



# Reliability of union histories in social science surveys: Blurred memory, deliberate misreporting, or true tales?<sup>☆</sup>



Michaela Kreyenfeld<sup>a,b,\*</sup>, Sonja Bastin<sup>a</sup>

<sup>a</sup> Max Planck Institute for Demographic Research, Rostock, Germany

<sup>b</sup> Hertie School of Governance (Berlin), Germany

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## ABSTRACT

This paper examines the reliability of biographical information gathered retrospectively. It draws on data from the German Family Panel (pairfam), which collected information on the partnership status at first birth using two different strategies. The first strategy was to collect partnership and fertility histories separately in an event history calendar. The second strategy was to ask the respondents directly about their partnership status at first childbirth. We find that in almost 20 percent of the cases, the information collected using the two different strategies did not correspond. The dissolution of a partnership and having a complex partnership biography are strong predictors for discrepancies in the information gathered through the two different strategies. We conclude by discussing the factors that lead to the different outcomes produced by each of the two methods, and the implications of these discrepancies for the study of partnership and fertility behavior in general.

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## 1. Introduction

In life course analysis, researchers regularly use retrospective surveys to study social and demographic behavior. In this type of survey, central life events – like the birth of a child, the termination of a partnership, or a residential move – are reconstructed based on the memories of the respondents. During the interview, the respondents are asked to report the start and end dates of certain states or activities they have experienced over their life course, typically using a life history calendar (Freedman, Thornton, Camburn, Alwin, & Young-DeMarco, 1988). Because many statistical methods, like event history modeling or sequence analysis, require monthly data, respondents are regularly asked to recall the year and the month of life course events. This level of precision enables researchers to reconstruct detailed life histories, to detect their determinants, and to establish links between the timing of events in various domains of the life course.

Recall bias is one of the key problems retrospective surveys have to grapple with (Beckett, Da Vanzo, Sastry, Panis, & Peterson, 2001; Bradburn, Rips, & Shevell, 1987; Dex, 1995; Groves, Couper,

Lepkowski, Singer, & Tourangeau, 2009; Manzoni, 2012; Manzoni, Luijkx, & Muffels, 2011; Manzoni, Vermunt, Luijkx, & Muffels, 2010; Tourangeau, Rips, & Rasinski, 2000). The extent of recall bias may, however, vary across different domains of the life course. More salient events, like the birth of a child, are easier to remember than less significant events, like the start of a new job. More unpleasant episodes, like spells of unemployment, may not be reported at all, because they are forgotten or concealed from the interviewer (Jürges, 2007). If life histories are recorded imprecisely across different domains of the life course, these discrepancies will affect investigations of the timing and sequencing of life course events. While this type of bias is of general concern for any investigation based on retrospective data, it is particularly relevant for family research. Whether people cohabit before they marry, whether they have their first child before they enter the labor market, and whether they leave the parental home before they have their first partner are among the classic research questions used to help us gain a better understanding of family behavior in contemporary societies (Billari, 2001; Elzinga & Liefbroer, 2007). In order to answer these questions, we need to have reliable information on the timing of events across the life course, especially because family events often take place within a narrow time frame. So far, however, there have been very few attempts to identify the biases that may lead to imprecision in the recording of events in different domains of the family life course.

In this paper, we seek to fill parts of this research gap by focusing on two strategies used in the German Family Panel

<sup>☆</sup> The term “true tales” in our title is drawn from the study by Matthes, Reimer, and Künster (2005).

\* Corresponding author at: Hertie School of Governance, Berlin (Germany).

Tel.: +49 (0)30 259 219 323.

E-mail address: [kreyenfeld@hertie-school.org](mailto:kreyenfeld@hertie-school.org) (M. Kreyenfeld).

(pairfam) to collect information on the *partnership status at first birth*. In the first strategy, so-called “biography questions” are used to collect separate fertility and partnership biographies. In the second strategy, information is gathered using a direct question that asks respondents about their partnership status at first childbirth. We call this a “landmark question” because during the interview the respondents are asked to connect their union status with the “landmark event” of the birth of their first child. Providing temporal landmarks during an interview is commonly believed to generate more reliable information (Dhum, 1998). Unfortunately, we are unable to evaluate whether this method indeed provides more trustworthy results, as we lack information on the “true” date of the occurrence of the respective event. Nevertheless, we are able to compare the results from the two strategies, which enables us to gain an understanding to what extent the collecting of information on the partnership status at first childbirth is sensitive to different instruments. The paper is structured as follows. In Section 2 we provide the theoretical background and discuss typical sources of recall bias in social science surveys, as well as more specific problems that occur in the retrospective collection of union and fertility histories. In Section 3 we present the data and discuss our two different strategies for collecting information on the partnership status at childbirth. In Section 4 we outline the results. We present simple descriptive statistics, as well as a logistic regression model in which the dependent variable indicates whether there is a match between our two different instruments. While the initial investigation focuses only on the partnership status at the month the first child was born, the final part of the empirical analysis widens the perspective and includes the partnership history one year before and one year after the birth. Using sequence index plots, we visualize the partnership states in this time frame to gain a better understanding of whether the discrepancies in the outcomes of the different methods are related to the acceleration of events around the first childbirth, combined with the difficulties respondents appear to have in reporting the exact start and end dates of partnership states. In Section 5 we conclude with a discussion of the implications of our findings.

## 2. Theoretical considerations

### 2.1. Retrospective surveys and family research

Vital statistics data from across Europe show that, in recent decades, marriage rates have been declining, and the shares of births that occur outside of marriage have been increasing<sup>1</sup>. These trends have fueled ongoing debates about the significance of marriage as an institution in general, and especially as a setting for raising children (Cherlin, 2004; Goldstein & Kenney, 2001). Among the questions that have been raised in response to these developments are: Does the growing share of births to unwed parents indicate a retreat from marriage? Do these trends show that lone parenthood is on the rise, or that cohabiting unions are becoming increasingly common? Retrospective family surveys, such as the Family and Fertility Survey or the Generations and Gender Survey, have led the way in providing answers to these types of research questions (Heuveline & Timberlake, 2004; Perelli-Harris et al., 2010, 2012; Sobotka & Toulemon, 2008). These surveys contain partnership histories that enable researchers to distinguish periods of cohabitation from spells of lone parenthood. The German Family Panel (pairfam), which is used in this investigation, also includes episodes of “living apart together” (LAT), and thus allows for even more subtle distinctions to be made

between partnership forms across the life course (Bastin, Kreyenfeld, & Schnor, 2013; Huinink, Kreyenfeld, & Trappe, 2012)<sup>2</sup>. In the German Family Panel, as well as in the above-mentioned surveys, partnership and fertility histories are gathered in a “modularized way.” This means that the fertility and partnership histories are collected separately in different (but adjacent) sections of the questionnaire. Landmark surveying, in which, for example, dates of childbirths are provided during the collection of the partnership histories, is not applied.

#### 2.1.1. Problems associated with the collection of retrospective histories

Retrospective surveys crucially rely on the ability and willingness of respondents to recall when various life course events took place. When gathering fertility histories, it generally suffices for people to remember and report the dates of birth of their children. In order to reconstruct partnership histories, however, respondents must provide the dates of their marriages, the dates when they moved in with each of their partners, and the dates when each of these households was dissolved. For the LAT episodes, respondents have to recall the start and end dates of each partnership. A respondent’s ability and willingness to retrieve this information from his or her memory will vary greatly depending on the type and quality of partnership, the time that has elapsed since the relationship began, and whether the partnership is ongoing or has been dissolved.

Recall bias, or the inability to provide accurate and complete information during an interview, can occur for a variety of reasons. *Saliency* is generally agreed to be an important determinant of whether the information provided is reliable. Significant life course events, like the birth of a child, can be surveyed with a fair degree of precision, as most people are able to recall accurately how many biological children they have, and the dates when these children were born<sup>3</sup>. Similarly, the dates of marriage or of the death of a partner are not subject to a high degree of recall bias. Apart from the personal and emotional saliency of events, the *regularity* with which respondents are asked to recollect events has been found to influence recall bias. Dates of marriage and of the birth of children tend to be easily remembered because people are asked to provide this information routinely during administrative processes, and because anniversaries and birthdays are regularly celebrated. This “process of memory rehearsal is thought to strengthen the memory trace and thus increase the ease of recalling an event” (Beckett et al., 2001, p. 595). *Elapsed time* is another factor that is associated with recall bias (MacDermid, 1989). As time passes, a respondent may no longer remember the precise start and end dates of a previous union, or may have forgotten the union altogether. People may also fail to report a past partnership because more salient events have crowded out the memory of the relationship. Short unions are often disregarded if respondents have been in several partnerships, cohabitations, or marriages over their life course (Mitchell, 2012). Moreover, there is strong evidence that separation leads cohabiting respondents to redefine their partnership history, and to avoid mentioning disrupted unions (Teitler, Reichman, & Koball, 2006).

Problems can also arise in the collection of retrospective histories because relationships may not have clearly defined start

<sup>1</sup> See, for example, the databases “Proportion of live births outside marriage” provided by Eurostat <http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>.

<sup>2</sup> The GGS includes the start dates of LAT partnerships that were later transformed into cohabiting unions, as well as the start dates of LAT partnerships that were ongoing at the time of the interview. However, no full partnership histories were collected.

<sup>3</sup> Exceptions are non-residential fathers. For the U.S., it has been shown that surveys do not adequately capture the fertility histories of these fathers, most likely because they do not report children with whom they have no social contact (Sorensen, 1997). There may also be problems involved in collecting reliable fertility histories of respondents with deceased children or stillbirths.

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