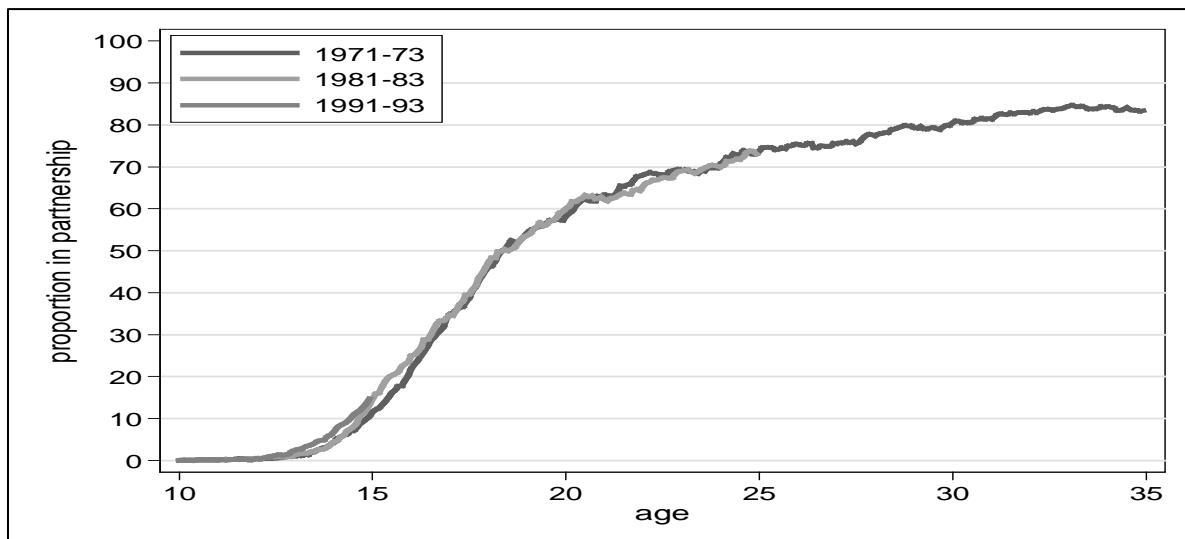


Thus, the idea is to investigate whether *pairfam* results fit into the picture conveyed by the Family Survey. To do so, we have to make the definition of a partnership comparable. In the Family Survey a partnership is only recorded if it lasted at least for one year. As we do not use this restriction in *pairfam* we have to drop partnerships lasting less than one year. For similar reasons we restrict *pairfam* partnerships to German heterosexuals living in West Germany at the time of the interview. We use the generated “biopart” data set (version 1.0) and restrict the sample to partnership episodes of the two older cohorts (the youngest cohort was only 15-17 at the time of the anchor interview). Results in both data sets are not weighted.

Figure 6 for women and Figure 7 for men show that *pairfam* results continue the trend towards increasing proportions of singles. The curves of the two *pairfam* cohorts are even below the youngest cohort from the Family Survey (at least during respondents’ early twenties). Above age 30 we see some crossing but this might reflect a “real” trend. Overall we argue that *pairfam* results on proportions staying single match nicely to the results from the Family Survey. This is an indication for the external validity of both (!) surveys. We suppose that such a clear-cut picture as observed in Figure 6 and Figure 7 cannot be seen in most other surveys that would allow for such comparisons.

Furthermore, *pairfam* displays an even more plausible picture for ages below 20. In the Family Survey the proportions of singles below age 20 are unrealistically high: 90% at age 18 for instance. In *pairfam* the proportion of singles at age 18 is much lower, namely 75%. Thus, in this aspect *pairfam* seems to generate even more plausible results than does the Family Survey.

Figure 8: Proportion of women in a partnership; pairfam birth cohorts (results weighted)



There is a second feature with which *pairfam* outperforms the Family Survey: *pairfam* does not restrict partnerships to those lasting at least one year. Basically, all partnerships of some importance to the anchor are to be reported. The corresponding entry to the calendar is: “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 we use all partnerships available in the *pairfam* data set “biopart” (version 1.0) we obtain the graph in Figure 8 for women (the graph can be reproduced with the syntax file “Quick Start biopart 1.do”). We see that the proportion of women staying single below age 20 now is even more plausible (e.g., 50% at age 18). However, now we can infer no trend towards increasing proportions of singles! The curves for all three cohorts are almost identical (the same is true for men). It seems that the result from Figure 6 is an artifact that is due to the restrictive definition of partnerships used in the Family Survey. Without this restriction *pairfam* data show no trend towards increasing proportions staying “single”. This is quite an important finding.

Overall, this comparison shows that *pairfam* data are comparable to other high-quality data such as the Family Survey. However, *pairfam* even improves upon the quality of the information gathered because we tried to be less restrictive when defining living arrangements. This seems to pay off in providing less distorted pictures of 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, we compared the proportions of women with and without children in *pairfam* and the German Mikrozensus 2008 (Statistisches Bundesamt and GESIS - Leibniz-Institut für Sozialwissenschaften 2011). This representative federal data set is well suited for such a comparison because a (voluntary) question on the number of children born to a woman was included for the first time in 2008. The result of the comparison was that the proportion of childless women in the first wave of *pairfam* was significantly lower than in the Mikrozensus, especially in West Germany. We solved this selectivity problem by creating a new weighting factor which includes –among other variables – the number of children. Table 30 shows that the selectivity bias can be reduced substantially by weighting the data.

Table 30: Share of childless women and mothers in the German Mikrozensus and in *pairfam*

	Mikrozensus 2008			<i>pairfam</i> wave 1, unweighted			<i>pairfam</i> 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>Women 25-27 years old</i>			<i>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>Women 35-37 years old</i>			<i>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 East and West Germany according to the Federal State of the main residenc;

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

4.3. Validation of *pairfam* income measures with SOEP data

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

However, we have to take into account that the wording of the income questions is not exactly the same in both data sets and that they use different methods of data processing: In the SOEP, respondents should indicate the current monthly net household 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 used. Respondents are asked for the total net household income in the last month (*inc13*). In contrast to the SOEP, respondents who cannot or do not wish to give precise answers are asked to select an income category that best fits with their situation. Afterwards the midpoint of the respective income category was assigned as their household income (*hhincnet*).

In the first wave of *pairfam* respondents who lived alone were not asked about their net household income. For the comparison with the SOEP, the total income for one-person households in wave 1 was generated by adding up the amount of income reported for different sources of income listed in the questionnaire (earned income, child benefits, unemployment benefits etc.). However, as some income sources were missing in the list, 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 couples, the mean adjusted household income (*hhincnet* including one-person households) is lower than the non-adjusted *hhincnet*. We also did a consistency check: If the net household income in wave 1 was lower than the reported individual earned income (*inc2*), household income was increased by the difference between household income and earned income. In wave 2 we do not have to adjust the variable *hhincnet* as one-person households were asked about their household income and a consistency check was implemented in the questionnaire. The equivalent income was generated by dividing the 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 with the cross-sectional household weight variable (*\$hhrf*).

For the comparison we also had to construct similar samples. As the income data reported by the youngest age cohort (15-17 years) are highly unreliable, we excluded them from the comparison with the SOEP. In the SOEP all persons in a household from 16 years upwards are interviewed. There are data sets for both individuals and households. To make the sample comparable to *pairfam* we had to use information from the both personal data sets (e.g. age) and the household data sets (e.g. income, type of household). For the comparison with *pairfam* wave 1 we regarded the age groups 25-27 and 35-37 from the SOEP 2008. For the comparison with *pairfam* wave 2 we referred to the age groups 26-28 and 36-38 from the SOEP 2010. If more than one person in a SOEP household belonged to these age groups only the first one was selected. Finally, we had to generate similar household types. In the SOEP the household types “couples with children” and “single parents” consist of parents with minor children and adult persons living with their parents (e.g. a 40 year old man living with his mother). For the comparison with *pairfam*, we analyze these constellations separately. All in all, we

regard the following household types: one-person household, couples without children, couples with minor children, single parent with minor children, adult person living with both parents, adult person living with one parent, and other.

Table 31: Mean net household income by household type (in Euro)

	SOEP				<i>pairfam</i>		
	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 without Children	2,746	2,722	3,005	2,988	2,804	2,810	2,930
Single parent with minor children	1,422	1,359	1,375	1,371	1,656	1,657	1,642
Adult children with one parent	1,950	1,976	2,098	2,115	2,175	2,175	2,214
Couple with minor children	2,804	2,777	2,973	2,966	2,676	2,691	2,923
Adult children with 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: SOEP 2008 and 2010; households of persons of age 25-27 and 35-37 or 26-28 and 36-38 respectively; weighted data; own computation; pairfam waves 1 and 2, cohorts 2 and 3; weighted data; own computation.

All in all, the income data in *pairfam* do not differ substantially from the respective data in the SOEP (see Table 31 and Table 32, row “total”). In wave 1 this holds especially true for the adjusted household income. In wave 2 the values for *hhincnet* (*pairfam*) and *hinc10/i1hinc10* (SOEP) 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 SOEP. As indicated above, this may be due to the fact that the income of one-person households had to be generated with *pairfam data*. In wave 2 the difference between SOEP and *pairfam* is only small. In waves 1 and 2 the mean income of *single parents* in *pairfam* is higher than in the SOEP. One reason for this difference might be that single parents in *pairfam* have a somewhat better education and more often work full time. *Other households*, on the other hand, have a much higher household income in the SOEP than they do in *pairfam*.

Table 32: Mean equivalent household income by household type (in Euro)

	SOEP				<i>pairfam</i>		
	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 without Children	1,831	1,815	2,004	1,992	1,843	1,843	1,906
Single parent with minor children	977	941	930	928	1,052	1,052	1,046
Adult children with one parent	1,088	1,119	1,255	1,250	1,271	1,271	1,276
Couple with minor children	1,385	1,375	1,463	1,463	1,301	1,301	1,403
Adult children with 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: SOEP 2008 and 2010; households of persons of age 25-27 and 35-37 or 26-28 and 36-38 respectively; weighted data; own computation; pairfam wave 1 and 2, cohort 2 and 3; weighted data; own computation.

This can be explained by the fact that the group of other households consist of different types in the SOEP than it does in *pairfam*: In the SOEP the category “other household” includes in particular three-generation households. In *pairfam* this category mainly consists of (younger) respondents in a flat-sharing community which probably do not share incomes and thus resemble one-person households.

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