

# Life history calendars – a viable method for web-based data collection?

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# Contents

- Background: Calendar methods
- Online Life History Calendars
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- Recommendations
- Discussion

# What are calendar methods?

- Visual tools used in retrospective surveys, mostly in social sciences and epidemiology
- Life History Calendar, Event History Calendar, Timeline etc
- Basic components:
  1. Visual feedback of answers, usually including multiple life domains (e.g., work, education, health, household composition)
  2. Landmark events (public or personal)
- Sometimes used as additional recall aid, next to a questionnaire (interviewer- or self-completed)
- Often used as interview-administered data collection device, various degrees of interview standardization
- Versions vary from extremely complex to very simple

## Example 1: Glasner & van der Vaart (2007)

<b>2003</b>	<b>January</b>	<b>February</b>	<b>March</b>
<i>interview</i>			
1. Age		48	
2. Street & City	Parkstr. A'dam-----	-----X	Churchstr. A'dam -----→
3. Household	partner & son	Partner -----	-----→
4. Jobs	ING bank-----	-----	-----→
<b>5. Landmarks</b>		<b>Indonesia</b>	<b>robbery</b>

# Example 2: L.A. Neighborhood and Family Survey

The screenshot displays the 'Event History Calendar - [Health Insurance]' application. The main window features a calendar grid for the years 1997 and 1998, with months from October to September. Below the calendar, several horizontal bars represent different event categories: Landmark Events, Resident's Address, Employment Summary, Unemployed and Absent from Work, Public Assistance, and Health Insurance. A red bracket on the right side of the main window encompasses the calendar and the event bars.

Below the main window is the 'Health Insurance Data Entry Window'. It also features a calendar grid for the same period. Below the calendar, there are three rows of checkboxes for 'Adult', 'First Child', and 'Second Child'. At the bottom of this window is a 'Health Insurance Questions' button and a 'Quit' button.

In the foreground, a dialog box is open for entering event details. It has two sections for 'Starting Time' and 'Ending Time', each with fields for Year, Month, 3rd of Month, and Day. The 'Starting Time' fields are filled with '1998', 'MAY', 'Last', and an empty 'Day' field. The 'Ending Time' fields are filled with '1998', 'MAY', 'Last', and an empty 'Day' field. Below these fields are text boxes for 'Event Description' and 'Note'. On the right side of the dialog box are four buttons: 'OK', 'Cancel', 'Delete', and 'Questions'.

# How do they work?

Advantages over traditional question-list (Balán et al 1969):

- I. Improves completeness of reports by enabling the interviewer to detect 'gaps' in the data
- II. Enables interviewer and respondent to detect inconsistencies in the respondent's account
- III. Facilitates recall for distinct events by displaying those events as part of a sequence
- IV. Improves timing of recalled events by allowing the respondent to relate events and dates from different life domains to each other

# Effectiveness of calendar methods:

## Literature review

- Positive effects on completeness and logical consistency of reports
- Modest positive effects on dating accuracy
- Interviewer and respondent evaluations generally positive
- Operational costs higher than for traditional interviews, mainly due to increased interviewer training time and longer interview durations
- Calendar may have negative effect on response rates



## Conclusions from literature review

- Effects of calendar methods do not seem to differ much across survey modes; i.e. calendars were also beneficial in telephone interviews when only interviewer or respondent (but not both) could see them
- Despite wide array of available applications, no web-based calendar tools described in the methodological literature (yet)

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# Experimental evaluation

- Goal: develop an effective and cost-efficient calendar recall aid for retrospective online questionnaires
- The recall aid should be:
  - a) Easy-to-use, i.e. usable without clarification or detailed instructions
  - b) Clear, as only a limited amount of information can be displayed on the screen
  - c) Efficient, i.e. take as little extra time as possible
  - d) Effective, i.e. increase data quality

# Design

- Web-interview with retrospective life course questionnaire (children, partnerships, housing, employment, health)
- 2x2 experiment in which effectiveness of calendar methods' key elements (landmark events and visual feedback) was tested
- Respondents randomly assigned to four conditions:

		Landmark events	
		No	Yes
Visual feedback of answers	No	1 (control)	3 (landmarks only)
	Yes	2 (visual feedback only)	4 (full calendar)

# Sample

- Respondents were recruited from CentERpanel, Tilburg University, also responsible for design of questionnaire and web-calendar (based on SHARELIFE EHC)
- If multiple respondents from the same household completed the questionnaire, only the first was selected for the analysis

Invitations sent	2251
Started interview	1887 (84%)
Eligible (primary respondent)	1451
Started core questionnaire	1266
Finished interview	1238

## Landmark instructions

*“First of all, we would like to ask you to report six events from your own life, which you can remember well and of which you still know in which year they happened. Would you please try and spread those events over your life as much as possible? We start with an important event that you would like to report first.”*

# The calendar recall aid: Landmark events

## Personal landmarks

	1969-1978										1979-1988										1989-1998										1999-2008											
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
gebeurtenissen										■							■		■																							
kinderen																																										
partners																																										
wonen																																										
werk																																										

### 1985: vakantie Amerika

Deze vragenlijst gaat over uw levensloop. We stellen vragen over de kinderen die u hebt (gehad), uw relaties, uw banen, verhuizingen, uw gezondheid en een paar extra vragen over periodes in uw leven.

We beginnen met de kinderen die u mogelijk hebt of hebt gehad.

<<Terug Verder>>



# Excerpt from life course questionnaire

*“In which year did you start your [first/next] paid job as employee or self-employed, which lasted for 6 months or more?”* [YEAR STARTED JOB]

*“What was your job called? Please give the exact name or title.”* [TITLE OF JOB]

**RE014** JOB INDUSTRY

**RE015** WAS EMPLOYEE CIVIL SERVANT OR SELF-EMPLOYED

**RE016** JOB WAS PART OR FULL TIME

[If part-time: reasons, duration of part-time work etc]

*“In which year did you stop doing this job as {job title}?”* [YEAR STOPPED IN THIS JOB ]



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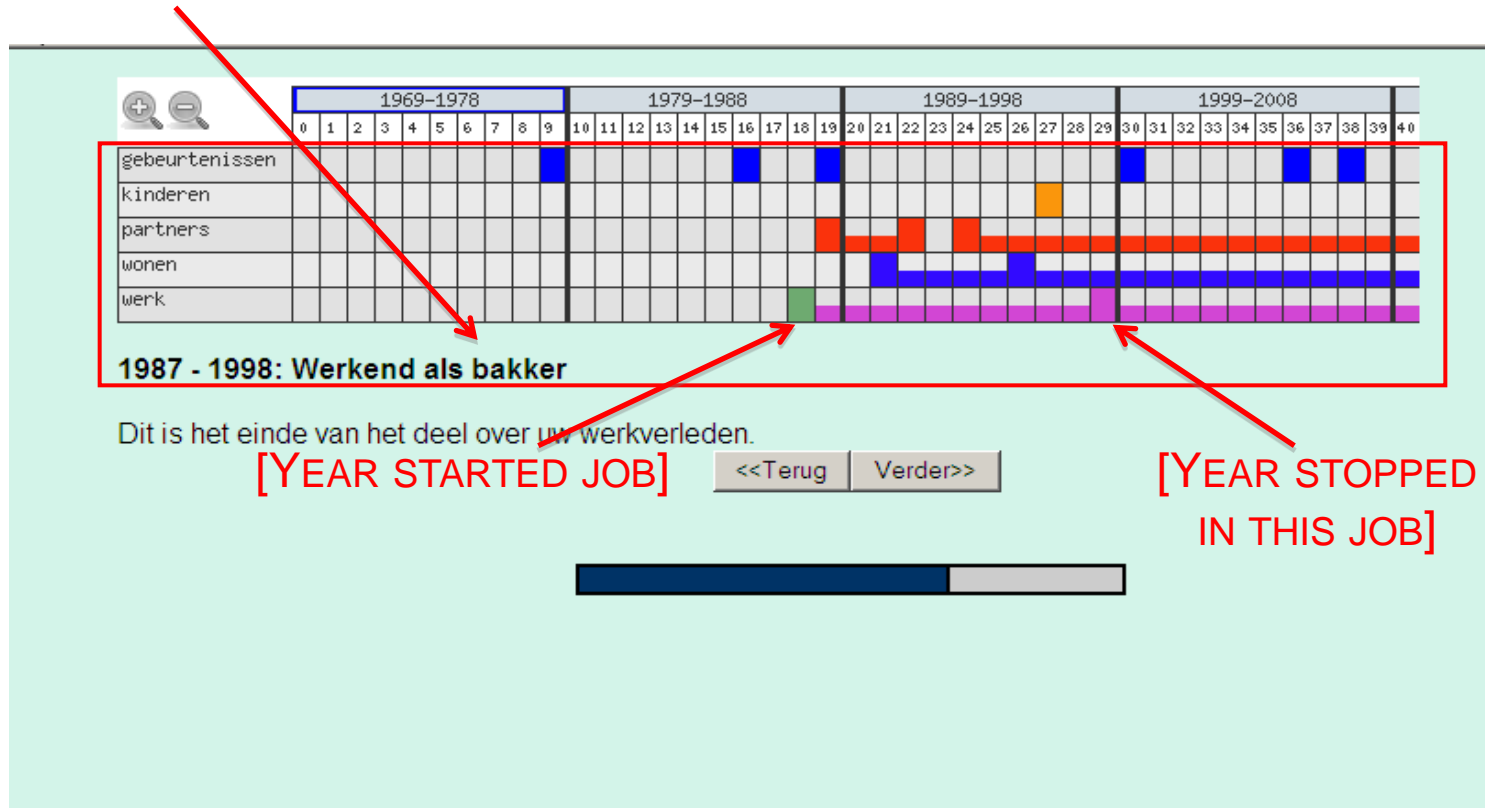
**RE016** JOB WAS PART OR FULL TIME

[If part-time: reasons, duration of part-time work etc]

*“In which year did you stop doing this job as {job title}?”* **[YEAR STOPPED IN THIS JOB ]**

# The calendar recall aid: Visual feedback

[TITLE OF JOB]



[YEAR STARTED JOB]

[YEAR STOPPED IN THIS JOB]

# Hypotheses

The calendar recall aid will:

1. Increase the number of reported events, especially temporally remote events
  2. Increase completion time (especially in the landmark conditions)
  3. Affect response rates
  4. Receive positive respondent evaluations
- ✓ Explore differential effects of landmarks and visual feedback elements on all of these aspects

# Results

## 1. Number of reported events

- No significant increase in number of reported major life events in the employment, partnership, and housing domains
- Use of visual feedback (but not landmark events) slightly increased the number of reported unemployment spells and family leave episodes
- For unemployment episodes, the positive effect of visual feedback was only significant for temporally remote events

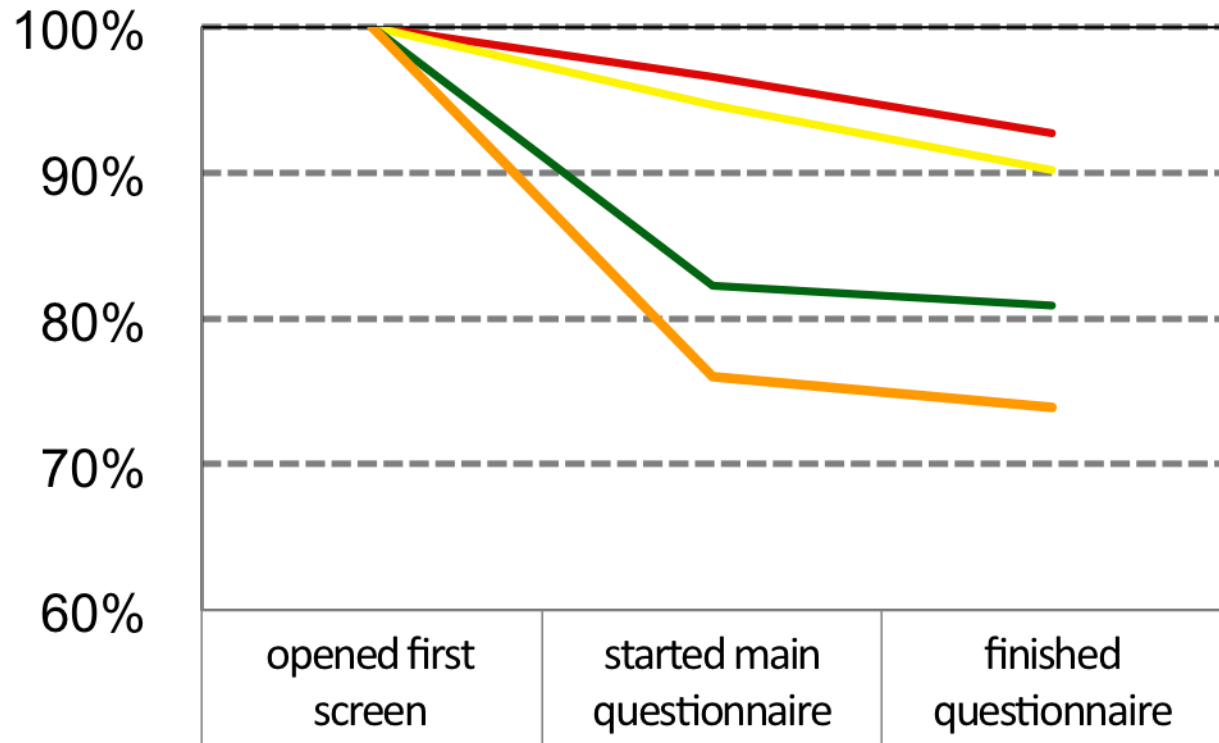
## 2. Completion time

- As expected, recording landmark events increased total interview duration
- Duration of main interview was unaffected by landmark events
- No significant main effect of visual feedback on interview duration
- Interaction effect: visual feedback increased interview durations only if no landmark events were displayed

		Landmark events	
		No	Yes
Visual feedback of answers	No	1691.1	2164.8
	Yes	1903.1	2135.4

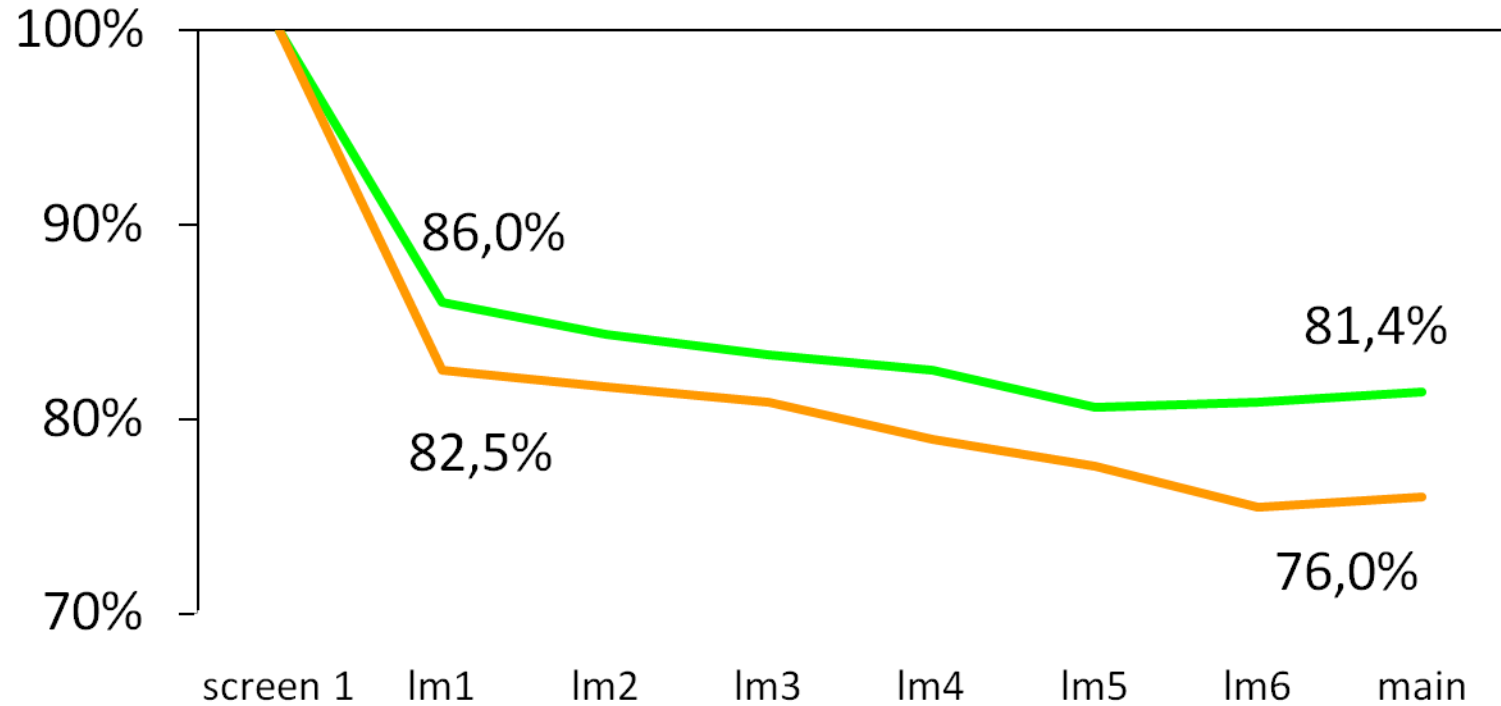
Median duration of total interview (incl. landmark questions, if applicable)

### 3. Break-off across conditions



control	100.0%	96.6%	92.7%
visual feedback	100.0%	94.7%	90.2%
landmarks	100.0%	82.3%	80.9%
visual feedback + landmarks	100.0%	76.0%	73.9%

# Break-off landmark section



— landmarks — visual feedback + landmarks

## 4. Respondent evaluations

‘You have just completed a questionnaire in which your responses were displayed in a calendar. If we were to conduct a similar survey again, would you prefer this new format or would you rather go back to our usual type of questionnaire?’

	Visual feedback plus landmarks	Landmark events only	Visual feedback only	Total
Prefers QL with recall aid	70.4% (195)	66.8% (199)	78.5% (260)	72.2% (654)
Prefers regular question-list	29.6% (82)	33.2% (99)	21.5% (71)	27.8% (252)
Total	100% (277)	100% (298)	100% (331)	100% (906)



# Conclusion and recommendations

- Modest positive effect of visual feedback on data quality
- Including landmark questions had strong negative effect on response rate
- Keep it simple: use only visual feedback in web LHCs
- Test thoroughly – confusing respondents with unclear questions may lead to immediate break-off
- Future research:
  - I. Conduct similar experiment with control data in order to examine effects on dating accuracy
  - II. Try experiment in different modes. Do landmark events affect data quality in, e.g., CAPI or CATI interviews in which calendar methods are used?