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**Working Paper**

## Attrition in the Austrian generations and gender survey

Vienna Institute of Demography Working Papers, No. 10/2013

**Provided in Cooperation with:**

Vienna Institute of Demography (VID), Austrian Academy of Sciences

*Suggested Citation:* Buber-Ennser, Isabella (2013) : Attrition in the Austrian generations and gender survey, Vienna Institute of Demography Working Papers, No. 10/2013, Austrian Academy of Sciences (ÖAW), Vienna Institute of Demography (VID), Vienna

This Version is available at:

<https://hdl.handle.net/10419/97015>

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# VIENNA INSTITUTE OF DEMOGRAPHY

## *Working Papers*

10 / 2013

*Isabella Buber-Ennser*

## *Attrition in the Austrian Generations and Gender Survey*



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## **Abstract**

In longitudinal research, the loss of sample members between waves is a possible source of bias. It is therefore crucial to analyse attrition and to find out who remained in the sample. The current paper analyses attrition in the Austrian Generations and Gender Survey, a longitudinal study on family and fertility, by distinguishing between attrition due to non-contact and attrition due to cooperation. The two components of attrition are studied separately by using bivariate as well as multivariate methods. Moreover, overall dropout – the combination of both components – is analysed. Apart from various socio-economic characteristics and data collection information, the study focuses on fertility relevant variables such as fecundity, fertility intentions, sexual orientation and traditional attitudes. The results reveal that fecundity, fertility intentions and homosexual relationship are associated with higher attrition due to refusal in bivariate analyses but have no explanatory power in the multivariate model. On the contrary, pregnancy and traditional attitudes towards marriage are significantly associated with lower attrition due to refusal in the multivariate context. Moreover, various individual and regional characteristics turned out to be significantly associated with dropout, with differences between attrition due to non-contact and attrition due to cooperation.

## **Keywords**

Attrition, dropout, response rate, Generations and Gender Survey, longitudinal data, Austria.

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## **Acknowledgements**

I would like to thank the participants of a colloquium at the Vienna Institute of Demography (VID) for valuable comments on an early version of the paper. Thanks to Irene Baumgartner and Karin Klapfer from Statistics Austria for providing valuable data and information on the field phase. The Austrian GGS was conducted by Statistics Austria with the financial support of the Federal Ministry of Economy, Family and Youth, the Federal Ministry of Science and Research and the Federal Ministry of Labour, Social Affairs and Consumer Protection.

# **Attrition in the Austrian Generations and Gender Survey**

Isabella Buber-Ennsner

## **1. Introduction**

In longitudinal research, the loss of sample members between waves – known as attrition – is a common problem and substantial in most panel studies. Attrition may not only decrease the sample size but also may lead to biased estimates if cases are not dropping out randomly from the original sample (Miller and Wright 1995). Nonresponse is a source of bias in survey estimates if those who respond are different from those who do not with respect to characteristics of interest (Groves 2006). It is therefore crucial to analyse attrition and to find out who left a panel study. As detailed information is available from the first wave - and information is increasing with each wave - research of the response rate in second and later waves of a panel can take into account a variety of possible determinants and therefore differs from studying response rates in the initial wave (Lepkowski and Couper 2002).

Nonresponse may be the consequence of failure to locate a previously interviewed person, failure to contact a person once located, or refusal by a respondent that has been contacted (Lepkowski and Couper 2002). These different types of nonresponse have different causes (N. Watson and Wooden 2009). As the distinction between location and contact is often empirically difficult, the response process is usually modelled as the outcome of two sequential events, namely contact and cooperation (e.g. Abraham, Maitland and Bianchi 2006; Nicoletti and Peracchi 2005; N. Watson and Wooden 2009). Others study attrition in general, without this differentiation (e.g. Abraham et al. 2006; Behr et al. 2005).

The current paper analyses attrition between wave 1 and wave 2 of the Austrian Generations and Gender Survey (GGS). We distinguish between attrition due to unsuccessful contact and due to cooperation. The two components of attrition are studied separately by using bivariate as well as multivariate methods. Moreover, overall dropout – the combination of both components – is analysed.

Apart from socio-economic characteristics and data collection information, the study focuses on fertility relevant variables. Therefore, fecundity, fertility intentions, sexual orientation and traditional attitudes are related to attrition. As the GGS focuses on family formation and fertility, it is crucial to find out if data are possibly biased in this respect, which would have an impact for analyses related to the core questions of the GGS.

## **2. Determinants of Attrition**

Possible candidates for predicting contact and cooperation in longitudinal surveys are characteristics of individuals and households as well as field phase related characteristics



(Fitzgerald, Gottschalk and Moffitt 1998; Lepkowski and Couper 2002). Numerous studies analysed the associations between respondents' characteristics and sample attrition (Beckett et al. 1988; Behr, Bellgardt and Rendtel 2005; Fitzgerald et al. 1998; D. Watson 2003). The major demographic and socio-economic variables that are addressed for explaining attrition are sex, age, ethnicity, marital status, number of children, household size and composition, education, home ownership, labour force status, income, socio-economic group, tenure status and regional aspects (Vandecasteele and Debels 2007; N. Watson and Wooden 2009). Others focused on the data collection process, survey design features and interview situation (Nicoletti and Peracchi 2005; Riandey 1988; N. Watson and Wooden 2009). Furthermore, the sensibility of the subject plays a role when interviewing respondents (Razafindratsima, Kishimba and l'équipe Cocon 2004).

Most empirical evidence is based on the Panel Study of Income Dynamics (PSID), the British Household Panel Study (BHPS), the European Community Household Panel (ECHP), the German Socio-Economic Panel (GSEOP), the Dutch Socioeconomic Panel, the National Longitudinal Study of Youth (NLSY), the US Time Use Survey (ATUS), the US Longitudinal Study on Generations, the Australian Household, Income and Labour Dynamics Survey (HILDA). Moreover, studies based on the French Generations and Gender Surveys (GGS) and a French longitudinal survey on contraception (CONCON) reveal valuable insights on family and fertility surveys.

Contacting sample members has been associated with residential mobility, socio-demographic characteristics hypothesized to be associated with the likelihood of finding someone at home (like age, household size and household composition), regional characteristics and measures of community attachment. More specifically, the number of children in the household, home ownership and length of residence at the current address have been positively related to the probability of future contact, living in large cities and living in a single household are associated with lower rate of follow-up (Haisken-DeNew and Frick 2005; Nicoletti and Peracchi 2005). In addition, interviewer workloads, interviewer continuity, interview mode and length of fieldwork turned out to be relevant (Nicoletti and Peracchi 2005; N. Watson and Wooden 2009). The length of fieldwork and the duration of the household interview are positively related, whereas item nonresponse on central variables is negatively related to the probability of future contact with the household (Nicoletti and Peracchi 2005).

The factors affecting response once a contact has been made include characteristics of respondents, their identification with the study, the survey topic, the interview experience in prior waves and survey design (Groves and Peytcheva 2008; N. Watson and Wooden 2009). "A lack of cooperation is mainly the result of a personal decision that reflects personal characteristics, related to the perceived cost of completing the interview and a person's past experience with the survey" (Nicoletti and Peracchi 2005, p. 774).

The findings on demographic and socio-economic characteristics regarding cooperation can be summarized as following: Being female, being married or having children is positively related to the probability of future cooperation, whereas being widowed or divorced, not living in a couple and being a lone parent is negatively related to cooperation. Response rates are low for separated or never married, for people who are out

of the labour force, for renters (as compared to home owners) and for those who live in metropolitan areas – characteristics regarded as proxies for social integration (Abraham et al. 2006). Moreover, cooperation is low among those being on welfare, non-white, low educated and individuals with few working hours or low income - indicators for belonging to the lower proportion of the socioeconomic distribution (Haisken-DeNew and Frick 2005; Moffitt, Fitzgerald and Gottschalk 1999). In addition, health and religiosity are significant predictors of panel response (Miller and Wright 1995; Razafindratsima et al. 2004).

An overview of the literature suggests that also the field phase situation is an important predictor of cooperation (Vandecasteele and Debels 2007). The interviewer-respondent interaction is crucial, with persons contacted by the same interviewer as in the previous wave being more willing to cooperate again (Behr et al. 2003; Groves and Couper 1998; Hox and de Leeuw 2002) and a correlation between educational level of interviewer and response rate (Albacete et al. 2012). Sponsorship of survey, incentives, mode of data collection, topic of the survey and questions perceived as intrusive or offensive are further aspects influencing nonresponse (Groves and Peytcheva 2008; Régnier-Loilier, Saboni and Valdes 2011). Moreover, item non-response on crucial variables is related to dropout in subsequent waves (Loosveldt, Pickery and Billiet 2002; D. Watson 2003). It is regarded as an indicator of low co-operation, lack of interest in the survey, unpleasant or negative experience (Loosveldt et al. 2002; Rendtel 2002).

Attrition – the combination of loss of contact and refusal to answer – is inhomogeneous across countries. The extent and the determinants of panel attrition vary substantially across countries and waves (Bartus and Spéder 2013; Behr, Bellgardt and Rendtel 2003; Behr et al. 2005). For example, findings on age diverge: Whereas some studies report lower response rate among younger persons in a multivariate framework (Behr et al. 2005), others find no explanatory power of age after controlling for other variables (Nicoletti and Peracchi 2005). Also results on employment status are diverging: On the one hand, being out of labour force is associated with low response rates (Abraham et al. 2006). On the other hand, in some European countries unemployed have an increased response probability in multivariate models, although descriptive findings indicate lower rates among unemployed (Behr et al. 2005). Diverging results across Europe are evident also for level of education (Behr et al. 2005; D. Watson 2003). For example, in Northern European countries, higher educated people are less likely to drop out, but this effect is reversed in Southern European countries where higher educated are more likely to be lost (D. Watson 2003). Regarding respondents' gender, studies on survey response mostly find higher response rates among women than among men. The main reason usually cited for this observation is the fact that women are more often at home (N. Watson and Wooden 2009). Nevertheless, there is limited evidence that – even conditional on contact – men may be slightly more likely to discontinue survey participation (Nicoletti and Buck 2004; N. Watson and Wooden 2009). Income distribution turned out to be relevant for attrition, with opposite trends in Southern and Northern European countries (D. Watson 2003).

Bartus and Speder (2013) studied the relationship between the respondent's characteristics and panel continuation in five GGS countries (Bulgaria, France, Georgia, Germany and Hungary). Whereas dropout is high among men and low among owners

across all countries, findings for family characteristics and income diverge: In bivariate analyses, they find that childless persons are underrepresented, while married, educated and persons with relatively more income are overrepresented in the second wave sample. Bulgaria and Georgia constitute notable exceptions: In Bulgaria, parents of young children and the highly educated are less likely to continue. Moreover, the relationship between drop-out and perceived income becomes reversed in Bulgaria and Georgia, where those reporting economic constraints, more often participated in the second wave. Evidence from multivariate regression analyses is more mixed. Moreover, detailed studies on attrition in the French GGS (both between waves 1 and 2 and waves 1 and 3), including longitudinal weights based on these analyses constitute valuable contributions to the literature (Régnier-Loilier and Lincot 2010; Régnier-Loilier 2012; Régnier-Loilier and Guisse 2012).

Behr and colleagues (2005) suggested to include three groups of variables in attrition analyses: (1) variables related to field work, (2) variables related to the respondents' attitude towards survey and (3) important analysis variables. They argued that social stratification variables like age, sex, marital status and level of education are used to measure the attitude towards surveys. As a third group, they explicitly mentioned variables that are important in the specific context. In line, in the French survey on fertility intentions the method of contraception, unplanned pregnancy, abortion and desire for a child were included as variables of interest for the specific survey and it turned out that the method of contraception has an effect on attrition (Razafindratsima et al. 2004).

Following the proposed distinction, it is crucial to study in the GGS attrition by family and fertility related variables, like fertility intentions, pregnancy, perceived problems for conceiving a child or homosexual partnership. We want to find out if item non-response on crucial variables in the GGS is related to attrition in the GGS.

### **3. Data and Method**

The current study is based on the Austrian GGS. The target population includes all German-speaking persons living in private households in Austria who were aged 18 to 45 years by August 2008. The sample is based on the central register, conducted and maintained by Statistics Austria. In the first wave of the Austrian GGS, a total of 5,000 respondents were interviewed between October 2008 and February 2009. Response rate in wave 1 was 60.7 percent (Statistik Austria 2009). The second wave was carried out four years later<sup>1</sup>, between September 2012 and May 2013.

Sampling, data collection, fieldwork maintenance and raw data cleaning were carried out by Statistics Austria. For further information on data validation we refer to Buber

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<sup>1</sup> The first wave of the Austrian GGS was financed by the Federal Ministry of Economy, Family and Youth, the Federal Ministry of Science and Research and the Federal Ministry of Labor, Social Affairs and Consumer Protection. The first wave was financed by the Federal Ministry of Economy, Family and Youth and the Federal Ministry of Science and Research. According to the international guidelines, the interval between waves is three years (UN 2005). Due to financial constraints, in Austria the interval between wave 1 and wave 2 is four years. This does not constitute a problem for comparability with other GGS countries, as data can – if necessary - be censored three years after interview.

(2013). If respondents had moved between wave 1 and wave 2 and if they had – according to Austrian laws<sup>2</sup> - registered their residential move, the contact address was updated by Statistics Austria. At the end of the interview in wave 1, respondents were asked whether they agreed to be contacted for another interview three years later. Thereafter, 96 percent agreed to be contacted again, indicating a high willingness to continue. Nevertheless - and regardless of the given answer - a letter was sent out to all respondents in spring 2012 asking if they agree to be contacted and interviewed for a second wave. This letter was also important for further updating the address list of interviewees. It turned out that geographical mobility was substantial, as 800 out of the 5,000 respondents of wave 1 had changed address between wave 1 and wave 2 (information provided by Statistics Austria). Due to the access to the central register, the loss of respondents due to unknown address was expected to be comparable low.

We first provide a description of the small subgroups of respondents no longer in the central register, not living at the given address, unable to reach and unable to be interviewed. In a second step, we focus on attrition due to non-contact and in a third step we concentrate on attrition due to cooperation.<sup>3</sup> Finally, overall attrition is presented. Descriptive as well as multivariate methods are used to characterize the two broad groups of dropouts as well as overall dropout.

According to Behr et al. (2005) it is important to analyse attrition with respect to survey relevant characteristics. In the GGS, these are – besides e.g. marital status and parity – fertility related variables like fecundity, fertility intentions or traditional attitudes. The GGS includes questions on fecundity. Both, respondent's problems and – if cohabiting with a partner or living in a living apart together relationship - partner's problems with conceiving a child were captured<sup>4</sup>. Several specifications for problems with conceiving a child were modelled (Table 5). The GGS includes different dimensions of fertility intentions, namely the intention to have a child (1) now, (2) within three years and (3) ever. Due to the filter structure of the survey, not all respondents were asked these questions. According to international guidelines, women aged 50 years and more, male respondents with a female partner aged 50 years and more and respondents with same-sex partners were not asked all questions on pregnancy, fecundity and fertility intentions. Moreover, fertility intentions within the next three years were skipped in case of pregnancy. Respondents intending a child within the next three years were not asked any further

<sup>2</sup> All persons establishing their residence in Austria (Austrian citizens, EEA citizens, third-country nationals) are obliged to comply with the registration requirements of the Austrian Reporting Act. Whoever establishes or leaves their residence is obliged to register or de-register with the responsible authority (<https://www.help.gv.at/Portal.Node/hlpd/public/content/12/Seite.120225.html>).

<sup>3</sup> For a study on locating, contact and successful interview we refer to Abraham, Maitland and Bianchi (2006) who distinguish different types of noncontact and model them separately. The current paper focuses on unsuccessful contact and refusal and does not further elaborate on unsuccessful locating sample members, which is associated with mobility and tracking procedures (N. Watson and Wooden 2009) and mainly addressed by research on survey methodology.

<sup>4</sup> The exact wording of the question for own fecundity was: "Some people are not physically able to have children. As far as you know, is it possible for you, yourself, to have a/another baby?" Possible answers were: (1) Definitely not, (2), probably not, (3) probably yes, (4) definitely yes, (5) don't know. The question on partner's fecundity was: "Do you think it would be physically possible for your current partner/spouse to have a child of his/her own if he/she wanted to?" Possible answers were: (1) Definitely not, (2), probably not, (3) probably yes, (4) definitely yes, (5) don't know.



childbearing plans. Therefore, we combined the information on pregnancy, age of female partner, type of sexual relationship on the one hand and fecundity as well as fertility intentions on the other hand. Moreover, traditional attitudes might be relevant for family and fertility behaviour. The GGS includes the attitude towards marriage captured by the statement “Marriage is an outdated institution”. This item was incorporated in the current study on attrition.

Various socio-demographic, economic and data collection characteristics were taken into consideration. Apart from the standard variables on marital status, partner status, parity and household, a combination of these variables was generated to characterize the living arrangements of respondents, distinguishing between (1) child in family, (2) married couple without children, (3) non-married couple without children, (4) married couple with children, (5), non-married couple with children, (6) single mother, (7) single father, (8) living alone and (9) other living arrangements. Information on the relation to the household members revealed that the latter group comprised shared accommodations, either with relatives (siblings, grandparents) or with non-relatives that are typically shared student flats.<sup>5</sup>

For capturing migration background not only nationality at birth and current nationality, but also mother tongue and first language usually spoken at home were taken into consideration<sup>6</sup>. For residential mobility, the data include information on intended residential move in wave 1 and degree of certainty (definitely no, probably no, yes), as well as the planned destination for those intending to move (e.g. abroad, within province). The combination of both turned out to be a valuable source of information on drop out.

Different indicators are included in the data to capture regional characteristics and housing. According to the OECD regional typology we distinguished between predominantly urban (share of population living in rural local units is below 15 percent), intermediate (share of the population living in rural units is between 15 and 50 percent) and predominantly rural areas (OECD 2010). In addition, the Austrian nine provinces and housing conditions (home-ownership, tenant, rent-free accommodation and other type of housing) were taken into account.

To capture health problems, self-perceived health and limitations in activities of daily living because of physical or mental health problems or disability were taken into consideration. Moreover, the provision of regular personal care to others (not including small children) was included as a further aspect of health and wellbeing.

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<sup>5</sup> Shared living arrangements with relatives were more common (57%) than flat-sharing with non-relatives (43%).

<sup>6</sup> In Austria, interviews were held in German. In wave 1, non-German speaking persons were either excluded from the survey or interviewed with the help of household members with sufficient knowledge of German language.



#### 4. Attrition in the Austrian Generations and Gender Survey

In total, 116 wave 1 respondents could not be found in the central register, thus reducing the gross sample for wave 2 to 4,884 respondents (Table 1). In total 3,907 interviews could be realized. It turned out that one person had died, three persons were living in an institution, 184 persons were not living at the given address and 707 refused to participate in wave 2. Further 57 persons were unable to reach and 25 persons could not be interviewed due to health problems. In relation to the 5,000 interviews of wave 1, the 3,907 completed interviews in wave 2 correspond to a panel stability of 78 percent. The response rate takes into account non eligible cases (persons no longer included in the central register) and amounts to 80 percent (Table 1)<sup>7</sup>.

Panel stability was 65 percent in the French GGS (Régnier-Loilier & Lincot 2010), 73% in the Bulgarian, 79% in the Hungarian and 83 percent in the Georgian GGS whereas Germany constituted an exceptional situation with panel continuation of only 32 percent (Bartus & Speder 2014). Therefore, in an international comparison, panel stability in Austria is comparably high.

**Table 1:** Panel response rate for the Austrian GGS

	N	Panel stability	Response rate	Response rate taking into account neutral wastage
<b>RESPONDENTS in wave 1 (2008/9)</b>	<b>5,000</b>	<b>100%</b>	<b>100%</b>	
No longer in central register	116	2%	2%	
<b>SAMPLE 2012/13</b>	<b>4,884</b>		<b>100%</b>	
<b>Out-of-scope in wave 2 (neutral)</b>	<b>188</b>	<b>4%</b>	<b>4%</b>	
Respondent deceased	1	0%	0%	
Respondent institutionalised	3	0%	0%	
Respondent not living at given address	184	4%	4%	
<b>Wastage in wave 2 (non-neutral)</b>	<b>789</b>	<b>16%</b>	<b>16%</b>	<b>17%</b>
Respondent refused to answer	707	14%	14%	15%
Unable to reach respondent	57	1%	1%	1%
Respondent unable to be interviewed	25	1%	1%	1%
<b>Completed interviews in wave 2</b>	<b>3,907</b>	<b>78%</b>	<b>80%</b>	<b>83%</b>

Comparing the distribution of numerous socio-economic characteristics of respondents participation in wave 1 and the total of respondents interviewed in wave 1 reveals that for all included variables differences are 2 percent point or less (with the exception of tenants, where the difference is three percent point), indicating at first glance

<sup>7</sup> Statistics Austria distinguished between neutral and non-neutral wastage. Neutral wastage includes deceased respondents, institutionalized respondents and respondent who were not living at the given address, summing up to 188 cases of neutral wastage and reducing the number of respondents still in scope for wave 2 to 4,696 individuals. Taking into account neutral wastage leads to a response rate of 83%.

that panel respondents do not substantially differ from wave 1 respondents and that bias due to attrition in the Austrian GGS is not too large.

The Austrian GGS also includes refreshers, i.e. persons who joined the panel in the second wave. These are on the one hand young adults aged 18 to 21 years, and on the other hand older persons in order to reach response rate for all gender-specific age-groups of at least 80 percent<sup>8</sup>. Young adults constitute the majority of refreshers (93 percent). Response rate for the refresher sample was 55 percent (Table 2). In total 4,729 persons were interviewed in the Austrian GGS wave 2, with 3,907 belonging to the panel sample and 822 refreshers. In the current study, we focus on panel respondents only.

**Table 2:** Data collection details for the Austrian Generations and Gender Survey wave 2

	N			%	
	Refresher	Panel	Total	Refresher	Panel
No longer in the central register <sup>a</sup>	0	116	116	0	2
Incomplete address <sup>a</sup>	12	0	12	1	0
Deceased <sup>a</sup>	0	1	1	0	0
Vacant housing unit <sup>a</sup>	8	0	8	1	0
Respondent institutionalised <sup>a</sup>	2	3	5	0	0
Respondent not living at the given address <sup>a</sup>	108	184	292	7	4
No private household at given address <sup>a</sup>	4	0	4	0	0
Unable to reach	84	57	141	6	1
Respondent unable to be interviewed	14	25	39	1	1
Respondent not German speaking	8	0	8	1	0
Refusal to interview	443	707	1,150	29	14
Complete interview	822	3,907	4,729	55	78
Total	1,505	5,000	6,505	100	100

<sup>a</sup> According to Statistics Austria these categories are defined as “neutral wastage” for calculating the response rate taking into account neutral wastage (“Ausschöpfung unter Berücksichtigung neutraler Ausfälle”).

#### 4.1. Description of Small Dropout Groups

We first provide a description of the small subgroups of respondents no longer in the central register, not living at the given address, unable to reach and unable to be interviewed.

Respondents no longer in the central register were more often male, of non-Austrian nationality, highly educated, not employed, single, childless, living alone or in a two-person household, living in Vienna or other urban regions, tenants and less willing to participate in wave 2. Almost half of them (47 percent) planned a move at wave 1 and a substantial proportion planned to move abroad (10 percent as compared to 1 percent in the total sample), indicating that part of these respondents have moved abroad. A further distinction by certainty of intended move revealed that only one third of respondents no longer in the residence register definitely planned no move, as opposed to 57 percent in the total sample. The remaining persons answered the question on intended move with “probably no” or “yes” (Appendix Table A1).

<sup>8</sup> The contract with the survey agency (i.e. Statistics Austria) imposed that wave 2 response rates for age-groups for men and women separately was at least 80 percent.

Migration background is pronounced in the group of respondents no longer in the residence register: Only one third had Austrian nationality since birth, 11 percent were non-Austrian nationals at birth and attained Austrian nationality later in life, 22 percent had German nationality and 34 percent were nationals of other countries. In the total wave 1 sample, the corresponding shares are 83, 7, 2 and 8 percent, respectively. In line, German was less often mother tongue or first language spoken at home among those no longer in the residence register. At this point, we briefly refer to migrants in Austria: Germans constitute the largest migration group and the share of German students at Austrian universities is high. These circumstances partly explain the characteristics of respondents who are no longer in the Austrian central register. We assume that part of respondents with German nationality have left Austria between waves 1 and 2 and are therefore no longer in the central register.

Respondents not living at the given address were young adults (mean age 30 years, versus 33 years in the total wave 1 sample), often living with the parents or alone at wave 1, non-Austrian nationals, with other than German mother tongue, highly educated, students, childless, single, living in Vienna or urban areas, tenants and less often willing to participate in wave 2. Almost half of them planned a move in wave 1. Again, the certainty of intended move reveals that only three out of ten definitely intended no move, whereas the remaining considered to a lower or higher level of certainty a residential move. Contrary to those no longer in the central register, a move abroad was less often planned (4 percent as versus 10 percent). The fact that one out of four were living with the parents and that seven out of ten considered to some extent a residential move indicates that this group comprises to a large extent young adults who have left the parental home without registering the new address.

To sum up, respondents who were no longer in the central register and who were not living at the given address can be characterized as young, intended movers, highly educated individuals, to a large extent with migration background.

Persons unable to reach were more often Austrian nationals and living in Styria or Tyrol, two Austrian provinces. Almost half of those unable to reach were residents of Tyrol, a province in the West of Austria, and we describe the specific situation for conducting the second wave of the survey in Tyrol: During fieldwork no female interviewer trained by Statistics Austria was available in this province. Female respondents were assigned to male interviewers in Tyrol on the one hand. On the other hand, three female interviewers from other Austrian provinces were assigned to carry out interviews with female respondents living in Tyrol. Unfortunately, this fact led in Tyrol to a high proportion of (female) respondents unable to reach, and thereafter to high attrition due to non-contact. We characterized the group of respondents unable to reach for the whole Austrian territory, as well as for the territory excluding Tyrol. Excluding Tyrol revealed that the group “unable to reach” is characterized by low willingness to participate in wave 2, higher prevalence of unemployment, urban environment and rather short interview duration in wave 1<sup>9</sup>. These persons were more often male and less often childless as

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<sup>9</sup> Short interviews at wave 1 are typical for childless respondents and respondents without partner, as the questions on children and partners were dropped.

compared to the total sample. Moreover, the provision of regular care was more often reported in this group (10 percent as compared to 6 percent in the total wave 1 sample).

The small proportion of respondents unable to be interviewed were rather low educated, more often female, non-Austrian nationals at birth, had other than German as mother tongue or first language spoken at home and had on average longer interviews at wave 1 (possibly indicating language problems). They were to a higher extent single, unemployed or on parental leave in wave 1, living in Vienna or other urban regions of Austria and tenants. Health problems were more often reported in this group, either via limitations in activities of daily living or via fair or bad self-perceived health.

#### **4.2. Attrition Due to Non-Contact**

Individuals known to be outside of the scope of a survey (those who died, moved to an institution, or moved outside the country) are excluded in the analyses of panel attrition (Behr et al. 2005; Nicoletti and Peracchi 2005; D. Watson 2003; Kroh 2012). Only one respondent deceased and three were institutionalized. As we are not able to identify individuals who moved abroad, we exclude for the analysis of attrition only deceased or institutionalized persons, reducing the sample to 4,996 wave 1 respondents. Attrition due to non-contact which was either because the respondent was no longer in the central register, not living at the given address or unable to reach, summing up to 357 persons, which corresponds to a proportion of 7 percent. Table A2 in the Appendix gives attrition due to unsuccessful follow-up by various characteristics.

Descriptive results reveal minor variations in the attrition due to non-contact for fecundity and fertility intentions. Attrition only slightly varied among those recording own or partner's fecundity problems. Only the small group of nine persons answering the question on own fecundity problems with "don't know" had higher dropout due to unsuccessful follow-up (11 percent)<sup>10</sup>. The same holds for the small group of seven men and women answering in wave 1 the question on partner's fecundity problems with "don't know": Attrition in this group was 29 percent<sup>11</sup>. Given the small number of these groups, the comparable high attrition has to be interpreted with caution. Moreover, the type of sexual relationship was related with attrition: It turned out that respondents living in a homosexual relationship had higher attrition (23 percent) due to unsuccessful follow-up. Again, this group was rather small in wave 1 (13 respondents), indicating that neither wave 1 nor wave 2 data allow specific analyses on men and women living in a homosexual relationship. Fertility intentions, a central variable in the GGS, were not associated with attrition due to unsuccessful follow-up in bivariate analyses. On the contrary, attitudes towards marriage were associated with dropout in the sense that those strongly agreeing that marriage is an outdated institution had higher attrition due to unsuccessful follow-up (12 percent), and those strongly disagreeing with this statement had lower attrition (5 percent).

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<sup>10</sup> One out of those nine persons with answer "don't know" for own fecundity problems in wave 1 was no longer in the central register, resulting in a proportion of 11%.

<sup>11</sup> One out of these seven persons with answer "don't know" for partner's fecundity problems in wave 1 was no longer in the central register, one was unable to reach, resulting in a proportion of 29%.



Regarding socio-demographic, economic, regional and field work related characteristics, descriptive analyses revealed that attrition due to unsuccessful follow-up was higher among young respondents, respondents with other than Austrian nationality at birth, with non-German mother tongue, with other than German as first language spoken at home, in the lowest (ISCED 1+2) and highest (ISCED 5+6) educational groups, among unemployed, students, retired and those permanently ill, among childless, single, divorced and widowed, among non-married couples without children, single mothers and fathers, among persons living in shared accommodations (either with relatives or other non-relatives), in one-person households, in urban areas, in certain Austrian provinces (Vienna and Tyrol), among those intending a move at wave 1 and those not willing to participate in a second wave (Table A2).

Economic constraints indicated by difficulties in making ends meet and receiving social welfare payments as well as bad health were associated with higher attrition due to non-contact. Moreover, personal characteristics like religious affiliation and level of religiosity were related with attrition: It turned out that respondents with other than Roman Catholic or protestant affiliation and respondents stating to be not at all religious had higher attrition due to non-contact. In addition, missing length of interview at wave 1 (most probably due to interruptions during the interview<sup>12</sup>) was a fieldwork characteristic associated with higher attrition.

We ran logit regressions to estimate the probability of unsuccessful follow up (Table 3). In the multivariate framework attitudes towards marriage were significantly associated with attrition: Persons strongly agreeing that marriage is an outdated institution had significantly higher attrition due to non-contact. In addition, cohorts born 1985-1989 (thus aged 19-23 at wave 1 and 22-27 at wave 2), respondents with other than Austrian nationality<sup>13</sup> (particularly German nationals), self-employed, married couples without children, persons sharing accommodation with others (relatives or non-relatives), urban population, citizens of certain Austrian provinces (Burgenland, Carinthia and Tyrol), individuals who planned a move in wave 1 (particularly if planning to move abroad) and even persons considering a move, those not willing to be contacted again, persons with other than catholic or protestant or without religious affiliation, recipients of social welfare payments at wave 1 and those with rather short interviews in wave 1 (less than 45 minutes) or without coded interview duration in wave 1 had significantly higher attrition due to non-contact. Respondents on parental leave in wave 1 had significantly lower attrition (as compared to employed individuals).

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<sup>12</sup> Unfortunately, this information was not provided to the user in the Austrian GGS wave 1.

<sup>13</sup> For taking into consideration migration background, we ran different models, including indicators for nationality, mother tongue and first language spoken within the family (Table A4). It turned out that a detailed differentiation for nationality since birth had best model fit.



**Table 3:** Estimated coefficients of logit regression for attrition due to non-contact

	Estimated coefficient
<b>Indicator for fecundity</b>	
No problems reported	0
Respondent or partner have problems to conceive a child	0.08
Pregnant	0.04
Homosexual relationship	0.22
<b>Fertility intentions</b>	
Wants a child now	-0.25
Intends a child within 3 years	0.27
Intends a child later	0.03
Intends no further child(ren)	0
Don't know	0.01
<b>Marriage is outdated institution</b>	
Strongly agree	0.57*
Agree	0.12
Neither agree nor disagree	0
Disagree	0.29+
Strongly disagree	-0.02
Does not apply	-0.73
<b>Cohorts</b>	
1960-1964	0
1965-1969	0.01
1970-1974	0.13
1975-1979	0.03
1980-1984	0.36
1985-1989	0.88*
1990-1992	0.80
<b>Nationality</b>	
Austrian nationality since birth	0
Austrian nationality, received later	0.31
German nationality	2.28***
Other nationality	0.86***
<b>Employment status at wave 1</b>	
Employed	0
Self-employed	0.54*
Unemployed	0.17
Student	-0.09
Retired	0.61
Parental leave	-0.85*
Permanently ill	0.07
Housekeeping	-0.10
Civil service	-0.71
Other	0.37
<b>Living arrangement</b>	
Child in family	-0.06
Married couple without children	0.87*
Non-married couple without children	0.54
Married couple with children	0
Non-married couple with children	0.03
Single mother	-0.33
Single father	1.27
Living alone	0.64
Other (shared accommodation)	1.15+

**Table 3** (continued): Estimated coefficients of logit regression for attrition due to non-contact

	Estimated coefficient
<b>Regional type</b>	
Predominantly urban	0.64**
Intermediate	0.16
Predominantly rural	0
<b>Provinces</b>	
Burgenland	0.81*
Lower Austria	0
Vienna	-0.04
Carinthia	0.70*
Styria	0.27
Upper Austria	-0.04
Salzburg	0.12
Tyrol	1.13***
Vorarlberg	0.30
<b>Planned residential move in wave 1</b>	
Definitely no	0
Probably no	0.52**
Abroad	1.44***
Within Austria	0.39*
Unsure for move or don't know where to move	0.75
<b>Willingness to participate in wave 2</b>	
Yes	0
No	0.79**
<b>Religious affiliation</b>	
Roman catholic	0
Protestant	0.24
Other religious affiliation	0.47*
No religious affiliation	0.44*
<b>Receiving social welfare payment</b>	
Yes	0.74*
No	0
<b>Length of interview in wave 1</b>	
Less than 45min	0.48**
45min to 1h59min	0
2h and longer	0.29
Missing duration	1.34**
Constant	-5.79***
R <sup>2</sup>	0.1616
N	4,947

Significance levels: + p<0.10; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001.

Controlled for socio-demographic variables. For the entire model we refer to Table A3 in the Appendix.

The remaining individual and fieldwork related indicators had no explanatory power in the multivariate logit model; some indicators were dropped due to collinearity. We included information on the data collection process, like length of interview in wave 1 and workload of interviewer in wave 2. Whereas length of interview was significantly associated with attrition, the inclusion of workload worsened model fit. Unfortunately, further fieldwork related aspects like information on interviewer change and move since last interview were not available. Pseudo R<sup>2</sup>, a measure for model fit, improved from 0.0191 including fertility related aspects only, to 0.1147 also including socio-demographic

characteristics, to 0.1468 when further including regional and mobility aspects, to 0.1563 with personal characteristics and to 0.1616 when adding field phase indicators, thus indicating a stepwise better fit of the multivariate model (for detailed stepwise models we refer to table A3 in the Appendix).

Attrition by province and gender clearly revealed female respondents in Tyrol as the group with highest attrition due to non-contact (15 percent). Fieldwork conditions described earlier are the main reason therefore. When excluding Tyrol, attrition due to non-contact was slightly lower among women than among men (6 and 7 percent respectively, see Table A5).<sup>14</sup>

### 4.3. Attrition Due to Cooperation

In this chapter we focus on 4,639 successfully contacted respondents and evaluate whether or not they participated in the wave 2 survey. As mentioned earlier, in total 3,907 were interviewed, which corresponds to a proportion of 84 percent. For analysing the determinants of attrition due to cooperation, we did not further distinguish between the different reasons for dropout at this stage (i.e. refusal or unable to be interviewed) and distinguished between complete interview (84 percent) and non-response (16 percent) only.

As mentioned earlier, persons were asked at the end of wave 1 interview if they agreed to be contacted again<sup>15</sup>. All respondents interviewed at wave 1 – regardless of their answer on being interviewed in a second wave – were politely invited to consider participating in wave 2. It turned out that this attempt was successful as 61 percent of those not willing to continue the panel survey could be interviewed in wave 2 (Table 4). Our findings indicate that it is – at least in Austria – worth contacting respondents again and asking them to consider participating in the panel, even if they stated at the initial interview that they do not want to be contacted again.

**Table 4:** Willingness in wave 1 to participate in wave 2 and completed interviews in wave 1

	Proportion of completed interviews	N
Yes	79%	4,799
No	61%	197
Don't know	50%	4
Total	78%	5,000

First, fertility related aspects were analysed for attrition due to cooperation. Compared to the mean attrition due cooperation of 16 percent, attrition was substantially lower in case of pregnancy at wave 1 (10 percent). The small group of persons living in a

<sup>14</sup> In a further model, we excluded respondents from Tyrol to see if the coefficients change when excluding this province due to the described circumstances, but only found some minor changes in the estimated coefficients.

<sup>15</sup> The exact German wording of the question was: „Vieles in einem Menschenleben ist heute so und morgen anders. Das Generations und Gender Programm erarbeitet derartige Veränderungen. Dürfen wir Sie in drei Jahren wieder kontaktieren?“

homosexual relationship more often refused to participate in wave 2 (20 percent). Several specifications for problems with conceiving a child were considered (Table 5). Both, respondent's problems with conceiving a child and partner's problems with conceiving a child were associated with slightly higher attrition due to cooperation in bivariate analyses: It was 15 percent among respondents stating that they were for sure able to conceive a child, 17 percent among respondents answering that they were probably able to conceive a child, 18 percent among respondents who stated that they were probably not able to conceive a child and 17 percent among those stating that they were for sure not able to conceive a child. Moreover, the group of respondents refusing to answer the question on problems conceiving a child had high attrition, but due to the small size of this group (only three respondents), this result has to be regarded with caution, although possibly indicating a link between refusal to answer this rather sensitive question and refusal to participate in wave 2. Partner's problems to conceive a child were associated with slightly higher attrition. Also, answering with "don't know" on partner's fecundity problems was related with higher attrition, although again this group was very small (only five respondents).

Regarding fertility intentions, descriptive analyses showed somewhat lower attrition among those wanting a child at the time of wave 1 interview (14 percent), and a higher one if intending a child within the next three years (18 percent), but no further differences for the other categories (Table 5). Individuals living in a homosexual relationship more often refused an interview. Attrition due to cooperation varied substantially by attitudes towards marriage, captured via "Marriage is an outdated institution": Agreement towards this statement was associated with higher dropout (19 and 18 percent respectively), strong disapproval with lower dropout (12 percent). Dropout among those who refused to answer this question was high (25 percent), but this group was very small (including four persons only) (Table 5).

Second, individual, regional and field phase characteristics were taken into consideration. According to descriptive analyses, various socio-demographic characteristics were associated with attrition due to cooperation (Appendix Table A6). Higher non-response rates were observed among women as compared to men (17 versus 14 percent), in younger cohorts (1985-1989, thus aged 18-23 at wave 1 interview), among non-Austrian nationals at birth, among respondents with other than German as mother tongue or first language spoken at home, among lower educated, unemployed and those who were permanently ill, among divorced, single, non-married couples, single parents and those without a partner, among men and women living alone, among persons with limitations in daily activities and/or in bad health and among residents of certain Austrian provinces (Vienna and Carinthia). Moreover, persons who were undecided regarding a residential move had a large refusal rate, those not willing to participate in wave 2, respondents with comparable short or long interview time at wave 1, persons who had difficulties to make ends meet, respondents who did not talk with someone about their own personal experiences or feelings over the past twelve months and persons with no religious affiliation more often refused an interview. Furthermore, stepfamilies had higher attrition due to cooperation in descriptive analyses: Both, respondents with children from a previous partner living in the household and respondents with a stepchild living in the household had higher shares of refusal or non-response.

**Table 5:** Attrition due to cooperation by survey relevant aspects

	Attrition	N
Total	16%	4,639
<b>Pregnancy</b>		
Yes	10%	139
No	16%	4,454
Perhaps	17%	18
Female partner 50+	11%	18
Homosexual relationship	20%	10
<b>Respondent able to conceive</b>		
No for sure	18%	222
Probably no	18%	71
Probably yes	17%	811
Yes for sure	15%	3,358
Pregnant	10%	139
Don't know	14%	7
Refusal	67%	3
<b>Partner able to conceive</b>		
No for sure	17%	178
Probably no	17%	36
Probably yes	15%	600
Yes for sure	15%	2,661
Pregnant	10%	136
No partner	18%	994
Don't know	20%	5
Refusal	100%	1
<b>Indicator for fecundity</b>		
No problems reported	16%	3,999
Respondent or partner have problems to conceive a child	17%	473
<b>Fertility intentions</b>		
Wants a child now	14%	518
Intends a child within 3 years	18%	685
Intends a child later	15%	1,029
Wants no further child(ren)	16%	2,228
Don't know/Refusal	8%	12
<b>Marriage is outdated institution</b>		
Strongly agree	19%	162
Agree	18%	606
Neither agree nor disagree	18%	1,017
Disagree	15%	1,844
Strongly disagree	12%	808
Does not apply	13%	198
Don't know or refusal	25%	4



Although bivariate analyses indicated differences in attrition by fecundity, multivariate analyses revealed no significant higher attrition in case of problems with conceiving a child<sup>16</sup>. Pregnancy, on the contrary and very traditional attitudes<sup>17</sup> were associated with significantly lower attrition due to cooperation (Table 6).

**Table 6:** Estimated coefficients of logit regression for cooperation

	Estimated coefficient
<b>Indicator for fecundity</b>	
No problems reported	0
Respondent or partner have problems to conceive a child	0.16
Pregnant	-0.58+
Female partner 50+	-0.58
Homosexual relationship	1.00
<b>Fertility intentions</b>	
Wants a child now	-0.18
Intends a child within 3 years	0.16
Intends a child later	-0.13
Intends no further child(ren)	0
Don't know	-0.72
<b>Marriage is outdated institution</b>	
Strongly agree	-0.02
Agree	-0.02
Neither agree nor disagree	0
Disagree	-0.09
Strongly disagree	-0.32*
Does not apply	-0.20
Don't know or refusal	-0.37
<b>Gender</b>	
Male	0
Female	0.22+
<b>Nationality</b>	
Austrian nationality since birth	0
Austrian nationality, received later	0.47*
German nationality	0.38
Other nationality	0.22
<b>Highest educational level</b>	
ISCED 1+2	0
ISCED 3	-0.25+
ISCED 4	-0.38*
ISCED 5+6	-0.44**

<sup>16</sup> Different specifications and combinations of the two questions on conception were incorporated in multivariate models to find out best model fit. Finally fecundity was captured via an indicator for either own or partner's problems with conceiving a child (Appendix, Table A7). The same applies for different specifications of fertility intentions (Appendix, Table A8). First, we distinguished between wanting a child now, intending a child within three years and intending a child later. Second, the distinction was between intending a child within the next three years and intending a child later. Third, all respondents declaring fertility intentions independent of the time horizon were collapsed into one group.

<sup>17</sup> i.e. strong disagreement towards the statement that marriage is an outdated institution.

**Table 6** (continued): Estimated coefficients of logit regression for cooperation

	Estimated coefficient
<b>Living arrangement</b>	
Child in family	-0.38
Married couple without children	-0.06
Non-married couple without children	-0.05
Married couple with children	0
Non-married couple with children	-0.12
Single mother	-0.20
Single father	0.41
Living alone	-0.38
Other (shared accommodation)	-1.33+
<b>Provinces</b>	
Burgenland	-0.05
Lower Austria	0
Vienna	0.00
Carinthia	0.08
Styria	-0.63***
Upper Austria	-0.15
Salzburg	-0.35
Tyrol	-0.13
Vorarlberg	-0.03
<b>Planned residential move in wave 1</b>	
No	0
Yes	0.17+
Don't know	1.35*
<b>Willingness to participate in wave 2</b>	
Yes	0
No	0.83***
Don't know	1.91+
<b>Number of addresses of corresponding interviewer</b>	
7-29	-0.26
30-39	0.17
40-49	0
50-59	-0.20
60-69	0.19
70-79	0.05
80-95	0.00
150	-0.69*
Constant	-1.35**
R <sup>2</sup>	0.0516
N	4,634

Significance levels: + p<0.10; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001.

Remark: Controlled for socio-demographic and field phase relevant aspects. For the entire model, we refer to Table A7 in the Appendix.

Regarding individual, regional and field phase characteristics, the following subgroups had higher nonresponse rates (Table 7): women, Austrian nationals who received Austrian nationality not at birth but later in life, lower educated, persons who planned a residential move or who were unclear about a residential move and those who did not want to be contacted again<sup>18</sup>. Persons sharing an accommodation and residents of a specific Austrian provinces (Styria), showed significantly higher response rates. Moreover, interviewer workload was significantly associated with attrition: Interviewers with the

<sup>18</sup> We tried different specifications for migration background (Tables A4 in the Appendix).

largest workload (150 addresses) had significantly lower attrition. In fact, this group consisted of one single interviewer and evidently this interviewer was very successful in achieving cooperation by the respondents in wave 2.

#### **4.4. Overall Dropout**

Finally, we focus on 4,996 respondents and distinguish between dropout and successful interview only. With this distinction, overall dropout is 22 percent. Whereas separate analyses on attrition due to contact and due to refusal allows to get insight at which point of the panel study respondents were lost, analyses of general dropout reveals valuable information for data users regarding possible bias in the data. Also, for generating longitudinal weights often both types of attrition are combined. This was for example the strategy in the German DemoDiff study.

Overall dropout – the combination of dropout due to non-contact and dropout due to cooperation – was relatively high among those intending a child within the next three years (26 percent), among persons with liberal attitudes towards marriage (29 and 29 percent), among respondents living in a homosexual relationship at wave 1 (38 percent). Overall dropout was relatively low in case of pregnancy at wave 1 (16 percent) and among respondents with traditional attitudes towards marriage (17 and 16 percent). Dropout was of same size among respondents with and without fecundity problems (21 and 22 percent). Apart from these survey relevant variables, various individual characteristics were associated with high dropout: being young (cohorts born 1985 to 1992 and thus aged 18 to 23 at wave 1 interview), migration background, low education, unemployment, health problems, single, living as couple without children, single parents, stepfamilies, economic problems, without religious affiliation or other than Roman Catholic or protestant religious affiliation, urban environment, planned residential move and not willing to participate in a second wave.

Multivariate logit regressions revealed that fecundity and fertility intentions were not significantly associated with dropout, whereas respondents with traditional attitudes towards marriage and those expecting a child at wave 1 had significantly lower dropout (Table 7). In addition, women, persons with migration background, lower educated (ISCED 1 and 2), residents of specific Austrian provinces (Carinthia and Tyrol), persons without religious affiliation, persons planning a move and those not willing to be contacted for another interview had significantly higher attrition. Moreover, comparably short interview duration at wave 1 was associated with higher attrition. Gender specific analyses revealed differences that pregnant women had significantly lower dropout whereas men whose partner expected a child had no significant lower attrition (Table 7, columns “Women” and “Men”). Traditional attitudes towards marriage were associated with higher dropout among women, not among men.

**Table 7:** Estimated coefficients for overall dropout, logit model

	All	Women	Men
<b>Indicator for fecundity</b>			
No problems reported	0	0	0
Respondent or partner have problems to conceive a child	0.15	0.11	0.35
Pregnant	-0.36	-0.55+	-0.06
Female partner 50+	-1.04		-0.86
Homosexual relationship	0.64	1.17	0.27
<b>Fertility intentions</b>			
Wants a child now	-0.19	-0.26	-0.11
Intends a child within 3 years	0.19	0.18	0.15
Intends a child later	-0.07	-0.15	0.04
Intends no further child(ren)	0	0	0
Don't know	-0.47	-0.84	-0.05
<b>Marriage is outdated institution</b>			
Strongly agree	0.10	0.28	-0.22
Agree	0.03	0.17	-0.17
Neither agree nor disagree	0	0	0
Disagree	0.01	0.04	-0.02
Strongly disagree	-0.25*	-0.31+	-0.15
<b>Gender</b>			
Male	0		
Female	0.24**		
<b>Cohorts</b>			
1960-1964	0	0	0
1965-1969	0.09	0.22	-0.07
1970-1974	0.08	0.12	0.15
1975-1979	-0.17	0.16	-0.58+
1980-1984	0.03	0.19	-0.04
1985-1989	0.34	0.56+	0.20
1990-1992	0.11	0.28	0.10
<b>Nationality</b>			
Austrian nationality since birth	0	0	0
Austrian nationality, received later	0.44**	0.49*	0.47+
German nationality	1.33***	1.62***	0.64
Other nationality	0.50**	0.49*	0.53+
<b>Highest educational level</b>			
ISCED 1+2	0	0	0
ISCED 3	-0.25*	-0.39**	-0.03
ISCED 4	-0.31*	-0.44*	-0.21
ISCED 5+6	-0.20	-0.31+	-0.03
<b>Household size</b>			
1 person	0	0	0
2 persons	-0.03	0.04	-0.10
3 persons	0.31**	0.30+	0.40*
4+ persons (dropped due to collinearity)			
<b>Provinces</b>			
Burgenland	0.32	-0.02	0.74*
Lower Austria	0	0	0
Vienna	0.03	-0.00	-0.02
Carinthia	0.29+	0.74***	-0.53+
Styria	-0.30*	-0.24	-0.58*
Upper Austria	-0.05	0.12	-0.31
Salzburg	-0.23	-0.10	-0.51+

**Table 7** (continued): Estimated coefficients for overall dropout, logit model

	All	Women	Men
Tyrol	0.30*	0.61**	-0.22
Vorarlberg	0.10	0.24	-0.37
<b>Tenant</b>			
Owner	0	0	0
Tenant	-0.00	-0.12	0.10
Rent-free accommodation	-0.13	-0.38+	0.28
Other	0.20	-0.63	0.61
<b>Planned residential move</b>			
No	0	0	0
Yes	0.21*	0.30**	0.09
Don't know	1.19*	0.76	
<b>Willingness to participate in wave 2</b>			
Yes	0	0	0
No	0.86***	0.43+	1.24***
Don't know	1.85+		
<b>Type of sexual relationship</b>			
No partner	0.19	0.28+	0.11
Heterosexual relationship	0	0	0
<b>Religious affiliation</b>			
Roman catholic	0	0	0
Protestant	-0.08	-0.18	0.12
Other religious affiliation	0.12	0.00	0.18
No religious affiliation	0.22+	0.19	0.25
Refusal	-0.75	-0.25	
<b>Religiosity</b>			
Not at all (0)	-0.03	-0.07	0.10
1-2	-0.10	-0.46*	0.40+
3-4	-0.18	-0.12	-0.30
5	0	0	0
6-7	-0.11	-0.28*	0.21
8-9	-0.10	-0.15	0.03
Very religious (10)	-0.03	-0.16	0.27
<b>Make ends meet</b>			
With great difficulty	0.22	0.20	0.46
With difficulty	0.09	0.08	0.02
With some difficulty	0.05	-0.01	0.13
Fairly easily	0	0	0
Easily	0.14	0.23+	0.00
Very easily	-0.10	-0.30+	0.26
<b>Talked with someone about his/her personal experiences/feeling</b>			
Yes	0	0	0
No	-0.03	-0.36+	0.21
<b>Length of interview in wave 1</b>			
Less than 45min	0.27**	0.20	0.34*
45min to 1h59min	0	0	0
2 hours and longer	0.32	0.41	0.29

Significance levels: + p&lt;0.10; \* p&lt;0.05; \*\* p&lt;0.01; \*\*\* p&lt;0.001.

Educational differences were stronger among women than men (the estimated coefficients were statistically significant among women only). Regional variations also differed among women and men: Dropout was highest among women living in Carinthia



and in Tyrol. Whereas dropout was high in Tyrol due to the specific field phase situation, the high dropout in Carinthia might reflect a political difficult situation in this part of Austria around the time of the second wave of the survey (personal communication by Statistics Austria). Several cases of mismanagement in the Federal government of Carinthia got public at that time and have led to a general disappointment and distrust in political institution. As the GGS was financed by the Ministry, thus a political institution, the high dropout might be interpreted as a reaction towards the political situation in this part of Austria at the time around GGS wave 2.

In our analyses, MacFadden's pseudo  $R^2$  - a measure for model fit - increased with the stepwise inclusion of survey related, individual, regional and field phase characteristic, but remained rather low (Table A3: attrition due to non-contact:  $R^2 = 0.1616$ ; Table A9: attrition due to cooperation:  $R^2 = 0.0516$ ; Table A11: overall dropout:  $R^2 = 0.1616$ ). Regarding the low explanatory power of models Watson and colleagues (2009, p. 179) conclude: "While there is undoubtedly (and thankfully) a large random component to survey nonresponse, it is nevertheless clear that there are strong associations between many observable characteristics of both respondents and interview process and experience that are predictive of nonresponse [...]. Such information [...] can provide variables for inclusion in attrition models used in the construction of population weights or as instruments at the analysis stage". They conclude that poor explanatory power is a desired outcome in the sense that it reflects the large random component in survey nonresponse (N. Watson and Wooden 2009). Following their argument, the comparably low model fit in the current study indicates a large random component in survey nonresponse in the current data.

## 5. Discussion

Behr and colleagues (2005) suggested to include in analyses on attrition, not only individual characteristics and variables related to field work, but also important analysis variables. It is therefore crucial to study in the GGS attrition by family and fertility related variables, like fertility intentions, pregnancy, perceived problems for conceiving a child or homosexual partnership. In line, in a French survey on fertility intentions it turned out that the method of contraception had an effect on attrition (Razafindratsima et al. 2004). To our knowledge, the GGS – a main source for fertility and family formation processes – has not been analysed with regard to survey related characteristics, and papers examining comprehensively attrition in the GGS are rare (e.g. Régnier-Loilier & Lincot 2010; Régnier-Loilier 2012; Bartus & Speder 2013). For the Austrian GGS, apart from wave 1 characteristics, detailed information on field phase in waves 1 and 2 were available and allowed a comprehensive investigation on causes and determinants of attrition.

The current study on attrition in the Austrian GGS revealed that certain fertility related aspects were associated with panel dropout. On the one hand, pregnant women and persons with traditional attitudes had lower dropout, indicating that the second wave of the Austrian GGS is biased towards family oriented persons. Although the estimated coefficients in the overall model on overall dropout were significant at a 10 percent and at a 5 percent level only, these results have to be taken into consideration when analysing and

interpreting results based on the longitudinal panel. Distinguishing between attrition due to non-contact and attrition due to cooperation revealed that women pregnant at wave 1 and thus mothers of toddlers significantly less often refused an interview. We might assume that these young mothers were more often interested in the topic of the survey. Fertility intentions at wave 1, on the other hand, are not associated with dropout in wave 2, which is important for studying the realization of fertility intentions.

Descriptive analyses showed that some groups had comparably high dropout, namely persons living in a homosexual relationship, and the group of respondents refusing to answer the question on problems conceiving a child and those persons answering with “don’t know” on partner’s fecundity problems. Nevertheless, multivariate analyses revealed no statistically significant association. Due to the small size of these groups, results have to be regarded with caution, although possibly indicating a link between refusal to answer rather sensitive question and refusal to participate in wave 2. These questions might have been perceived as intrusive or offensive, thus leading to higher nonresponse in the second wave (Groves and Peytcheva 2008; Régnier-Loilier, Saboni and Valdes 2011). Item non-response on crucial variables is regarded as an indicator of low cooperation, lack of interest in the survey and unpleasant or negative experience (Loosveldt et al. 2002; Rendtel 2002). Also, questions on religious affiliation and religiosity might have been perceived as intrusive, and answering religiosity with “don’t know” in wave 1 was associated with higher dropout in wave 2. To add, “don’t know” on the question on residential move and on willingness to participate in a second wave was related to higher dropout and might be an indicator for not being interested in a second interview. Again, these group were rather small, failing to allow statistically significant results and firm conclusions. Overall dropout was comparably high if wave 1 interviews were very short. On the one hand, this was the case, if respondents had no children and no partner and thus did not had to answer the corresponding questions. Typically young men and women had short interviews at wave 1. The fact that the length of interview at wave 1 remained significant when controlling for age, family status, household situation and various other characteristics might indicate that very short interview time is related with no interest in the topic and the tendency to answer questions quickly without further reflections.

Various individual and regional characteristics turned out to be significantly associated with dropout, with differences between attrition due to non-contact und attrition due to cooperation. On the one hand, young adults, respondents with other than Austrian nationality, self-employed, married couples without children and urban population had significantly higher attrition due to non-contact. These characteristics were also related with higher overall dropout in the French GGS (Régnier-Loilier 2012). In addition, individuals who planned a move in wave 1 (particularly if planning to move abroad), those not willing to be contacted again, persons with other than catholic or protestant or without religious affiliation, recipients of social welfare payments at wave 1 and those with rather short interviews in wave 1 had significantly higher attrition due to non-contact. Regional variation in dropout due to non-contact was due to specific field phase situation in one province. On the other hand, attrition due to cooperation was significantly higher among women, Austrian nationals who received Austrian nationality not at birth but later in life, lower educated, among persons who planned a residential move or who were unclear about a residential move and those who did not want to be contacted again. These results stress

the importance of including detailed information on residential move and migration background. Moreover, respondents who did not talk with someone about their own personal experiences or feelings over the past twelve months had higher attrition due to cooperation, in line with findings for the French GGS (Regnier-Loilier 2012; Regnier-Loilier and Lincot 2010).

Regarding respondents' gender, studies on survey response mostly find higher response rates among women than among men. The main reason usually cited for this observation is the fact that women are more often at home (N. Watson and Wooden 2009). Nevertheless, there is limited evidence that – even conditional on contact – men may be slightly more likely to discontinue survey participation (Nicoletti and Buck 2004; N. Watson and Wooden 2009). The fact that women more often refused to participate in wave 2, was interpreted by interviewers at Statistics Austria with the following assumption or observation: If men agree to participate in a survey, they are to some extent more convinced about survey participation and thus more likely to answer in a second wave. Women, on the other hand, reflect about panel participation later, i.e. after the first interview has taken place. They are therefore more likely to refuse participation in a second wave. This explanation is based on experiences and reflections of interviewers of the Austrian GGS wave 1 and wave 2, and is not based on empirical material. Nevertheless, we are convinced that interviewers acquire a lot of knowledge during their work - some of the Austrian interviewers have survey experiences of twenty years and more – and it might be worth conducting qualitative interviews with them to gain more insight in the interview process.

Comparing the current results based on the Austrian GGS with work by Bartus and Speder (2013) on panel continuation in the GGS in Bulgarian, French, Georgian, German and Hungarian GGS underlines differences by countries. Whereas dropout was high among men in the study by Bartus and Speder (2013), it was comparably high among women in Austria, as mentioned earlier. Also, differences by educational level and economic situation become once more evident. With this regard, Austria is in line with countries like France, Germany and Hungary, where educated and persons with relatively more income have lower dropout. The opposite is the case in Bulgaria and Georgia: In Bulgaria, highly educated were less likely to continue, in Bulgaria and Georgia, those reporting economic constraints, more often participated in the second wave (Bartus and Speder 2013). At this point it is important to state that results on education differed in Austria by attrition due to non-contact and attrition due to cooperation: Compared to lower educated (ISCED 1 and 2), highly educated (ISCED 5 and 6) had comparable high attrition due to non-contact on the one side, and significantly lower attrition due to cooperation on the other. This result indicates the importance of distinguishing – if possible – different types of attrition.

Finally, a remark on respondent's willingness to continue in a panel survey has to be stressed again: As mentioned earlier, persons were asked at the end of wave 1 interview if they agreed to be contacted again. In Austria, all respondents interviewed at wave 1 – regardless of their answer on being interviewed in a second wave – were politely invited to consider participating in wave 2. This was not the case in other countries like Germany or France. It turned out that this attempt was successful in Austria, as 61 percent of those not willing to continue the panel survey could be interviewed in wave 2.

## Appendix

**Table A1:** Basic characteristics by disposition (in percent)

	Not in central register	Not living at given address	Unable to reach (without Tirol)	Unable to be inter- viewed	Refusal to interview	Dead	Institu- tionalized	Complete	Total
Total (N)	116	184	57 (30)	25	707	1	3	3,907	5,000
<b>Gender</b>									
Male	47	40	32 (53)	20	36	100	67	41	40
Female	53	60	68 (47)	80	64	0	33	59	60
<b>Cohorts</b>									
1960-1964	3	8	4 (7)	12	6	100	0	7	7
1965-1969	18	14	30 (20)	20	26	0	0	24	23
1970-1974	19	13	18 (20)	24	20	0	33	20	19
1975-1979	13	15	11 (20)	8	15	0	33	18	17
1980-1984	26	20	21 (13)	20	16	0	33	17	17
1985-1989	19	27	18 (27)	16	16	0	0	14	15
1990-1992	2	4	0 (0)	0	1	0	0	1	2
<b>Mean age (in years)</b>	31	30	32 (32)	34	33	44	29	33	33
<b>Pregnancy</b>									
Pregnant	5	2	2(3)	0	2	0	0	3	3
Not pregnant	93	97	96(93)	96	97	100	100	96	96
Perhaps pregnant	0	1	2(3)	0	0	0	0	0	0
Female partner 50+	0	0	0(0)	0	0	0	0	0	0
Homosexual relationship	2	1	0(0)	4	0	0	0	0	0
<b>Respondent able to conceive</b>									
No for sure	3	2	7(3)	24	5	0	0	5	5
Probably no	3	1	0(0)	0	2	0	0	1	2
Probably yes	24	18	12(13)	40	18	0	33	17	18
Yes for sure	62	77	79(80)	32	72	100	67	73	72
Don't know	1	0	0(0)	0	0	0	0	0	0

**Table A1** (continued): Basic characteristics by disposition (in percent)

	Not in central register	Not living at given address	Unable to reach (without Tirol)	Unable to be inter- viewed	Refusal to interview	Dead	Institu- tionalized	Complete	Total
<b>Partner able to conceive</b>									
No for sure	3	3	7(7)	16	4	0	0	4	4
Probably no	2	1	0(0)	0	1	0	0	1	1
Probably yes	17	11	4(7)	20	12	0	33	13	13
Yes for sure	42	48	58(50)	36	56	100	67	58	57
No partner	28	36	28(33)	24	25	0	0	21	22
Don't know	1	0	2(0)	0	0	0	0	0	0
<b>Indicator for fecundity</b>									
No problems	84	92	84(87)	68	87	100	100	86	86
Respondent or partner have problems to conceive a child	9	6	14(10)	28	10	0	0	10	10
<b>Fertility intentions: Specification 1</b>									
Pregnant	5	2	2(3)	0	2	0	0	3	3
Wants a child now	10	10	2(3)	16	9	0	67	11	11
Wants a child within 3 years	21	21	18(17)	16	17	0	33	14	15
Wants a child later	28	34	23(20)	4	22	0	0	22	23
Wants no further child(ren)	34	33	56(57)	56	49	100	0	48	47
Don't know	1	0	0(0)	4	0	0	0	0	0
<b>Fertility intentions: Specification 2</b>									
Pregnant	5	2	2(3)	0	2	0	0	3	3
Wants a child within 3 years	31	31	19(20)	32	27	0	100	26	26
Wants a child later	28	34	23(20)	4	22	0	0	22	23
Wants no further child(ren)	34	33	56(57)	56	49	100	0	48	47
Don't know	1	0	0(0)	4	0	0	0	0	0
<b>Fertility intentions: Specification 3</b>									
Pregnant	5	2	2(3)	0	2	0	0	3	3
Wants further child(ren)	59	65	42(40)	36	48	0	100	48	49
Wants no further child(ren)	34	33	56(57)	56	49	100	0	48	47
Don't know	1	0	0(0)	4	0	0	0	0	0



**Table A1** (continued): Basic characteristics by disposition (in percent)

	Not in central register	Not living at given address	Unable to reach (without Tirol)	Unable to be inter- viewed	Refusal to interview	Dead	Institu- tionalized	Complete	Total
<b>Attitude towards marriage as outdated institution</b>									
Strongly agree	5	9	2(3)	4	4	0	0	3	4
Agree	16	18	14(20)	20	15	100	0	13	13
Neither nor	18	25	14(13)	20	25	0	67	21	22
Disagree	41	37	53(40)	20	40	0	0	40	40
Strongly disagree	20	8	16(23)	28	13	0	33	18	17
Does not apply	0	3	2(0)	8	3	0	0	4	4
Don't know or refusal	0	0	0(0)	0	0	0	0	0	0
<b>Nationality</b>									
Austrian nationality since birth	33	74	89 (97)	76	81	100	67	85	83
Other	67	26	11 (3)	24	19	0	33	15	17
<b>Nationality (detailed)</b>									
Austrian nationality since birth	33	74	89 (97)	76	81	100	67	85	83
Austrian nationality, received later	11	9	4 (3)	8	9	0	33	6	7
German nationality	22	3	2 (0)	8	1	0	0	1	2
Other nationality	34	14	5 (0)	8	8	0	0	7	8
<b>Mother tongue</b>									
German	56	76	91(97)	84	83	100	100	87	85
Other	44	24	9 (3)	16	17	0	0	13	15
<b>First language usually spoken at home</b>									
German	66	84	95 (100)	84	88	100	100	91	90
Other	34	16	5 (0)	16	12	0	0	9	10
<b>German mother tongue or first language</b>									
Yes	68	85	95 (100)	84	89	100	100	91	91
No	32	15	5 (0)	16	11	0	0	9	10
<b>Highest educational level</b>									
ISCED 1+2	22	14	19 (17)	32	16	0	0	12	13
ISCED 3	48	49	49 (47)	44	55	0	100	55	54
ISCED 4	7	16	12 (13)	12	14	0	0	16	15
ISCED 5+6	23	21	19 (23)	12	15	100	0	18	18

**Table A1** (continued): Basic characteristics by disposition (in percent)

	Not in central register	Not living at given address	Unable to reach (without Tirol)	Unable to be inter- viewed	Refusal to interview	Dead	Institu- tionalized	Complete	Total
<b>Employment status at wave 1</b>									
Employed	56	60	68 (60)	64	68	100	67	67	67
Self-employed	8	7	9 (7)	4	6	0	0	7	7
Unemployed	8	8	7 (10)	12	5	0	0	4	5
Student	11	17	7 (10)	0	7	0	0	8	9
Retired	2	1	2 (3)	0	0	0	0	0	1
Parental leave	3	4	2 (3)	12	7	0	33	7	7
Permanently ill	2	0	0 (0)	8	0	0	0	0	0
Housekeeping	7	2	4 (3)	0	4	0	0	4	4
Civil service	0	1	0 (0)	0	1	0	0	1	1
Other	3	1	2 (3)	0	1	0	0	1	1
<b>Parity</b>									
Childless	55	64	39 (37)	48	45	0	33	44	45
1 child	20	16	25 (23)	20	21	100	67	18	19
2 children	16	15	19 (27)	20	24	0	0	25	25
3+ children	9	4	18 (13)	12	9	0	0	12	11
<b>Marital status</b>									
Married	33	22	39 (40)	40	37	0	33	46	44
Divorced	6	9	7 (7)	0	8	0	0	6	6
Widowed	0	0	4 (3)	4	0	0	0	0	0
Single	61	70	51 (50)	56	55	100	67	48	50
<b>Living arrangement</b>									
Child in family	7	25	18 (20)	12	19	0	33	18	18
Married couple without children	9	4	0 (0)	8	5	0	0	6	6
Non-married couple without children	17	12	7 (3)	12	12	100	0	10	10
Married couple with children	21	16	37 (37)	32	32	0	33	39	37
Non-married couple with children	8	8	14 (13)	8	10	0	33	8	8
Single mother	4	5	7 (7)	8	7	0	0	5	5
Single father	1	1	0 (0)	0	0	0	0	0	0
Living alone	21	23	11 (17)	16	14	0	0	12	13
Others	13	6	7 (3)	4	1	0	0	2	3

**Table A1** (continued): Basic characteristics by disposition (in percent)

	Not in central register	Not living at given address	Unable to reach (without Tirol)	Unable to be inter- viewed	Refusal to interview	Dead	Institu- tionalized	Complete	Total
<b>Household size</b>									
1 person	21	23	11 (17)	16	14	0	0	12	13
2 persons	29	19	19 (17)	24	20	100	0	20	20
3 persons	22	26	32 (20)	28	26	0	67	22	23
4+ persons	28	32	39 (47)	32	39	0	33	45	44
<b>Limitations in activities of daily living</b>									
No	97	99	100 (100)	84	98	100	100	99	99
Yes	3	1	0 (0)	16	2	0	0	1	2
<b>Self perceived health at wave 1</b>									
Very good	53	61	49 (53)	28	57	0	67	57	57
Good	35	31	39 (37)	40	34	100	33	34	34
Fair	6	5	9 (7)	16	8	0	0	9	8
Bad	3	3	4 (3)	12	1	0	0	1	1
Bad very bad	2	0	0 (0)	4	0	0	0	0	0
<b>Provision of care</b>									
Yes	4	4	9 (10)	4	6	0	0	6	6
No	96	96	91 (90)	96	94	100	100	94	94
<b>Regional type</b>									
Predominantly urban	59	54	25 (37)	52	34	0	100	32	33
Intermediate	18	23	28 (20)	16	26	100	0	27	26
Predominantly rural	23	23	47 (43)	32	40	0	0	42	40
<b>Tenant</b>									
Owner	23	36	58 (57)	36	53	100	67	57	55
Tenant	69	59	37 (40)	56	41	0	33	36	39
Rent-free accommodation	8	4	5 (3)	8	5	0	0	6	6
Other	0	1	0 (0)	0	1	0	0	1	1

**Table A1** (continued): Basic characteristics by disposition (in percent)

	Not in central register	Not living at given address	Unable to reach (without Tirol)	Unable to be inter- viewed	Refusal to interview	Dead	Institu- tionalized	Complete	Total
<b>Provinces</b>									
Burgenland	3	3	2 (3)	4	3	0	0	3	3
Lower Austria	10	13	5 (10)	16	19	0	0	19	19
Vienna	36	30	11 (20)	40	22	0	67	18	19
Carinthia	3	11	0 (0)	12	7	0	0	6	6
Styria	8	12	19 (37)	16	10	0	0	15	14
Upper Austria	14	13	9 (17)	0	20	0	0	19	18
Salzburg	5	7	7 (13)	4	5	0	0	7	7
Tyrol	9	8	47 (-)	4	9	100	33	9	9
Vorarlberg	10	4	0 (0)	4	5	0	0	5	5
<b>Planned residential move in wave 1 (specification 1)</b>									
No	53	55	68 (63)	72	70	100	33	73	71
Yes	47	45	32 (37)	28	30	0	67	27	28
Don't know	1	1	0 (0)	0	1	0	0	0	0
<b>Planned residential move in wave 1 (specification 2)</b>									
Definitely no	33	32	53 (53)	56	56	100	33	59	57
Probably no	20	23	16 (10)	16	14	0	0	14	15
Abroad	10	4	0 (0)	0	1	0	0	1	1
Another province	3	4	0 (0)	0	2	0	0	2	2
Another municipality	8	7	16 (20)	0	7	0	33	7	7
Same municipality	20	22	14 (13)	28	16	0	33	14	14
Within Austria, but unsure where	5	7	2 (3)	0	3	0	0	3	3
Don't know where	1	1	0 (0)	0	0	0	0	0	0
Don't know for move	1	1	0 (0)	0	1	0	0	0	0
<b>Planned residential move in wave 1 (specification 3)</b>									
Definitely no	33	30	53 (53)	56	56	100	33	59	57
Probably no	20	23	16 (10)	16	14	0	0	14	15
Abroad	10	4	0 (0)	0	1	0	0	1	1
Within Austria	35	41	32 (37)	28	28	0	67	25	27
Unsure for move or don't know where to move	2	1	0 (0)	0	1	0	0	0	1

**Table A1** (continued): Basic characteristics by disposition (in percent)

	Not in central register	Not living at given address	Unable to reach (without Tirol)	Unable to be inter- viewed	Refusal to interview	Dead	Institu- tionalized	Complete	Total
<b>Willingness to participate in wave 2</b>									
Yes	93	93	95 (90)	100	92	100	100	97	96
No	7	7	5 (10)	0	7	0	0	3	4
Don't know	0	0	0 (0)	0	0	0	0	0	0
<b>Length of interview in wave 1</b>									
Less than 45min	12	17	26 (37)	12	15	0	0	13	13
45min to 1h59min	85	79	68 (53)	88	83	100	100	85	84
2h and longer	3	1	2 (3)	0	2	0	0	1	2
Missing	0	3	4 (7)	0	0	0	0	1	1
Mean length of interview (if coded)	1h8min	1h2min	58min (1h5min)	1h8min	1h3min	1h16min	58min	1h3min	1h3min
<b>Number of addresses of corresponding interviewer</b>									
7-19		11	5 (7)	4	8	100	0	11	10
20-29		7	14 (27)	0	7	0	33	9	9
30-39		8	7 (13)	8	9	0	0	8	8
40-49		18	5 (10)	20	18	0	33	18	18
50-59		15	21 (10)	12	12	0	33	14	14
60-69		17	42 (27)	20	16	0	0	12	13
70-79		11	0 (0)	24	17	0	0	15	15
80-95		10	2 (0)	12	11	0	0	10	10
150		2	4 (7)	0	2	0	0	3	3



**Table A2:** Attrition due to non-contact

	Attrition	N
Total (N)	7%	4,996
<b>Gender</b>		
Male	7%	1,996
Female	7%	3,000
<b>Cohorts</b>		
1960-1964	6%	346
1965-1969	5%	1,173
1970-1974	6%	964
1975-1979	6%	842
1980-1984	9%	851
1985-1989	11%	745
1990-1992	12%	75
<b>Pregnancy</b>		
Pregnant	7%	149
Not pregnant	7%	4,796
Perhaps pregnant	10%	20
Female partner 50+	0%	18
Homosexual relationship	23%	13
<b>Respondent able to conceive</b>		
No for sure	5%	234
Probably no	7%	76
Probably yes	8%	879
Yes for sure	7%	3,615
Pregnant	7%	149
Don't know	11%	9
Refusal	0%	3
<b>Partner able to conceive</b>		
No for sure	7%	191
Probably no	8%	39
Probably yes	6%	641
Yes for sure	6%	2,832
No partner	10%	1,108
Don't know	29%	7
Refusal	0%	1
<b>Indicator for fecundity</b>		
No problems	7%	4,313
Respondent or partner have problems to conceive a child	6%	503
<b>Fertility intentions (specification 1)</b>		
Wants a child now	6%	549
Wants a child within 3 years	10%	757
Wants a child later	9%	1,134
Wants no further child(ren)	6%	2,362
Don't know	10%	10
Refusal	0%	4
<b>Fertility intentions (Specification 3)</b>		
Wants further child(ren)	9%	2,240
Wants no further child(ren)	6%	2,362
Don't know	10%	10
Refusal	0%	4

**Table A2** (continued): Attrition due to non-contact

	Attrition	N
<b>Attitude towards marriage as outdated institution</b>		
Strongly agree	12%	185
Agree	9%	667
Neither nor	7%	1,091
Disagree	7%	1,990
Strongly disagree	5%	855
Does not apply	3%	204
Don't know or refusal	0%	4
<b>Nationality</b>		
Austrian nationality since birth	5%	4,157
Other	16%	839
<b>Nationality (detailed)</b>		
Austrian nationality since birth	5%	4,157
Austrian nationality, received later	9%	345
German nationality	34%	94
Other nationality	17%	400
<b>Mother tongue</b>		
German	6%	4,258
Other	14%	738
<b>First language usually spoken at home</b>		
German	6%	4,486
Other	14%	510
<b>German mother tongue or first language</b>		
Yes	6%	4,510
No	14%	486
<b>Highest educational level</b>		
ISCED 1+2	10%	640
ISCED 3	6%	2,706
ISCED 4	6%	771
ISCED 5+6	9%	879
<b>Employment status at wave 1</b>		
Employed	6%	3,324
Self-employed	8%	341
Unemployed	12%	229
Student	11%	426
Retired	16%	25
Parental leave	4%	334
Permanently ill	13%	16
Housekeeping	6%	213
Civil service	3%	32
Other	13%	56
<b>Parity</b>		
Childless	9%	2,273
1 child	7%	929
2 children	5%	1,228
3+ children	5%	566
<b>Marital status</b>		
Married	5%	2,179
Divorced	9%	303
Widowed	11%	18
Single	9%	2,496

**Table A2** (continued): Attrition due to non-contact

	Attrition	N
<b>Living arrangement</b>		
Child in family	7%	884
Married couple without children	6%	306
Non-married couple without children	9%	522
Married couple with children	4%	1,835
Non-married couple with children	8%	402
Single mother	7%	264
Single father	20%	10
Living alone	11%	644
Other (shared accommodation)	23%	129
<b>Household size</b>		
1 person	11%	644
2 persons	8%	1,013
3 persons	8%	1,164
4+ persons	5%	2,175
<b>Limitations in activities of daily living</b>		
No	7%	4,921
Yes	7%	75
<b>Self perceived health at wave 1</b>		
Very good	7%	2,826
Good	7%	1,682
Fair	5%	419
Bad	19%	59
Bad very bad	20%	10
<b>Provision of care</b>		
Yes	6%	308
No	7%	4,688
<b>Regional type</b>		
Predominantly urban	11%	1,666
Intermediate	6%	1,319
Predominantly rural	5%	2,011
<b>Provinces</b>		
Burgenland	7%	150
Lower Austria	4%	935
Vienna	11%	951
Carinthia	7%	323
Styria	6%	699
Upper Austria	5%	912
Salzburg	7%	335
Tyrol	12%	454
Vorarlberg	8%	237
<b>Tenant</b>		
Owner	5%	2,726
Tenant	11%	1,933
Rent-free accommodation	7%	294
Others (accommodation sharing)	5%	39
<b>Planned residential move in wave 1 (specification 1)</b>		
No	6%	3,568
Yes	11%	1,413
Don't know	13%	15

**Table A2** (continued): Attrition due to non-contact

	Attrition	N
<b>Planned residential move in wave 1 (specification 2)</b>		
Definitely no	4%	2,840
Probably no	10%	728
Abroad	32%	62
Another province	9%	123
Another municipality	9%	353
Same municipality	10%	722
Within Austria, but unsure where	14%	138
Don't know where	13%	15
Don't know for move	13%	15
<b>Planned residential move in wave 1 (specification 3)</b>		
Definitely no	4%	2,840
Probably no	10%	728
Abroad	32%	62
Within Austria	10%	1,336
Unsure for move or don't know where to move	13%	30
<b>Willingness to participate in wave 2</b>		
Yes	7%	4,795
No	13%	197
Don't know	0%	4
<b>Length of interview in wave 1</b>		
Less than 45min	9%	674
45min to 1h59min	7%	4,212
2h and longer	8%	77
Missing duration	21%	33
<b>Type of sexual relationship</b>		
No partner	10%	1,108
Heterosexual relationship	6%	3,875
Homosexual relationship	23%	13
<b>Religious affiliation</b>		
Roman catholic	5%	3,582
Protestant	10%	179
Other religious affiliation	14%	499
No religious affiliation	11%	730
Don't know	0%	1
Refusal	0%	5
<b>Religiosity</b>		
Not at all religious	11%	579
1-2	8%	518
3-4	6%	648
5	6%	1,112
6-7	7%	1,061
8-9	6%	714
Very religious (10)	8%	357
Don't know/Refusal	0%	7
<b>Make ends meet</b>		
With great difficulty	14%	147
With difficulty	12%	303
With some difficulty	7%	864
Fairly easily	6%	1,640
Easily	7%	1,221
Very easily	7%	787
<b>Receiving social welfare payment</b>		
Yes	19%	100
No	7%	4,895
<b>Talked with someone about own personal experiences/feeling</b>		
Yes	7%	4,324
No	8%	672

**Table A2** (continued): Attrition due to non-contact

	Attrition	N
<b>Talked with someone about his/her personal experiences/feeling</b>		
Yes	7%	4,248
No	8%	748
<b>Children with previous partner living in household</b>		
No	7%	4,585
Yes	7%	411
<b>Stepchildren living in the household</b>		
No	7%	4,915
Yes	9%	81
<b>Stepchildren not living in the household</b>		
No	7%	4,775
Yes	7%	221



**Table A3:** Estimated coefficients of logit regression for attrition due to non-contact

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Indicator for fecundity</b>					
No problems reported	0	0	0	0	0
Respondent or partner have problems to conceive a child	0.04	0.07	0.02	0.06	0.08
Pregnant	0.29	0.03	-0.00	0.01	0.04
Homosexual relationship	1.47*	0.55	0.34	0.18	0.22
<b>Fertility intentions</b>					
Wants a child now	0.09	-0.24	-0.26	-0.25	-0.25
Intends a child within 3 years	0.62***	0.28	0.25	0.27	0.27
Intends a child later	0.56***	0.02	-0.01	0.02	0.03
Intends no further child(ren)	0	0	0	0	0
Don't know	0.58	-0.32	0.04	0.06	0.01
<b>Marriage is outdated institution</b>					
Strongly agree	0.73**	0.56*	0.66*	0.56*	0.57*
Agree	0.34+	0.17	0.14	0.11	0.12
Neither agree nor disagree	0	0	0	0	0
Disagree	0.12	0.21	0.25	0.29+	0.29+
Strongly disagree	-0.17	-0.15	-0.10	-0.06	-0.02
Does not apply	-0.80+	-0.76+	-0.89+	-0.79+	-0.73
<b>Gender</b>					
Male		0	0	0	0
Female		-0.01	0.02	0.06	0.06
<b>Cohorts</b>					
1960-1964		0	0	0	0
1965-1969		-0.02	0.00	0.02	0.01
1970-1974		0.14	0.11	0.13	0.13
1975-1979		0.05	0.02	0.03	0.03
1980-1984		0.42	0.35	0.37	0.36
1985-1989		0.86*	0.85*	0.89*	0.88*
1990-1992		1.07*	0.96+	0.88	0.80
<b>Nationality</b>					
Austrian nationality since birth		0	0	0	0
Austrian nationality, received later		0.74***	0.44*	0.26	0.31
German nationality		2.45***	2.35***	2.27***	2.28***
Other nationality		1.37***	1.05***	0.83***	0.86***
<b>Highest educational level</b>					
ISCED 1+2		0	0	0	0
ISCED 3		-0.23	-0.19	-0.11	-0.12
ISCED 4		-0.12	-0.06	0.02	0.01
ISCED 5+6		0.29	0.20	0.33	0.35
<b>Employment status at wave 1</b>					
Employed		0	0	0	0
Self-employed		0.47*	0.57*	0.55*	0.54*
Unemployed		0.34	0.34	0.20	0.17
Student		0.16	-0.09	-0.06	-0.09
Retired		0.69	0.63	0.65	0.61
Parental leave		-0.74*	-0.80*	-0.84*	-0.85*
Permanently ill		0.58	0.32	0.09	0.07
Housekeeping		0.00	-0.05	-0.12	-0.10
Civil service		-0.82	-0.83	-0.75	-0.71
Other		0.52	0.65	0.46	0.37
<b>Parity</b>					
Childless		0	0	0	0
1 child		0.36	0.45	0.46	0.46
2 children		0.42	0.52	0.55	0.56
3+ children		0.42	0.53	0.54	0.53

**Table A3** (continued): Estimated coefficients of logit regression for attrition due to non-contact

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Marital status</b>					
Married		0	0	0	0
Divorced		0.41	0.59	0.59	0.66
Widowed		0.64	1.03	1.13	1.18
Single		0.42	0.50	0.51	0.56
<b>Living arrangement</b>					
Child in family		0.08	0.08	-0.01	-0.06
Married couple without children		0.72+	0.88*	0.89*	0.87*
Non-married couple without children		0.70	0.58	0.61	0.54
Married couple with children		0	0	0	0
Non-married couple with children		0.20	0.04	0.06	0.03
Single mother		0.15	-0.08	-0.29	-0.33
Single father		1.58	1.28	1.25	1.27
Living alone		1.04+	0.22	0.70	0.64
Other (shared accommodation)		1.45*	1.27*	1.20+	1.15+
<b>Household size</b>					
1 person		0	0	0	0
2 persons			-0.61*		
3 persons		0.52*		0.63**	0.63**
4+ persons		0.17	-0.25	0.38	0.38
<b>Health</b>					
Very good		0	0	0	0
Good or fair		-0.10	-0.11	-0.13	-0.14
(Very) bad		0.80*	0.72+	0.54	0.56
<b>Regional type</b>					
Predominantly urban			0.65***	0.62**	0.64**
Intermediate			0.21	0.16	0.16
Predominantly rural			0	0	0
<b>Provinces</b>					
Burgenland			0.78*	0.89*	0.81*
Lower Austria			0	0	0
Vienna			0.07	-0.01	-0.04
Carinthia			0.68*	0.72*	0.70*
Styria			0.28	0.28	0.27
Upper Austria			-0.02	-0.02	-0.04
Salzburg			0.14	0.11	0.12
Tyrol			1.06***	1.09***	1.13***
Vorarlberg			0.24	0.25	0.30
<b>Tenant</b>					
Owner			0	0	0
Tenant			0.22	0.19	0.19
Rent-free accommodation			0.21	0.22	0.23
Other			0.08	0.11	0.15
<b>Planned residential move in wave 1</b>					
Definitely no			0	0	0
Probably no			0.50**	0.50**	0.52**
Abroad			1.45***	1.41***	1.44***
Within Austria			0.40*	0.38*	0.39*
Unsure for move or don't know where to move			0.71	0.69	0.75
<b>Willingness to participate in wave 2</b>					
Yes			0	0	0
No			0.71**	0.80**	0.79**
<b>Type of sexual relationship</b>					
No partner				0.20	0.17
Heterosexual relationship				0	0

**Table A3** (continued): Estimated coefficients of logit regression for attrition due to non-contact

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Religious affiliation</b>					
Roman catholic				0	0
Protestant				0.21	0.24
Other religious affiliation				0.48*	0.47*
No religious affiliation				0.42*	0.44*
<b>Religiosity</b>					
Not at all religious				0.13	0.14
1-2				-0.07	-0.07
3-4				-0.16	-0.17
5				0	0
6-7				0.08	0.10
8-9				-0.13	-0.10
Very religious (10)				-0.07	-0.04
<b>Make ends meet</b>					
With great difficulty				0.22	0.22
With difficulty				0.29	0.29
With some difficulty				0.00	-0.01
Fairly easily				0	0
Easily				0.15	0.16
Very easily				0.13	0.13
<b>Receiving social welfare payment</b>					
Yes				0.71*	0.74*
No				0	0
<b>Length of interview in wave 1</b>					
Less than 45min					0.48**
45min to 1h59min					0
2h and longer					0.29
Missing duration					1.34**
Constant	-2.95***	-4.33***	-4.76***	-5.67***	-5.79***
R <sup>2</sup>	0.0191	0.1147	0.1468	0.1563	0.1616
N	4,970	4,970	4,963	4,947	4,947

Significance levels: + p<0.10; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001.

**Table A4:** Different models for attrition due to non-contact by nationality and language

	Model A	Model B	Model C	Model D	Model E
<b>Nationality</b>					
Austrian nationality since birth	0				
Other	1.09***				
<b>Nationality</b>					
Austrian nationality since birth		0			
Austrian nationality, received later		0.31			
German nationality		2.28***			
Other nationality		0.86***			
<b>Mother tongue</b>					
German			0		
Other			0.45***		
<b>First language usually spoken at home</b>					
German				0	
Other				0.54***	
<b>German mother tongue or first language</b>					
Yes					0
No					0.54***
Constant	-5.86***	-5.79***	-5.92***	-5.92***	-5.93***
R <sup>2</sup>	0.1491	0.1616	0.1359	0.1365	0.1364
N	4,947	4,947	4,947	4,947	4,947

Significance levels: + p<0.10; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001.

Controlled for socio-demographic variables included in Table A3, model 5.

**Table A5:** Mean attrition due to non-contact by gender and Austrian provinces (in percent)

	Men	Women	Total
Burgenland	8	7	7
Lower Austria	5	3	4
Vienna	13	10	11
Carinthia	5	9	7
Styria	4	7	6
Upper Austria	8	2	5
Salzburg	3	9	7
Tyrol	7	15	12
Vorarlberg	9	7	8
Total	7	7	7
Total (Without Tyrol)	7	6	7

**Table A6:** Attrition due to cooperation

	Attrition	N
Total (N)	16%	4,639
<b>Gender</b>		
Male	14%	1,850
Female	17%	2,789
<b>Cohorts</b>		
1960-1964	15%	325
1965-1969	17%	1,110
1970-1974	16%	908
1975-1979	13%	793
1980-1984	16%	773
1985-1989	18%	664
1990-1992	15%	66
<b>Nationality</b>		
Austrian nationality since birth	15%	3,932
Other	19%	707
<b>Nationality (detailed)</b>		
Austrian nationality since birth	15%	3,932
Austrian nationality, received later	22%	313
German nationality	19%	62
Other nationality	17%	332
<b>Mother tongue</b>		
German	15%	4,001
Other	20%	638
<b>First language usually spoken at home</b>		
German	15%	4,200
Other	20%	439
<b>German mother tongue or first language</b>		
Yes	15%	4,221
No	20%	418
<b>Highest educational level</b>		
ISCED 1+2	21%	578
ISCED 3	16%	2,531
ISCED 4	14%	727
ISCED 5+6	14%	803
<b>Employment status at wave 1</b>		
Employed	16%	3,109
Self-employed	13%	314
Unemployed	20%	201
Student	13%	378
Retired	10%	21
Parental leave	17%	322
Permanently ill	29%	14
Housekeeping	15%	200
Civil service	16%	31
Other	20%	49
<b>Parity</b>		
Childless	16%	2,069
1 child	18%	862
2 children	15%	1,170
3+ children	13%	538
<b>Marital status</b>		
Married	13%	2,079
Divorced	20%	276
Widowed	6%	16
Single	18%	2,268



**Table A6** (continued): Attrition due to cooperation

	Attrition	N
<b>Living arrangement</b>		
Child in family	16%	821
Married couple without children	12%	288
Non-married couple without children	18%	477
Married couple with children	13%	1,759
Non-married couple with children	21%	370
Single mother	21%	246
Single father	25%	8
Living alone	18%	571
Other (shared accommodation)	7%	99
<b>Household size</b>		
1 person	18%	571
2 persons	16%	934
3 persons	18%	1,072
4+ persons	14%	2,062
<b>Limitations in activities of daily living</b>		
No	16%	4,569
Yes	23%	70
<b>Self perceived health at wave 1</b>		
Very good	16%	2,625
Good	16%	1,561
Fair	16%	397
Bad	19%	48
Bad very bad	50%	8
<b>Provision of care</b>		
Yes	14%	290
No	16%	4,349
<b>Regional type</b>		
Predominantly urban	17%	1,485
Intermediate	15%	1,239
Predominantly rural	15%	1,915
<b>Provinces</b>		
Burgenland	17%	139
Lower Austria	16%	897
Vienna	19%	848
Carinthia	19%	299
Styria	11%	657
Upper Austria	16%	868
Salzburg	12%	312
Tyrol	16%	401
Vorarlberg	17%	218
<b>Tenant</b>		
Owner	15%	2,600
Tenant	18%	1,724
Rent-free accommodation	13%	274
<b>Planned residential move in wave 1 (specification 1)</b>		
No	15%	3,367
Yes	17%	1,259
Don't know	46%	13
<b>Planned residential move in wave 1 (specification 2)</b>		
Definitely no	15%	2,714
Probably no	15%	653
Abroad	19%	42
Another province	14%	112
Another municipality	16%	322
Same municipality	18%	651
Within Austria, but unsure where	18%	119
Don't know where	8%	13
Don't know for move	46%	13

**Table A6** (continued): Attrition due to cooperation

	Attrition	N
<b>Planned residential move in wave 1 (specification 3)</b>		
Definitely no	15%	2,714
Probably no	15%	653
Abroad	19%	42
Within Austria	17%	1,204
Unsure for move or don't know where to move	27%	26
<b>Willingness to participate in wave 2</b>		
Yes	15%	4,463
No	30%	172
Don't know	50%	4
<b>Length of interview in wave 1</b>		
Less than 45min	18%	613
45min to 1h59min	16%	3,929
2 hours and longer	20%	71
Missing duration	4%	26
<b>Number of addresses of corresponding interviewer</b>		
7-19	13%	485
20-29	12%	401
30-39	17%	386
40-49	15%	838
50-59	14%	638
60-69	20%	579
70-79	18%	699
80-95	17%	469
150	10%	144
<b>Type of sexual relationship</b>		
No partner	18%	994
Heterosexual relationship	15%	3,635
Homosexual relationship	20%	10
<b>Religious affiliation</b>		
Roman catholic	15%	3,392
Protestant	13%	161
Other religious affiliation	18%	430
No religious affiliation	19%	650
Don't know/Refusal	33%	6
<b>Religiosity</b>		
Not at all (0)	18%	515
1-2	16%	475
3-4	15%	607
5	17%	1,041
6-7	14%	991
8-9	15%	674
Very religious (10)	17%	329
Don't know/Refusal	29%	7
<b>Make ends meet</b>		
With great difficulty	21%	126
With difficulty	17%	268
With some difficulty	16%	804
Fairly easily	15%	1,568
Easily	17%	1,136
Very easily	13%	733
<b>Receiving social welfare payment</b>		
Yes	16%	81
No	16%	4,557
<b>Talked with someone about own personal experiences/feeling</b>		
Yes	15%	4,019
No	18%	620



**Table A6** (continued): Attrition due to cooperation

	Attrition	N
<b>Talked with someone about his/her personal experiences/feeling</b>		
Yes	16%	3,948
No	16%	691
<b>Children with previous partner living in the household</b>		
No	15%	4,256
Yes	20%	383
<b>Stepchildren living in the household</b>		
No	16%	4,565
Yes	18%	74
<b>Stepchildren not living in the household</b>		
No	16%	4,434
Yes	17%	205

**Table A7:** Different models for fecundity problems (attrition due to cooperation)

	Model A	Model B	Model C	Model D	Model E	Model F
<b>Pregnancy</b>						
Yes	-0.56+					
No	0					
Perhaps	0.09					
Female partner 50+	-0.61					
Homosexual relationship	1.01					
<b>Respondent able to conceive 1</b>						
No for sure		0.18				
Probably no		0.21				
Probably yes		0.07				
Yes for sure		0				
Pregnant		-0.54+				
Don't know		-0.67				
Refusal		1.39				
Female partner 50+		-0.53				
Homosexual relationship		1.04				
<b>Respondent able to conceive 2</b>						
No (for sure or probably)			0.19			
Probably yes			0.07			
Yes for sure			0			
Pregnant			-0.54+			
Don't know			-0.67			
Refusal			1.38			
Female partner 50+			-0.53			
Homosexual relationship			1.05			
<b>Partner able to conceive 1</b>						
No for sure				0.22		
Probably no				0.29		
Probably yes				-0.12		
Yes for sure				0		
Pregnant				-0.53+		
No partner				0.13		
Don't know				0.24		
Female partner 50+				-0.61		
Homosexual relationship				0.99		
<b>Partner able to conceive 2</b>						
No (for sure or probably)					0.24	
Probably yes					-0.12	
Yes for sure					0	
Pregnant					-0.53+	
No partner					0.13	
Don't know					0.24	
Female partner 50+					-0.61	
Homosexual relationship					0.99	
<b>Indicator for fecundity</b>						
No problems reported						0
Respondent or partner have problems to conceive a child						0.13
Pregnant						-0.55+
Female partner 50+						-0.59
Constant	-1,82**	-1,87**	-1,87**	-1,77**	-1,77**	-1,84**
R <sup>2</sup>	0.0484	0.0490	0.0490	0.0488	0.0488	0.0486
N	4,638	4,638	4,638	4,638	4,638	4,638

Remark: Controlled for socio-economic and field-related variables included in Table A9, model 5.

Significance levels: + p<0.10; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001.

**Table A8:** Different models for fertility intentions (attrition due to cooperation)

	Model A	Model B	Model C	Model D
<b>Intentions specification 1</b>				
Pregnant	-0.60+			
Wants a child now	-0.21			
Intends a child within 3 years	0.13			
Intends a child later	-0.15			
Intends no further child(ren)	0			
Don't know	-0.72			
Female partner 50+	-0.63			
Homosexual relationship	0.96			
<b>Intentions specification 2</b>				
Pregnant		-0.61*		
Intends a child within 3 years		-0.02		
Intends a child later		-0.18		
Intends no further child(ren)		0		
Don't know		-0.74		
Female partner 50+		-0.63		
Homosexual relationship		0.94		
<b>Intentions specification 3</b>				
Pregnant			-0.62*	
Intends further child(ren)			-0.08	
Intends no further child(ren)			0	
Don't know			-0.73	
Female partner 50+			-0.64	
Homosexual relationship			0.95	
<b>Marriage is outdated institution</b>				
Strongly agree				-0.01
Agree				-0.02
Neither agree nor disagree				0
Disagree				-0.08
Strongly disagree				-0.31*
Does not apply				-0.21
Don't know or refusal				-0.31
Constant	-1.78**	-1.78**	-1.77**	-1.37**
R <sup>2</sup>	0.0500	0.0490	0.0486	0.0486
N	4,634	4,634	4,634	4,638

Significance levels: + p&lt;0.10; \* p&lt;0.05; \*\* p&lt;0.01; \*\*\* p&lt;0.001.

Remark: Controlled for socio-economic and field-related variables included in Table A9, model 5.

**Table A9:** Estimated coefficients of logit regression for cooperation

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Indicator for fecundity</b>					
No problems reported	0	0	0	0	0
Respondent or partner have problems to conceive a child	0.10	0.14	0.14	0.16	0.16
Pregnant	-0.51+	-0.60*	-0.59+	-0.56+	-0.58+
Female partner 50+	-0.42	-0.44	-0.63	-0.53	-0.58
Homosexual relationship	0.17	0.70	0.70	0.91	1.00
<b>Fertility intentions</b>					
Wants a child now	-0.18	-0.23	-0.20	-0.17	-0.18
Intends a child within 3 years	0.16	0.10	0.11	0.15	0.16
Intends a child later	-0.11	-0.14	-0.13	-0.12	-0.13
Intends no further child(ren)	0	0	0	0	0
Don't know	-0.47	-0.72	-0.74	-0.64	-0.72
<b>Marriage is outdated institution</b>					
Strongly agree	0.04	-0.06	-0.03	-0.03	-0.02
Agree	0.04	-0.03	-0.01	-0.01	-0.02
Neither agree nor disagree	0	0	0	0	0
Disagree	-0.18+	-0.09	-0.07	-0.07	-0.09
Strongly disagree	-0.48***	-0.36*	-0.33*	-0.32*	-0.32*
Does not apply	-0.35	-0.24	-0.19	-0.22	-0.20
Don't know or refusal	0.40	0.01	-0.35	-0.40	-0.37
<b>Gender</b>					
Male		0	0	0	0
Female		0.24**	0.26**	0.28**	0.22+
<b>Cohorts</b>					
1960-1964		0	0	0	0
1965-1969		0.12	0.13	0.13	0.08
1970-1974		0.05	0.07	0.07	0.04
1975-1979		-0.23	-0.23	-0.23	-0.27
1980-1984		-0.15	-0.11	-0.10	-0.15
1985-1989		0.05	0.10	0.12	0.07
1990-1992		-0.19	-0.13	-0.16	-0.16
<b>Nationality</b>					
Austrian nationality since birth		0	0	0	0
Austrian nationality, received later		0.51***	0.48**	0.49**	0.47*
German nationality		0.41	0.43	0.39	0.38
Other nationality		0.25	0.21	0.21	0.22
<b>Highest educational level</b>					
ISCED 1+2		0	0	0	0
ISCED 3		-0.26*	-0.26*	-0.25+	-0.25+
ISCED 4		-0.40*	-0.40*	-0.37*	-0.38*
ISCED 5+6		-0.44**	-0.44**	-0.42*	-0.44**
<b>Employment status at wave 1</b>					
Employed		0	0	0	0
Self-employed		-0.13	-0.14	-0.14	-0.13
Unemployed		0.18	0.20	0.24	0.23
Student		-0.27	-0.27	-0.27	-0.28
Retired		-0.98	-0.93	-1.01	-0.96
Parental leave		0.10	0.08	0.03	0.04
Permanently ill		0.19	0.17	0.14	0.18
Housekeeping		-0.09	-0.08	-0.09	-0.10
Civil service		0.05	0.06	0.06	0.07
Other		0.37	0.37	0.34	0.33
<b>Parity</b>					
Childless		0	0	0	0
1 child		-0.03	-0.01	-0.02	-0.01
2 children		0.01	0.05	0.07	0.05
3+ children		-0.24	-0.20	-0.19	-0.18



**Table A9** (continued): Estimated coefficients of logit regression for cooperation

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Marital status</b>					
Married		0	0	0	0
Divorced		0.50	0.50	0.50	0.43
Widowed		-1.01	-1.07	-1.05	-1.22
Single		0.68	0.69	0.68	0.61
<b>Living arrangement</b>					
Child in family		-0.33	-0.38	-0.47	-0.38
Married couple without children		-0.04	-0.08	-0.08	-0.06
Non-married couple without children		-0.14	-0.18	-0.16	-0.05
Married couple with children		0	0	0	0
Non-married couple with children		-0.22	-0.22	-0.21	-0.12
Single mother		-0.15	-0.19	-0.30	-0.20
Single father		0.36	0.41	0.36	0.41
Living alone		-0.28	-0.56	-0.49	-0.38
Other (shared accommodation)		-1.28+	-1.32+	-1.44*	-1.33+
<b>Household size</b>					
1 person		0	0	0	0
2 persons			-0.17		
3 persons		0.20		0.17	0.17
4+ persons		-0.08	-0.30*	-0.13	-0.11
<b>Limitations in activities of daily living</b>					
No		0	0	0	0
Yes		0.34	0.41	0.43	0.41
<b>Providing care</b>					
No		0	0	0	0
Yes		-0.23	-0.23	-0.22	-0.21
<b>Regional type</b>					
Predominantly urban			-0.10	-0.09	-0.15
Intermediate			-0.07	-0.06	-0.15
Predominantly rural			0	0	0
<b>Provinces</b>					
Burgenland			0.05	0.06	-0.05
Lower Austria			0	0	0
Vienna			0.13	0.12	0.00
Carinthia			0.18	0.17	0.08
Styria			-0.48**	-0.50**	-0.63***
Upper Austria			-0.05	-0.04	-0.15
Salzburg			-0.38+	-0.35+	-0.35
Tyrol			-0.08	-0.09	-0.13
Vorarlberg			0.06	0.03	-0.03
<b>Tenant</b>					
Owner			0	0	0
Tenant			-0.10	-0.11	-0.11
Rent-free accommodation			-0.25	-0.27	-0.21
Other			0.17	0.18	0.16
<b>Planned residential move in wave 1</b>					
No			0	0	0
Yes			0.16	0.18+	0.17+
Don't know			1.24*	1.32*	1.35*
<b>Willingness to participate in wave 2</b>					
Yes			0	0	0
No			0.85***	0.80***	0.83***
Don't know			1.92+	1.96+	1.91+
<b>Type of sexual relationship</b>					
No partner				0.19	0.17

**Table A9** (continued): Estimated coefficients of logit regression for cooperation

	Model 1	Model 2	Model 3	Model 4	Model 5
<b>Religious affiliation</b>					
Roman catholic				0	0
Protestant				-0.25	-0.27
Other religious affiliation				-0.07	-0.05
No religious affiliation				0.11	0.09
Refusal				-0.66	-0.82
<b>Religiosity</b>					
Not at all religious				-0.09	-0.08
1-2				-0.12	-0.11
3-4				-0.18	-0.17
5				0	0
6-7				-0.19	-0.19
8-9				-0.10	-0.10
Very religious (10)				-0.01	-0.03
Don't know				0.51	0.47
Refusal				1.04	1.05
<b>Make ends meet</b>					
With great difficulty				0.12	0.12
With difficulty				-0.04	-0.02
With some difficulty				0.07	0.10
Fairly easily				0	0
Easily				0.12	0.12
Very easily				-0.20	-0.19
Don't know				0.10	0.10
<b>Receiving social welfare payment</b>					
Yes				-0.38	-0.38
No				0	0
<b>Talked with someone about own personal experiences/feeling</b>					
Yes				0	0
No				0.14	0.12
<b>Talked with someone about his/her personal experiences/feeling</b>					
Yes				0	0
No				-0.09	-0.08
<b>Length of interview in wave 1</b>					
Less than 45min					0.17
45min to 1h59min					0
2h and longer					0.26
Missing duration					-1.48
<b>Number of addresses of corresponding interviewer</b>					
7-29					-0.26
30-39					0.17
40-49					0
50-59					-0.20
60-69					0.19
70-79					0.05
80-95					0.00
150					-0.69*
Constant	-1.50***	-1.62***	-1.41***	-1.55***	-1.35**
R <sup>2</sup>	0.0072	0.0291	0.0420	0.0456	0.0516
N	4,640	4,640	4,636	4,634	4,634

Significance levels: + p&lt;0.10; \* p&lt;0.05; \*\* p&lt;0.01; \*\*\* p&lt;0.001.

**Table A10:** Different models for nationality and language (attrition due to cooperation)

	Model A	Model B	Model C	Model D	Model E
<b>Nationality 1</b>					
Austrian nationality since birth	0				
Other	0.36**				
<b>Nationality 2</b>					
Austrian nationality since birth		0			
Austrian nationality, received later		0.47**			
German nationality		0.38			
Other nationality		0.22			
<b>Mother tongue</b>					
German			0		
Other			0.36**		
<b>First language usually spoken at home</b>					
German				0	
Other				0.31+	
<b>German mother tongue or first language</b>					
Yes					0
No					0.34+
Constant	-1,33***	-1,35***	-1,34***	-1,35***	-1,35***
R <sup>2</sup>	0.0512	0.0516	0.0511	0.0506	0.0507
N	4,634	4,634	4,634	4,634	4,634

Remark: Controlled for socio-demographic variables included in Table 7, model 1.

Significance levels: + p<0.10; \* p<0.05; \*\* p<0.01; \*\*\* p<0.001.

**Table A11:** Overall dropout

	Attrition	N
Total (N)	22%	4,996
<b>Gender</b>		
Male	20%	1,996
Female	23%	3,000
<b>Cohorts</b>		
1960-1964	19%	346
1965-1969	21%	1,173
1970-1974	21%	964
1975-1979	18%	842
1980-1984	23%	851
1985-1989	27%	745
1990-1992	25%	75
<b>Pregnancy</b>		
Pregnant	16%	149
Female partner 50+	11%	18
Homosexual relationship	38%	13
<b>Indicator for fecundity</b>		
No problems	22%	4,313
Problems	21%	503
<b>Fertility intentions (specification 1)</b>		
Wants a child now	18%	549
Wants a child within 3 years	26%	757
Wants a child later	23%	1,134
Wants no further child(ren)	21%	2,362
<b>Attitude towards marriage as outdated institution</b>		
Strongly agree	29%	185
Agree	26%	667
Neither nor	23%	1,091
Disagree	22%	1,990
Strongly disagree	17%	855
Does not apply	16%	204
Don't know or refusal	25%	4
<b>Nationality</b>		
Austrian nationality since birth	20%	4,157
Other	32%	839
<b>Nationality (detailed)</b>		
Austrian nationality since birth	20%	4,157
Austrian nationality, received later	28%	345
German nationality	47%	94
Other nationality	31%	400
<b>Mother tongue</b>		
German	20%	4,258
Other	30%	738
<b>First language usually spoken at home</b>		
German	21%	4,486
Other	31%	510
<b>German mother tongue or first language</b>		
Yes	21%	4,510
No	31%	486
<b>Highest educational level</b>		
ISCED 1+2	28%	640
ISCED 3	21%	2,706
ISCED 4	19%	771
ISCED 5+6	21%	879

**Table A11** (continued): Overall dropout

	Attrition	N
<b>Employment status at wave 1</b>		
Employed	21%	3,324
Self-employed	19%	341
Unemployed	30%	229
Student	23%	426
Retired	24%	25
Parental leave	20%	334
Permanently ill	38%	16
Housekeeping	20%	213
Civil service	19%	32
Other	30%	56
<b>Parity</b>		
Childless	24%	2,273
1 child	23%	929
2 children	19%	1,228
3+ children	17%	566
<b>Marital status</b>		
Married	17%	2,179
Divorced	27%	303
Widowed	17%	18
Single	25%	2,496
<b>Living arrangement</b>		
Child in family	22%	884
Married couple without children	17%	306
Non-married couple without children	25%	522
Married couple with children	17%	1,835
Non-married couple with children	27%	402
Single mother	27%	264
Single father	40%	10
Living alone	27%	644
Other (shared accommodation)	29%	129
<b>Household size</b>		
1 person	27%	644
2 persons	23%	1,013
3 persons	24%	1,164
4+ persons	18%	2,175
<b>Limitations in activities of daily living</b>		
No	22%	4,921
Yes	28%	75
<b>Self perceived health at wave 1</b>		
Very good	22%	2,826
Good	22%	1,682
Fair	20%	419
Bad	34%	59
Bad very bad	60%	10
<b>Provision of care</b>		
Yes	19%	308
No	22%	4,688
<b>Regional type</b>		
Predominantly urban	26%	1,666
Intermediate	20%	1,319
Predominantly rural	19%	2,011

**Table A11** (continued): Overall dropout

	Attrition	N
<b>Provinces</b>		
Burgenland	23%	150
Lower Austria	19%	935
Vienna	28%	951
Carinthia	25%	323
Styria	16%	699
Upper Austria	20%	912
Salzburg	18%	335
Tyrol	26%	454
Vorarlberg	23%	237
<b>Tenant</b>		
Owner	19%	2,726
Tenant	26%	1,933
Rent-free accommodation	19%	294
Others (accommodation sharing)	23%	39
<b>Planned residential move in wave 1 (specification 1)</b>		
No	20%	3,568
Yes	26%	1,413
Don't know	53%	15
<b>Planned residential move in wave 1 (specification 2)</b>		
Definitely no	19%	2,840
Probably no	24%	728
Abroad	45%	62
Another province	22%	123
Another municipality	23%	353
Same municipality	26%	722
Within Austria, but unsure where	29%	138
Don't know where	20%	15
Don't know for move	53%	15
<b>Planned residential move in wave 1 (specification 3)</b>		
Definitely no	19%	2,840
Probably no	24%	728
Abroad	45%	62
Within Austria	25%	1,336
Unsure for move or don't know where to move	37%	30
<b>Willingness to participate in wave 2</b>		
Yes	21%	4,795
No	39%	197
Don't know	50%	4
<b>Length of interview in wave 1</b>		
Less than 45min	25%	674
45min to 1h59min	21%	4,212
2h and longer	26%	77
Missing duration	24%	33
<b>Number of addresses of corresponding interviewer</b>		
7-19	16%	485
20-29	17%	401
30-39	21%	386
40-49	19%	838
50-59	19%	638
60-69	27%	579
70-79	20%	699
80-95	20%	469
150	13%	144
<b>Type of sexual relationship</b>		
No partner	26%	1,108
Heterosexual relationship	20%	3,875
Homosexual relationship	38%	13

**Table A11** (continued): Overall dropout

	Attrition	N
<b>Religious affiliation</b>		
Roman catholic	19%	3,582
Protestant	22%	179
Other religious affiliation	29%	499
No religious affiliation	27%	730
Don't know	100%	1
Refusal	20%	5
<b>Religiosity</b>		
Not at all religious	27%	579
1-2	23%	518
3-4	21%	648
5	22%	1,112
6-7	19%	1,061
8-9	20%	714
Very religious (10)	23%	357
Don't know	33%	3
Refusal	25%	4
<b>Make ends meet</b>		
With great difficulty	32%	147
With difficulty	27%	303
With some difficulty	22%	864
Fairly easily	20%	1,640
Easily	23%	1,221
Very easily	18%	787
Don't know	25%	4
<b>Receiving social welfare payment</b>		
Yes	32%	100
No	21%	4,895
Don't know	100%	1
<b>Talked with someone about own personal experiences/feeling</b>		
Yes	21%	4,324
No	24%	672
<b>Talked with someone about his/her personal experiences/feeling</b>		
Yes	22%	4,248
No	23%	748
<b>Children with previous partner living in household</b>		
No	21%	4,585
Yes	26%	411
<b>Stepchildren living in the household</b>		
No	22%	4,915
Yes	25%	81
<b>Stepchildren not living in the household</b>		
No	22%	4,775
Yes	23%	221



**Table A12:** Estimated coefficients for overall dropout, logit model

	All	Women	Men
<b>Indicator for fecundity</b>			
No problems reported	0	0	0
Respondent or partner have problems to conceive a child	0.15	0.11	0.35
Pregnant	-0.36	-0.55+	-0.06
Female partner 50+	-1.04		-0.86
Homosexual relationship	0.64	1.17	0.27
<b>Fertility intentions</b>			
Wants a child now	-0.19	-0.26	-0.11
Intends a child within 3 years	0.19	0.18	0.15
Intends a child later	-0.07	-0.15	0.04
Intends no further child(ren)	0	0	0
Don't know	-0.47	-0.84	-0.05
<b>Marriage is outdated institution</b>			
Strongly agree	0.10	0.28	-0.22
Agree	0.03	0.17	-0.17
Neither agree nor disagree	0	0	0
Disagree	0.01	0.04	-0.02
Strongly disagree	-0.25*	-0.31+	-0.15
Does not apply	-0.34	-0.29	-0.31
Don't know or refusal	-0.64	0.69	
<b>Gender</b>			
Male	0		
Female	0.24**		
<b>Cohorts</b>			
1960-1964	0	0	0
1965-1969	0.09	0.22	-0.07
1970-1974	0.08	0.12	0.15
1975-1979	-0.17	0.16	-0.58+
1980-1984	0.03	0.19	-0.04
1985-1989	0.34	0.56+	0.20
1990-1992	0.11	0.28	0.10
<b>Nationality</b>			
Austrian nationality since birth	0	0	0
Austrian nationality, received later	0.44**	0.49*	0.47+
German nationality	1.33***	1.62***	0.64
Other nationality	0.50**	0.49*	0.53+
<b>Highest educational level</b>			
ISCED 1+2	0	0	0
ISCED 3	-0.25*	-0.39**	-0.03
ISCED 4	-0.31*	-0.44*	-0.21
ISCED 5+6	-0.20	-0.31+	-0.03
<b>Employment status at wave 1</b>			
Employed	0	0	0
Self-employed	0.06	0.03	0.09
Unemployed	0.21	0.31	-0.10
Student	-0.13	-0.09	-0.34
Retired	-0.19	-0.47	0.27
Parental leave	-0.18	-0.18	
Permanently ill	0.34	0.26	1.23
Housekeeping	-0.10	-0.09	
Civil service	-0.12		0.08
Other	0.44	-0.12	0.79+
<b>Parity</b>			
Childless	0	0	0
1 child	0.16	0.11	0.20
2 children	0.27	0.16	0.42
3+ children	0.08	-0.08	0.31

**Table A12** (continued): Estimated coefficients for overall dropout, logit model

	All	Women	Men
<b>Marital status</b>			
Married	0	0	0
Divorced	0.41	0.18	1.05
Widowed	-0.34	-0.20	.
Single	0.56	0.50	0.75
<b>Living arrangement</b>			
Child in family	-0.23	-0.23	-0.23
Married couple without children	0.26	0.16	0.44
Non-married couple without children	0.23	0.35	0.02
Married couple with children	0	0	0
Non-married couple with children	-0.01	-0.03	-0.01
Single mother	-0.17	-0.07	
Single father	1.02		0.72
Living alone	0.01	-0.06	0.11
Other (shared accommodation)	0.02	-0.11	0.39
<b>Household size</b>			
1 person	0	0	0
2 persons	-0.03	0.04	-0.10
3 persons	0.31**	0.30+	0.40*
4+ persons			
<b>Limitations</b>			
No	0	0	0
Yes	0.18	0.38	-0.20
<b>Providing care</b>			
Yes	0.21	0.28	-0.21
No	0	0	0
<b>Regional type</b>			
Predominantly urban	0.14	0.26	0.10
Intermediate	0.01	-0.10	0.17
Predominantly rural	0	0	0
<b>Provinces</b>			
Burgenland	0.32	-0.02	0.74*
Lower Austria	0	0	0
Vienna	0.03	-0.00	-0.02
Carinthia	0.29+	0.74***	-0.53+
Styria	-0.30*	-0.24	-0.58*
Upper Austria	-0.05	0.12	-0.31
Salzburg	-0.23	-0.10	-0.51+
Tyrol	0.30*	0.61**	-0.22
Vorarlberg	0.10	0.24	-0.37
<b>Tenant</b>			
Owner	0	0	0
Tenant	-0.00	-0.12	0.10
Rent-free accommodation	-0.13	-0.38+	0.28
Other	0.20	-0.63	0.61
<b>Planned residential move</b>			
No	0	0	0
Yes	0.21*	0.30**	0.09
Don't know	1.19*	0.76	
<b>Willingness to participate in wave 2</b>			
Yes	0	0	0
No	0.86***	0.43+	1.24***
Don't know	1.85+		
<b>Type of sexual relationship</b>			
No partner	0.19	0.28+	0.11
Heterosexual relationship	0	0	0

**Table A12** (continued): Estimated coefficients for overall dropout, logit model

	All	Women	Men
<b>Religious affiliation</b>			
Roman catholic	0	0	0
Protestant	-0.08	-0.18	0.12
Other religious affiliation	0.12	0.00	0.18
No religious affiliation	0.22+	0.19	0.25
Refusal	-0.75	-0.25	
<b>Religiosity</b>			
Not at all	-0.03	-0.07	0.10
1-2	-0.10	-0.46*	0.40+
3-4	-0.18	-0.12	-0.30
5	0	0	0
6-7	-0.11	-0.28*	0.21
8-9	-0.10	-0.15	0.03
Very religious (10)	-0.03	-0.16	0.27
Don't know	0.00	1.33	
Refusal	0.35	1.12	
<b>Make ends meet</b>			
With great difficulty	0.22	0.20	0.46
With difficulty	0.09	0.08	0.02
With some difficulty	0.05	-0.01	0.13
Fairly easily	0	0	0
Easily	0.14	0.23+	0.00
Very easily	-0.10	-0.30+	0.26
Don't know	-0.06	-0.04	
<b>Receiving social welfare payment</b>			
Yes	0.08	-0.10	0.68
No	0	0	0
<b>Talked with someone about own personal experiences/feeling</b>			
Yes	0	0	0
No	0.03	0.24	-0.17
<b>Talked with someone about his/her personal experiences/feeling</b>			
Yes	0	0	0
No	-0.03	-0.36+	0.21
<b>Length of interview in wave 1</b>			
Less than 45min	0.27**	0.20	0.34*
45min to 1h59min	0	0	0
2 hours and longer	0.32	0.41	0.29
Missing duration	-0.01	0.15	0.23
Constant	-2.31***	-2.05***	-2.26***
R <sup>2</sup>	0.0604	0.0783	0.0867
N	4,986	2,990	1,979

Significance levels: + p&lt;0.10; \* p&lt;0.05; \*\* p&lt;0.01; \*\*\* p&lt;0.001.

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