



TwinLife Technical Report Series

No. 10, June 2020

***TwinLife* survey methodology and fieldwork outcomes**

Face-to-face survey of wave 2 (F2F 2a/b)

v1.0.0

by Sabrina Lesaar, Angela Prussog-Wagner,
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Technical report

TwinLife Face-to-face survey of wave 2 2016-2018 Subsample a and b F2F 2a/b

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Preliminary remark

TwinLife, the research project funded by the German Research Foundation, is an ongoing 12-year representative behaviour genetic study investigating the development of social inequality. Since the project started in 2014, approximately 4,000 pairs of twins and their families have been interviewed yearly at different stages of their lives.

During the first funding period (2013-2016), the 4,000 same-sex twins as well as their families had already been interviewed personally (F2F 1a and F2F 1b) and in some cases by phone (CATI 1a). infas was then commissioned in May 2016 to conduct the interviews during the second funding period from 2016 to 2018. The second funding period includes the face-to-face interviews of wave 2 (F2F 2a and F2F 2b) as well as subsample b of the telephone interviews of wave 1 (CATI 1b) and subsample a of the telephone interviews of wave 2 (CATI 2a).

This technical report documents the stages of implementing and conducting the face-to-face interviews of the second wave (F2F 2a and F2F 2b). The report describes the sample, the respondents and the survey instruments. Chapters 5, 6 and 7 provide a description of the survey process and document the fieldwork results. Chapter 8 contains a description of the data processing steps. All fieldwork documents can be found in the annex.

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1 Study design

The sample of the twin family study “TwinLife” consists of 4,000 pairs of identical or same-sex fraternal twins who were selected using a probability-based sampling design and first interviewed in 2014. Only twins growing up together or having grown up together were selected for the study. The sample consists of four age cohorts. At the time of the first interview in 2014, the youngest age cohort (year of birth 2009/2010) was 5 years old while the oldest age cohort (year of birth 1991-1993) was 23/24 years old.

Each age cohort is divided into two birth sub-cohorts. The two birth sub-cohorts of each age cohort are interviewed one after the other over two consecutive years in order to guarantee that all twins of one age cohort are interviewed at the same age. The first birth sub-cohorts of each age cohort are aggregated in subsample a, while the second birth sub-cohorts of each age cohort are aggregated in subsample b. Thus, each data collection consists of the two subsamples a and b.

As part of the extended family design of the study, the twins, as well as their parents (biological and step-parents), a sibling¹ and the current partner of the older twins (18 years of age or older) were interviewed. Personal interviews (also called face-to-face (F2F) interviews) and telephone interviews (CATI) are conducted in alternate years.

The following overview shows the survey design of the second funding period.

Tabelle 1 Overview of the surveys of the second funding period

Wave	Data collection mode	Birth cohort and fieldwork phase	
		Subsample a (twins of the first birth sub-cohorts) (C1: 2009, C2: 2003, C3: 1997, C4:1990-1991)	Subsample b (twins of the second birth sub-cohorts) (C1: 2010, C2: 2004, C3: 1998, C4: 1992-1993)
First wave	CATI	CATI 1a <i>not part of the second funding period</i>	CATI 1b 11/2016 – 04/2017
Second wave	F2F	F2F 2a 11/2016 – 05/2017	F2F 2b 09/2017 – 04/2018
Second wave	CATI	CATI 2a 09/2017 – 04/2018	CATI 2b <i>not part of the second funding period</i>

¹ If there were several siblings in the family, the sibling relevant for the survey was selected in the first interview. This sibling will also be interviewed in the subsequent survey waves.

The subject of this technical report is the F2F interviews conducted in the second wave (F2F 2a and F2F 2b).

During the F2F surveys, all respondents aged 5 years and older were interviewed. Individual family members who had not yet taken part in the TwinLife study were also interviewed.

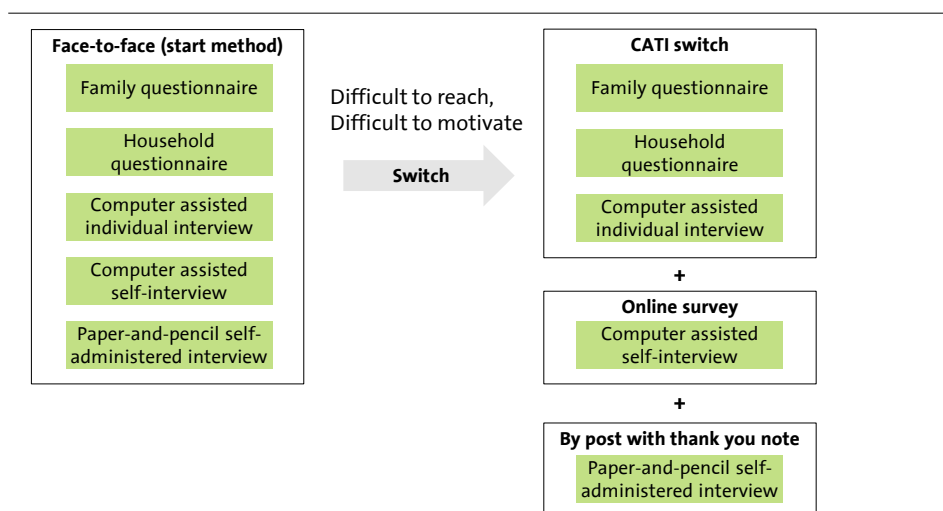
The individual interviews consisted of a computer-assisted personal interview (CAPI) administered by the interviewer, a computer-assisted self-interview (CASI) on tablets and a paper-and-pencil self-administered interview (PAPI). In addition, the children's medical check-up booklets as well as current school reports were recorded and a delayed gratification experiment was conducted with the twins in the youngest age cohort.

For the first subsample (F2F 2a), the fieldwork phase lasted from November 2016 to September 2017. The fieldwork phase of the second subsample (F2F 2b) lasted from September 2017 to May 2018.

The survey design of the F2F interviews originally intended all respondents to be interviewed personally in their homes. However, at the end of the scheduled fieldwork phase, those participants who could not be reached in the F2F field or could not be motivated to participate were asked to take part in a telephone interview instead (CATI switch). Following the telephone interview, the respondents were asked to answer an online questionnaire (computer-assisted web interview (CAWI)) as a substitute for the CASI questionnaire. The paper-and-pencil questionnaire (PAPI) was included in the thank you letter for these respondents.

The following illustration describes the design of the second F2F survey.

Abbildung 1 Survey design



Source: infas, own visuals

inf

All families received a letter announcing that they would be contacted by an interviewer to arrange a date for the household interview. In the letter, a hotline free of charge was named as well as a study-specific email-address. For more information on the TwinLife project, the families were referred to the TwinLife study website. A newsletter containing results from the first interviews was also enclosed with the letter. As an incentive, all respondents received a thank you letter with 10 euros in cash after the successful interview. Table 2 provides an overview of the design of the second F2F survey.

Tabelle 2 F2F 2a/b study synopsis

Fieldwork phase	F2F 2a (incl. CATI switch): 11/07/2016 to 09/29/2017 F2F 2b (incl. CATI switch): 09/04/2017 to 05/27/2018
Selected population	German-speaking families with a pair of same-sex twins in four age cohorts (C1: 2009-2010, C2: 2003-2004, C3: 1997-1998, C4: 1990-1993)
Gross sample	F2F 2a: n= 1,914 families with 3,786 twins F2F 2b: n= 1,986 families with 3,956 twins
Communication strategy	– Letter, data protection notice, and newsletter in advance of the F2F interview (addressed to the parents (C1/C2) or twins (C3/C4)) – Thank you letter with incentive (10 euros) – 2017: Easter card as part of panel tracking (one for each household) – 2017: Christmas card incl. raffle as part of panel tracking (one for each household) – 2018: Summer card as part of panel tracking (one for each household)
Data collection mode	– F2F interview: CAPI, CASI and PAPI; – Telephone interview (CATI switch incl. CAWI and PAPI) for those not reached or difficult to motivate
Target persons	– Both twins – Their biological parents – The partner of a parent living in the household (step-parent) – A sibling (5 years or older) – Partners of the twins, provided the twins are at least 18 years old
Survey instruments	– Interview language: German – Computer-assisted personal interview (CAPI or CATI) with the following modules: – Family questionnaire – Household questionnaire – Individual interview – Computer-assisted self-interview (CASI or CAWI) – Paper-and-pencil self-administered interview (PAPI)
Mean interview duration ²	Duration of individual instruments: – Family questionnaire: Ø 9.7 minutes – Household questionnaire: Ø 4.9 minutes – Individual questionnaire (CAPI and CASI): Ø 58.5 minutes³ Interview duration on the family level: Ø 172.4 minutes
Interviewer deployment	n=159 interviewers – 110 F2F interviewers – 49 CATI interviewers
Interviewer training	Personal training by the infas project management and the TwinLife team – F2F: four 2-day training sessions – CATI: two 2-hour training sessions
Valid net interviews	F2F 2a (subsample a) – n=1,350 families with at least one family member interviewed – n=5,414 individual interviews conducted (339 of these in the CATI switch) F2F 2b (subsample b) – n=1,383 families with at least one family member interviewed – n=5,532 individual interviews conducted (173 of these in the CATI switch)
Data processing and delivery	– Monthly fieldwork reports – Interim deliveries of the survey data (incl. photos of school reports): half way through the F2F 2a and F2F 2b fieldwork time – Final data deliveries (final result after checking and processing the data): methodological data, contact history, interviewer information, survey data: after the end of the F2F 2a and F2F 2b fieldwork – Coding of open plain-text information (ISCO 08, WZ, ISCED) – Inclusion of geographic coordinates, regional information, and MOSAIC data

² Cases were excluded from the analysis if the interviews were implausibly long or short. This was caused by, e.g., the interviews being interrupted or the interviewer going back within the survey instrument.

³ The duration of the paper-and-pencil self-administered interview (PAPI) is not included in these durations. It took an average of ten minutes to complete the questionnaire.

2 Conducting the pre-test and pre-test results

In preparation of the F2F 2 main survey, a pre-test was conducted to assess how manageable and useable the instrument was. A special focus of the pre-test was the succession of the different questionnaire components as well as the practicability of interviewing numerous respondents at once. Furthermore, the time needed to conduct the interviews in each family was evaluated.

Tabelle 3 F2F 2a/b pre-test study synopsis

Fieldwork phase	08/06/2016 – 08/28/2016
Selected population	German-speaking families with a pair of same-sex twins in four age cohorts (C1: 2009-2010, C2: 2003-2004, C3: 1997-1998, C4: 1990-1993)
Gross sample	72 families with 144 twins who took part in the F2F pre-test study of the first data collection and have not refused to participate since
Communication strategy	– Letter and data protection notice addressed to parents (C1/C2) or twins (C3/C4) – Thank you letter with incentive (50 euros for the families in C1/C2 and 30 euros for each twin in C3/C4)
Data collection mode	F2F interview: CAPI, CASI and PAPI
Respondents	– Both twins – Their biological parents – The partner of a parent living in the household (step-parent) – A sibling (5 years or older) – Partners of the twins, provided the twins are at least 18 years old
Survey instruments	Interview language: German – Computer-assisted personal interview (CAPI) with the following modules: – Family questionnaire – Household questionnaire – Individual interview – Computer-assisted self-interview (CASI) – Paper-and-pencil self-administered interview (PAPI)
Interview duration ⁴ (on average)	– Instrument duration (CAPI+CASI) per family: Ø 204.0 minutes – Time needed to conduct the interviews per family: Ø 150.0 minutes
Interviewer deployment	n=10 interviewers
Interviewer training	2-day training session by infas project management and the TwinLife team
Valid net interviews	43 families with 160 individual interviews, 81 of which with twins
Data delivery	Delivery of survey data (incl. photos of school reports) on 09/09/2016

In a panel study, the respondents from the first interview form the starting point for the sample of the following waves. The pre-test sample of this data collection therefore consisted of 72 families with same-sex twins in four age cohorts who had participated in the pre-test of the F2F interviews of wave 1 and had not revoked their willingness to stay in the TwinLife panel study. In accordance with the communication strategy of the main survey, the letter informing the fami-

⁴ Cases were excluded from the analysis if the interviews were implausibly long or short. This was caused by e.g., the interviews being interrupted or the interviewer going back within the survey instrument. One percent of cases in the upper and lower distribution margin were excluded from the calculations.

lies about the F2F interview was addressed to the parents (C1 and C2) or to the twins (C3 and C4).

For the pre-test, ten interviewers were trained over two days by the infas project management and members of the TwinLife team. The interviewers were selected considering the distance to the sample addresses and according to their availability during the short pre-test phase. Another important selection criterion was the interviewers' experience. All of the selected interviewers had been working for infas for many years and therefore had extensive experience. In addition to the personal training, each interviewer received a study handbook.

During the three weeks of the pre-test fieldwork phase from 08/06/2018 to 08/28/2016, interviews were conducted with 160 respondents in 43 families (see table 4). 81 twins, three partners of twins, 12 siblings, 62 biological parents as well as two step-parents were interviewed. Both twins and at least one parent were interviewed in 37 families.

Tabelle 4 Interviews in the pre-test by person category

	Total	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Total: Families	43	11	14	10	8
Families with both twins and at least one parent	37	11	13	9	4
Total: People, of which:	160	46	55	36	23
– Twins	81	22	27	20	12
– Partners of twins	3	-	-	0	3
– Sibling	12	5	5	2	0
– Mother	38	11	14	9	4
– Father	24	7	8	5	4
– Step-parents	2	1	1	0	0

Source: Pre-test survey data

After the interview, the respondents received a thank you letter including the incentive. For the pre-test, a higher incentive was selected to motivate as many families as possible to participate within a short time period. In the age cohorts 1 and 2, the incentive of 50 euros was sent to the parents of the twins in cash. In cohorts 3 and 4, the incentive of 30 euros was sent to each twin in cash.

The interviewers were asked to complete an interviewer questionnaire for each family interviewed in the pre-test. The succession of the different questionnaires, the manageability/usability of the tablets as well as feedback to the individual questionnaires were the subject of this interviewer questionnaire. n=41 interviewer reports were included in the pre-test analyses.

The feedback of the interviewers mainly mentioned the long duration of the interview and unclear phrasing of certain questions, particularly in the questionnaire for children under 10 years of age. The pre-test also showed that conducting the individual interview components simultaneously (see chapter 4.1)

caused disturbances if questions were ambiguous or terms were unclear. The recommendation for revisions after the pre-test therefore mainly referred to the wording of the questions in the self-administered questionnaires. Only a few interviewers reported problems concerning the handling of the tablet by the respondents (around 5 percent).

Another focus of the pre-test was whether or not a paper-and-pencil self-administered questionnaire (PAPI) was necessary or if the questionnaire could be integrated into the computer-assisted self-interview (CASI). The feedback from the interviewers showed that the paper questionnaires proved to be useful in households with more than one respondent, as they could be used flexibly during the interview to bridge the waiting times for the respondents.

The experiences from the pre-test were discussed with the TwinLife team and the interviewers during a debriefing session on 09/01/2016. Afterwards, the survey data from the pre-test as well as the feedback from the interviewers were made available to the TwinLife team.

3 Sample

3.1 Description of the gross sample

The respondents from the first interview form the starting point for the sample in a panel study. The gross panel sample therefore includes twins that were interviewed in the initial F2F survey (F2F 1a and F2F 1b).⁵ However, only those pairs of twins who consented to be interviewed again were available for the following survey waves.

The F2F interviews of wave 1 were conducted by TNS Infratest in Munich. In order to pass on the addresses to infas, the permission of the respondents was required. All respondents were therefore informed in writing about the change of the survey institute and the associated disclosure of the addresses and had the opportunity to object to this.

Therefore, the gross sample of the second F2F survey consisted only of twins and their families who expressed their willingness to participate in the panel study and did not object to the transfer of their addresses to infas.

The final sample of the F2F 2 survey included a total of 3,900 families with 7,742 twins. Of these, 1,914 families and 3,786 twins were part of subsample a (F2F 2a) and 1,986 families with 3,956 twins were part of subsample b (F2F 2b).

In 58 out of 3,900 families either one or both twins objected to their address being passed on or withdrew their willingness to participate in the panel. In consultation with the TwinLife team, the families of these twins were not excluded from the panel study. The twin who was still willing to be interviewed as well as the rest of the family members thus remained in the panel. The twins who had withdrawn their willingness to be in the panel were not contacted.

⁵ In the first F2F survey (F2F 1), interviews with families were only considered valid if at least both twins and one biological parent were interviewed successfully.

Tabelle 5 Gross sample (F2F 2a/b)

	Total	Age cohorts			
		Cohort 1	Cohort 2	Cohort 3	Cohort 4
Families	3,900	972	994	1,000	934
Of which:					
Both twins in the sample	3,842	972	992	992	886
Only one twin in the sample	57	-	2	8	47
No twin in the sample	1	-	-	-	1

Source: F2F 2a/2b methodological data

Tabelle 6 Gross sample: F2F 2a

	Total	Age cohorts			
		Cohort 1	Cohort 2	Cohort 3	Cohort 4
Families	1,914	483	493	494	444
Of which:					
Both twins in the sample	1,872	483	491	488	410
Only one twin in the sample	42	-	2	6	34

Source: F2F 2a methodological data

Tabelle 7 Gross sample: F2F 2b

	Total	Age cohorts			
		Cohort 1	Cohort 2	Cohort 3	Cohort 4
Families	1,986	489	501	506	490
Of which:					
Both twins in the sample	1,971	489	501	504	477
Only one twin in the sample	14	-	-	2	12
No twin in the sample	1	-	-	-	1

Source: F2F 2b methodological data

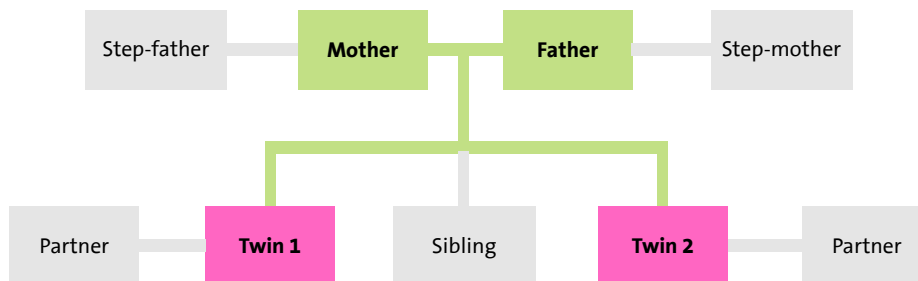
3.2 Target persons

The design of the TwinLife study intends for the following family members to be interviewed:

- Both twins
- Both biological parents
- Step-parents/partners of the biological parents provided they live in the same household as the biological parent
- One sibling aged 5 years or older for each pair of twins (regardless of whether this is a full, half, adoptive or step-sibling),⁶
- Current partner of a twin (only for twins over 18 years of age).

All of these target persons were supposed to be interviewed during the F2F survey, regardless of whether the person took part in wave 1 or not. Therefore, panel interviews as well as first-time interviews were conducted.⁷

Abbildung 2 Target persons in TwinLife



Source: infas, own visuals

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⁶ If there were several siblings in the family, the sibling relevant for the survey was selected in the first interview. This sibling will also be interviewed in the subsequent survey waves.

⁷ At least both twins and one biological parent were interviewed in the families in the first wave.

4 Survey instruments

As can be seen in figure 3, the F2F interviews consisted of different components. In addition to the family and household questionnaire, the individual interviews consisted of a computer-assisted personal interview (CAPI) administered by an interviewer, a computer-assisted self-interview (CASI) on tablets and a paper-and-pencil self-administered questionnaire (PAPI).

Abbildung 3 Overview of survey instruments

Family questionnaire	Identifying the target persons in the family
Household questionnaire	Questions relating to the household
Individual questionnaire	CAPI/CATI: School, education and employment Questions for children under 10
	CASI/CAWI: Relationship to other family members, deviant behaviour, health etc.
	PAPI: Personality traits, risk tolerance, life satisfaction etc.
Special modules	
Delayed gratification experiment	School report photos
Medical check-up booklets	Cognitive test

Source: infas, own visuals



The F2F survey instrument included the following components:

- **Family questionnaire:** The family questionnaire was used in the twins' households to identify the target persons (i.e., the family members that were supposed to be interviewed).
- **Household questionnaire:** The household questionnaire was used in each household with at least one target person and contained questions relating to the whole household.
- **Personal interview (CAPI/CATI):** The personal interview was conducted with all respondents aged 5 years and older.
- **Delayed gratification:** The delayed gratification experiment was only conducted with the twins of age cohort 1.
- **School report photos:** School reports were photographed if the respondent attended a school at the time of the interview.

- **Medical check-up booklets:** The information from the child medical check-up booklets was only asked for if it had not been collected in the previous interview⁸.
- **Cognitive test:** The cognitive test was only conducted with respondents who were interviewed for the first time.
- **Computer-assisted self-interview (CASI/CAWI):** The computer-assisted self-interview was answered by respondents aged 10 years or older.
- **Paper-and-pencil self-administered interview (PAPI):** The paper-and-pencil interview was completed by respondents aged 10 years or older.

4.1 Overview of the interview process

As the twins in cohort 1 and cohort 2 were only 7 and 14 years old, their parents were contacted first. The twins from cohort 3 and cohort 4 were contacted directly.

Before any individual interview could be conducted, the family and household questionnaires had to be answered. The family questionnaire was used to identify the target persons within the families and to further assess the household constellations of the families. It was conducted only in the twins' households.

After the family and household questionnaires were completed, individual interviews were conducted with all respondents of the household aged 5 years or older. The individual interviews consisted of different components: The interview began with a questionnaire administered by an interviewer (CAPI). Only after completing this questionnaire the computer-assisted self-interview (CASI) on a tablet was started. In general, the paper-and-pencil self-administered interview (PAPI) was answered after completing the CASI. However, it was also possible to answer this questionnaire at any other point during the interview.

The family members relevant for the TwinLife survey can either live all together in the same household (this was generally the case in cohorts 1 and 2) or live in different households (more common in cohorts 3 and 4). The study design took this into account by allowing up to 5 people being interviewed at the same time. To achieve this, each interviewer was equipped with a laptop, two tablets and the paper questionnaires.

This allowed for the following interview situation: While the CAPI-interview was conducted with one of the twins, two other respondents were able to answer the self-administered questionnaire (CASI) on the tablets and the sibling answered the paper-and-pencil questionnaire. In doing this, the total amount of time required to interview a household was reduced, particularly in large households.

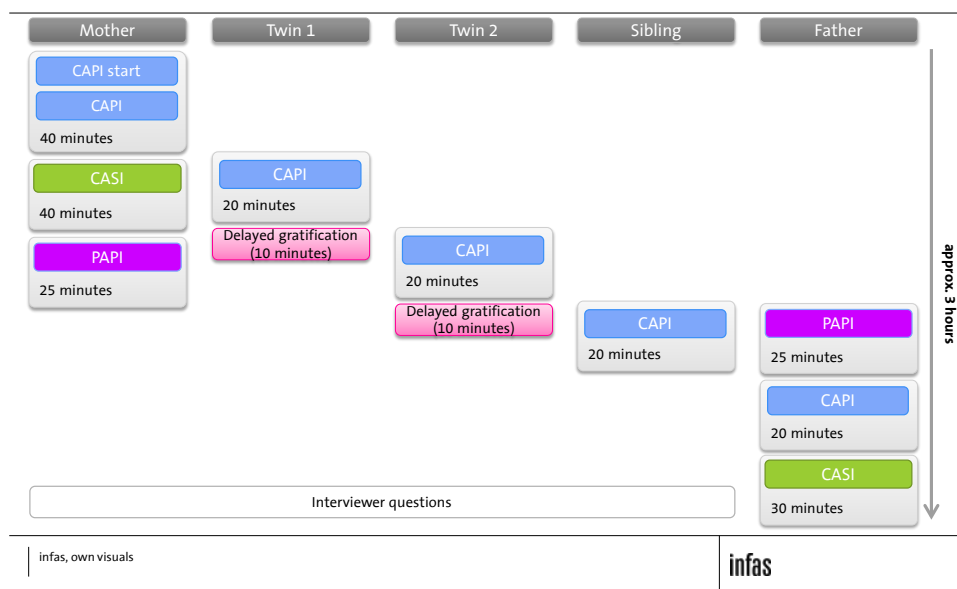
⁸ Brix et al. (2017): A longitudinal twin family study of the life course and individual development (TWINLIFE). TwinLife Technical Report Series No. 05, October 2017.

The succession of the different interview components was managed by the interview software on the interviewer's laptop. Therefore, the interviewer could always see which component of the interview was intended for which respondent as well as the order in which these should be conducted. This was the only way to ensure the data quality of the various questionnaire modules as well as the completeness of the individual interviews. Depending on the situation in the household, the order of the individual interviews could vary.

Conducting multiple interviews simultaneously meant that the total interview duration in households with several respondents could be reduced. In single-person households or if not all respondents of a household were present at an appointment, the personal interviews were conducted individually.

In cohorts 1 and 2, the respondents generally lived together in one household.⁹ The interviews always started with a parent answering the family and household questionnaires (CAPI start). Afterwards, the CAPI was conducted with this parent. At the end of the CAPI questionnaire, the variables needed to control the questions asked in the CASI questionnaire were transmitted from the laptop to the tablet using a QR code. While the parent completed the self-administered questionnaire on the tablet as well as the paper questionnaire, the interviewer was able to conduct the CAPI questionnaire with one of the two twins or any other target respondent. Figure 4 shows a typical interview situation in a cohort 1 family.

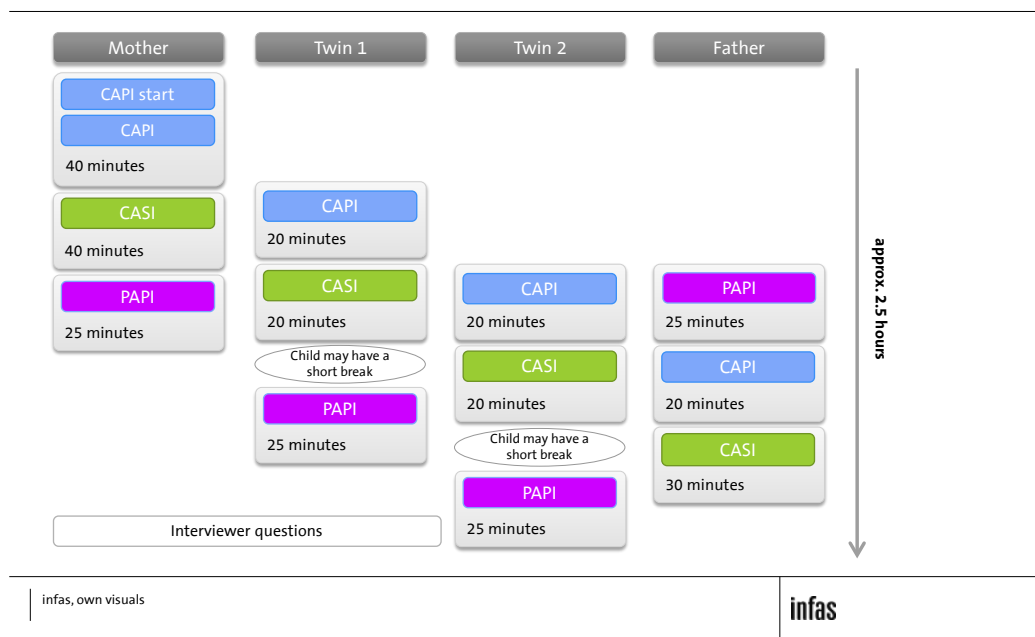
Abbildung 4 Exemplary interview situation (cohort 1)



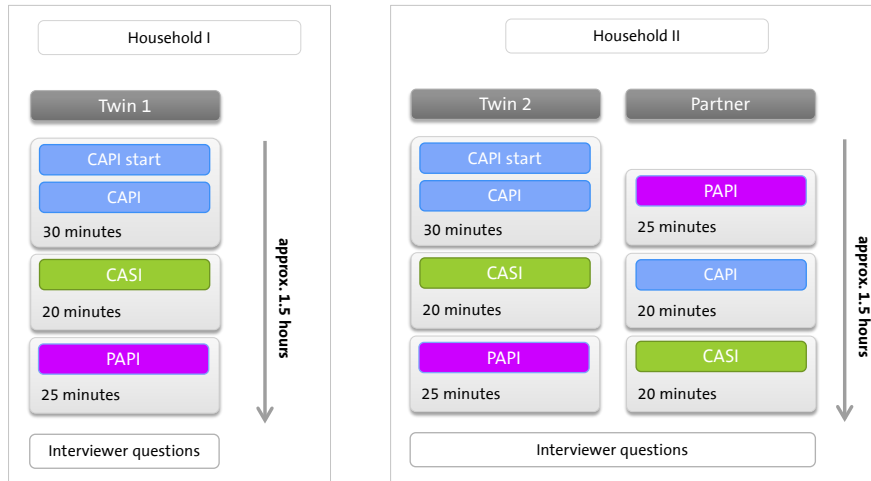
⁹ Exceptions include biological parents who lived separately or siblings who lived in another household.

Since two tablets were available, the first twin (if 10 years or older) could also begin the CASI after the CAPI interview, while the interviewer continued with the second twin or sibling (see figure 5).

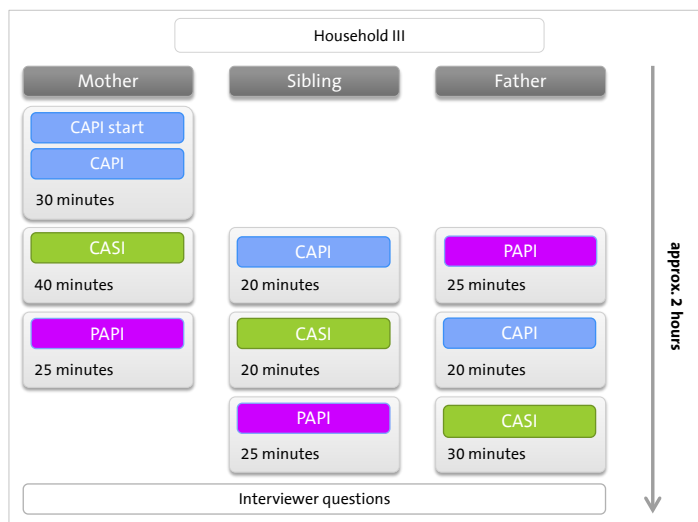
Abbildung 5 Exemplary interview situation (cohort 2)



In cohorts 3 and 4, the family was contacted via the twins themselves. Interviews of several persons in one household could also be conducted simultaneously in these cohorts (see figures 6 and 7). However, in these cohorts it was more common that the twins no longer lived in the same household as their parents. Therefore, individual interviews in one-person households were more common.

Abbildung 6 Exemplary interview situation (cohorts 3/4): Households I and II


infas, own visuals

Abbildung 7 Exemplary interview situation (cohorts 3/4): Household III


infas, own visuals

4.2 Family questionnaire

In each family, the interview started with the family questionnaire. The family questionnaire was used to identify the target persons in the families (see section 3.2) and to document the household constellations of the families (see figure 8).

In cohorts 1 and 2, the family questionnaire was completed by the mother or father of the twins. In cohorts 3 and 4, the family questionnaire was completed either by a twin or a parent.

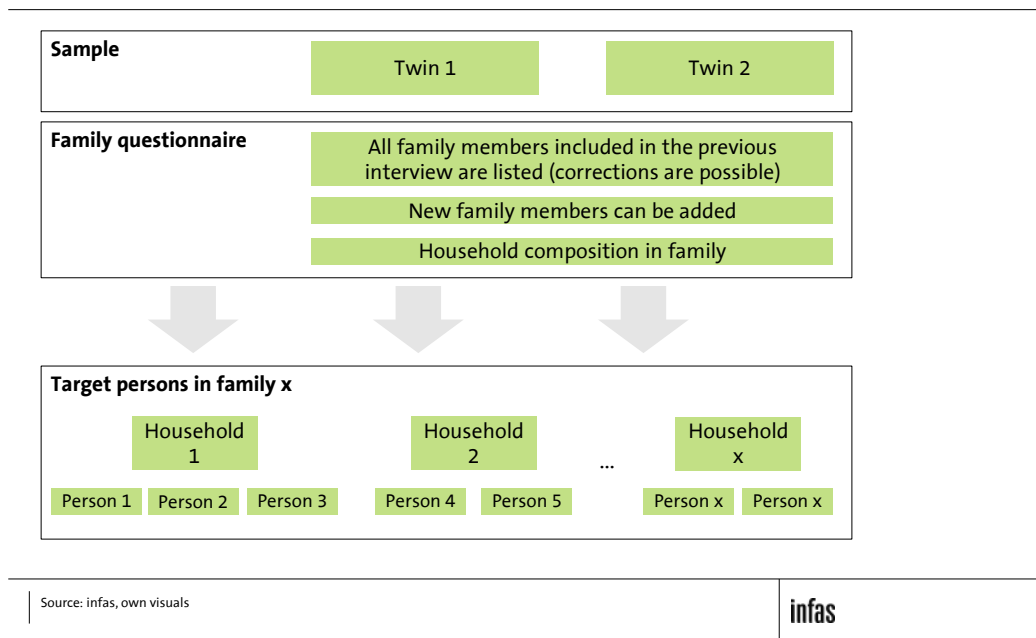
Since all the families had already been interviewed about one year earlier, pre-load information (e.g., name, date of birth, gender and the relationship to the twins) were displayed for all family members already known from the previous wave. If necessary, this information was corrected or supplemented by the interviewer. The family questionnaire also recorded family members who had not yet been recorded, such as a new partner of a biological parent.

The following family members were supposed to be included in the family questionnaire:

- Both twins
- All siblings of the twins (biological, adoptive, half or step-siblings)
- Mother (biological, adoptive or foster mother)
- Father (biological, adoptive or foster father)
- Stepfather or partner of the mother
- Stepmother or partner of the father
- Partners of the twins (only in cohorts 3 and 4)
- Children of the twins

The family members relevant for the survey could either live together in one household or live in different households. The family's household constellations were also recorded in the family questionnaire. For all households with at least one target person, the current address and telephone number was recorded.

Abbildung 8 Family questionnaire: Identifying the target persons and households



4.3 Household questionnaire

The household questionnaire had to be answered for each household with at least one target person by a household member over 16 years of age. It contained questions on the current living situation and the relationship between the individual family members. Other people (e.g., grandparents) who were living in the household but had not yet been registered in the family questionnaire were also recorded.

4.4 Computer-assisted personal interview

The computer-assisted personal interview (CAPI) questionnaire was intended for all respondents who were at least 5 years of age. This questionnaire included questions on school, education, and occupation. Showcards were used to assist the CAPI interview. For children under 10 years of age, the showcards were presented with age-appropriate pictures.

The topics of the CAPI questionnaires are documented in table 8. Not all respondents received questions from all topics. Questions about school and the school context, for example, were only asked if the respondent attended a school at the time of the interview.

Tabelle 8 Modules of the CAPI personal questionnaire

School and employment	Citizenship/migration
	School attendance
	School qualification
	Repeating/skipping a year
	Employment/non-employment
	Strain in the workplace
	Job autonomy
	Education and educational aspirations
School, job and participation	Motivation: Intrinsic motivation/motivation to learn/performance motivation
	School context, school environment, pressure and strain, involvement of parents
	Social capital, thoughts and feelings, conflicts and truths
	Social networks
	Experience with discrimination
	Political participation, political interest
	Intentional level / future plans
	Parent about child: Motivation
Children under 10 years of age	School attendance
	Motivation: Intrinsic motivation/motivation to learn/performance motivation
	Arguments between parents
	Locus of control
	Victimisation, bullying
	Deviant behavior
	Home environment
	Twin-specific questions
Cognitive test	Only for first-time respondents: CFT 1 R (under 10 years of age) or CFT 20 R (10 years of age or older)
Medical check-up booklet module	Documenting information from medical check-up booklets of twins and sibling
Photographing school reports	Photographing most current yearly school report if the child currently attends school
Delayed gratification	For twins in age cohort 1

4.4.1 Collecting information from the medical check-up booklets

The information from the medical check-up booklets of the twins and the sibling relevant for the survey were collected during the first F2F survey (F2F 1). If the booklet was not available at that time or specific information was not collected, this was obtained in the current interview.

During the CAPI interview with one of the parents, the survey program automatically checked whether it was necessary to collect the information from the medical check-up booklets. If the information was to be collected, the parent was asked to provide the documents of the children. The interviewer then transferred the information from the medical check-up booklet into the CAPI interview program.

4.4.2 School report photos

A photo of the most current yearly school report was to be taken for those twins and siblings who attended a general education school at the time of the survey. The parents of the children under 18 years of age or the respondents over 18 years of age were asked for the permission to do so. A photo of the report was then taken using one of the tablets.

If it was not possible to take a photograph of the report - either because the permission was not granted or the report was not available in the household - the grades for German and Math were asked for and recorded.

4.4.3 Delayed gratification experiment in cohort 1

After the personal interview (CAPI), the delayed gratification experiment was conducted with the twins from age cohort 1. For this purpose, the children were given one sweet (one small package of gummy bears) and were given the choice of either eating them now or receiving a second sweet (another small package of gummy bears) if they could wait without eating the first package. The aim of this experiment was to measure the ability to resist an immediate reward in order to receive a larger reward at a later point in time.

The experiment was only conducted if a parent had given its consent beforehand. The interviewer asked for permission for each twin separately, therefore either both twins or just one twin could take part in the experiment. The experiment was conducted with each twin individually after the CAPI interview. Since gummy bears were used for the experiment, the parents were asked beforehand whether the child liked gummy bears or not. The experiment was not conducted if the child did not like gummy bears.¹⁰

¹⁰ On request, the experiment could also be conducted with gummy bears without gelatine.

The parents were asked not to influence the twins before, during and after the experiment (e.g., by encouraging the children to wait or making negative comments about not waiting). The twins themselves were also asked not to talk about the result at the end of the experiment until both twins had completed the experiment.

The experiment had to be conducted in a separate room without any distractions. In this room, there had to be no food available to the child and the television, computer, mobile phones and tablets had to be switched off or removed from the room. The interviewer explained to the child that he or she would receive another small package of gummy bears as a reward if he or she could wait and not eat the gummy bears until the interviewer and the parents returned. The waiting time was ten minutes, which the child was not told in advance. The child had to wait alone in the room for this time span and the interviewer and the parents left the room during this time.

After ten minutes, the interviewer documented whether any gummy bears were missing. The child was asked why he or she did or did not eat the gummy bears. If the child did not eat any gummy bears during the waiting time, the child received both the small package of gummy bears that was used for the experiment and a second small package of gummy bears as a reward.

The experimental situation and the result of the experiment were documented in the interviewer questions shown in table 9.

Tabelle 9 Interviewer questions for the delayed gratification experiment

Contents
Did the child leave the room and if yes, when?
What did the table look like where the child was waiting - before?
What did the table look like where the child was waiting - after?
Were there any anomalies/disturbances during the experiment? If yes, which?

4.4.4 Cognitive test for first-time respondents

During the first F2F interviews (F2F 1), two tests to determine basic intelligence were conducted¹¹:

- the Culture Fair Intelligence Test (CFT 1-R¹²) for children up to 10 years of age, and
- the Culture Fair Intelligence Test (CFT 20-R¹³) for people aged 10 years and older.

As already mentioned above, in the current survey, the tests were only conducted with respondents who had not participated in the first F2F survey (first-time respondents).

The CFT 1-R test for children up to 10 years of age was conducted using a written test booklet. Since all of the twins were interviewed in the first survey wave¹⁴, this test was only conducted with first-time participating siblings under the age of 10. The CFT 1-R test is comprised of three parts: (a) series continuation, (b) classifications and (c) matrices. Before each part of the test, the interviewer introduced the types of tasks. During each part of the test, the child had the option of taking another minute in addition to the regular test time of three minutes. By using a differently colored pen, it was clear which solutions and changes the child had made in the additional minute.

The CFT 20-R test for respondents 10 years or older was conducted with parents, step-parents, siblings, and partners of the twins who were interviewed for the first time. The CFT 20-R test was programmed by TNS Infratest in preparation of the first wave. The same program was used in the second wave. The test was automatically controlled by the survey software on the CAPI laptop. The test was comprised of four parts: (a) similarity, (b) series continuation, (c) matrices and (d) topological conclusions. Whereas an extra minute of test time was announced as such during the CFT 1-R test, the timing in the CFT 20-R continued uninterrupted to the maximum of 5 minutes for test parts (a) and (b) and to the maximum of 4 minutes for test parts (c) and (d). The respondents therefore did not actively request the extra minute of test time.

¹¹ Brix et al. (2017): A longitudinal twin family study of the life course and individual development (TWINLIFE). TwinLife Technical Report Series No. 05, October 2017.

¹² Weiß and Osterland (2012): CFT 1-R Grundintelligenztest Skala 1. Hogrefe Verlag, Göttingen

¹³ Weiß (2006): CFT 20-R mit WS/ZF-R Grundintelligenztest Skala 2. Hogrefe Verlag, Göttingen in a programmed version from TNS Infratest, Munich.

¹⁴ One condition for a valid interview in the first survey wave was the participation of both twins and at least one parent.

4.5 Computer-assisted self-interview

After the computer-assisted personal interview (CAPI), which was administered by an interviewer, all respondents who were at least 10 years old¹⁵ answered a self-interview questionnaire on a tablet (CASI).

The CASI questionnaire featured complex filtering regarding the questions asked as well as text filters to control the phrasing of questions for different subgroups. For example, questions on problems during the transition from primary to secondary school were asked only if the children attended a secondary school. The question about attending school had already been answered on the laptop in the CAPI questionnaire. To ensure that this information – as well as other variables that were needed to control the questions asked in the CASI questionnaire – did not have to be asked again, this information was transmitted automatically to the tablet at the end of the CAPI questionnaire using an individual QR code.

First, the respondents were instructed by the interviewer on how to use the CASI tablets. Subsequently, the respondents could retreat to other rooms in the household to answer the questions in private. Nevertheless, the interviewer was always available for any queries. The CASI included questions on sensitive topics, such as the relationship to other members of the family, deviant behavior, (e.g., skipping school, stealing, smoking, drinking alcohol etc.) and health. Table 10 lists the question modules.

¹⁵ The twins in cohort 1 as well as siblings under 10 years of age therefore were not interviewed in the computer-assisted self-interviews.

Tabelle 10 Modules of the CASI personal questionnaire

Relationship questionnaire	Marital status
	Home environment
	Sibling relationship
	Life transitions
	Parent about child: Life transitions
	Frequency of contact between family members
	Parenting style
	Arguments within the family
	Activities with children
	Self-regulation
	Twin-specific questions
Life events and deviance	Life events
	Bullying, teasing, rumours
	Deviance, delinquent behaviour
Health	Subjective health
	Objective health
	Health behaviour
	Height and weight
	Puberty, sexuality and attractiveness
	Pregnancy
	Children of the twins
	Big Five personality model
	Internalising, externalising
Parent about child	Health
	Citizenship, migration
	Cognitive development
	School context, education and educational aspirations
	Social network, media use
	Cultural capital
	Activities with children

4.6 Paper-and-pencil self-administered interview

In addition to the computer-assisted self-interview using tablets, all respondents aged 10 years or older¹⁶ were also asked to complete a self-administered interview on paper. The paper-and-pencil questionnaire (PAPI) included questions on personality traits, risk tolerance and general life satisfaction (see table 11). Two versions of the paper questionnaire were used:

- Questionnaire for children between 10-15 years old,
- Questionnaire for adults aged 16 years or older.

Tabelle 11 Modules of the PAPI personal interview

Version for children 10-15 years old	Version for adults 16 years or older
Free time, interests and hobbies Time for reading, participation in political or cultural discussions, music	Free time, interests and hobbies Time for reading, participation in political or cultural discussions, music
Activities in clubs and groups Participation, involvement in voluntary work	Activities in clubs and groups Participation, involvement in voluntary work
Media use	Media use
Life satisfaction	Life satisfaction
Dealing with pressure and conflicts	Dealing with pressure and conflicts (as mother/father)
Self-assessment Statements on sensitivity, self-confidence, own abilities, risk tolerance and patience	Self-assessment Statements on sensitivity, self-confidence, own abilities, risk tolerance and patience
Estimation of own qualities	Life goals (wishes and likelihood)

¹⁶ The twins in cohort 1 as well as siblings under 10 years of age therefore were not interviewed in the paper-and-pencil self-administered interviews.

4.7 Interview duration

Since several personal interviews could be conducted at once, it is useful to differentiate between the instrument duration and the interview duration per family.

The instrument duration refers to the duration of the survey instruments on the individual level. However, in the TwinLife study, the total instrument duration of all family members does not correspond to the time required to interview a family, as the total instrument duration does not take the option of parallelization into account. Therefore, the interview duration per family states how much time was needed to conduct all interviews in a family.

Both, the instrument durations as well as the interview duration per family are reported below.

The total instrument duration (see tables 12 and 13) corresponds to the time needed for one respondent to be interviewed. The interview duration per family (see tables 14 and 15) takes into account that – especially in cohort 1 and 2 – the family members remain involved even after their own interview is completed, because other family members are still being interviewed in their home.

Tabelle 12 Characteristics of instrument durations (F2F 2a/b)

	Number of cases	Min.	Max.	Median	Mean (<i>M</i>)	Standard deviation (<i>SD</i>)
Family questionnaire	2,660	3.0	29.9	8.3	9.7	5.1
Household questionnaire	3,762	1.3	19.7	4.5	4.9	2.4
CAPI- interview	9,653	10.3	60.0	26.9	29.4	11.4
CASI-interview	7,975	10.0	59.9	27.5	29.5	11.0

Basis: Valid interviews with a valid time measure, time in minutes
Source: F2F 2a/b survey data

The total instrument duration on the individual level was comprised of the durations of the CAPI, CASI and PAPI questionnaires. Since no time measurements were available for the PAPI questionnaires, only the CAPI-interviews and the CASI-interviews are considered in the following tables. On average, another ten minutes per person need to be added for the PAPI questionnaire.

The instrument duration on the individual level (not counting the PAPI questionnaire) was 58.5 minutes on average. Table 13 shows how the instrument duration differs between the types of respondents. On average, the interviews with parents were longer than interviews with twins or siblings. This particularly affected the younger cohorts, because the parents gave information about themselves as well as their children.

Interviewing the partners of the twins took a particularly long time, as these were generally first-time interviews, which included both, the regular interview program as well as the cognitive test, which alone already took around 20 minutes.¹⁷

Tabelle 13 Interview duration on the individual level (without PAPI) by respondent type (F2F 2a/b)

	Number of cases	Min.	Max.	Median	Mean (M)	Standard deviation (SD)
Total	10,548	12.0	140.0	54.1	58.5	25.9
Twins	4,962	12.0	140.0	46.6	50.3	21.6
Siblings	1,003	12.4	138.8	50.9	56.2	26.8
Mother	2,350	13.4	139.6	68.7	70.9	26.5
Father	1,761	13.8	139.2	57.8	62.4	26.2
Step-parents	121	13.5	119.8	68.1	68.0	26.5
Partners of the twins	345	16.1	139.9	77.1	75.1	27.7

Basis: Valid interviews with valid time measure, time in minutes
Source: F2F 2a/b methodological data

As can be seen in table 14, on average, it took 172.4 minutes to interview a family (while interviewing multiple family members at once is already taken into consideration). The interviews of the families in cohort 4 took a particularly long time. In this cohort, the twins and siblings mostly no longer lived in the same households as the rest of their families. Therefore, many interviews were conducted in single-person households meaning that it was not possible to reduce the overall interview duration by conducting multiple interviews simultaneously.

¹⁷ 89 percent of the interviewed partners were surveyed for the first time in this data collection.

Tabelle 14 Interview duration of the families by age cohort (F2F 2a/b)

	Number of cases	Min.	Max.	Median	Mean (M)	Standard deviation (SD)
Total	2,706	21.5	466.4	162.3	172.4	69.2
Cohort 1	746	21.5	458.3	163.6	169.3	55.4
Cohort 2	747	27.9	459.7	159.0	166.2	55.9
Cohort 3	644	26.3	466.4	162.6	173.0	73.8
Cohort 4	569	22.6	460.8	172.4	183.8	91.3

Basis: Valid interviews with valid time measure, time in minutes
Source: F2F 2a/b methodological data

It was not possible to conduct interviews with all relevant family members in all families. The number of family members successfully interviewed therefore ranges from 1 to 8. The overall interview duration in families with two to three family members interviewed was an average of 131.6 minutes. In families with six to eight respondents, the interview took 297.8 minutes on average (see table 15).

Tabelle 15 Interview duration of the families according to number of family members interviewed (F2F 2a/b)

	Number of cases	Min.	Max.	Median	Mean (M)	Standard deviation (SD)
Total	2,706	21.5	466.4	162.3	172.4	69.2
1 respondent	110	21.5	257.2	48.7	61.5	37.1
2-3 respondents	570	41.7	451.4	125.1	131.6	49.8
4-5 respondents	1,929	63.6	466.4	173.6	184.4	59.3
6-8 respondents	97	124.7	460.8	299.5	297.8	73.5

Basis: Valid interviews with valid time measure, time in minutes
Source: F2F 2a/b methodological data

5 Conducting the survey

The design of the F2F survey intended for all respondents to be interviewed personally at their homes. However, it became evident during the fieldwork, particularly in cohorts 3 and 4, that the twins in these age groups were difficult to reach in person. In addition, there were families or individual respondents who were difficult to motivate in the F2F field and the only option was to conduct the interview by telephone.

In order to reduce drop-outs at the family or individual level due to design-related unavailability or refusal, it was decided to allow a mode switch to telephone interviews (CATI) at the end of the fieldwork phase.

A distinction was made between two target groups of the mode switch: families or individuals who were difficult to reach F2F and families and individuals who were difficult to motivate F2F (soft refusals). Soft refusals of the F2F field were informed in advance by letter that they would be contacted by telephone.

Both, whole families or individual family members were switched to the CATI-field. However, the switch could only be conducted for households with a valid telephone number.

Since the survey was not originally intended to be mixed-mode, the F2F instruments had to be adjusted for the telephone interview. Some of the CAPI instruments (family questionnaire, household questionnaire, and individual interview) had to be shortened for this. For example, it was not possible to collect the medical check-up booklets, to photograph the school reports, or to conduct the delayed gratification or the cognitive test. No adjustment was needed for the CASI-questionnaire. This questionnaire was conducted as an online interview (CAWI) following the telephone interview. For this, the respondents were asked in the telephone interview whether they would be willing to participate in the online survey. If permission was granted, the respondents' e-mail address was recorded and an e-mail was sent including a personal access link to the CAWI-questionnaire. The PAPI was enclosed in the thank you letter for the participants of the CATI interview.

5.1 Interviewer training

The study content and the complex interview instruments placed very high demands on the interviewers. This required the interviewers to be carefully selected and trained. All interviewers were given an intensive personal training specifically for the study.

Tabelle 16 Training sessions for F2F interviewers

Dates of the TwinLife interviewer training sessions	
F2F interviewers (inexperienced)	11/02-11/03/2016
F2F interviewers (inexperienced)	11/07-11/08/2016
F2F interviewers (inexperienced)	11/10-11/11/2016
F2F interviewers (inexperienced)	09/11-09/12/2017

The F2F interviewers were trained by the infas project management and the TwinLife team. Each interviewer participated in one 2-day training session. Four 2-day training sessions were held in total. Three training sessions were held before the F2F 2a interviews and one training session before the F2F 2b interviews. Interviewers, who had already taken part in the F2F 2a training and had conducted interviews in the F2F 2a survey, were required to conduct an interview for training purposes before the beginning of the F2F 2b survey but did not have to participate in the training again.

The training sessions introduced the content of the questionnaires as well as the technical instructions on the specifics of the study. Particular focus was laid on the succession of the individual interview components. The interviewers were also made aware of the importance of the family questionnaire for all of the subsequent interview components in the family. The focus of the second training day was laid on the technical specifications and handling of the CASI tablets. In practical parts of the sessions, the interviewers trained to conduct interviews in order to further develop their understanding of the specifics of each questionnaire component.

The details of the training sessions are presented below.

Abbildung 9 Structure of F2F training day 1

Day 1			
Start	End	Contents	Duration
11:00	11:30	Block I: Welcome, basic information about the study	0:30
		– Welcome, presentation of the training structure – Aim of the study – Brief information about the first wave	
11:30	11:50	Block II: Sampling and contacting the families	0:20
		– Sample – Who will be surveyed? – Letter and incentives – Contacting and motivating the families	
11:50	12:30	Block III: Basic information on the structure	0:40
		– Family and household questionnaire – CAPI questionnaire – CASI questionnaire – PAPI questionnaire – Delayed gratification experiment – Photos of school reports and medical check-up booklets – Cognitive test – Interview material	
12:30	13:00	Break	0:30
13:00	15:00	Block IV: Start of the interview and CAPI individual questionnaire	2:00
		– Demonstration & practice: Family questionnaire + household questionnaire – Demonstration & practice: Starting the interview; CAPI individual questionnaire	
15:00	15:20	Break	0:20
15:20	17:20	Block V: Delayed gratification experiment in cohort 1	2:00
		– Introduction to the experiment – Demonstration of delayed gratification – Practicing delayed gratification – Information on conducting the experiment	
17:20	17:30	Break	0:10
17:30	18:00	Block VI: Handling the CASI and PAPI individual questionnaire	0:30
		– CASI questionnaire – PAPI questionnaire	

Abbildung 10 Structure of F2F training day 2

Day 2			
Start	End	Contents	Duration
09:00	09:20	Welcome, recap of previous day	0:20
09:20	10:00	Block VII: Cognitive test	0:40
		– Version for children (test booklet) – demo – Version for respondents over 10 years of age (laptop) – demo – Information on conducting the test	
10:00	10:20	Break	0:20
10:20	12:30	Block VIII: CASI technology use	2:10
		– Using the tablet – Overview of the tablet – CASI interview software	
		– Practice information transition to CASI – Handling the tablet (Charging, start-up, touch function) – QR code – Practice CASI questionnaire	
12:30	13:00	Break	0:30
13:00	13:40	Block IX: Photographing school reports	0:40
		– What should be photographed? – Instructions on using the tablet camera – Practicing creating and storing photos with the tablet camera	
13:40	14:05	Block X: Software updates and data transfer	0:25
		– Software updates – Practicing software updates	
		– Data transfer – CAPI data from the laptop – CASI data (incl. photos) from the tablet – PAPI questionnaires	
14:05	14:15	Break	0:10
14:15	15:00	Final round	0:45
		– Final questions – Feedback round – Organizational matters and issuing of interview material	

Furthermore, all interviewers received a study-specific interviewer handbook as well as a handout of the training presentation. The interviewer handbook contained all important information and explanations in writing so that it served as a reference during the field phase.

Prior to the mode switch, CATI interviewers also received training for the TwinLife study. For this, only telephone interviewers were selected who had already conducted interviews in the CATI 1b or CATI 2a surveys and were therefore fa-

miliar with the TwinLife study. For these CATI interviewers, two briefings were held (one in preparation for F2F 2a and one for F2F 2b). In addition, the telephone interviewers received a handout of the training presentation as a reference.

5.2 Interviewer deployment

Only interviewers who had extensive experience in conducting interviews with longitudinal designs were selected for the TwinLife F2F interviews. Interviewers who had already conducted interviews during the F2F 2a survey were deployed again in the F2F 2b survey. Due to the fluctuation of interviewers¹⁸ and the regional distribution of addresses, an additional 20 TwinLife inexperienced interviewers were trained before the start of the F2F 2b survey.

110 F2F interviewers and 49 CATI interviewers conducted at least one interview in F2F 2a or F2F 2b. The number of female interviewers was a little higher than the number of male interviewers (women: 56.6 percent; men: 43.4 percent). Interviewers of all ages were deployed. On average, the CATI interviewers were younger than the F2F interviewers. More than half of the interviewers had been working for infas for at least four years.

¹⁸ 15 of the F2F 2a interviewers were not available in F2F 2b.

Tabelle 17 Characteristics of the deployed interviewers

	Total		F2F		CATI	
Column %	Abs.	%	Abs.	%	Abs.	%
Total	159	100.0	110	100.0	49	100.0
Interviewer: Gender						
Male	69	43.4	46	41.8	23	46.9
Female	90	56.6	64	58.2	26	53.1
Interviewer: Age groups						
Up to 29 years	8	5.0	1	0.9	7	14.3
30-49 years	27	17.0	8	7.3	19	38.8
50-65 years	92	57.9	73	66.4	19	38.8
Over 65 years	32	20.1	28	25.5	4	8.2
Experience as an interviewer						
Up to 1 year	34	21.4	30	27.3	4	8.2
2-3 years	29	18.2	22	20.0	7	14.3
4-5 years	26	16.4	15	13.6	11	22.4
6 years or more	70	44.0	43	39.1	27	55.1
Interviewer: Highest school qualification						
Basic secondary school/polytechnic secondary school qualification	13	8.2	9	8.2	4	8.2
Intermediate secondary school qualification/vocational extension certificate	39	24.5	26	23.6	13	26.5
Advanced technical secondary school qualification	18	11.3	13	11.8	5	10.2
Final school graduation/entry qualification for higher education	89	56.0	62	56.4	27	55.1

Basis: Interviewers deployed who conducted at least one interview in F2F 2a or F2F 2b /
Source: infas interviewer master file

As can be seen in table 18, the 110 F2F interviewers conducted a total of 10,434 individual interviews in F2F 2a and F2F 2b. The average was 95 interviews, with a maximum of 336 interviews being conducted by one interviewer.¹⁹ The 49 CATI interviewers conducted a total of 512 interviews with target respondents that switched from F2F to CATI in both subsamples. The average here was 11 interviews, with a maximum of 43 interviews being conducted by one interviewer.

¹⁹ The standard deviation is 57.8, i.e. there is a large variance among the interviewers.

Tabelle 18 Individual interviews per interviewer

	Number of interviewers	Number of interviews conducted	Min.	Max.	Mean (M)	Standard deviation (SD)
Total	159	10,946	1	336	68.8	62.1
F2F	110	10,434	2	336	94.9	57.8
CATI	49	512	1	43	10.5	9.0

Source: F2F 2a/2b methodological data record

Around 56 percent of the F2F interviewers conducted a maximum of 100 interviews in F2F 2a and F2F 2b. Around 55 percent of the CATI interviewers conducted a maximum of ten interviews in F2F 2a and F2F 2b (see table 19).

Tabelle 19 Number of personal interviews conducted per interviewer (grouped)

Column %	Total		F2F		CATI	
	Abs.	%	Abs.	%	Abs.	%
Total	159	100.0	110	100.0	49	100.0
1 to 10	31	19.5	4	3.6	27	55.1
11 to 20	20	12.6	3	2.7	17	34.7
21 to 30	10	6.3	7	6.4	3	6.1
31 to 40	3	1.9	2	1.8	1	2.0
41 to 50	9	5.7	8	7.3	1	2.0
51 to 100	38	23.9	38	34.6	-	-
101 to 150	37	23.3	37	33.6	-	-
151 to 200	4	2.5	4	3.6	-	-
Over 200	7	4.4	7	6.4	-	-

Basis: Interviewers deployed who conducted at least one interview in F2F 2a or F2F 2b

Source: infas interviewer master file

5.3 Quality assurance and interviewer monitoring

Throughout the entire fieldwork phase, the interviewer performance was closely monitored.

In the **F2F field**, all interview data and contact data were continuously checked in regards to formal and content-related criteria. As part of the formal data check, the interview data was compared to the sample information (ensuring that the right target respondent was interviewed), and checks were conducted to ensure that the filtering was correct and the value ranges were valid. Another focus was to check whether all interview components (CAPI, CASI, PAPI, delayed gratification, school report photo, and cognitive test) were conducted.

In addition to the ongoing check of survey and contact data, an interviewer feedback form was used in the F2F field. For this, a short interviewer feedback questionnaire was enclosed in the thank you letter that was sent to the respondents following the interview. The feedback questionnaire was mainly used to ensure that the interviews were conducted correctly. However, TwinLife being a panel study, it was important to ensure that the respondents did not get a negative impression as a result of this control mechanism. The questionnaire therefore mainly included questions aimed at giving feedback on the interview (for example, whether the respondent enjoyed the interview). The feedback form could be returned to infas in a postage paid envelope. Of a total of 9,508 interviewer feedbacks sent out, 2,837 were answered.²⁰

The results did not give any indication of interviews being falsified or conducted disregarding the study specific standards. The overall respondents' assessments of the interview situation, as well as the interviewers themselves, indicated that the interviews were conducted well and that the TwinLife study itself is well respected. The results of the interviewer feedback questionnaires are described in more detail below.

In response to the question about the satisfaction with the interview (Did you like the interview?), the positive assessments "very good" and "good" made up 84.8 percent. There were negative assessments ("rather poor" and "poor") in only 3.4 percent of cases (see table 20).

²⁰ The interviewer feedback form was not sent to twins and siblings under 14 years of age. Furthermore, it was only sent to respondents of the F2F interviews

Tabelle 20 Assessment of the interview (only F2F)

<i>Column %</i>	Total	
	<i>Abs.</i>	%
Total	2,837	100.0
Very good	1,384	48.8
Good	1,021	36.0
So-so	324	11.4
Rather poor	80	2.8
Poor	18	0.6
No information/duplicate answers	10	0.4

In response to the question about the interviewer performance, the positive assessments “very satisfied” and “satisfied” made up 88.3 percent. Only 4.0 percent of the respondents gave a negative assessment (“rather dissatisfied” or “dissatisfied”) (see table 21).

Tabelle 21 Satisfaction with interviewer performance (only F2F)

<i>Column %</i>	Total	
	<i>Abs.</i>	%
Total	2,837	100.0
Very satisfied	1,797	63.3
Satisfied	708	25.0
So-so	217	7.7
Rather dissatisfied	84	3.0
Dissatisfied	27	1.0
No information/duplicate answers	4	0.1

In the **CATI field**, the quality of the interviews was monitored by trained supervisors who were very familiar with the specific methodical requirements of the survey as well as the CATI interviewing techniques. These supervisors were trained specifically for the TwinLife study by the project managers. Thus, they could answer any study-specific questions of the interviewers in close collaboration with the project management. The aim of the supervision was to maintain a high quality of the interview data and maximize the response rate of the study by providing ongoing support. The supervision tasks included the following:

- Monitoring the interviewers by listening to interviews in the telephone studio and reviewing the entries by observation on the supervision mask (viewing the interviewer’s screen at the supervisor’s workstation).

- Holding individual meetings or retraining sessions with the interviewers in case of any problems with the study.
- Holding individual and group meetings or retraining sessions directly after the interview if any problems were reported. Written feedback was also issued to the interviewers.
- Intervening directly in the interview in case of any errors or allocation difficulties that could lead to extensive errors in the data. This occurred either by providing short verbal or written information during the interview or direct intervention of the supervision if there were bigger problems and the interviewer became overwhelmed.

The supervision was performed during the whole fieldwork phase. A tight flow of information to the project management was maintained so that problems concerning the survey instruments could be solved as quickly as possible. Solutions were immediately distributed to the telephone studio.

5.4 Announcement and thank you letter

All families received a personal letter before they were contacted. The letter included information about the interview itself, the adherence of all relevant data protection laws, the voluntariness of the study participation as well as the monetary compensation for participation (10 euros).

In cohorts 1 and 2 (7-year-old and 14-year-old twins), the letters were addressed to the parents or guardians of the twins, since they were the ones first contacted for the interview. In cohorts 3 and 4 (19-year-old and 25-year-old twins), both twins received separate letters, regardless of whether they were living in the same household or not. In these families, the twins were therefore contacted directly.

The letter also stated that the family would be contacted by infas interviewers. Furthermore, a hotline free of charge and a study-specific email address were provided. The families were also referred to the study's website for more information. The letter was sent promptly before the start of the fieldwork.

In addition to announcing the interview and preparing the contact by the interviewers, the letter was also used for tracking the target person. By sending the letters in an envelope printed "If undeliverable, please return! If undeliverable, address correction card!" they were used to check addresses.

Additionally, any responses to the letter received via the study-specific e-mail address, the free hotline or via the online address portal were recorded and processed.

The TwinLife team also provided a newsletter containing results from the first wave. This newsletter was sent to the families together with the announcement letter and the data protection notice. The newsletter is also available on the study website.

To provide telephone numbers or new address information, families were referred to the study's online address portal, the study e-mail address as well as the hotline.

A data protection notice was also enclosed with the letter for the F2F 2a survey as these respondents were now interviewed by infas interviewers for the first time. This was not necessary for the F2F 2b survey as the families had already received the data protection notice before the CATI 1b survey.

Individuals or entire families who were not willing to participate in the F2F field (people difficult to motivate and soft refusals) were contacted in the CATI switch. Before the first phone contact, the respondents received a letter announcing the phone contact and aiming to motivate them to participate.

During the telephone interview, the respondents were asked whether they would be willing to complete an additional online questionnaire.²¹ If they agreed and gave an e-mail address, they received a personalized access link to the online questionnaire by e-mail immediately after the telephone interview.

Following the successful interview, all participants received a personal thank you letter including the incentive of ten euros in cash. For respondents of the CATI switch, the paper-and-pencil questionnaire was also included in this letter.

²¹ This was the computer-assisted self-interview that was completed on the tablet in the F2F field.

Tabelle 22 Overview of letter and thank you letter versions

Type of letter	Versions
First letter	Families in cohorts 1 and 2: A letter was sent to the parents or guardians of the twins incl. the data protection notice (only F2F 2a) ²² and the newsletter.
	Families in cohort 3 and 4: A letter was sent to both twins individually incl. the data protection notice (only F2F 2a) and the newsletter.
Conversion letter before CATI switch	Families in cohort 1 and 2 with soft refusal: A letter was sent to the parents or guardians of the twins.
	Families in cohort 3 and 4 with soft refusal: A letter was sent to both twins individually.
	Individual respondents aged 18 years and older with soft refusal in all four cohorts.
E-mail invitation online questionnaire	Participants from CATI switch who gave their consent to do the online survey.
Thank you letter	Participants from the F2F field: Twins and siblings in C1/C2 families: incl. ten euros in cash without access to the address portal.
	Participants from the F2F field: incl. ten euros in cash and personal access to the address portal (apart from twins and siblings in C1/C2).
	Participants from the CATI switch: to all respondents (apart from twins in C2) who softly refused to participate in F2F. Incl. ten euros in cash and personal access to the address portal with no paper-and-pencil questionnaire and no reminder about the online survey.
	Participants from the CATI switch: to the twins in cohort 2 incl. ten euros in cash with no access to the address portal, with no paper-and-pencil questionnaire and with no reminder about the online survey.
	Participants from the CATI switch: to all respondents (apart from twins in C2) who refused to answer the online survey. Incl. ten euros in cash and personal access to the address portal incl. paper-and-pencil questionnaire and with no reminder about the online survey.
	Participants from the CATI switch: to all respondents (apart from C2 twins) who agreed to take part in the online survey. Incl. ten euros in cash and personal access to the address portal incl. paper-and-pencil questionnaire and incl. a reminder about the online survey.
Panel maintenance during the fieldwork	2017 Easter card to all households (F2F 2a fieldwork time).
	Christmas card incl. raffle in 2017 to all households (F2F 2b fieldwork time).

Source: infas

5.5 Tracking during the fieldwork phase

In order to avoid mobility-related nonresponse and to achieve a maximum response rate from the panel sample, various tracking techniques were undertaken during the fieldwork phase. The respondents themselves were able to update their address using the study's hotline, e-mail address or the online address portal. The new information was then entered in the address database.

Furthermore, various tracking techniques were implemented throughout the fieldwork phase for the target respondents whose addresses were no longer cor-

²² The families of subsample b received the data protection notice before the CATI 1b survey.

rect. Initially, research was conducted using the address factory database of Deutsche Post AG. Subsequently, individual inquiries about changed addresses were submitted to the citizens' registration office. These measures were conducted each month throughout the entire fieldwork phase and after.

During the field period of the F2F 2a survey, an Easter card was sent to all households as a panel maintenance measure. During the field phase of the F2F 2b survey, a Christmas card incl. a raffle was sent to the households. These cards informed the respondents about the online address portal and asked them to provide information if their addresses had changed. Furthermore, households to which the card could not be delivered were immediately included in tracking techniques.

The central tracking techniques, such as research using the address factory database, were performed at the household level for all respondents in the household. Responses from the respondents via the hotline or the online address portal could either refer to a complete household or to a single person in the household.

During the field phase, tracking techniques were implemented for n=739 addresses (see table 23).

Tabelle 23 Tracking techniques during the fieldwork phase

	Total		F2F 2a		F2F 2b	
Column %	Abs.	%	Abs.	%	Abs.	%
Total number of addresses	739	100.0	253	100.0	486	100.0
Deceased	5	0.7	-	-	5	1.0
Moved abroad	76	10.3	32	12.7	44	9.1
No information issued	5	0.7	1	0.4	4	0.8
Old address data confirmed	158	21.4	59	23.3	99	20.4
New address data back	495	67.0	161	63.6	334	68.7
Results for cases with new address data (multiple answers may apply)						
New address data back	495	100.0	161	100.0	334	100.0
New telephone number	278	56.2	116	72.1	162	48.5
New address	382	77.2	111	68.9	271	81.1
New e-mail address	50	10.1	18	11.2	32	9.6

Source: infas sample management system (iSMS)

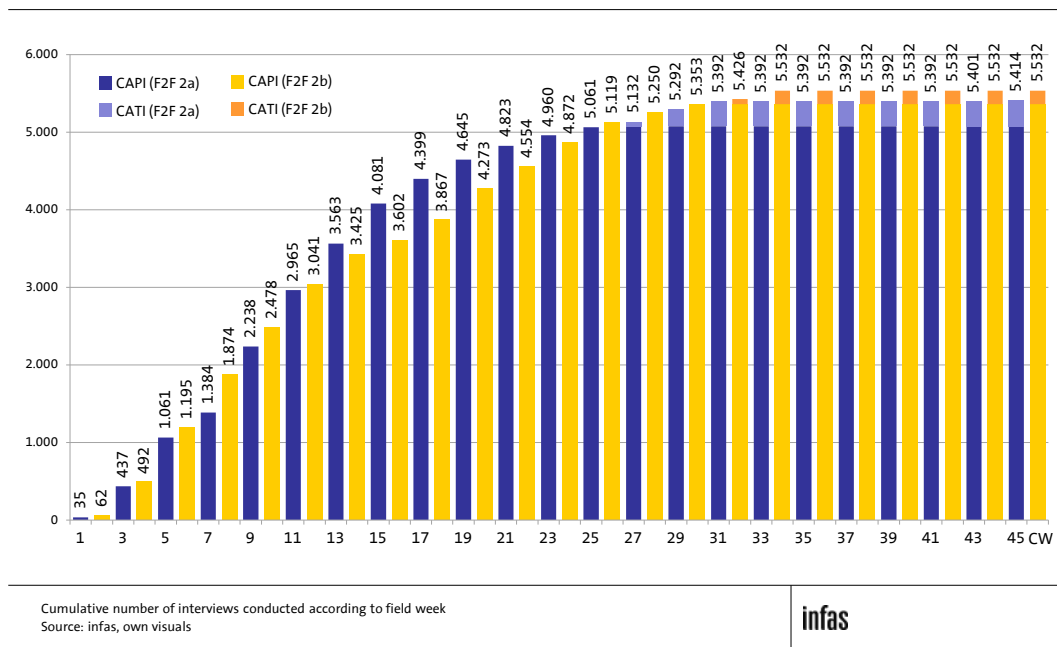
5.6 Fieldwork process

The field phase of the F2F 2a survey began on 11/07/2016 (CW 45) and ended on 09/29/2017 (CW 39). The CATI switch began on 05/03/2017 (CW 18) and ended on 09/29/2017 (CW 39). 5,414 individual interviews were conducted in the F2F 2a survey. 5,075 of these interviews were conducted F2F and 339 interviews by phone.

The field time of the F2F 2b survey lasted from 09/04/2017 (CW 36) to 05/27/2018 (CW 21). The CATI switch started on 04/23/2018 (CW 17) and ended on 05/27/2018 (CW 21). 5,532 respondents were interviewed in the F2F 2b survey. A F2F interview was conducted with 5,359 of these respondents. 173 respondents were interviewed by phone.

Figure 11 documents the individual interviews conducted during fieldwork. It shows the development of the total number of interviews throughout the fieldwork phase: the steeper the increase, the larger the increase of completed interviews. The weeks shown refer to the weeks after the start of the field work so that a comparison of both subsamples (F2F 2a and F2F 2b) is possible. The interviews conducted F2F are shown in purple and yellow. The light purple and orange represent CATI interviews.

Abbildung 11 Development of interviews conducted during the fieldwork phase (F2F 2a/b)



6 Fieldwork results

For each contact or contact attempt, the interviewers recorded the processing outcome according to a detailed return code specification.²³ However, depending on the contact history, the processing outcome from the last contact was not necessarily the final one. Therefore, the so-called final outcome was calculated and used in the following overviews.

The following shows the final outcome on the family level (chapter 6.1) as well as for the twins (chapter 6.2).

Furthermore, the outcomes for the other family members relevant to the survey (excluding the twins) are reported (chapter 6.3).

6.1 Final processing outcomes and response rates: families

The gross sample of the F2F 2 survey consisted of 3,900 families with 7,742 twins.²⁴ Among these, 1,914 families and 3,786 twins were included in the first subsample (F2F 2a) and 1,986 families with 3,956 twins in the second subsample (F2F 2b).

In 2,733 families, an interview was conducted with at least one respondent (70.1 percent). The response rate was highest in cohort 1 with 76.9 percent, while it was lowest in cohort 4 (63.0 percent). The two subsamples only show minor differences with regard to the number of interviews conducted. In the F2F 2a survey, at least one individual interview was conducted in 1,350 of the 1,914 families (70.5 percent). In the F2F 2b survey, at least one family member was interviewed in 1,383 of the 1,986 families (69.6 percent).

²³ Contact files with the entire contact history were handed over to the client.

²⁴ In 58 families, at least one twin refused to continue participating in the survey before the start of the fieldwork.

In total, 716 families (18.4 percent) refused to participate. The reasons for this being the following:

- 380 families refused to participate in the survey as a matter of principle, thereby revoking their willingness to participate in the panel survey. In terms of those who refused to participate, this corresponds to 53.1 percent. This percentage is particularly high in cohort 3, where the twins have come of age since the first interview.
- Another 153 families (21.4 percent of those who refused) decided to skip the current wave but were open to continue participating in the survey in the future.
- Other reasons for refusal included having no time (8.1 percent) and a lack of interest in the topic of the study (4.5 percent).

85 families could not be reached at all during the fieldwork phase, neither F2F nor by telephone. In terms of the gross sample, this corresponds to 2.2 percent. Another 8.0 percent of the families could be reached either personally or by telephone but no appointment could be arranged successfully within the fieldwork phase.

Tabelle 24 Final outcome: families (F2F 2a/b)

Column %	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Gross sample	3,900	100.0	972	100.0	994	100.0	1,000	100.0	934	100.0
Not eligible	24	0.6	6	0.6	1	0.1	8	0.8	9	1.0
Moved abroad	21	0.5	5	0.5	1	0.1	7	0.7	8	0.9
Already interviewed	2	0.1	-	-	-	-	1	0.1	1	0.1
Not in target group ²⁵	1	0.0	1	0.1	-	-	-	-	-	-
Nonresponse – could not be interviewed / long-term illness / disability	2	0.1	1	0.1	-	-	-	-	1	0.1
Nonresponse – non-contact	85	2.2	24	2.5	16	1.6	25	2.5	20	2.1
Could not be reached/did not answer	25	0.6	6	0.6	4	0.4	9	0.9	6	0.6
No connection	37	1.0	11	1.1	7	0.7	12	1.2	7	0.7
Answering machine	10	0.3	2	0.2	3	0.3	2	0.2	3	0.3
Wrong telephone number	11	0.3	4	0.4	2	0.2	1	0.1	4	0.4
TP/HH no longer lives there/new address unknown	2	0.1	1	0.1	-	-	1	0.1	-	-
Nonresponse – refusal	716	18.4	131	13.5	153	15.4	218	21.8	214	22.9
Refusal: matter of principal	380	9.7	67	6.9	75	7.6	126	12.6	112	12.0
Refusal: time, interview too long	58	1.5	14	1.4	17	1.7	14	1.4	13	1.4
Refusal: only interview by telephone	2	0.1	1	0.1	-	-	1	0.1	-	-
TP refused to answer: ill	12	0.3	3	0.3	2	0.2	3	0.3	4	0.4
TP refuses to start the interview	2	0.1	-	-	1	0.1	1	0.1	-	-
Interview broken off	4	0.1	-	-	1	0.1	2	0.2	1	0.1
Hangs up immediately	8	0.2	2	0.2	1	0.1	1	0.1	4	0.4
CP refuses to provide any information	21	0.5	-	-	3	0.3	7	0.7	11	1.2
TP/CP refuses to provide new address	5	0.1	-	-	2	0.2	1	0.1	2	0.2
Refusal: not interested in topic	32	0.8	4	0.4	6	0.6	9	0.9	13	1.4
Refusal: Data protection reasons	5	0.1	1	0.1	3	0.3	1	0.1	-	-
Refusal: other reasons	34	0.9	7	0.7	8	0.8	13	1.3	6	0.6
Refusal: not in this wave	153	3.9	32	3.3	34	3.4	39	3.9	48	5.1
Nonresponse – other	317	8.1	61	6.3	68	6.8	91	9.1	97	10.4
Appointment not possible within field time	311	8.0	59	6.1	66	6.6	90	9.0	96	10.3
Language problems	6	0.2	2	0.2	2	0.2	1	0.1	1	0.1
Interview (family questionnaire)	2,756	70.7	749	77.1	756	76.1	658	65.8	593	63.5
Invalid	23	0.6	2	0.2	7	0.7	9	0.9	5	0.5
Valid and at least one individual interview conducted	2,733	70.1	747	76.9	749	75.4	649	64.9	588	63.0

Source: F2F 2a/b methodological data

²⁵This refers to triplets who had been included in the first wave as a twin pair and a sibling.

Tabelle 25 Final outcome: families (F2F 2a)

Column %	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Gross sample	1,914	100.0	483	100.0	493	100.0	494	100.0	444	1,914
Not eligible	11	0.6	2	0.4	1	0.2	4	0.8	4	0.9
Moved abroad	10	0.5	1	0.2	1	0.2	4	0.8	4	0.9
Not in target group ²⁶	1	0.1	1	0.2	-	-	-	-	-	-
Nonresponse – non-contact	40	2.1	10	2.1	8	1.6	16	3.2	6	1.4
Could not be reached/did not answer	14	0.7	3	0.6	2	0.4	6	1.2	3	0.7
No connection	18	0.9	-	-	4	0.8	8	1.6	1	0.2
Answering machine	4	0.2	5	1.0	1	0.2	2	0.4	1	0.2
Wrong telephone number	4	0.2	2	0.4	1	0.2	-	-	1	0.2
Nonresponse – refusal	338	17.7	74	15.3	71	14.4	101	20.5	92	20.7
Refusal: matter of principle	195	10.2	41	8.5	40	8.1	65	13.2	49	11.0
Refusal: time, interview too long	30	1.6	11	2.3	10	2.0	6	1.2	3	0.7
Refusal: only interview by telephone	1	0.1	1	0.2	-	-	-	-	-	-
TP refused to answer: ill	6	0.3	2	0.4	-	-	1	0.2	3	0.7
TP refuses to start the interview	2	0.1	-	-	1	0.2	1	0.2	-	-
Interview broken off	2	0.1	-	-	1	0.2	-	-	1	0.2
Hangs up immediately	7	0.4	2	0.4	-	-	1	0.2	4	0.9
CP refuses to provide any information	16	0.9	-	-	2	0.4	5	1.0	9	2.0
Refusal: not interested in topic	15	0.8	3	0.6	2	0.4	6	1.2	4	0.9
Refusal: Data protection reasons	3	0.2	1	0.2	1	0.2	1	0.2	-	-
Refusal: other reasons	16	0.8	3	0.6	2	0.4	8	1.6	3	0.7
Refusal: not in this wave	45	2.4	10	2.1	12	2.4	7	1.4	16	3.6
Nonresponse – other	161	8.5	35	7.2	29	5.9	51	10.3	46	10.4
Appointment not possible within field time	158	8.3	34	7.0	28	5.7	50	10.1	46	10.4
Language problems	3	0.2	1	0.2	1	0.2	1	0.2	-	-
Interview (family questionnaire)	1,364	71.2	362	74.9	384	77.9	322	65.2	296	66.7
Invalid	14	0.7	1	0.2	4	0.8	5	1.0	4	0.9
Valid and at least one individual interview conducted	1,350	70.5	361	74.7	380	77.1	317	64.2	292	65.8

Source: F2F 2a methodological data

²⁶This refers to triplets who had been included in the first wave as a twin pair and a sibling.

Tabelle 26 Final outcome: families (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Gross sample	1,986	100.0	489	100.0	501	100.0	506	100.0	490	100.0
Not eligible	13	0.7	4	0.8	-	-	4	0.8	5	1.0
Moved abroad	11	0.6	4	0.8	-	-	3	0.6	4	0.8
Already interviewed	2	0.1	-	-	-	-	1	0.2	1	0.2
Nonresponse – could not be interviewed / long-term illness / disability	2	0.1	1	0.2	-	-	-	-	1	0.2
Nonresponse – non-contact	45	2.3	14	2.9	8	1.6	9	1.8	14	2.9
Could not be reached/did not answer	11	0.6	3	0.6	2	0.4	3	0.6	3	0.6
No connection	19	1.0	6	1.2	3	0.6	4	0.8	6	1.2
Answering machine	6	0.3	2	0.4	2	0.4	-	-	2	0.4
Wrong telephone number	7	0.4	2	0.4	1	0.2	1	0.2	3	0.6
TP/HH no longer lives there/new address	2	0.1	1	0.2	-	-	1	0.2	-	-
Nonresponse – refusal	378	19.0	57	11.7	82	16.4	117	23.1	122	24.9
Refusal: matter of principle	185	9.3	26	5.3	35	7.0	61	12.1	63	12.9
Refusal: no time, interview too long, too much	28	1.4	3	0.6	7	1.4	8	1.6	10	2.0
TP refused to answer: only wishes to be interviewed by telephone	1	0.1	-	-	-	-	1	0.2	-	-
TP refused to answer: ill	6	0.3	1	0.2	2	0.4	2	0.4	1	0.2
Interview broken off	2	0.1	-	-	-	-	2	0.4	-	-
Hangs up immediately	1	0.1	-	-	1	0.2	-	-	-	-
CP refuses to provide any information/access to TP	5	0.3	-	-	1	0.2	2	0.4	2	0.4
TP/CP refuses to provide new address	5	0.3	-	-	2	0.4	1	0.2	2	0.4
Refusal: not interested in topic	17	0.9	1	0.2	4	0.8	3	0.6	9	1.8
Refusal: Data protection reasons	2	0.1	-	-	2	0.4	-	-	-	-
Refusal: other reasons	18	0.9	4	0.8	6	1.2	5	1.0	3	0.6
Refusal: not in this wave	108	5.4	22	4.5	22	4.4	32	6.3	32	6.5
Nonresponse – other	156	7.9	26	5.3	39	7.8	40	7.9	51	10.4
Appointment not possible within field time	153	7.7	25	5.1	38	7.6	40	7.9	50	10.2
Language problems	3	0.2	1	0.2	1	0.2	-	-	1	0.2
Interview (family questionnaire)	1,392	70.1	387	79.1	372	74.3	336	66.4	297	60.6
Invalid	9	0.5	1	0.2	3	0.6	4	0.8	1	0.2
Valid and at least one individual interview conducted	1,383	69.6	386	78.9	369	73.7	332	65.6	296	60.4

Source: F2F 2b methodological data

Families, that could not be reached personally by the interviewers or were difficult to motivate in the F2F field, were contacted by telephone at the end of the field time and asked to participate in a telephone interview (CATI switch).

A total of 709 families were switched to the CATI mode. The last processing status from the F2F field before the beginning of the CATI switch is documented in the tables 27-29.²⁷

In total, 512 individual interviews in 313 families could be conducted through the switch to the CATI mode. The data collection mode of the individual interviews is documented in chapters 6.2 and 6.3.

Tabelle 27 Final processing status F2F: families (F2F 2a/b)

Column %	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	709	100.0	128	100.0	145	100.0	209	100.0	227	100.0
Nonresponse – non-contact	288	40.6	56	43.8	45	31.0	86	41.2	101	44.5
Could not be reached/did not answer	197	27.8	31	24.2	30	20.7	62	29.7	74	32.6
TP/HH no longer lives there/new address unknown	82	11.6	24	18.8	14	9.7	22	10.5	22	9.7
Change of address/new address	9	1.3	1	0.8	1	0.7	2	1.0	5	2.2
Nonresponse – refusal	235	33.2	44	34.4	63	43.5	62	29.7	66	29.1
TP refused to answer: no time, interview too long, too much	133	18.8	25	19.5	33	22.8	38	18.2	37	16.3
Refusal: not interested in topic	33	4.7	4	3.1	8	5.5	7	3.4	14	6.2
Refusal: not in this wave	62	8.7	14	10.9	20	13.8	16	7.7	12	5.3
TP refused to answer: other reasons	6	0.9	1	0.8	2	1.4	1	0.5	2	0.9
CP refused to provide any information	1	0.1	-	-	-	-	-	-	1	0.4
Nonresponse – other	186	26.2	28	21.9	37	25.5	61	29.2	60	26.4
Moved abroad	1	0.1	-	-	-	-	-	-	1	0.4
Appointment not possible within field time	185	26.1	28	21.9	37	25.5	61	29.2	59	26.0

Source: F2F 2a/b contact history

²⁷ During the switch to CATI mode, 709 families were contacted in the CATI field. In addition, individual family members were switched to the CATI-field in case other family members had already been successfully interviewed F2F.

Tabelle 28 Final processing status F2F: families (F2F 2a)

Column %	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	380	100.0	74	100.0	78	100.0	118	100.0	110	100.0
Nonresponse – non-contact	141	37.1	22	29.7	21	26.9	48	40.7	50	45.5
Could not be reached/did not answer	105	27.6	14	18.9	14	18.0	36	30.5	41	37.3
TP/HH no longer lives there/new address unknown	33	8.7	8	10.8	7	9.0	12	10.2	6	5.5
Change of address/new address	3	0.8	-	-	-	-	-	-	3	2.7
Nonresponse – refusal	132	34.7	31	41.9	35	44.9	34	28.8	32	29.1
TP refused to answer: no time, interview too long, too much	52	13.7	15	20.3	12	15.4	13	11.0	12	10.9
Refusal: not interested in topic	14	3.7	1	1.4	2	2.6	4	3.4	7	6.4
Refusal: not in this wave	59	15.5	14	18.9	19	24.4	16	13.6	10	9.1
TP refused to answer: other reasons	6	1.6	1	1.4	2	2.6	1	0.9	2	1.8
CP refused to provide any information	1	0.3	-	-	-	-	-	-	1	0.9
Nonresponse – other	107	28.2	21	28.4	22	28.2	36	30.5	28	25.5
Appointment not possible within field time	107	28.2	21	28.4	22	28.2	36	30.5	28	25.5

Source: F2F 2a contact history

Tabelle 29 Final processing status F2F: families (F2F 2b)

Column %	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	329	100.0	54	100.0	67	100.0	91	100.0	117	100.0
Nonresponse – non-contact	147	44.7	34	63.0	24	35.8	38	41.8	51	43.6
Could not be reached/did not answer	92	28.0	17	31.5	16	23.9	26	28.6	33	28.2
TP/HH no longer lives there/new address unknown	49	14.9	16	29.6	7	10.5	10	11.0	16	13.7
Change of address/new address	6	1.8	1	1.9	1	1.5	2	2.2	2	1.7
Nonresponse – refusal	103	31.3	13	24.1	28	41.8	28	30.8	34	29.1
TP refused to answer: no time, interview too long, too much	81	24.6	10	18.5	21	31.3	25	27.5	25	21.4
Refusal: not interested in topic	19	5.8	3	5.6	6	9.0	3	3.3	7	6.0
Refusal: not in this wave	3	0.9	-	-	1	1.5	-	-	2	1.7
Nonresponse – other	79	24.0	7	13.0	15	22.4	25	27.5	32	27.4
Moved abroad	1	0.3	-	-	-	-	-	-	1	0.9
Appointment not possible within field time	78	23.7	7	13.0	15	22.4	25	27.5	31	26.5

Source: F2F 2b contact history

During the field time of the F2F 2a and F2F 2b survey, a total of 58,545 contacts or contact attempts (CAPI and CATI) were made in the 3,900 families. The families were contacted 15 times on average.

Tabelle 30 Average number of contacts at the family level (F2F 2a/b)

	Number of families	Min.	Max.	Mean (M)	Standard deviation (SD)	Total number of contacts
Total	3,900	0	124	15.0	11.9	58,545
Cohort 1	972	0	49	11.3	7.2	11,018
Cohort 2	994	1	58	11.7	7.7	11,623
Cohort 3	1,000	0	84	16.0	12.5	16,015
Cohort 4	934	1	124	21.3	15.7	19,889

Source: F2F 2a/b methodological data

Three families were not contacted as they had refused to participate via the telephone hotline before the start of the fieldwork. Another family could no longer be contacted as it had moved abroad without leaving any contact details.

Tabelle 31 Family: Grouped contact attempts total (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	3,900	100.0	972	100.0	994	100.0	1,000	100.0	934	100.0
0	4	0.1	2	0.2	-	-	2	0.2	-	-
1-2	260	6.7	40	4.1	61	6.1	94	9.4	65	7.0
3-5	246	6.3	59	6.1	47	4.7	76	7.6	64	6.9
6-10	1,363	35.0	514	52.9	488	49.1	234	23.4	127	13.6
11-20	1,093	28.0	249	25.6	269	27.1	315	31.5	260	27.8
21-50	869	22.3	108	11.1	127	12.8	261	26.1	373	39.9
51-100	62	1.6	-	-	2	0.2	18	1.8	42	4.5
101 and more	3	0.1	-	-	-	-	-	-	3	0.3

Source: F2F 2a/b methodological data

Families, in which all target respondents were interviewed (n=1,568), were contacted 11 times on average. Overall, more contacts were necessary in cohorts 3 and 4 than in cohorts 1 and 2.

Tabelle 32 Average number of contacts of completed families (F2F 2a/b)

	Number of families	Min.	Max.	Mean (M)	Standard deviation (SD)	Total number of contacts
Total	1,568	6	53	11.2	5.4	17,597
Cohort 1	586	6	42	9.9	3.3	5,775
Cohort 2	551	6	34	10.2	3.7	5,633
Cohort 3	274	6	53	13.0	6.5	3,574
Cohort 4	157	6	52	16.7	8.8	2,615

Source: F2F 2a/b methodological data

In addition to the unadjusted gross sample response rate, other measures also give important information about the field outcomes (see tables 33 to 35). The response rate describes the rate of families with at least one valid individual interview (n=2,733) from the gross sample minus those addresses outside the target group. The cooperation rate displays the number of successfully contacted families who decided to take part in the survey. The contact rate measures the number of families with whom verbal contact could be established during the fieldwork phase.

Tabelle 33 Outcome rates according to the AAPOR definition: families (F2F 2a/b)

	Total	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Response rate = $I / [(I + IP) + (NR-NC + NR-R + NR-O/U) + UE]$	70.6	77.4	75.5	65.6	63.7
Cooperation rate = $I / [(I + P) + NR-R + NR-O/U]$	72.2	79.4	76.7	67.3	65.1
Refusal rate = $R / [(I + P) + (NR-R + NR-NC + NR-O/U) + UE]$	18.4	13.6	15.4	21.9	23.1
Contact rate = $[(I + P) + NR-R + NR-O/U] / [(I + P) + NR-R + NR-O + NR-NC + NR-UE]$	97.8	97.5	98.4	97.5	97.8

Source: AAPOR, own calculations

Tabelle 34 Outcome rates according to the AAPOR definition: families (F2F 2a)

	Total	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Response rate = $I / [(I + IP) + (NR-NC + NR-R + NR-O/U) + UE]$	70.9	75.1	77.2	64.7	66.4
Cooperation rate = $I / [(I + P) + NR-R + NR-O/U]$	72.5	76.6	78.5	66.9	67.3
Refusal rate = $R / [(I + P) + (NR-R + NR-NC + NR-O/U) + UE]$	17.8	15.4	14.4	20.6	20.9
Contact rate = $[(I + P) + NR-R + NR-O/U] / [(I + P) + NR-R + NR-O + NR-NC + NR-UE]$	97.9	97.9	98.4	96.7	98.6

Source: AAPOR, own calculations

Tabelle 35 Outcome rates according to the AAPOR definition: families (F2F 2b)

	Total	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Response rate = $I / [(I + IP) + (NR-NC + NR-R + NR-O/U) + UE]$	70.3	79.8	73.8	66.4	61.2
Cooperation rate = $I / [(I + P) + NR-R + NR-O/U]$	71.9	82.2	75.0	67.6	63.1
Refusal rate = $R / [(I + P) + (NR-R + NR-NC + NR-O/U) + UE]$	19.1	11.8	16.3	23.1	25.2
Contact rate = $R / [(I + P) + NR-R + NR-O/U]$ = $[(I + P) + NR-R + NR-O + NR-NC + NR-UE]$	97.7	97.1	98.4	98.2	97.1

Source: AAPOR, own calculations

6.1.1 Number of target persons

The following family members are interviewed in the TwinLife study:

- Both twins,
- Both biological parents,
- Step-parents/partners of the biological parents provided they live in the same household as a biological parent,
- One sibling over 5 years of age (regardless of whether it is a full, half, adoptive or step-sibling),
- Current partners of the twins (only for twins over 18 years of age).

In the 2,733 families that took part in the survey, 13,162 target persons were identified. Thus, an average of 4.8 family members per family was to be interviewed, with a minimum of one and a maximum of nine.

Tabelle 36 Number of target persons per family (F2F 2a/b)

	Number of families	Number of target respondents	Min.	Max.	Mean (M)	Standard deviation (SD)
Total	2,733	13,162	1	9	4.8	1.0
Cohort 1	747	3,278	2	7	4.4	0.6
Cohort 2	749	3,399	3	7	4.5	0.6
Cohort 3	649	3,324	3	9	5.1	1.1
Cohort 4	588	3,161	1	9	5.4	1.2

Source: F2F 2a/b methodological data

The average number of target persons was higher in cohorts 3 and 4 because the partners of the twins also were to be interviewed.

Tabelle 37 Distribution of target persons per family (F2F 2a/b)

	Total (families)		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	2,733	100.0	747	100.0	749	100.0	649	100.0	588	100.0
1 target person	1	0.0	-	-	-	-	-	-	1	0.2
2 target persons	15	0.6	10	1.3	-	-	-	-	5	0.9
3 target persons	101	3.7	24	3.2	22	2.9	24	3.7	31	5.3
4 target persons	967	35.4	389	52.1	312	41.7	163	25.1	103	17.5
5 target persons	1,149	42.0	315	42.2	406	54.2	250	38.5	178	30.3
6 target persons	308	11.3	8	1.1	8	1.1	143	22.0	149	25.3
7 target persons	173	6.3	1	0.1	1	0.1	61	9.4	110	18.7
8 target persons	15	0.6	-	-	-	-	7	1.1	8	1.4
9 target persons	4	0.2	-	-	-	-	1	0.2	3	0.5

Source: F2F 2a/b methodological data

6.1.2 Number of households

In the 2,733 families, the target persons were distributed over an average of 1.8 households per family. The number of households with target persons ranged from one to seven households per family.

Tabelle 38 Number of households with target persons per family (F2F 2a/b)

	Number of families	Number of households	Min.	Max.	Mean (M)	Standard deviation (SD)
Total	2,733	4,984	1	7	1.8	1.2
Cohort 1	747	819	1	3	1.1	0.3
Cohort 2	749	853	1	3	1.1	0.4
Cohort 3	649	1,431	1	6	2.2	1.1
Cohort 4	588	1,881	1	7	3.2	1.2

Source: F2F 2a/b methodological data

As expected, the families of age cohorts 3 and 4 were distributed over more households than the families of underaged twins (cohort 1 und 2). While 90.8 and 87.2 percent of all families in cohorts 1 and 2, respectively, consisted of only one household, the share of one-household-families dropped to 34.4 percent in cohort 3 and 8.3 percent in cohort 4.

Tabelle 39 Distribution of households per family (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	2,733	100.0	747	100.0	749	100.0	649	100.0	588	100.0
1 household	1,603	58.7	678	90.8	653	87.2	223	34.4	49	8.3
2 households	456	16.7	66	8.8	88	11.8	181	27.9	121	20.6
3 households	358	13.1	3	0.4	8	1.1	157	24.2	190	32.3
4 households	207	7.6	-	-	-	-	69	10.6	138	23.5
5 households	89	3.3	-	-	-	-	15	2.3	74	12.6
6 households	18	0.7	-	-	-	-	4	0.6	14	2.4
7 households	2	0.1	-	-	-	-	-	-	2	0.3

Source: F2F 2a/b methodological data

6.1.3 Completeness of families

In 57.1 percent of the 2,733 families interviewed, all target persons in the families were successfully interviewed. The percentage of complete families was particularly high in cohorts 1 and 2. As expected, it was more difficult to conduct interviews with all family members of the adult twins (cohorts 3 and 4).

Tabelle 40 Completeness of the interviewed families (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total: Families interviewed	2,733	100.0	747	100.0	749	100.0	649	100.0	588	100.0
Family complete	1,561	57.1	586	78.5	549	73.3	272	41.9	154	26.2
Family not complete but at least one valid individual interview	1,172	42.9	161	21.6	200	26.7	377	58.1	434	73.8

Source: F2F 2a/b methodological data

Tabelle 41 Completeness of the interviewed families (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Total: Families interviewed	1,350	100.0	361	100.0	380	100.0	317	100.0	292	100.0
Family complete	782	57.9	275	76.2	289	76.1	133	42.0	85	29.1
Family not complete but at least one valid individual interview	568	42.1	86	23.8	91	23.9	184	58.0	207	70.9

Source: F2F 2a methodological data

Tabelle 42 Completeness of the interviewed families (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Total: Families interviewed	1,383	100.0	386	100.0	369	100.0	332	100.0	296	100.0
Family complete	779	56.3	311	80.6	260	70.5	139	41.9	69	23.3
Family not complete but at least one valid individual interview	604	43.7	75	19.4	109	29.5	193	58.1	227	76.7

Source: F2F 2b methodological data

6.2 Final processing outcomes and response rates: twins

The sample of the F2F 2 survey consisted of 3,900 families with 7,742 twins. Among these, 1,914 families with 3,786 twins belonged to the first subsample (F2F 2a) and 1,986 families with 3,956 twins to the second subsample (F2F 2b). In 58 families, one or both twins had objected to the transfer of their address or had withdrawn their consent to participate in the panel. In consultation with the TwinLife team, the other family members of these twins were still contacted and interviewed.

Overall, 5,076 twins were interviewed (65.6 percent). A valid individual interview implies that at least the personal interview administered by the interviewer (CAPI/CATI) was completed. The completeness of the different interview components (CASI, PAPI, cognitive test, delayed gratification experiment) is reported in chapter 6.2.2.

171 of the 5,076 twin interviews were conducted by telephone as part of the CATI switch (3.4 percent of the interviews conducted).²⁸

There are significant differences between the four age cohorts with regard to the response rate:

In cohort 1, an interview was conducted with 1,441 of the 1,944 twins. This corresponds to a response rate of 74.1 percent. In cohort 2, 73.8 percent of 1,986 twins were interviewed. Since the twins were underaged, the initial contact in these age cohorts was always with a parent. Only twins for whom a parent had already completed the family and household questionnaire were interviewed. With regard to the n=3,004 twins (age cohorts 1 and 2) for whom the family and household questionnaire had been answered, the interview rate was 96.7 percent.

In cohort 3, however, only 59.9 percent of the twins were interviewed and in cohort 4 only 53.7 percent.

The reasons for nonresponse also vary between the age cohorts.

²⁸ During the CATI switch, 709 families were contacted by telephone. Furthermore, 123 individual twins whose family members had already been interviewed in the F2F field, were contacted by telephone.

The main reason for non-response among the twins in cohorts 1 and 2 was that their parents did not participate: 23.6 percent of the twins could not be interviewed on these grounds. Only 0.5 percent of the twins in cohorts 1 and 2 personally refused to participate although the parents had participated. 43 of the twins could not be reached during the field time or an appointment could not be arranged (1.1 percent). In cohort 1, 36 twins could not be interviewed because their families were contacted by telephone. As the twins in cohort 1 were only 7 years old at the time of the interview, they were not interviewed if the family had switched to the CATI mode.

In cohorts 3 and 4, 942 of the twins (24.7 percent) refused to participate:

- 482 twins in cohorts 3 and 4 refused to participate as a matter of principle, thereby revoking their willingness to participate in the panel survey. In terms of those who refused to participate in cohorts 3 and 4, this corresponds to 51.2 percent.
- Another 196 twins in cohorts 3 and 4 (20.8 percent of those who refused) decided to skip the current interview.
- Other reasons for refusal included having no time (6.9 percent) and a lack of interest in the topic of the study (5.9 percent).

169 twins in cohorts 3 and 4 could not be reached at all during the fieldwork phase, neither F2F nor by phone. In terms of the gross sample, this corresponds to 4.4 percent. Another 12.6 percent of the adult twins could be reached either personally or by telephone but no appointment could be arranged within the fieldwork phase.

Tabelle 43 Final outcome: twins (F2F 2a/b)

Column %	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Gross sample	7,742	100.0	1,944	100.0	1,986	100.0	1,992	100.0	1,820	100.0
Parents did not take part	926	12.0	446	22.9	480	24.2	-	-	-	-
Design-related nonresponse ²⁹	36	0.5	36	1.9	-	-	-	-	-	-
Not target group	46	0.6	-	-	1	0.1	22	1.1	23	1.3
Moved abroad	39	0.5	-	-	-	-	20	1.0	19	1.0
Already interviewed	5	0.1	-	-	1	0.1	2	0.1	2	0.1
Nonresponse – could not be inter- viewed / long-term illness / disability	5	0.1	-	-	-	-	2	0.1	3	0.2
Nonresponse – non-contact	184	2.4	7	0.4	8	0.4	69	3.5	100	5.5
Could not be reached/did not answer	72	0.9	6	0.3	6	0.6	26	1.3	34	1.9
Answering machine	14	0.2	-	-	-	-	4	0.2	10	0.5
Wrong telephone number	57	0.7	-	-	1	0.1	31	1.6	25	1.4
TP/HH no longer lives there/new address unknown	41	0.5	1	0.1	1	0.1	8	0.4	31	1.7
Nonresponse – refusal	960	12.4	10	0.5	8	0.4	476	23.9	466	25.6
Refusal: matter of principle	485	6.3	2	0.1	1	0.1	255	12.8	227	12.5
Refusal: no time, interview too long	67	0.9	2	0.1	-	-	30	1.5	35	1.9
Refusal: only interview by telephone	2	0.0	-	-	-	-	2	0.1	-	-
TP refused to answer: ill	14	0.2	-	-	1	0.1	6	0.3	7	0.4
TP refuses to start the interview	2	0.0	-	-	-	-	2	0.1	-	-
Interview broken off	17	0.2	5	0.3	3	0.2	7	0.4	2	0.1
Hangs up immediately	15	0.2	-	-	2	0.1	3	0.2	10	0.5
CP refuses to provide any information	49	0.6	-	-	-	-	23	1.2	26	1.4
TP/CP refuses to provide new address	6	0.1	-	-	-	-	2	0.1	4	0.2
Refusal: not interested in topic	57	0.7	-	-	1	0.1	25	1.3	31	1.7
Refusal: Data protection reasons	3	0.0	-	-	-	-	2	0.1	1	0.1
Refusal: other reasons	46	0.6	-	-	-	-	27	1.4	19	1.0
Refusal: not in this wave	197	2.5	1	0.1	-	-	92	4.6	104	5.7
Nonresponse – other	510	6.6	4	0.2	24	1.2	230	11.5	252	13.8
No appoint. possible in field time	504	6.5	4	0.2	22	1.1	228	11.4	250	13.7
Language problems	6	0.1	-	-	2	0.1	2	0.1	2	0.1
Interview	5,077	65.6	1,441	74.1	1,465	73.8	1,193	59.9	978	53.7
Invalid	1	0.0	-	-	-	-	-	-	1	0.1
Valid: F2F	4,905	63.4	1,441	74.1	1,441	72.6	1,104	55.4	919	50.5
Valid: CATI	171	2.2	-	-	24	1.2	89	4.5	58	3.2

Source: F2F 2a/b methodological data, F2F 2a/b contact data

²⁹ The families of the 36 twins were switched to the CATI field. Twins in cohort 1 were not interviewed by telephone due to their age.

Tabelle 44 Final outcome: twins (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Gross sample	3,786	100.0	966	25.5	984	26.0	982	25.9	854	22.6
Parents did not take part	464	12.3	242	25.1	222	22.6	-	-	-	-
Design-related nonresponse ³⁰	18	0.5	18	1.9	-	-	-	-	-	-
Not target group	17	0.4	-	-	-	-	9	0.9	8	0.9
Moved abroad	16	0.4	-	-	-	-	9	0.9	7	0.8
Already interviewed	1	0.0	-	-	-	-	-	-	1	0.1
Nonresponse – could not be inter- viewed / long-term illness / disability	3	0.1	-	-	-	-	2	0.2	1	0.1
Nonresponse – non-contact	84	2.2	5	0.5	4	0.4	42	4.3	33	3.9
Could not be reached/did not answer	43	1.1	5	0.5	4	0.4	17	1.7	17	2.0
Answering machine	9	0.2	-	-	-	-	4	0.4	5	0.6
No connection, wrong telephone no.	23	0.7	-	-	-	-	19	1.9	4	0.4
TP/HH no longer lives there/new address unknown	9	0.2	-	-	-	-	2	0.2	7	0.8
Nonresponse – refusal	432	11.4	4	0.4	7	0.7	218	22.2	203	23.8
Refusal: matter of principle	230	6.1	-	-	1	0.1	131	13.3	98	11.5
Refusal: no time, interview too long,	26	0.7	2	0.2	-	-	13	1.3	11	1.3
TP refused to answer: ill	9	0.2	-	-	1	0.1	2	0.2	6	0.7
TP refuses to start the interview	2	0.1	-	-	-	-	2	0.2	-	-
Interview broken off	5	0.1	1	0.1	2	0.2	1	0.1	1	0.1
Hangs up immediately	14	0.4	-	-	2	0.2	3	0.3	9	1.1
CP refuses to provide any information	37	1.0	-	-	-	-	17	1.7	20	2.3
Refusal: not interested in topic	28	0.7	-	-	1	0.1	14	1.4	13	1.5
Refusal: Data protection reasons	3	0.1	-	-	-	-	2	0.2	1	0.1
Refusal: other reasons	25	0.7	-	-	-	-	16	1.6	9	1.1
Refusal: not in this wave	53	1.4	1	0.1	-	-	17	1.7	35	4.1
Nonresponse – other	273	7.2	3	0.3	17	1.7	128	13.0	125	14.6
Appointment not possible within field time	269	7.1	3	0.3	15	1.5	126	12.8	125	14.6
Language problems	4	0.1	-	-	2	0.2	2	0.2	-	-
Interview	2,495	65.9	694	71.8	734	74.6	583	59.4	484	56.7
Invalid	1	0.0	-	-	-	-	-	-	1	0.1
Valid Interviews	2,494	65.9	694	71.8	734	74.6	583	59.4	483	56.6
Valid: F2F	2,372	62.7	694	71.8	716	72.8	521	53.1	441	51.6
Valid: CATI	122	5.1	-	-	18	2.5	62	11.9	42	9.5

Source: F2F 2a methodological data, F2F 2a contact data

³⁰ The families of the 18 twins were switched in the CATI field. Twins in cohort 1 were not interviewed by telephone due to their age.

Tabelle 45 Final outcome: twins (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Gross sample	3,956	100.0	978	100.0	1,002	100.0	1,010	100.0	966	100.0
Parents did not take part	462	11.7	204	20.9	258	25.8	-	-	-	-
Design-related nonresponse ³¹	18	0.5	18	1.8	-	-	-	-	-	-
Not target group	29	0.7	-	-	1	0.1	13	1.3	15	1.6
Moved abroad	23	0.6	-	-	-	-	11	1.1	12	1.2
Already interviewed	4	0.1	-	-	1	0.1	2	0.2	1	0.1
Nonresponse – could not be interviewed / long-term illness / disability	2	0.1	-	-	-	-	-	-	2	0.2
Nonresponse – non-contact	100	2.5	2	0.2	4	0.4	27	2.7	67	6.9
Could not be reached/did not answer	29	0.7	1	0.1	2	0.2	9	0.9	17	1.8
Answering machine	5	0.1	-	-	-	-	-	-	5	0.5
No connection, wrong telephone no.	34	0.9	-	-	1	0.1	12	1.2	21	2.2
TP/HH no longer lives there/new address unknown	32	0.8	1	0.1	1	0.1	6	0.6	24	2.5
Nonresponse – refusal	528	13.3	6	0.6	1	0.1	258	25.5	263	27.2
Refusal: matter of principle	255	6.4	2	0.2	-	-	124	12.3	129	13.4
Refusal: no time, interview too long	41	-	-	-	-	-	17	1.7	24	2.5
Refusal: only interview by telephone	2	0.1	-	-	-	-	2	0.2	-	-
TP refused to answer: ill	5	0.1	-	-	-	-	4	0.4	1	0.1
Interview broken off	12	0.3	4	0.4	1	0.1	6	0.6	1	0.1
Hangs up immediately	1	0.0	-	-	-	-	-	-	1	0.1
CP refuses to provide any information	12	0.3	-	-	-	-	6	0.6	6	0.6
TP refuses to provide new address	6	0.2	-	-	-	-	2	0.2	4	0.4
Refusal: not interested in topic	29	0.7	-	-	-	-	11	1.1	18	1.9
Refusal: other reasons	21	0.5	-	-	-	-	11	1.1	10	1.0
Refusal: not in this wave	144	3.6	-	-	-	-	75	7.4	69	7.1
Nonresponse – other	237	6.0	1	0.1	7	0.7	102	10.1	127	13.1
Appointment not possible within field time	235	5.9	1	0.1	7	0.7	102	10.1	125	12.9
Language problems	2	0.1	-	-	-	-	-	-	2	0.2
Valid interview	2,582	65.3	747	76.4	731	73.0	610	60.4	494	51.1
Valid: F2F	2,533	64.0	747	76.4	725	72.4	583	57.7	478	49.5
Valid: CATI	49	1.2	-	-	6	0.6	27	2.7	16	1.7

Source: F2F 2b methodological data, F2F 2b contact data

³¹ The families of the 18 twins were switched in the CATI field. Twins in cohort 1 were not interviewed by telephone due to their age.

6.2.1 Completeness of twin pairs

3,900 twin pairs were to be interviewed in the second F2F survey (F2F 2a/b). 58 of these twin pairs were already incomplete in the gross sample, as one of the twins had withdrawn their willingness to participate in the panel. Of the remaining 3,842 twin pairs, both twins were interviewed in 2,422 twin pairs (63.0 percent). The completeness of twin pairs is considerably higher in cohorts 1 and 2 at around 73 percent than among the adult twins. There were no differences between the first and second subsample with regard to completeness.

Tabelle 46 Completeness of twin pairs (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Sample: Complete twin pairs	3,842	100.0	972	100.0	992	100.0	992	100.0	886	100.0
Both twins interviewed	2,422	63.0	714	73.5	728	73.4	566	57.1	414	46.7
Only one twin interviewed	232	6.0	13	1.3	9	0.9	61	6.1	149	16.8
No twin interviewed	1,188	31.0	245	25.2	255	25.7	365	36.8	323	36.5

Source: F2F 2a/b methodological data

Tabelle 47 Completeness of twin pairs (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Sample: Complete twin pairs	1,872	100.0	483	100.0	491	100.0	488	100.0	410	100.0
Both twins interviewed	1,184	63.2	343	71.0	363	73.9	276	56.6	202	49.3
Only one twin interviewed	126	6.7	8	1.7	8	1.6	31	6.4	79	19.3
No twin interviewed	562	30.0	132	27.3	120	24.4	181	37.1	129	31.5

Source: F2F 2a/b methodological data

Tabelle 48 Completeness of twin pairs (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Sample: Complete twin pairs	1,971	100.0	489	100.0	501	100.0	504	100.0	477	100.0
Both twins interviewed	1,238	62.8	371	75.9	365	72.9	290	57.5	212	44.4
Only one twin interviewed	106	5.4	5	1.0	1	0.2	30	6.0	70	14.7
No twin interviewed	627	31.8	113	23.1	135	26.9	184	36.5	195	40.9

Source: F2F 2a/b methodological data

6.2.2 Regional characteristics

Since no information about the distribution of twins according to regional characteristics is available from official statistics, statements about the distribution of twins according to federal state, BIK municipality type and political municipality size are only possible in comparison to the gross sample of the survey. The regional characteristics always refer to the twins' current place of residence and not to the place of residence at the time of sampling. It must also be noted that the sampling in wave 1 was carried out with a disproportional design.³² Furthermore, the twins in cohorts 3 and 4 are a very mobile group due to their age so that changes to the regional distributions are to be expected during the panel.

The regional distribution of the interviewed twins very closely resembles the distribution of the gross sample.

Tabelle 49 Gross-net comparison of twins: regional characteristics I (F2F 2a/b)³³

	Gross sample		Net sample		Difference in % points
Column %	Abs.	%	Abs.	%	Percentage points
Total	7,742	100.0	5,076	100.0	
Federal State					
Schleswig-Holstein	139	1.8	94	1.9	0.1
Hamburg	386	5.0	260	5.1	0.1
Lower Saxony	822	10.6	533	10.5	-0.1
Bremen	209	2.7	117	2.3	-0.4
North-Rhine Westphalia	2,300	29.7	1,538	30.3	0.6
Hesse	376	4.9	214	4.2	-0.7
Rhineland-Palatinate	324	4.2	199	3.9	-0.3
Baden-Württemberg	922	11.9	588	11.6	-0.3
Bavaria	791	10.2	538	10.6	0.4
Saarland	95	1.2	58	1.1	-0.1
Berlin	612	7.9	411	8.1	0.2
Brandenburg	144	1.9	110	2.2	0.3
Mecklenburg-Vorpommern	53	0.7	36	0.7	-
Saxony	275	3.6	199	3.9	0.3
Saxony-Anhalt	144	1.9	95	1.9	-
Thuringia	119	1.5	83	1.6	0.1
No valid address	31	0.4	3	0.1	

Source: F2F 2a/b methodological data

³² Brix et al. (2017): A longitudinal twin family study of the life course and individual development (TWINLIFE). TwinLife Technical Report Series No. 05, October 2017.

³³ The regional characteristics refer to the twins' current place of residence.

Tabelle 50 Gross-net comparison of twins: regional characteristics I (F2F 2a)³⁴

	Gross sample		Net sample		Difference in % points
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Percentage points</i>
Total	3,786	100.0	2,494	100.0	
Federal State					
Schleswig-Holstein	74	2.0	53	2.1	0.1
Hamburg	150	4.0	115	4.6	0.6
Lower Saxony	379	10.0	263	10.5	0.5
Bremen	91	2.4	54	2.2	-0.2
North-Rhine Westphalia	1,143	30.2	771	30.9	0.7
Hesse	186	4.9	107	4.3	-0.6
Rhineland-Palatinate	158	4.2	92	3.7	-0.5
Baden-Württemberg	445	11.8	257	10.3	-1.5
Bavaria	428	11.3	292	11.7	0.4
Saarland	65	1.7	39	1.6	-0.1
Berlin	276	7.3	190	7.6	0.3
Brandenburg	80	2.1	66	2.6	0.5
Mecklenburg-Vorpommern	27	0.7	18	0.7	-
Saxony	131	3.5	94	3.8	0.3
Saxony-Anhalt	68	1.8	47	1.9	0.1
Thuringia	58	1.5	33	1.3	-0.2
No valid address	27	0.7	3	0.1	

Source: F2F 2a methodological data

³⁴ The regional characteristics refer to the twins' current place of residence.

Tabelle 51 Gross-net comparison of twins: regional characteristics I (F2F 2b)³⁵

<i>Column %</i>	Gross sample		Net sample		Difference in % points
	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Percentage points</i>
Total	3,956	100.0	2,582	100.0	
Federal State					
Schleswig-Holstein	65	1.6	41	1.6	-
Hamburg	236	6.0	145	5.6	-0.4
Lower Saxony	443	11.2	270	10.5	-0.7
Bremen	118	3.0	63	2.4	-0.6
North-Rhine Westphalia	1,157	29.3	767	29.7	0.4
Hesse	190	4.8	107	4.1	-0.7
Rhineland-Palatinate	166	4.2	107	4.1	-0.1
Baden-Württemberg	477	12.0	331	12.8	0.8
Bavaria	363	9.2	246	9.5	0.3
Saarland	30	0.8	19	0.7	-0.1
Berlin	336	8.5	221	8.6	0.1
Brandenburg	64	1.6	44	1.7	0.1
Mecklenburg-Vorpommern	26	0.7	18	0.7	-
Saxony	144	3.7	105	4.1	0.4
Saxony-Anhalt	76	1.9	48	1.9	-
Thuringia	61	1.5	50	1.9	0.4
No valid address	4	0.1	-	-	

Source: F2F 2b methodological data

³⁵ The regional characteristics refer to the twins' current place of residence.

Tabelle 52 Gross-net comparison of twins: regional characteristics II
(F2F 2a/b)³⁶

	Gross sample		Net sample		Difference in % points
Column %	Abs.	%	Abs.	%	Percentage points
Total	7,742	100.0	5,076	100.0	
BIK regional size class					
Less than 2000 residents	6	0.1	7	0.1	-
2,000 to 4,999 residents	16	0.2	12	0.2	-
5,000 to 19,999 residents	371	4.8	229	4.5	-0.3
20,000 to 49,999 residents	438	5.7	260	5.1	-0.6
50,000 to 99,999 residents STyp 2/3/4	494	6.4	315	6.2	-0.2
50,000 to 99,999 residents STyp 1	240	3.1	139	2.7	-0.4
100,000 to 499,999 residents STyp 2/3/4	715	9.2	454	8.9	-0.3
100,000 to 499,999 residents STyp 1	1,610	20.8	1,005	19.8	-1.0
500,000 and more residents STyp 2/3/4	455	5.9	335	6.6	0.7
500,000 and more residents STyp 1	3,366	43.4	2,317	45.6	2.2
No valid address	31	0.4	3	0.1	
Political municipality size					
Less than 2000 residents	66	0.9	47	0.9	-
2,000 to 4,999 residents	77	1.0	56	1.1	0.1
5,000 to 19,999 residents	1,290	16.7	803	15.8	-0.9
20,000 to 49,999 residents	917	11.9	628	12.4	0.5
50,000 to 99,999 residents	1,199	15.5	746	14.7	-0.8
100,000 to 499,999 residents	1,685	21.8	1,136	22.4	0.6
500,000 and more residents	2,477	32.0	1,657	32.6	0.6
No valid address	31	0.4	3	0.1	

Source: F2F 2a/b methodological data

³⁶ The regional characteristics refer to the twins' current place of residence.

Tabelle 53 Gross-net comparison of twins: regional characteristics II (F2F 2a)³⁷

	Gross sample		Net sample		Difference in % points
Column %	Abs.	%	Abs.	%	Percentage points
Total	3,786	100.0	2,494	100.0	
BIK regional size class					
Less than 2000 residents	2	0.1	2	0.1	-
2,000 to 4,999 residents	9	0.2	6	0.2	-
5,000 to 19,999 residents	196	5.2	109	4.4	-0.8
20,000 to 49,999 residents	201	5.3	121	4.9	-0.4
50,000 to 99,999 residents STyp 2/3/4	259	6.8	173	6.9	0.1
50,000 to 99,999 residents STyp 1	116	3.1	57	2.3	-0.8
100,000 to 499,999 residents STyp 2/3/4	336	8.9	214	8.6	-0.3
100,000 to 499,999 STyp 1	766	20.2	485	19.4	-0.8
500,000 and more residents STyp 2/3/4	238	6.3	172	6.9	0.6
500,000 and more residents STyp 1	1,636	43.2	1,152	46.2	3.0
No valid address	27	0.7	3	0.1	
Political municipality size					
Less than 2000 residents	26	0.7	15	0.6	-0.1
2,000 to 4,999 residents	41	1.1	30	1.2	0.1
5,000 to 19,999 residents	693	18.3	422	16.9	-1.4
20,000 to 49,999 residents	410	10.8	289	11.6	0.8
50,000 to 99,999 residents	573	15.1	355	14.2	-0.9
100,000 to 499,999 residents	837	22.1	571	22.9	0.8
500,000 and more residents	1,179	31.1	809	32.4	1.3
No valid address	27	0.7	3	0.1	

Source: F2F 2a methodological data

³⁷ The regional characteristics refer to the twins' current place of residence.

Tabelle 54 Gross-net comparison of twins: regional characteristics II (F2F 2b)³⁸

	Gross sample		Net sample		Difference in % points
Column %	Abs.	%	Abs.	%	Percentage points
Total	3,956	100.0	2,582	100.0	
BIK regional size class					
Less than 2000 residents	4	0.1	5	0.2	0.1
2,000 to 4,999 residents	7	0.2	6	0.2	0.1
5,000 to 19,999 residents	175	4.4	120	4.6	0.2
20,000 to 49,999 residents	237	6.0	139	5.4	-0.6
50,000 to 99,999 residents STyp 2/3/4	235	5.9	142	5.5	-0.4
50,000 to 99,999 residents STyp 1	124	3.1	82	3.2	0.1
100,000 to 499,999 residents STyp 2/3/4	379	9.6	240	9.3	-0.3
100,000 to 499,999 residents STyp 1	844	21.3	520	20.1	-1.2
500,000 and more residents STyp 2/3/4	217	5.5	163	6.3	0.8
500,000 and more residents STyp 1	1,730	43.7	1,165	45.1	1.4
No valid address	4	0.1	-	-	
Political municipality size					
Less than 2000 residents	40	1.0	32	1.2	0.2
2,000 to 4,999 residents	36	0.9	26	1.0	0.1
5,000 to 19,999 residents	597	15.1	381	14.8	-0.3
20,000 to 49,999 residents	507	12.8	339	13.1	0.3
50,000 to 99,999 residents	626	15.8	391	15.1	-0.7
100,000 to 499,999 residents	848	21.4	565	21.9	0.5
500,000 and more residents	1,298	32.8	848	32.8	0.1
No valid address	4	0.1	-	-	

Source: F2F 2b methodological data

³⁸ The regional characteristics refer to the twins' current place of residence.

6.2.3 Completeness of the interview components

6.2.3.1 Self-administered questionnaires

The interviewer-administered interview (CAPI or CATI) was conducted with 5,076 twins.

In addition to the interviewer-administered questionnaires (CAPI/CATI) the 3,633 interviewed twins in cohorts 2, 3 and 4 were also asked to complete self-administered questionnaires (SAQ). This included a computer-assisted self-interview (CASI or CAWI) as well as a paper-and-pencil self-administered interview (PAPI). Due to their age, the twins of age cohort 1 did not answer any self-administered questionnaires.

The rate of completed SAQs can be considered as exceptionally high: More than 92 percent of the interviewed twins answered both the computer-assisted and the paper-and-pencil questionnaire. The percentage of completed SAQs was particularly high in cohort 2 (94.1 percent), while it was a little lower in cohort 3 with 90.7 percent.

Tabelle 55 Twins: Completed self-administered questionnaires (F2F 2a/b)

	Total		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: twins interviewed	3,633	100.0	1,463	100.0	1,193	100.0	977	100.0
Both SAQs are completed	3,356	92.4	1,377	94.1	1,082	90.7	897	91.8
Only CASI/CAWI completed	59	1.6	13	0.9	22	1.8	24	2.5
Only PAPI completed	121	3.3	47	3.2	45	3.8	29	3.0
No SAQ completed	97	2.7	26	1.8	44	3.7	27	2.8

Source: F2F 2a/b methodological data

Tabelle 56 Twins: Completed self-administered questionnaires (F2F 2a)

	Total		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: twins interviewed	1,800	100.0	734	100.0	583	100.0	483	100.0
Both SAQs are completed	1,645	91.4	690	94.0	513	88.0	442	91.5
Only CASI/CAWI completed	27	1.5	7	1.0	11	1.9	9	1.9
Only PAPI completed	56	3.1	17	2.3	25	4.3	14	2.9
No SAQ completed	72	4.0	20	2.7	34	5.8	18	3.7

Source: F2F 2a methodological data

Tabelle 57 Twins: Completed self-administered questionnaires (F2F 2b)

	Total		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: twins interviewed	1,833	100.0	729	100.0	610	100.0	494	100.0
Both SAQs are completed	1,711	93.3	687	94.2	569	93.3	455	92.1
Only CASI/CAWI completed	32	1.8	6	0.8	11	1.8	15	3.0
Only PAPI completed	65	3.6	30	4.1	20	3.3	15	3.0
No SAQ completed	25	1.4	6	0.8	10	1.6	9	1.8

Source: F2F 2b methodological data

6.2.3.2 School report photos

Twins who went to school at the time of the interview or had completed general education since the last interview were also asked to provide their last yearly school report so that it could be photographed by the interviewer. A parent was asked for consent for twins under 18 years of age.

The school reports of twins interviewed by telephone (CATI switch) were not photographed.

Of the 5,076 interviewed twins, the school reports of 3,850 twins had to be photographed (75.9 percent). A photo of the school report is available for 1,960 of these twins (50.9 percent). In 27.5 percent, either no consent was given to photograph the school reports or the reports were not available. Furthermore, there were twins who had not yet received their yearly school report.

If the school report could not be photographed, questions for grades in Math and German were implemented in the questionnaire.

Tabelle 58 Twins: School report photo (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: twins interviewed	5,076	100.0	1,441	100.0	1,465	100.0	1,193	100.0	977	100.0
School report photo intended	3,850	75.9	1,405	97.5	1,457	99.5	896	75.1	92	9.4
School report photo intended	3,850	100.0	1,405	100.0	1,457	100.0	896	100.0	92	100.0
School report available	1,960	50.9	494	35.2	971	66.6	480	53.6	15	16.3
School report not available: consent not given	770	20.0	133	9.5	247	17.0	314	35.0	76	82.6
School report not available: school report not yet issued	830	21.6	708	50.4	122	8.4	-	-	-	-
School report not available: could not be photographed	290	7.5	70	5.0	117	8.0	102	11.4	1	1.1

Source: F2F 2a/b methodological data

Tabelle 59 Twins: school report photos (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Basis: twins interviewed	2,494	100.0	694	100.0	734	100.0	583	100.0	483	100.0
School report photo intended	1,960	78.6	674	97.1	730	99.5	498	85.4	58	12.0
School report photo intended	1,960	100.0	674	100.0	730	100.0	498	100.0	58	100.0
School report available	946	48.3	226	33.5	471	64.5	241	48.4	8	13.8
School report not available: consent not given	481	24.5	90	13.4	148	20.3	193	38.8	50	86.2
School report not available: school report not yet issued	376	19.2	329	48.8	47	6.4	-	-	-	-
School report not available: could not be photographed	157	8.0	29	4.3	64	8.8	64	12.9	-	-

Source: F2F 2a methodological data

Tabelle 60 Twins: school report photos (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Basis: twins interviewed	2,582	100.0	747	100.0	731	100.0	610	100.0	494	100.0
School report photo intended	1,890	73.2	731	97.9	727	99.5	398	65.3	34	6.9
School report photo intended	1,890	100.0	731	100.0	727	100.0	398	100.0	34	100.0
School report available	1,014	53.7	268	36.7	500	68.8	239	60.1	7	20.6
School report not available: consent not given	289	15.3	43	5.9	99	13.6	121	30.4	26	76.5
School report not available: school report not yet issued	454	24.0	379	51.9	75	10.3	-	-	-	-
School report not available: could not be photographed	133	7.0	41	5.6	53	7.3	38	9.6	1	2.9

Source: F2F 2b methodological data

6.2.3.3 Experiment: Delayed gratification in cohort 1

The delayed gratification experiment was only conducted with the twins in cohort 1, provided a parent had given consent and the children liked gummy bears. The aim of the experiment was to measure the ability to resist an immediate reward in order to receive a larger reward at a later point.

For 1,237 of the cohort 1 twins (85.8 percent), the parents had given their consent and the children liked to eat gummy bears. The experiment was conducted with over 97.2 percent of these 1,237 twins. In 2.8 percent of cases, the experiment was not conducted as the twins themselves refused to take part.

Tabelle 61 Twins: Delayed gratification experiment (F2F 2a/b)

	Total		F2F 2a		F2F 2b	
Column %	Abs.	%	Abs.	%	Abs.	%
Basis: twins interviewed (cohort 1)	1,441	100.0	694	100.0	747	100.0
Parents gave consent for experiment	1,237	85.8	590	85.0	647	86.6
Parents gave consent for experiment	1,237	100.0	590	100.0	647	100.0
Experiment conducted	1,202	97.2	586	99.3	616	95.2
Experiment not conducted	35	2.8	4	0.7	31	4.8

Source: F2F 2a/b methodological data

6.3 Final processing outcomes and response rates: other family members

In addition to the twins, also parents, step-parents, partners of the twins and a sibling over 5 years of age were interviewed in the second F2F survey. In the 2,733 families with a completed family questionnaire, 7,874 family members (not counting the twins) were identified as target persons. Among those were 5,148 parents, 232 step-parents, 1,505 siblings and 989 partners of twins.

Tabelle 62 Other family members relevant for the survey generated from the family questionnaire (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	7,874	100.0	1,822	100.0	1,923	100.0	2,071	100.0	2,058	100.0
Mother	2,714	34.5	748	41.1	751	39.1	642	31.0	573	27.8
Father	2,434	30.9	704	38.6	676	35.2	569	27.5	485	23.6
Step-father	179	2.3	22	1.2	37	1.9	62	3.0	58	2.8
Step-mother	53	0.7	7	0.4	8	0.4	18	0.9	20	1.0
Sibling	1,505	19.1	341	18.7	451	23.5	385	18.6	328	15.9
Partner of twin 1	495	6.3	-	-	-	-	199	9.6	296	14.4
Partner of twin 2	494	6.3	-	-	-	-	196	9.5	298	14.5

Source: F2F 2a/b methodological data

Not counting the twins, 5,870 family members were successfully interviewed in the 2,733 families. This included 2,466 mothers (42.0 percent), 1,834 fathers (31.2 percent) and 1,073 siblings (18.3 percent).

Tabelle 63 Successfully interviewed family members (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	5,870	100.0	1,636	100.0	1,666	100.0	1,399	100.0	1,169	100.0
Mother	2,466	42.0	730	44.6	723	43.4	559	40.0	454	38.8
Father	1,834	31.2	587	35.9	547	32.8	406	29.0	294	25.1
Step-father	105	1.8	18	1.1	27	1.6	39	2.8	21	1.8
Step-mother	22	0.4	4	0.2	5	0.3	6	0.4	7	0.6
Sibling	1,073	18.3	297	18.2	364	21.8	253	18.1	159	13.6
Partner of twin 1	180	3.1	-	-	-	-	66	4.7	114	9.8
Partner of twin 2	190	3.2	-	-	-	-	70	5.0	120	10.3

Source: F2F 2a/b methodological data

Therefore, 5,870 of the 7,874 family members identified by the family questionnaire as target persons were successfully interviewed. This corresponds to a response rate of 74.5 percent. The rate differs between the family members. The response rate was highest for the biological parents (83.5 percent) while interviewing siblings and partners of the twins proved to be more difficult (57.8 percent for the siblings and 37.4 percent for the partners of twins).

Tabelle 64 Response rates (%) of other family members relevant for the survey (F2F 2a/b)

	Total	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Total	74.5	89.8	86.6	67.6	56.8
Mother	90.9	97.6	96.3	87.1	79.2
Father	75.3	83.4	80.9	71.4	60.6
Step-father	58.7	81.8	73.0	62.9	36.2
Step-mother	41.5	57.1	62.5	33.3	35.0
Sibling	71.3	87.1	80.7	65.7	48.5
Partner of twin 1	36.4	-	-	33.2	38.5
Partner of twin 2	38.5	-	-	35.7	40.3

Source: F2F 2a/b methodological data

In subsample a (F2F 2a), 3,882 family members were identified in the 1,350 families who took part. This included 1,338 mothers (34.5 percent), 1,183 fathers (30.5 percent) and 768 siblings (19.8 percent).

Tabelle 65 Other family members relevant to the survey generated from the family questionnaire (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	3,882	100.0	897	100.0	983	100.0	1,015	100.0	987	100.0
Mother	1,338	34.5	361	40.2	380	38.7	311	30.6	286	29.0
Father	1,183	30.5	347	38.7	336	34.2	268	26.4	232	23.5
Step-father	86	2.2	9	1.0	20	2.0	29	2.9	28	2.8
Step-mother	25	0.6	2	0.2	4	0.4	8	0.8	11	1.1
Sibling	768	19.8	178	19.8	243	24.7	187	18.4	160	16.2
Partner of twin 1	248	6.4	-	-	-	-	114	11.2	134	13.6
Partner of twin 2	234	6.0	-	-	-	-	98	9.7	136	13.8

Source: F2F 2a methodological data

Tabelle 66 Successfully interviewed family members (F2F2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	2,920	100.0	798	100.0	864	100.0	693	100.0	565	100.0
Mother	1,216	64.6	352	44.1	365	42.3	272	39.3	227	40.2
Father	890	30.5	281	35.2	279	32.3	195	28.1	135	23.9
Step-father	54	1.9	8	1.0	17	2.0	19	2.7	10	1.8
Step-mother	8	0.3	2	0.3	2	0.2	1	0.1	3	0.5
Sibling	558	19.1	155	19.4	201	23.3	128	18.5	74	13.1
Partner of twin 1	94	3.2	-	-	-	-	41	5.9	53	9.4
Partner of twin 2	100	3.4	-	-	-	-	37	5.3	63	11.2

Source: F2F 2a methodological data

Interviews were conducted with 2,920 of the 3,882 family members (75.2 percent). The response rate was highest for the twins' mothers and lowest for the partners of the twins (40.2 percent).

Tabelle 67 Response rates (%) of other family members relevant for the survey (F2F 2a)

	Total	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Total	75.2	89.0	87.9	68.3	57.2
Mother	90.9	97.5	96.1	87.5	79.4
Father	75.2	81.0	83.0	72.8	58.2
Step-father	62.8	88.9	85.0	65.5	35.7
Step-mother	32.0	100.0	50.0	12.5	27.3
Sibling	72.7	87.1	82.7	68.4	46.3
Partner of twin 1	37.9	-	-	36.0	39.6
Partner of twin 2	42.7	-	-	37.8	46.3

Source: F2F 2a methodological data

In subsample b (F2F 2b), 3,992 members of the 1,383 participating families were identified as target persons. 2,950 of these family members were successfully interviewed (73.9 percent).

Tabelle 68 Other family members relevant for the survey generated from the family questionnaire (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Total	3,992	100.0	925	100.0	940	100.0	1,056	100.0	1,071	100.0
Mother	1,376	34.5	387	41.8	371	39.5	331	31.3	287	26.8
Father	1,251	31.3	357	38.6	340	36.2	301	28.5	253	23.6
Step-father	93	2.3	13	1.4	17	1.8	33	3.1	30	2.8
Step-mother	28	0.7	5	0.5	4	0.4	10	0.9	9	0.8
Sibling	737	18.5	163	17.6	208	22.1	198	18.8	168	15.7
Partner of twin 1	247	6.2	-	-	-	-	85	8.0	162	15.1
Partner of twin 2	260	6.5	-	-	-	-	98	9.3	162	15.1

Source: F2F 2b methodological data

Tabelle 69 Successfully interviewed family members (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Total	2,950	100.0	838	100.0	802	100.0	706	100.0	604	100.0
Mother	1,250	42.4	378	45.1	358	44.6	287	40.7	227	37.6
Father	944	32.0	306	36.5	268	33.4	211	29.9	159	26.3
Step-father	51	1.7	10	1.2	10	1.2	20	2.8	11	1.8
Step-mother	14	0.5	2	0.2	3	0.4	5	0.7	4	0.7
Sibling	515	17.5	142	16.9	163	20.3	125	17.7	85	14.1
Partner of twin 1	86	2.9	-	-	-	-	25	3.5	61	10.1
Partner of twin 2	90	3.1	-	-	-	-	33	4.7	57	9.4

Source: F2F 2b methodological data

Tabelle 70 Response rates (%) of other family members (F2F 2b)

	Total	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Total	73.9	90.6	85.3	66.9	56.4
Mother	90.8	97.7	96.5	86.7	79.1
Father	75.5	85.7	78.8	70.1	62.8
Step-father	54.8	76.9	58.8	60.6	36.7
Step-mother	50.0	40.0	75.0	50.0	44.4
Sibling	69.9	87.1	78.4	63.1	50.6
Partner of twin 1	34.8	-	-	29.4	37.7
Partner of twin 2	34.6	-	-	33.7	35.2

Source: F2F 2b methodological data

6.3.1 Interviews in the CATI switch

709 families were switched from F2F to telephone interviews because they could not be reached or were difficult to motivate (soft refusals). In addition to these 709 families, 980 individual family members were also contacted. These individuals were part of families who were successfully interviewed in the F2F field. Here, the mode-switch to CATI therefore served for completing the families.

After the CATI switch, 341 family members (twins excluded) were interviewed. This included many siblings and partners of the twins. Out of a total of 1,073 interviewed siblings, 6.6 percent were interviewed by telephone. The rate of CATI interviews for the partners of the twins even exceeded 10 percent. The interviews with mothers and fathers, on the other hand, were conducted less frequently by telephone (4.7 and 5.8 percent, respectively).

The following tables document the distribution of the interviews conducted in the CATI field according to the different respondent types. The reason for the low number of telephone interviews in the F2F 2b survey is the considerable shorter field time of the CATI switch. The CATI field in the F2F 2a survey was open for several months, while the CATI field in the F2F 2b survey only lasted four weeks.

Tabelle 71 Other family members: Interviews conducted in CATI switch (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	341	100.0	37	100.0	62	100.0	120	100.0	122	100.0
Mother	116	34.0	13	35.1	22	35.5	41	34.2	40	32.8
Father	107	31.4	21	56.8	22	35.5	35	29.2	29	23.8
Step-father	8	2.4	-	-	3	4.9	3	2.5	2	1.6
Step-mother	1	0.3	-	-	-	-	-	-	1	0.8
Sibling	71	20.8	3	8.1	15	24.2	22	18.3	31	25.4
Partner of twin 1	22	6.5	-	-	-	-	12	10.0	10	8.2
Partner of twin 2	16	4.7	-	-	-	-	7	5.8	9	7.4

Source: F2F 2a/b methodological data

Tabelle 72 Other family members: interviews in the CATI switch (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	217	100.0	19	100.0	45	100.0	72	100.0	81	100.0
Mother	73	33.6	7	36.8	15	33.3	25	34.7	26	32.1
Father	64	29.5	10	52.6	17	37.8	21	29.2	16	19.8
Step-father	4	1.8	-	-	2	4.4	-	-	2	2.5
Step-mother	1	0.5	-	-	-	-	-	-	1	1.2
Sibling	52	24.0	2	10.5	11	24.4	15	20.8	24	29.6
Partner of twin 1	14	6.5	-	-	-	-	8	11.1	6	7.4
Partner of twin 2	9	4.2	-	-	-	-	3	4.2	6	7.4

Source: F2F 2a methodological data

Tabelle 73 Other family members: interviews in the CATI switch (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Total	124	100.0	18	100.0	17	100.0	48	100.0	41	100.0
Mother	43	34.7	6	33.3	7	41.2	16	33.3	14	34.2
Father	43	34.7	11	61.1	5	29.4	14	29.2	13	31.7
Step-father	4	3.2	-	-	1	5.9	3	6.3	-	-
Step-mother	-	-	-	-	-	-	-	-	-	-
Sibling	19	15.3	1	5.6	4	23.5	7	14.6	7	17.1
Partner of twin 1	8	6.5	-	-	-	-	4	8.3	4	9.8
Partner of twin 2	7	5.6	-	-	-	-	4	8.3	3	7.3

Source: F2F 2b methodological data

6.3.2 Completeness of the interview components

6.3.2.1 Self-administered questionnaires

The interviewer-administered interview (CAPI or CATI) was conducted with 5,870 family members (not counting the twins).

Respondents that were aged 10 years or older were also asked to complete self-administered questionnaires (SAQ). This included a computer-assisted self-interview (CASI or CAWI) and a paper-and-pencil self-administered interview (PAPI)

The number of completed SAQs is slightly lower among the other family members than among the twins (88.3 vs. 92.4 percent), but can still be considered high. Only for about 3.4 percent of the family members, no SAQ is available.

Tabelle 74 Other family members: Completed self-administered questionnaires (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: interviews conducted with people over 10 years of age	5,703	100.0	1,536	100.0	1,605	100.0	1,395	100.0	1,167	100.0
Both SAQs are completed	5,038	88.3	1,393	90.7	1,438	89.6	1,223	87.7	984	84.3
Only CASI/CAWI completed	138	2.4	35	2.3	37	2.3	32	2.3	34	2.9
Only PAPI completed	331	5.8	77	5.0	82	5.1	86	6.2	86	7.4
No SAQ completed	196	3.4	31	2.0	48	3.0	54	3.9	63	5.4

Source: F2F 2a/b methodological data

Tabelle 75 Other family members: Completed self-administered questionnaires (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: interviews conducted with people over 10 years of age	2,841	100.0	752	100.0	835	100.0	690	100.0	564	100.0
Both SAQs are completed	2,495	87.8	685	91.1	749	89.7	597	86.5	464	82.3
Only CASI/CAWI completed	61	2.2	14	1.9	18	2.2	14	2.0	15	2.7
Only PAPI completed	152	5.4	34	4.5	32	3.8	43	6.2	43	7.6
No SAQ completed	133	4.7	19	2.5	36	4.3	36	5.2	42	7.5

Source: F2F 2a methodological data

Tabelle 76 Other family members: Completed self-administered questionnaires (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Basis: interviews conducted with people over 10 years of age	2,862	100.0	784	100.0	770	100.0	705	100.0	603	100.0
Both SAQs are completed	2,543	88.9	708	90.3	689	89.5	626	88.8	520	86.2
Only CASI/CAWI completed	77	2.7	21	2.7	19	2.5	18	2.6	19	3.2
Only PAPI completed	179	6.3	43	5.5	50	6.5	43	6.1	43	7.1
No SAQ completed	63	2.2	12	1.5	12	1.6	18	2.6	221	3.5

Source: F2F 2b methodological data

There are no noticeable differences in the completeness rate of the self-administered interviews between the different family members.

Tabelle 77 Other family members: Response to the self-administered questionnaire according to person type (F2F 2a/b)

	Total		Mother		Father		Siblings		Step-parents		Partner of twins	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Basis: interviews conducted with people over 10 years of age	5,703	100.0	2,466	100.0	1,834	100.0	906	100.0	127	100.0	370	100.0
Both SAQs are completed	5,038	88.3	2,198	89.1	1,622	88.4	782	86.3	155	90.6	321	86.8
Only CASI/CAWI completed	138	2.4	54	2.2	39	2.1	29	3.2	3	2.4	13	3.5
Only PAPI completed	331	5.8	151	6.1	108	5.9	52	5.7	3	2.4	17	4.6
No SAQ completed	196	3.4	63	2.6	65	3.5	43	4.8	6	4.7	19	5.1

Source: F2F 2a/b methodological data

6.3.2.2 School report photos

The interviewed siblings who still went to school at the time of the interview or who had received their school leaving qualification since the last interview were asked permission to have their last yearly school report or qualification photographed. For underaged siblings, this consent was obtained from the parents. A school report photo was requested from 900 of the 1,073 interviewed siblings (83.9 percent). The photo was obtained from 51.7 percent of these 900 siblings. In 31.8 percent of cases, the parents refused to give consent to photograph the school report and for 8.7 percent no yearly report was available.

Tabelle 78 Siblings: School report photo (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: sibling interviewed	1,073	100.0	297	100.0	364	100.0	253	100.0	159	100.0
School report photo intended	900	83.9	278	93.6	342	94.0	163	64.4	117	73.6
School report photo intended	900	100.0	278	100.0	342	100.0	163	100.0	117	100.0
School report available	465	51.7	170	61.2	190	55.6	79	48.5	26	22.2
School report not available: consent not given	286	31.8	45	16.2	88	25.7	70	42.9	83	70.9
School report not available: school report not yet issued	78	8.7	38	13.7	32	9.4	5	3.1	3	2.6
School report not available	71	7.9	25	9.0	32	9.4	9	5.5	5	4.3

Source: F2F 2a/b methodological data

Tabelle 79 Siblings: School report photos (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: sibling interviewed	558	100.0	155	100.0	201	100.0	128	100.0	74	100.0
School report photo intended	472	84.6	144	92.9	189	94.0	82	64.1	57	77.0
School report photo intended	472	100.0	144	100.0	189	100.0	82	100.0	57	100.0
School report available	237	50.2	90	62.5	105	55.6	35	42.7	7	12.3
School report not available: consent not given	164	34.8	27	18.8	51	27.0	41	50.0	45	79.0
School report not available: school report not yet issued	33	7.0	17	11.8	14	7.4	2	2.4	-	-
School report not available	35	8.1	10	6.9	19	10.1	4	4.9	5	8.8

Source: F2F 2a methodological data

Tabelle 80 Siblings: School report photos (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%			Abs.	%	Abs.	%
Basis: sibling interviewed	515	100.0	142	100.0	163	100.0	125	100.0	85	100.0
School report photo intended	428	83.1	134	94.4	153	93.9	81	64.8	60	70.6
School report photo intended	428	100.0	134	100.0	153	100.0	81	100.0	60	100.0
School report available	228	53.3	80	59.7	85	55.6	44	54.3	19	31.7
School report not available: consent not given	122	28.5	18	13.4	37	24.2	29	35.8	38	63.3
School report not available: school report not yet issued	45	10.5	21	15.7	18	11.8	3	3.7	3	5.0
School report not available	33	7.7	15	11.2	13	8.5	5	6.2	-	-

Source: F2F 2b methodological data

6.3.2.3 Cognitive test

During the first F2F interview (F2F 1), a test to determine basic intelligence was conducted with all respondents. In this data collection, the tests were only conducted with respondents who had not been included in the first interviews. Of the 5,870 interviewed family members there were 856 first-time respondents. Among these, 123 respondents were interviewed via telephone (CATI switch), so the cognitive test could not be conducted due to the design. Of the 733 respondents intended for the cognitive testing, the test was conducted in 91.7 percent of the cases.

Tabelle 81 Other family members: cognitive test (F2F 2a/b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: first-time respondents	856	100.0	118	100.0	109	100.0	273	100.0	356	100.0
Cognitive test intended	733	85.6	106	89.8	100	91.7	226	82.8	301	84.6
Cognitive test intended	733	100.0	106	100.0	100	100.0	226	100.0	301	100.0
Cognitive test conducted	672	91.7	89	84.0	87	87.0	212	93.8	284	94.4
Cognitive test not conducted	61	8.3	17	16.0	13	13.0	14	6.2	17	5.7

Source: F2F 2a/b methodological data

Tabelle 82 Other family members: cognitive test (F2F 2a)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: first-time respondents	449	100.0	60	100.0	68	100.0	147	100.0	174	100.0
Cognitive test intended	369	82.2	54	90.0	60	88.2	120	81.6	135	77.6
Cognitive test intended	369	100.0	54	100.0	60	100.0	120	100.0	135	100.0
Cognitive test conducted	329	89.2	44	81.5	50	83.3	112	93.3	123	91.1
Cognitive test not conducted	40	10.8	10	18.5	10	16.7	8	6.7	12	8.9

Source: F2F 2a methodological data

Tabelle 83 Other family members: cognitive test (F2F 2b)

	Total		Cohort 1		Cohort 2		Cohort 3		Cohort 4	
Column %	Abs.	%	Abs.	%	Abs.	%	Abs.	%	Abs.	%
Basis: first-time respondents	407	100.0	58	100.0	41	100.0	126	100.0	182	100.0
Cognitive test intended	364	89.4	52	89.7	40	97.6	106	84.1	166	91.2
Cognitive test intended	364	100.0	52	100.0	40	100.0	106	100.0	166	100.0
Cognitive test conducted	343	94.2	45	86.5	37	92.5	100	94.3	161	97.0
Cognitive test not conducted	21	5.8	7	13.5	3	7.5	6	5.7	5	3.0

Source: F2F 2b methodological data

There are only minor differences in the completeness of the cognitive test between the different family members. However, only 75.6 percent of all targeted mothers completed the test. This might be explained by the mothers' involvement in the children's interviews making it particularly difficult for them to find time to answer the test.

Tabelle 84 Other family members: Cognitive test according to respondent type (F2F 2a/b)

	Total		Mother		Father		Siblings		Step-parents		Partner of twins	
<i>Column %</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>	<i>Abs.</i>	<i>%</i>
Basis: first-time respondents	856	100.0	50	100.0	231	100.0	198	100.0	49	100.0	328	100.0
Cognitive test intended	733	85.6	45	90.0	192	83.1	161	81.3	45	91.8	290	88.4
Cognitive test intended	733	100.0	45	100.0	192	100.0	161	100.0	45	100.0	290	100.0
Cognitive test conducted	672	91.7	34	75.6	172	89.6	140	87.0	42	93.3	284	97.9
Cognitive test not conducted	61	8.3	6	2.1	21	13.0	11	24.4	20	10.4	3	6.7

Source: F2F 2a/b methodological data

7 Interview situation

Interviewer questions were to be answered by the interviewer in each household. In the interviewer questions, various areas of the respondents' lives were to be assessed and questions were asked about the process and any problems that occurred while conducting the interviews in the household. If several visits were necessary to interview a household, the questions were asked several times. These interviewer questions were not asked in the interviews that were conducted via telephone (CATI switch).

The following analyses refer to 3,080 households from the F2F 2a and F2F 2b survey, for which valid interviewer comments are available. Duplicate comments were not considered here.³⁹

Due to the specificity of the interview in the family context, those interviewer comments that point to possible interventions by other family members in an interview are of particular interest. Even if the family members were asked by the interviewers not to interfere in the interviews of others, this could not always be avoided in the family context. The interventions included help concerning any comprehension problems as well as discussing the given answers.

The interviewers reported only a few cases in which the parents intervened in the survey of the twins (see table 85) or siblings (see table 86). With regard to all households, only 5.2 percent of the parents intervened in the twins' interview and 2.4 percent in the siblings' interview. Even after excluding the households in which parents and twins or siblings were not interviewed at the same time, the percentage of intervention was still low (6.3 percent and 3.5 percent respectively).

Tabelle 85 Intervention of the parents in the twins' interviews

Column %	Total		F2F 2a		F2F 2b	
	Abs.	%	Abs.	%	Abs.	%
Total	3,080	100.0	1,484	100.0	1,596	100.0
Yes, frequently	15	0.5	6	0.4	9	0.6
Yes, sometimes	144	4.7	80	5.4	64	4.0
No	2,380	77.3	1,191	80.3	1,189	74.5
Not applicable	541	17.6	207	13.9	334	20.9

Basis: 3,080 interviewed households (F2Fa/b) with valid interviewer comments
Source: F2F 2a/b survey data

³⁹ However, they were transmitted to the client.

Tabelle 86 Intervention of the parents in the sibling's interviews

	Total		F2F 2a		F2F 2b	
Column %	Abs.	%	Abs.	%	Abs.	%
Total	3,080	100.0	1,484	100.0	1,596	100.0
Yes, frequently	6	0.2	3	0.2	3	0.2
Yes, sometimes	68	2.2	40	2.7	28	1.8
No	2,045	66.4	1,046	70.5	999	62.6
Not applicable	961	31.2	395	26.6	566	35.5

Basis: 3,080 interviewed households (F2Fa/b) with valid interviewer comments
Source: F2F 2a/b survey data

Even though multiple interviews were conducted simultaneously, the interviewers reported only few interventions of the children and parents among each other (see tables 87 and 88).

Tabelle 87 Intervention of the children among each other

	Total		F2F 2a		F2F 2b	
Column %	Abs.	%	Abs.	%	Abs.	%
Total	3,080	100.0	1,484	100.0	1,596	100.0
Yes, frequently	11	0.4	7	0.5	4	0.3
Yes, sometimes	157	5.1	85	5.7	72	4.5
No	2,281	74.1	1,119	75.4	1,162	72.8
Not applicable	631	20.5	273	18.4	358	22.4

Basis: 3,080 interviewed households (F2Fa/b) with valid interviewer comments
Source: F2F 2a/b survey data

Tabelle 88 Intervention of the parents among each other

	Total		F2F 2a		F2F 2b	
Column %	Abs.	%	Abs.	%	Abs.	%
Total	3,080	100.0	1,484	100.0	1,596	100.0
Yes, frequently	10	0.3	6	0.4	4	0.3
Yes, sometimes	65	2.1	38	2.6	27	1.7
No	2,171	70.5	1,092	73.6	1,079	67.6
Not applicable	834	27.1	348	23.5	486	30.5

Basis: 3,080 interviewed households (F2Fa/b) with valid interviewer comments
Source: F2F 2a/b survey data

Furthermore, there were concerns beforehand that particularly the younger twins might try to impersonate their twin brother or sister in the interview situation. The interviewers were instructed to resolve this in a playful way by using name tags if this situation arose. However, only eight attempted cases of impersonating were reported (see table 89).

Tabelle 89 Interviewer assessment: Twins' attempts to impersonate one another

Column %	Total		F2F 2a		F2F 2b	
	Abs.	%	Abs.	%	Abs.	%
Total	3,080	100.0	1,484	100.0	1,596	100.0
Very often	1	0.0	-	-	1	0.1
Less often	7	0.2	4	0.3	3	0.2
Not often	26	0.8	11	0.7	15	0.9
Never	3,046	98.9	1,469	99.0	1,577	98.8

Basis: 3,080 interviewed households (F2Fa/b) with valid interviewer comments

Source: F2F 2a/b survey data

The interviewers were also asked to state how often respondents indicated that the interview was taking too long. In about 12 percent of the households this was expressed at least sometimes. While the length of the interview was a common reason given by respondents revoking their willingness to participate in the panel, respondents seem to rarely express this in the interview situation (see table 90).

Tabelle 90 Interviewer assessment: Respondents found the interview to be too long

Column %	Total		F2F 2a		F2F 2b	
	Abs.	%	Abs.	%	Abs.	%
Total	3,080	100.0	1,484	100.0	1,596	100.0
Very frequently	31	1.0	13	0.9	18	1.1
Frequently	71	2.3	35	2.4	36	2.3
Sometimes	268	8.7	163	11.0	105	6.6
Rarely	346	11.2	175	11.8	171	10.7
Never	2,364	76.8	1,098	74.0	1,266	79.3

Basis: 3,080 interviewed households (F2Fa/b) with valid interviewer comments

Source: F2F 2a/b survey data

8 Data processing and data delivery

The survey data was managed on the basis of different analysis levels (family, household and person). The levels are always clearly assigned using a family and a household number. All data sets can be linked.

The survey data was stored in a total of 11 different data records according to the various analysis units and survey methods:

- **Family questionnaire:** information from the family questionnaire; each person confirmed or newly included in the family questionnaire is represented as one case
- **Family questionnaire open answers:** open information from the family questionnaire for each person in the family questionnaire
- **Household questionnaire:** household data from the household questionnaire
- **Household questionnaire open answers:** open information from the household questionnaire
- **Interviewer questions** at the household level: Interviewer questions incl. reports of disruption and problems during the interview
- **CAPI/CATI individual data:** CAPI and CATI interview data at the individual level
- **CAPI/CATI individual data open answers:** open information from the CAPI and CATI survey data
- **CASI/CAWI individual data:** Survey data from the computer-assisted self-interviews at the individual level
- **CASI/CAWI individual data open answers:** open information from the computer-assisted self-interview
- **PAPI data: 16 years and older:** Survey data from the paper-and-pencil questionnaire for adults aged 16 and older
- **PAPI data: children:** Survey data from the paper-and-pencil questionnaire for children between 10 and 15 years of age

The file names, variable names as well as the value labels are based on the questionnaire.

Before the data was delivered to the TwinLife team, it underwent extensive checks in regard to formal and content-related criteria. As part of the formal data check, the interview data was compared to the sample information (ensuring that the right target respondent was interviewed), checks were conducted for duplicate personal numbers and implausible short interview durations. Additionally, the results from the interviewer feedback form were taken into account.

In all of the computer based instruments (CAPI/CATI and CASI/CAWI) extensive plausibility checks were programmed so that any implausibility was already noticed and potentially resolved during the interviews. A range of longitudinal checks was also specified by the TwinLife team. These checks referred to, for example, a lower highest training qualification than in the first interview, deviations in school classes or in nationality as well as bigger deviations in body dimensions. This comparison was carried out based on the survey data from the first F2F data collection. A flag variable was created for each reviewed variable. Further processing of this information was carried out by the TwinLife team.

The open text information on the occupation and industry of the respondents was coded according to the International Standard Classification of Occupations from 2008 (ISCO 08) and the Classification of Economic Activities (WZ 08). The highest training qualifications were also coded according to the International Standard Classification of Education (ISCED 1997). Open plain-text information that could not be clearly assigned was documented in a separate variable. The open plain-text information was also delivered to the TwinLife team, separately from the survey data. The encoding was done in-house by trained personnel. All assigned codes were checked randomly for plausibility. Furthermore, the frequencies and distributions of the assigned codes were checked. For all cases of doubt arising from machine coding, the non-machine coding was conducted by two coders (in order to ensure intercoder reliability).

During the F2F 2a and F2F 2b survey, an unreviewed interim data delivery was conducted in the middle of each fieldwork phase.

The final data records were handed over at the end of the fieldwork phase using a secure exchange server.

In addition to the survey data, the data records on contact history were also delivered at the end of the fieldwork phase. These contain the entire contact history (with details such as contact date, type and person) at the family, the household and the individual level.

Additionally, a methodological data set was prepared in close consultation with the TwinLife team.

Annex

- Letter for cohorts 1 and 2
- Letter for cohorts 3 and 4
- Data protection notice
- Study newsletter (F2F 2a)
- Study newsletter (F2F 2b)
- Thank you letter for face-to-face respondents over 14 years of age
- Thank you letter for face-to-face respondents under 14 years of age
- Conversion letter for families in cohorts 1 and 2
- Conversion letter for families in cohorts 1 and 2
- Conversion letter for individuals
- Thank you letter for the CATI switch with an invitation to complete an online survey, with PAPI
- Thank you letter for the CATI switch with no invitation to complete an online survey, with PAPI
- Thank you letter for the CATI switch with no invitation to complete an online survey, without PAPI
- Thank you letter for CATI switch for twins in cohort 2
- Easter card 2017
- Christmas card 2017
- Summer card 2018

An die Erziehungsberechtigten von
<Vorname Twin 1> und <Vorname Twin 2> <Nach-
name>
Anschrift
PLZ Ort

Bonn, Monat 2016

**TwinLife – Deutschlandweite Zwillingfamilien-Studie zur Entwicklung
unterschiedlicher Lebenschancen**

Sehr geehrte Eltern,

Sie und Ihre Familie haben ja bereits an der deutschlandweiten Zwillingfamilien-Studie „TwinLife“ teilgenommen, die im Auftrag der Universitäten Bielefeld und Saarbrücken jetzt vom infas Institut für angewandte Sozialwissenschaft GmbH in Bonn durchgeführt wird. Sie haben freundlicherweise zugestimmt, dass wir uns bei Ihnen melden dürfen. Dafür nochmals herzlichen Dank.

Nun ist es wieder soweit!

In den nächsten Wochen wird eine Mitarbeiterin oder ein Mitarbeiter von infas mit Ihnen Kontakt aufnehmen, um mit Ihrer Familie einen Termin für einen Hausbesuch zu vereinbaren. Wie Sie es schon aus der ersten persönlichen Befragung kennen, sollen auch diesmal wieder die Zwillinge, Sie als Eltern sowie weitere Personen aus Ihrer Familie befragt werden.

Zusammen mit unserer Mitarbeiterin bzw. unserem Mitarbeiter stimmen Sie die Termine so ab, wie es für Sie und Ihre Familie am besten passt.

Warum ist Ihre erneute Teilnahme so wichtig?

Die erneute Teilnahme Ihrer Familie ist für die Qualität und Verlässlichkeit der Studie unersetzlich. Nur so können wir die Fragestellungen der Untersuchung umfassend beantworten und es kann ein vollständiges Bild über die Lebenssituation von Zwillingen entstehen. Die Teilnahme an der Befragung ist freiwillig und alle Regeln des Datenschutzes werden eingehalten. Weitere Ausführungen können Sie dem beiliegenden Datenschutzblatt entnehmen.

Was haben Sie davon?

Als kleines Dankeschön für die Teilnahme Ihrer Familie möchten wir uns mit jeweils **10 Euro für jede befragte Person** erkenntlich zeigen, die wir allen im Anschluss an die Befragung zusenden.

Haben Sie noch Fragen?

Für Rückfragen steht Ihnen bei infas Ihre persönliche Ansprechpartnerin Frau Sabrina Torregroza unter der **kostenfreien Telefonnummer 0800/73 84 500** zu den üblichen Bürozeiten gerne zur Verfügung. Nutzen Sie bei Fragen auch unse-

im Auftrag von



re E-Mail-Adresse **twinlife@infas.de**. Wir werden Ihnen kurzfristig unsere Antwort senden.

Weitere Informationen zum Thema Zwillinge und dem Hintergrund der Studie sowie eine Vielzahl von interessanten Medienbeiträgen finden Sie unter www.twin-life.de.

Wir möchten uns bereits an dieser Stelle sehr herzlich für Ihre Mitwirkung an dieser wichtigen Studie bedanken und verbleiben mit freundlichen Grüßen

Prof. Dr. M. Diewald
Universität Bielefeld
Fakultät für Soziologie

Prof. Dr. Rainer Riemann
Universität Bielefeld
Fakultät für Psychologie
und Sportwissenschaft

Prof. Dr. Frank M. Spinath
Universität des Saarlandes
Philosophische Fakultät

Doris Hess
infas Institut für angewandte
Sozialwissenschaft GmbH

Anlage:
Datenschutzblatt

An
<Vorname Twin> <Nachname Twin>
Anschrift
PLZ Ort

infas

infas Institut für angewandte
Sozialwissenschaft GmbHPostfach 240101
53154 Bonnkostenfreie Tel. 0800/73 84 500
twinlife@infas.de
www.twin-life.de

Bonn, Monat 2016

**TwinLife – Deutschlandweite Zwillingfamilien-Studie zur Entwicklung
unterschiedlicher Lebenschancen**

Liebe/r <Vorname Twin> <Nachname Twin>,

Sie und Ihre Familie haben ja bereits an der deutschlandweiten Zwillingfamilien-Studie „TwinLife“ teilgenommen, die im Auftrag der Universitäten Bielefeld und Saarbrücken jetzt vom infas Institut für angewandte Sozialwissenschaft GmbH in Bonn durchgeführt wird. Sie haben freundlicherweise zugestimmt, dass wir uns bei Ihnen melden dürfen. Dafür nochmals herzlichen Dank.

Nun ist es wieder soweit!

In den nächsten Wochen wird eine Mitarbeiterin oder ein Mitarbeiter von infas mit Ihnen Kontakt aufnehmen, um mit Ihnen einen Termin für einen Hausbesuch zu vereinbaren. Wie Sie es schon aus der ersten persönlichen Befragung kennen, sollen auch diesmal wieder Sie selbst sowie mehrere Personen aus Ihrer Familie befragt werden.

Zusammen mit unserer Mitarbeiterin bzw. unserem Mitarbeiter stimmen Sie die Termine so ab, wie es für Sie und Ihre Familie am besten passt.

Warum ist Ihre erneute Teilnahme so wichtig?

Die erneute Teilnahme Ihrer Familie ist für die Qualität und Verlässlichkeit der Studie unersetzlich. Nur so können wir die Fragestellungen der Untersuchung umfassend beantworten und es kann ein vollständiges Bild über die Lebenssituation von Zwillingen entstehen. Die Teilnahme an der Befragung ist selbstverständlich freiwillig und alle Regeln des Datenschutzes werden eingehalten. Weitere Ausführungen können Sie dem beiliegenden Datenschutzblatt entnehmen.

Was haben Sie davon?

Als kleines Dankeschön für Ihre Teilnahme erhalten Sie persönlich **10 Euro**, die wir Ihnen im Anschluss an die Befragung zusenden. Zusätzlich möchten wir uns auch bei Ihren Eltern sowie einem ggf. vorhandenen Geschwisterkind und auch bei allen Personen, die jetzt zum ersten Mal an unserer Befragung teilnehmen, mit **jeweils 10 Euro pro Person** bedanken.

im Auftrag von



Haben Sie noch Fragen?

Für Rückfragen steht Ihnen bei infas Ihre persönliche Ansprechpartnerin Frau Sabrina Torregroza unter der **kostenfreien Telefonnummer 0800/73 84 500** zu den üblichen Bürozeiten gerne zur Verfügung. Nutzen Sie bei Fragen auch unsere E-Mail-Adresse **twinlife@infas.de**. Wir werden Ihnen kurzfristig unsere Antwort senden.

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Anlage:
Datenschutzblatt

Erklärung zum Datenschutz und zur absoluten Vertraulichkeit Ihrer Angaben

Das infas Institut für angewandte Sozialwissenschaft in Bonn und das Forscherteam des Projekts TwinLife, angesiedelt an der Universität Bielefeld und der Universität des Saarlandes, führen zusammen die wissenschaftliche Studie „TwinLife – Deutschlandweite Zwillingsfamilien-Studie zur Entwicklung unterschiedlicher Lebenschancen“ durch. Alle beteiligten Institutionen arbeiten streng nach den gesetzlichen Bestimmungen des Datenschutzes.

Ihre Teilnahme an der Studie ist freiwillig. Die Ergebnisse der Befragung werden ausschließlich in anonymisierter Form, d.h. ohne Namen und Kontaktdaten dargestellt.

Das bedeutet: Niemand kann aus den Ergebnissen erkennen, von welcher Person diese Angaben gemacht worden sind.

Dies gilt auch bei den Wiederholungsbefragungen, bei denen es wichtig ist, nach einer bestimmten Zeit noch einmal ein Interview mit derselben Person durchzuführen. Die statistischen Auswertungen werden so vorgenommen, dass die Angaben aus mehreren Befragungen nur durch eine Codenummer, also ohne Namen und Adresse, miteinander verknüpft werden.

Es gibt keine Weitergabe von Daten an Dritte, die Ihre Person erkennen lassen.

Für die Einhaltung der Datenschutzbestimmungen sind verantwortlich:

Dipl.-Soz. Menno Smid

Geschäftsführer
infas Institut für angewandte
Sozialwissenschaft GmbH

Christian Dickmann

Datenschutzbeauftragter
infas Institut für angewandte
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Prof. Dr. Martin Diewald

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Auf der Rückseite dieser Erklärung zeigen wir Ihnen den Weg Ihrer Daten vom Interview bis zur völlig anonymen Ergebnistabelle.

Was geschieht mit Ihren Angaben?

- 1 Ihre Antworten werden im Computer durch Eingabe der zutreffenden Angabe in Form von Ziffern erfasst. Bei Interviews mit einem Papierfragebogen werden Ihre Angaben ebenfalls in Zahlen umgesetzt und durch infas elektronisch erfasst.
- 2 Ihre Angaben werden ausnahmslos ohne Ihren Namen oder Ihre Kontaktdaten (also in anonymisierter Form) gespeichert.
- 3 Die Namen und Kontaktdaten werden ausschließlich bei infas gespeichert, eine Speicherung bei den beteiligten Universitäten findet nicht statt. Bei infas werden Namen und Kontaktdaten strikt von den Interviews getrennt und nach Abschluss der Untersuchung gelöscht.
- 4 Anschließend werden alle Fragebögen (ohne Namen und Kontaktdaten) ausgewertet. Der Computer zählt z.B. alle Antworten zur Frage zur Erwerbssituation und errechnet daraus die Prozentergebnisse.
- 5 Das Gesamtergebnis und die Ergebnisse für Teilgruppen (z.B. Männer, Frauen) werden in Tabellenform ausgedruckt. Angaben einzelner Personen sind nicht erkennbar.
- 6 Auch bei der Wiederholungsbefragung werden Ihr Name und Ihre Kontaktdaten stets von den Daten des Interviews getrennt.

Beispiel

In welcher Situation befinden Sie sich derzeit? Sind Sie ...

erwerbstätig?	☐ 1
arbeitslos?	☐ 2
in Ausbildung?	☐ 3
Hausfrau/Hausmann?	☒ 4
im Ruhestand?	☐ 5
Sonstiges?	☐ 6

	Männer	Frauen	Gesamt
Erwerbstätig	60,9%	50,8%	55,5%
Arbeitslos	3,4%	2,8%	3,1%
Ausbildung	3,5%	2,5%	3,0%
Hausfrau/Hausmann	0,4%	11,2%	6,2%
Ruhestand	29,1%	30,0%	29,5%
Sonstiges	2,7%	2,7%	2,7%
Gesamt	100%	100%	100%

In jedem Fall gilt:

Ihre Teilnahme am Interview ist freiwillig.

Bei Nichtteilnahme entstehen Ihnen keine Nachteile. Es ist selbstverständlich, dass alle gesetzlichen Bestimmungen des Datenschutzes eingehalten werden.

Sie können absolut sicher sein, dass wir...

- Ihren Namen und Ihre Kontaktdaten nicht mit Ihren Interviewdaten zusammenführen, so dass niemand erfährt, welche Antworten Sie persönlich gegeben haben;
- Ihren Namen und Ihre Kontaktdaten nicht an Dritte weitergeben;
- keine Einzeldaten, die einen Rückschluss auf Ihre Person zulassen, an Dritte weitergeben;
- die Daten ausschließlich zu Forschungszwecken nutzen werden.

Wir danken für Ihre Mitwirkung und für Ihr Vertrauen in unsere Arbeit!



Eine genetisch informative Längsschnittstudie zur
Entwicklung unterschiedlicher Lebenschancen



Newsletter

10/2016

Der TwinLife-Newsletter ist da!

*Herzlichen Dank an alle teilnehmenden Familien für die
bisherige Unterstützung!*

TwinLife

... ist ein gemeinsames Projekt der Universität des Saarlandes und der Universität Bielefeld, das durch die Deutsche Forschungsgemeinschaft (DFG) gefördert wird. WissenschaftlerInnen der Fachbereiche Psychologie, Soziologie und Verhaltensgenetik arbeiten dabei in einem interdisziplinären Team zusammen. Ziel ist die Erforschung von sozialen Mechanismen und genetischen Unterschieden, die sozialer Ungleichheit zugrunde liegen.

Schön, dass Sie dabei sind und dieses Projekt unterstützen!

Jede einzelne Familie leistet durch ihre Teilnahme einen wertvollen Beitrag für die Wissenschaft und macht die Forschung erst möglich.

Was war & wie geht es weiter?

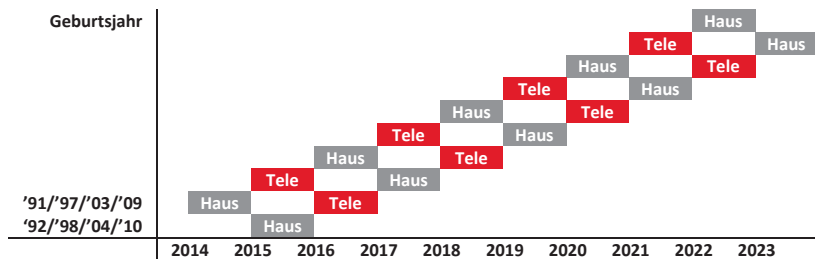
In der TwinLife Studie wechseln sich jedes Jahr Haus- und Telefonbefragungen ab – wie Sie unter ‚Der Studienverlauf im Überblick‘ sehen können.

Alle teilnehmenden Familien hatten mittlerweile einmal Besuch eines Interviewers oder einer Interviewerin von TNS Infratest. Bei dieser Hausbefragung wurden die Zwillinge, Eltern und in vielen Fällen auch ein Geschwisterkind zu verschiedenen Themen befragt. Im November 2016 startet die zweite Hausbefragung für die Zwillingssjahrgänge 1990/1991, 1997, 2003 und 2009 mit einem neuen Fragenprogramm und auch unserem neuen Erhebungsinstitut *infas*.

Für Sie – die Familien der Zwillingssjahrgänge 1992/1993, 1998, 2004 und 2010 – geht es als nächstes mit dem Telefoninterview weiter. Dabei sollen alle Personen, die über 10 Jahre alt sind telefonisch befragt werden.

Der Studienverlauf im Überblick

Die Erhebung über mehrere Jahre hinweg erlaubt das Erforschen von Entwicklungsverläufen ab der frühen Kindheit bis ins Erwachsenenalter. Daher ist für uns von zentraler Bedeutung, die Familien über einen mehrjährigen Zeitraum begleiten zu dürfen.



Erste Ergebnisse

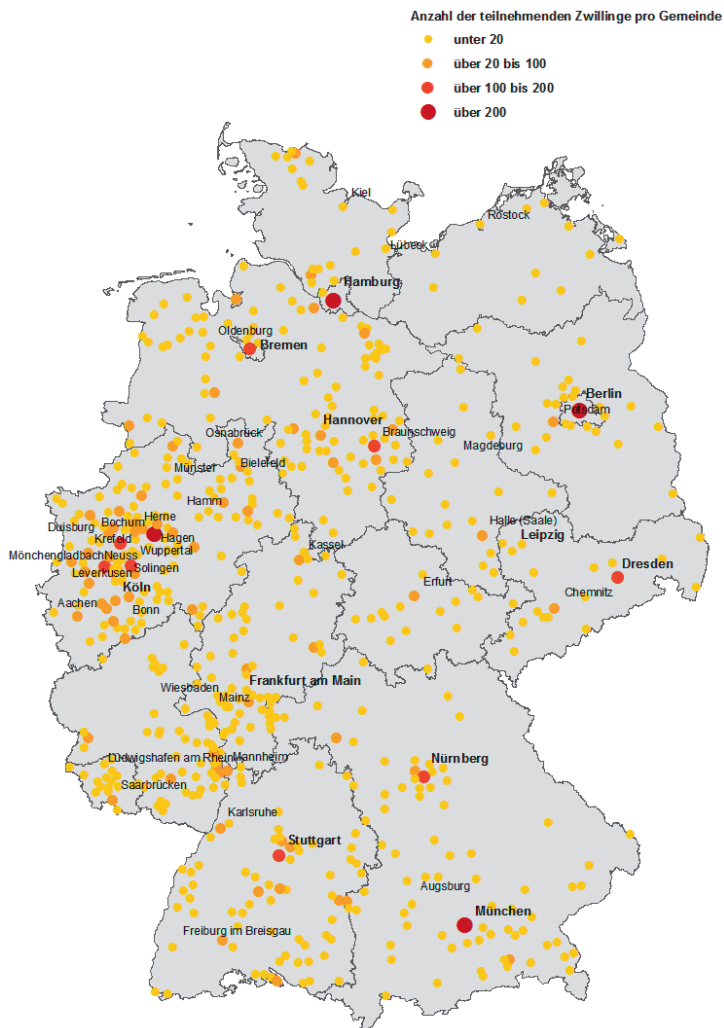
Einige Informationen über die teilnehmenden Familien haben wir im Folgenden für Sie zusammengestellt.

Über die teilnehmenden Familien

Ein zentrales Anliegen der TwinLife Studie ist es, anhand der teilnehmenden Familien möglichst aussagekräftige Rückschlüsse auf die Gesamtbevölkerung ziehen zu können. Daher ist es wichtig, dass Familien unterschiedlicher sozialer und ethnischer Herkunft, mit verschiedenen Lebensstilen, Werten und Überzeugungen teilnehmen.

Bisher beteiligen sich bundesweit 4.093 Familien an TwinLife, das sind insgesamt 18.832 Personen: Zwillinge, Eltern und Stiefeltern, Geschwister und Partner der Zwillinge.

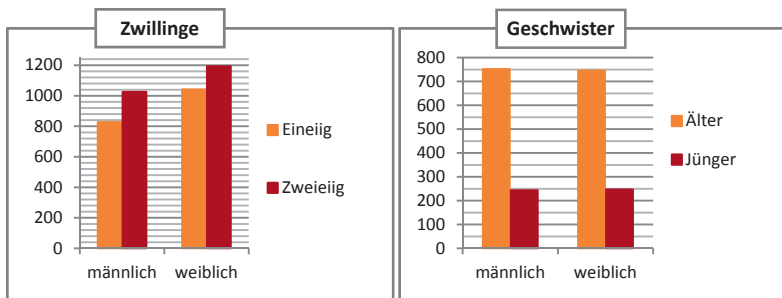
Verteilung der Zwillinge über Deutschland



Über die Zwillinge und Geschwister

Um den Einfluss und das Zusammenspiel von Genen und Umwelt untersuchen zu können, sind die Zwillinge und ihre Geschwister von zentraler Bedeutung.

Für diese Untersuchungen brauchen wir gleich viele eineiige und zweieiige sowie gleich viele männliche und weibliche Zwillingspaare. Die nachfolgende Graphik mit dem Titel „Zwillinge“ verdeutlicht, dass dieses angestrebte Gleichgewicht ausreichend gegeben ist.



Der Vergleich ein- und zweieiiger Zwillinge ermöglicht es, genetische und umweltbedingte Einflüsse getrennt voneinander zu betrachten. Die Hinzunahme von Geschwistern, die – ebenso wie zweieiige Zwillinge – etwa die Hälfte ihrer Gene mit den Zwillingen teilen, ermöglicht es, den Einfluss unterschiedlicher Umwelten zu untersuchen, da die Geschwister zu einem anderen Zeitpunkt in der Familie aufwachsen als die Zwillinge. So kann der Beitrag von Genen und Umwelt, aber auch deren Zusammenwirken bei der Entstehung sozialer Unterschiede erforscht werden.

Das Leben der Zwillinge

Auf unsere Frage „*Versuch(t)en Sie (als Eltern) die Zwillinge so gleich wie möglich zu kleiden?*“ gaben 49% aller Eltern an, dies zu tun oder getan zu haben. Weitere 9% erklärten, die Kleidung der Zwillinge aufeinander abzustimmen bzw. abgestimmt zu haben, während 42% angaben, die Zwillinge niemals gleich zu kleiden oder dies je getan zu haben.

Etwa 64% der Zwillingspaare besuch(t)en die gleiche Grundschulklasse. Dieser Anteil lag in der 5. bis 10. Klasse nur noch bei 54%, wobei die meisten Zwillinge (80%) zumindest die gleiche Schule besuch(t)en. In der Oberstufe besuch(t)en fast gleich viele Zwillinge die gleiche Klasse, unterschiedliche Klassen auf der gleichen oder verschiedenen Schulen.

	Gleiche Klasse	Verschiedene Klassen, gleiche Schule	Verschiedene Schulen
Grundschule	64 %	33 %	3 %
5. bis 10. Klasse	54 %	26 %	20 %
Oberstufe	37 %	31 %	32 %

Viele Eltern stellen sich die Frage, ob sich der Besuch der gleichen oder getrennter Klassen negativ auf die Schulleistung der Zwillinge auswirken könnte. Die bisherige Forschung zeigt, dass Unterschiede in der Leistung von Zwillingen nicht darauf zurückzuführen sind, ob diese in die gleiche oder verschiedene Klassen gehen.

Die Frage „*Teilen die Zwillinge (aktuell) in etwa die gleichen Hobbies und Interessen?*“ wurde von 6503 (Stief-)Elternteilen beantwortet. Die Mehrheit (66%) bejahte diese Frage, 34% antworteten mit „Nein“ oder gaben an, dass dies früher so gewesen sei, heute aber nicht mehr. In 2426 Fällen beantworteten zwei (Stief-)Elternteile diese Frage. Davon waren sich 82% einig, während in 18% die Antworten verschieden ausfielen.

Infobox – Wussten Sie schon...?

Bei Zwillingsgeburten unterscheidet man zwischen **Zygotie** (Eiigkeit der Zwillinge) und **Chorionizität** (Anzahl der vorliegenden Plazenten).

Das Vorliegen nur einer Plazenta bei Schwangerschaft und Geburt belegt eindeutig die Eineiigkeit der Zwillinge.

Beim Vorhandensein von zwei Plazenten hingegen, können die Zwillinge sowohl ein- als auch zweieiig sein!

Viele weitere wissenswerte Informationen zum Thema „Zwillinge“ finden Sie auf unserer Webseite.

Die Eiigkeit der Zwillinge

Bei insgesamt 2224 Zwillingspaaren wurde die Zygotie bereits durch medizinisches Personal eingeschätzt. Für 115 dieser Paare lag zusätzlich eine genetische Eiigkeitsbestimmung vor.

Der Vergleich der Eiigkeitsbestimmung mittels Fragebogen mit der genetischen Analyse fiel zufriedenstellend aus: Etwas mehr als 90% der Zwillinge wurden richtig klassifiziert. Auch stellten wir die DNA-Ergebnisse der Aussagen des medizinischen Personals gegenüber: In 24% waren diese nicht deckungsgleich. Bei genauerer Betrachtung zeigte sich, dass alle zweieiigen Zwillinge durch medizinisches Personal richtig als solche erkannt, eineiige aber in 39% fälschlich als zweieiig eingestuft wurden. Dieses Ergebnis ist verständlich, da medizinisches Personal häufig die Anzahl der vorliegenden Plazenten zur Zygotie-Bestimmung heranzieht. Zudem verglichen wir die Fragebogenergebnisse mit den medizinischen Aussagen: Diese stimmten in 14% nicht überein, wobei wieder vor allem bei eineiigen Zwillingen die Übereinstimmung fehlte.

Beste Grüße vom TwinLife Team, aus...

Bielefeld & Berlin



Prof. Dr.
Martin Diewald



Dr. Wiebke
Schulz



Dr. Bastian
Mönkediek

Bielefeld



Prof. Dr.
Rainer Riemann



Dr. Anna E.
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Dr. Elisabeth
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Dipl.-Volksw.
Kristina Krell



Dipl.-Volksw.
Volker Lang



B.Sc.-Psych.
Merit Kaempfert



B.Sc.-Psych.
Amelie Nikstat



B.Sc.-Psych.
Franziska Lenau

Wir hoffen, dass wir auch in Zukunft auf Sie zählen können und freuen uns auf die weitere Zusammenarbeit!

www.twin-life.de

Auf unserer Webseite finden Sie weitere Informationen über die Inhalte und den Verlauf der Studie, am Projekt beteiligte Personen und Organisationen, interessante Medienbeiträge und vieles mehr!

So erreichen Sie uns

Allgemeine Fragen zu TwinLife:

Projektleitung TwinLife

✉ info@twin-life.de

☎ +49 (0)681 302 3338

Fragen zum Ablauf der Studie:

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TwinLife

Eine genetisch informative Längsschnittstudie zur
Entwicklung unterschiedlicher Lebenschancen



Newsletter

09/2017

Der neue TwinLife-Newsletter ist da!

*Herzlichen Dank an alle teilnehmenden Familien für Ihre
Unterstützung!*



TwinLife ... und aktuell?

Seit 2014 haben sowohl die TeilnehmerInnen als auch das TwinLife-Team viel erlebt. Die erste Haushaltsbefragung sowie das erste Telefoninterview sind erfolgreich abgeschlossen und einige Familien beteiligen sich bereits an der zweiten Phase der Haushaltsbefragung – vielleicht sind Sie ja eine davon? Wir möchten uns an dieser Stelle nochmals dafür bedanken, dass Sie sich die Zeit nehmen, um bei TwinLife mitzumachen. Für uns ist es nämlich von zentraler Bedeutung, dass wir die teilnehmenden Familien über einen längeren Zeitraum hinweg begleiten dürfen. Das erst macht es uns möglich, die Entwicklungsverläufe von der frühen Kindheit bis ins Erwachsenenalter zu erforschen.

Während Sie uns als TeilnehmerIn unterstützen, arbeiten die MitarbeiterInnen in TwinLife an der Organisation, Datenaufbereitung und -auswertung. Seit Oktober 2016 stehen die TwinLife-Daten der ersten Haushaltsbefragung der wissenschaftlichen Gemeinschaft zur Verfügung. Nun können auch andere ForscherInnen wissenschaftliche Fragestellungen mit den TwinLife Daten bearbeiten. Natürlich werden die Daten ausschließlich anonym weiter gegeben und ausgewertet.



TwinLife Mitarbeiterin der ZIF – Forschungsgruppe 2015/2016 „Genetische und soziale Ursachen von Lebenschancen“ Fotografien: Alexandra Polina, Bielefeld

Wer unsere Aktivitäten auf der Homepage verfolgt, wird zudem wissen, dass wir viele Personen innerhalb und außerhalb der Wissenschaft für unser Projekt begeistern konnten. Neben einer großen Medienresonanz waren wir dieses Jahr mit unseren Forschungsergebnissen auf zahlreichen Konferenzen im In- und Ausland vertreten.



Auch kooperieren wir mit diversen Wissenschaftlern aus aller Welt, wie zuletzt im Rahmen einer Forschungsgruppe am Zentrum für interdisziplinäre Forschung der Universität Bielefeld (ZIF).



*ZIF – Forschungsgruppe 2015/2016, Genetische und soziale Ursachen von Lebenschancen;
Fotografin: Alexandra Polina, Bielefeld*

Insgesamt erhält das TwinLife-Team sehr viel positives Feedback zur Studie, wofür wir Ihnen „Danke“ sagen möchten! Wir hoffen, dass Sie die gemeinsame Zeit im Projekt genauso positiv wahrnehmen wie wir. Um Ihnen noch mehr Einblicke in unsere Arbeit zu ermöglichen, finden Sie auf den nächsten Seiten in paar Auszüge aktueller Forschungsprojekte im Rahmen der TwinLife-Studie.



Behandeln Eltern ihre Kinder unterschiedlich?

Ob Eltern ihre Kinder unterschiedlich behandeln, ist eine heikle Frage. Fragt man Eltern danach, verneinen sie das eher. Kinder hingegen berichten häufiger, dass Eltern schon Unterschiede in der Erziehung machen. Bei Geschwistern hängt das auch damit zusammen, dass sie unterschiedlich alt sind. Aber auch wenn wir die Verhaltensweisen der Eltern zu den Zeitpunkten vergleichen würden, an dem die Geschwister im gleichen Alter waren, würden wir Unterschiede im Verhalten der Eltern feststellen können. Dies liegt daran, dass sich die Eltern häufig in verschiedenen Lebenssituationen befanden, also eventuell unterschiedlich viel Zeit, Geld und andere Ressourcen für die Erziehung der Kinder zur Verfügung hatten.

Wie ist es aber bei Zwillingen? Da fallen solche wechselnden Umstände, die Unterschiede im Elternverhalten ausmachen können, ja zu einem großen Teil weg. Hier zeigt sich, dass Eltern ihre Zwillinge-Kinder in der Tat eher gleich behandeln, auch aus Sicht der Kinder. Das gilt zumindest für die jeweils empfundene emotionale Wärme, die Zuwendung und das Setzen von Regeln. Darüber hinaus haben wir untersucht, ob Eltern ihre Zwillinge-Kinder unterschiedlich stark unterstützen, je nachdem ob sie annehmen, dass ein besonderer Bedarf besteht. Konkret haben wir uns angeschaut, ob Eltern auf ein niedriges Geburtsgewicht mit einem Mehr an gemeinsamen Aktivitäten reagieren, etwa zusammen singen, musizieren, Bücher lesen, oder auch sportliche Aktivitäten. Das alles sind Aktivitäten, die helfen können, die Entwicklung eines Kindes gezielt zu fördern. Im Vergleich zwischen Familien zeigen unsere Ergebnisse, dass Eltern hier kompensierend reagieren, das heißt, dass Eltern bei einem vergleichsweise geringen Geburtsgewicht versuchen den vermuteten Entwicklungsrückstand ihrer Kinder durch ein Mehr an Aktivitäten auszugleichen.



Bild: Katrina Elena/Shutterstock.com

Innerhalb von Familien werden jedoch, bei einem unterschiedlichen Geburtsgewicht der Zwillinge, überraschenderweise mit dem vergleichsweise kräftigeren Kind mehr Aktivitäten unternommen. Warum das so ist, darüber können wir im Augenblick nur spekulieren. Möglicherweise ist es schlicht so, dass sich kräftigere Kinder tendenziell schneller entwickeln und entsprechend früher und häufiger solche Aktivitäten einfordern oder auf entsprechende Angebote der Eltern stärker reagieren. Die Daten der weiteren Erhebungswellen werden es uns mit Ihrer Unterstützung ermöglichen, diese Entwicklungsprozesse noch genauer zu verstehen.

TwinLife: ForscherInnen im Portrait



Anke Hufer, M.Sc.-Psych.

Hallo, ich bin Anke Hufer. Seit Oktober 2016 bin ich Teil des TwinLife-Teams an der Universität Bielefeld. Nach meinem Psychologiestudium an den Universitäten Düsseldorf und Kassel von 2010 bis 2015 hatte ich weiterhin große Lust auf Forschung und so habe ich mich dazu entschieden zu promovieren. Für meine Doktorarbeit bieten besonders die vielfältigen TwinLife-Daten eine gute Basis.

In einem großen Projekt wie TwinLife gibt es die unterschiedlichsten spannenden Aufgaben, beispielsweise die Zusammenstellung und Optimierung der neuen Befragungsprogramme. Daneben führe ich Analysen zu verschiedenen Themen durch. Die Möglichkeiten dazu sind, dank der vielen Fragen, die wir unseren Teilnehmerinnen und Teilnehmern stellen durften, ganz vielfältig: Momentan liegen meine Forschungsschwerpunkte bei politischen Einstellungen und Teilhabe sowie dem Selbstwert. Es interessiert mich sehr, welche Einflüsse die Gene und die Umwelt auf diese Merkmale haben und ich bin gespannt, welche Entwicklungen unsere Zwillinge und ihre Familien im Laufe des Befragungszeitraums erleben werden. Ich freue mich schon auf hoffentlich noch viele schöne, aufregende und lehrreiche Jahre als Teil der TwinLife-Familie!



Schullaufbahn und Schulnoten: Gene haben unterschiedliches Gewicht

Schulische Leistungen (Noten) und erreichte Schulabschlüsse stehen im engen Zusammenhang mit späteren sozialen Chancen und Ungleichheiten. Sie beeinflussen berufliche Möglichkeiten, die sozialen und finanziellen Lebensumstände sowie letztlich auch unsere psychische Gesundheit. Deshalb interessiert uns, wie Unterschiede in Schulnoten zustande kommen und welchen Einflüssen sie unterliegen. Um das herauszufinden, haben wir die Noten in Mathematik und Deutsch sowie den Gesamtnotendurchschnitt der Zwillinge aus den Jahrgängen 1997/98 und 2003/04, von denen fotografierte Zeugnisse vorlagen, untersucht. Da insbesondere die älteren Zwillinge eine Vielzahl verschiedener Schultypen besuchen, beschränkten wir unsere Analysen in den beiden Altersgruppen auf die am häufigsten besuchten Schultypen (11 Jahre, Grundschule und Gymnasium; 17 Jahre, Gymnasium und Gesamtschule). Dadurch, dass wir Zwillingfamilien untersuchen, sind wir in der Lage zu bestimmen, zu welchem Anteil Unterschiede in Schulnoten auf genetische und Umwelteinflüsse zurückzuführen sind.

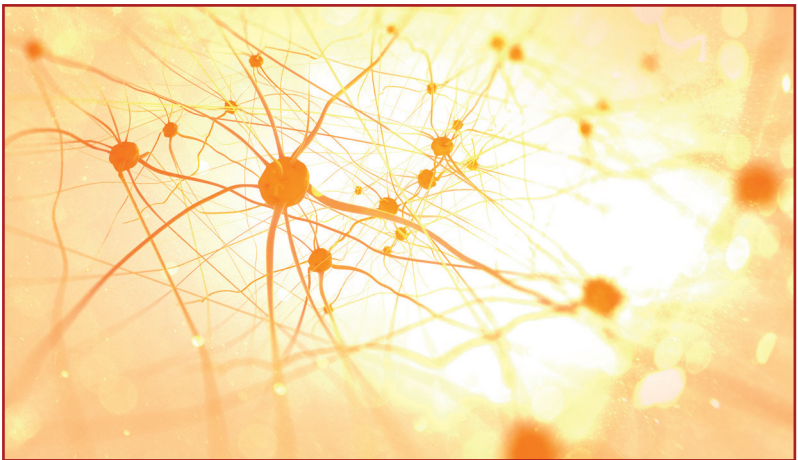
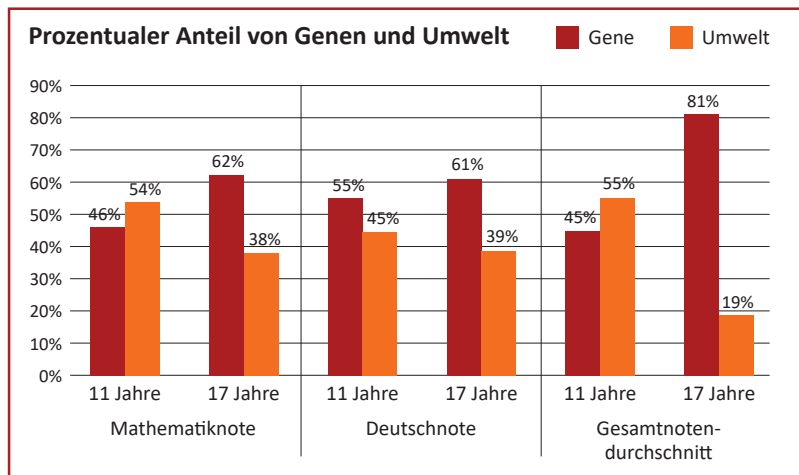


Bild: Andrii Vodolazhskyi/Shutterstock.com



Die Ergebnisse zeigen, dass insbesondere in der älteren Altersgruppe Gene einen großen Teil der Unterschiede in den Schulnoten erklären können. Offenbar spielt das genetische Potential im Alter von 17 Jahren eine größere Rolle, und die Noten sind weniger stark durch förderliche oder hinderliche Einflüsse von außen geprägt. Ein starker genetischer Effekt bedeutet aber keineswegs, dass schulische Leistungen festgelegt oder unveränderlich sind. Unsere Gene beeinflussen ein Potential, dass auch durch unsere Umwelt mitbeeinflusst werden kann. Genetik und Umwelt bedingen sich zudem gegenseitig, sodass davon auszugehen ist, dass vor allem in jungen Jahren, durch beispielsweise Förderangebote, eine gute Basis für die Entwicklung von schulischen Fähigkeiten gegeben werden kann. Und natürlich gilt auch hier – ebenso wie wir es vom Sport kennen – dass wir, ohne unser Potential zu entwickeln und zu trainieren, nichts erreichen können.



Neben den Schulleistungen ist es natürlich besonders wichtig, welchen Schultyp die Zwillinge besuchen. Erste Analysen, in denen der Besuch eines Gymnasiums dem Besuch eines anderen Schultyps gegenübergestellt wird (weil viele Zwillinge ein Gymnasium besuchen), zeigen, dass hierfür



in deutlich stärkerem Ausmaß Umwelteinflüsse verantwortlich sind (72% Umwelt, 29% Gene). Insbesondere familiäre Einflüsse sind hier von großer Bedeutung. Im Umkehrschluss bedeutet dies, dass dem genetisch stärker beeinflussten Potential der Schüler bei den Entscheidungen zur Schullaufbahn nur eine vergleichsweise geringe Bedeutung zukommt.

TwinLife-Kreuzworträtsel (mit Verlosung)

Dieses Kreuzworträtsel dreht sich rund um das Thema „TwinLife“. Die Antworten zu den Fragen können mithilfe der TwinLife-Website (www.twin-life.de) gefunden werden. Hier bietet sich außerdem die Möglichkeit zu erfahren, was TwinLife überhaupt ist und welche spannenden Forschungsthemen hier untersucht werden sollen.

Teilnahmebedingungen

Um an der Verlosung teilzunehmen, muss eine E-Mail mit dem vollständigen Namen des Teilnehmers/der Teilnehmerin sowie dem richtigen Lösungswort an folgende Adresse geschickt werden: twinlife@uni-bielefeld.de. Einsendeschluss ist der 01. November 2017. Die Teilnahme ist kostenlos.

Die Teilnahme an der Verlosung richtet sich ausschließlich an Teilnehmer der TwinLife-Studie, die das 14. Lebensjahr vollendet haben. Die Angaben aus der Verlosung werden nicht mit den Befragungsdaten in Verbindung gebracht. Alle weiteren Teilnahmebedingungen finden Sie unter www.twin-life.de.

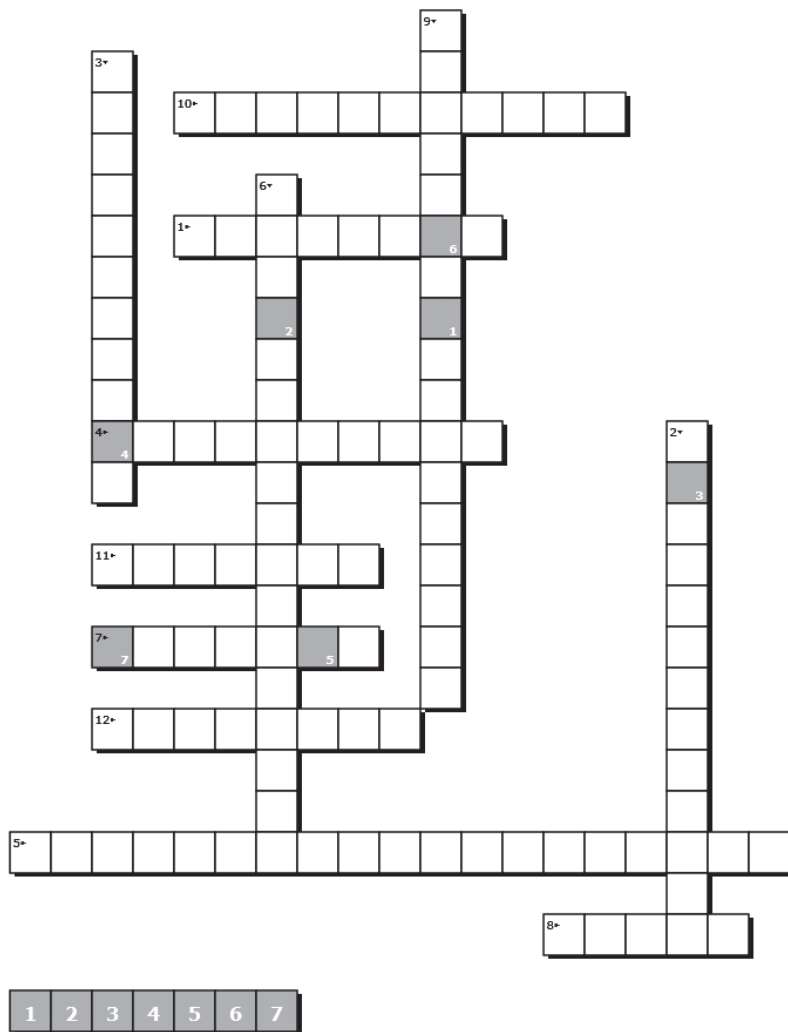
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1. Zweieiige Zwillinge teilen durchschnittlich ____ Prozent ihrer Gene.
2. Ziel der Studie ist es, Aufschluss über die Entstehung von ____ zu geben.
3. Ein Umweltfaktor (Relationen zwischen Menschen).
4. Eineiige Zwillinge gleichen sich in ihren ____.
5. Ein Studiendesign, das die gleichen Personen zu verschiedenen Testzeitpunkten untersucht nennt man ____.
6. Die Studie wird über Besuche direkt bei den Familien und durch ____ durchgeführt.
7. Wie nennt man einen Geburtsjahrgang in der Forschung?
8. Eineiige Zwillinge könnten auch als natürliche ____ bezeichnet werden.
9. Durch künstliche Befruchtung kommt es häufiger zu ____.
10. Kenngröße, die angibt, wie stark Unterschiede zwischen Personen von genetischen Faktoren abhängen.
11. Wie wird die Eiigkeit von Zwillingen in der Fachsprache genannt?
12. Trennt sich eine befruchtete Eizelle in zwei Teile, entstehen ____ Zwillinge.





Wir hoffen, dass wir auch in Zukunft auf Sie zählen können und freuen uns auf die weitere Zusammenarbeit!

www.twin-life.de

Auf unserer Webseite finden Sie weitere Informationen über die Inhalte und den Verlauf der Studie, am Projekt beteiligte Personen und Organisationen, interessante Medienbeiträge und vieles mehr!

So erreichen Sie uns

Allgemeine Fragen zu TwinLife:

Projektleitung TwinLife

✉ info@twin-life.de

☎ +49 (0)681 302 3338

Fragen zum Ablauf der Studie:

Sabrina Torregroza

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Bonn, Monat 2016

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Liebe/r <Vorname> <Nachname>,

wir danken Ihnen ganz herzlich, dass Sie sich für die „TwinLife“-Studie Zeit ge-
nommen und uns bei dieser wichtigen Studie unterstützt haben!

Als Dankeschön erhalten Sie mit diesem Brief auch die versprochenen **10 Euro**.

Etwa in einem Jahr findet die nächste Befragung im Rahmen der Studie statt,
dann wieder am Telefon. Vor dem Start werden wir uns wie immer melden.
Selbstverständlich ist auch dann die Teilnahme wieder freiwillig.

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zur Verfügung.

Weitere Informationen zum Thema Zwillinge und den Hintergrund der Studie
finden Sie unter www.twin-life.de.

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wir sagen ganz herzlich

Dankeschön

dass Du Dir für die „TwinLife“-Studie Zeit genommen und uns bei dieser wichtigen und spannenden Studie unterstützt hast!

Mit diesem Brief bekommst Du auch die versprochenen **10 Euro**. Vielleicht hast Du ja einen Wunsch, den Du Dir damit erfüllen kannst.

Wenn Du mehr zum Thema Zwillinge oder über die Studie erfahren möchtest, dann findest Du dazu im Internet unter www.twin-life.de viele Informationen, die auch Dich interessieren könnten.

Wir wünschen Dir eine gute Zeit!

Viele Grüße

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Sehr geehrte Eltern,

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Ganz besonders möchten wir uns bei allen bedanken, die sich die Mühe gemacht haben, im Anschluss an das telefonische Interview auch unsere **Onlinebefragung** zu beantworten. Darüber hinaus wären wir sehr dankbar, wenn diejenigen, die den Onlinefragebogen noch nicht beantworten konnten, dies noch nachholen würden.

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Seite 2

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wir danken Ihnen ganz herzlich, dass Sie sich für die „TwinLife“-Studie Zeit genommen und uns bei diesem wichtigen Forschungsprojekt unterstützt haben!

Als Dankeschön erhalten Sie mit diesem Brief auch die versprochenen **10 Euro**.

Etwa in einem Jahr findet die nächste Befragung – diesmal wieder am Telefon – statt. Vor dem Start werden wir uns wie immer bei Ihnen melden. Selbstverständlich ist auch dann die Teilnahme wieder freiwillig.

Für das Gelingen unserer Studie ist es sehr wichtig, Sie weiterhin erreichen zu können. Daher bitten wir Sie, uns Änderungen Ihrer Adresse oder Telefonnummer mitzuteilen. Bitte nutzen Sie dazu unser TwinLife-Online-Portal unter www.twinlife.infas.de. Anbei Ihr persönlicher Zugangscode:

(Eindruck Zugangscode Adressportal)

Selbstverständlich können Sie uns Ihre Kontaktdaten auch über unsere **kostenfreie Telefonnummer 0800/73 84 500** oder per E-Mail über twinlife@infas.de übermitteln. Für Rückfragen steht Ihnen Frau Sabrina Torregroza bei infas gerne zur Verfügung.

Weitere Informationen zum Thema Zwillinge und den Hintergrund der Studie finden Sie unter www.twin-life.de.

Wir wünschen Ihnen eine gute Zeit!

Mit freundlichen Grüßen

Prof. Dr. M. Diewald
Universität Bielefeld
Fakultät für Soziologie

Prof. Dr. Rainer Riemann
Universität Bielefeld
Fakultät für Psychologie
und Sportwissenschaft

Prof. Dr. Frank M. Spinath
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im Auftrag von



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Bonn, Monat 2017

**TwinLife – Deutschlandweite Zwillingfamilien-Studie zur Entwicklung
unterschiedlicher Lebenschancen**

Liebe/r <Vorname>,

wir sagen ganz herzlich

Dankeschön

dass Du Dir für die „TwinLife“-Studie Zeit genommen und uns bei diesem wichtigen und spannenden Projekt unterstützt hast!

Mit diesem Brief bekommst Du auch die versprochenen **10 Euro**. Vielleicht hast Du ja einen Wunsch, den Du Dir damit erfüllen kannst.

Wenn Du mehr zum Thema Zwillinge oder über die Studie erfahren möchtest, dann findest Du dazu im Internet unter www.twin-life.de viele Informationen, die auch Dich interessieren könnten.

Wir wünschen Dir eine gute Zeit!

Viele Grüße

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im Auftrag von





Inga und Gesa, Zwillinge, 6 Jahre

*Ganz herzlichen Dank für Ihr Mitwirken an unserer Studie,
wir freuen uns auf Ihre weitere Teilnahme!
Frohe Ostern für Sie und Ihre Familie wünscht das TwinLife-Team!*

Prof. Dr. M. Diewald
Universität Bielefeld

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Doris Hess
infas-Institut

Einen aktuellen Newsletter mit Informationen zu TwinLife
finden Sie unter www.twin-life.de

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Haben Sie noch Fragen oder Anmerkungen?

Ihre persönliche Ansprechpartnerin
Frau Sabrina Torregroza steht Ihnen unter
der kostenfreien Telefonnummer
0800/73 84 500 zu den üblichen Bürozeiten
gerne zur Verfügung.
Nutzen Sie bei Fragen auch unsere E-Mail-Adresse
twinlife@infas.de

Weitere Informationen zum Thema Zwillinge und
dem Hintergrund der Studie sowie eine Vielzahl von
interessanten Medienbeiträgen finden Sie unter
www.twin-life.de

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Fröhliche Weihnachten



wünscht das
TwinLife-Team

Liebe TwinLife-Familien,

wir wünschen Ihnen und Ihrer Familie frohe Weihnachten und besinnliche Festtage. Im Namen des gesamten TwinLife-Teams bedanken wir uns für Ihr Mitwirken an unserer Studie. Wir freuen uns auf Ihre weitere Teilnahme und wünschen Ihnen und Ihrer Familie auch für das neue Jahr alles Gute!

Prof. Dr. M. Diewald
Universität Bielefeld

Prof. Dr. Rainer Riemann
Universität Bielefeld

Prof. Dr. Frank M. Spinath
Universität des Saarlandes

Doris Hess
infas-Institut

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Haben Sie noch Fragen oder Anmerkungen?

Persönliche Ansprechpartnerin für alle Teilnehmer ist Frau Sabrina Torregroza. Sie ist unter der kostenfreien Telefonnummer **0800/73 84 500** zu den üblichen Bürozeiten zu erreichen.

Bei Fragen können Sie auch unsere E-Mail-Adresse twinlife@infas.de nutzen.

Weitere Informationen zum Thema Zwillinge und dem Hintergrund der Studie sowie eine Vielzahl von interessanten Medienbeiträgen finden Sie unter www.twin-life.de



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**Liebe Zwillinge, liebe Eltern,
liebe Geschwister und liebe Angehörige,**

wir möchten uns ganz herzlich für Ihre Teilnahme an der TwinLife-Studie bedanken. Ihre verlässliche Unterstützung leistet einen enormen Beitrag für unsere Forschung zur Entstehung von sozialer Ungleichheit.

Um noch einfacher und schneller in Kontakt zu treten, können Sie Ihre Emailadresse und/oder Änderungen Ihrer Anschrift in unserem Online-Adressportal unter **www.twinlife.infas.de** eintragen, so dass wir Sie in Zukunft auch per E-Mail erreichen können.

Außerdem berichten wir nun auf unserer Website (www.twin-life.de) über noch mehr aktuelle Ergebnisse der Studie und teilen spannende Fakten über das Zwillingenleben, Bilder und Videos mit Ihnen. Weiterhin stehen wir Ihnen auf diesem Wege natürlich für Fragen, Probleme, Kritik und Anregungen jeglicher Art zur Verfügung.

Wir wünschen Ihnen eine schöne und erholsame Sommerpause!

Sonnige Grüße,

Ihr TwinLife-Team



Fragen und Anmerkungen können Sie auch weiterhin an Frau Sabrina Lesaar (Tel. 0800/73 84 500) oder an unsere Emailadresse (twinlife@infas.de) richten.

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