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TITLE

Calendar interviewing: a mixed methods device for a life course approach to migration

Research paper

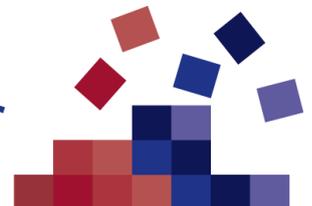## Authors

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A b s t r a c t

Life calendars are used in life course research to collect retrospective standardized data in various domains of individual lives (Axinn et al., 1999). In recent years, researchers have been focusing on improving the procedures and the quality of the data collected with life calendars (Belli et al., 2013; Belli & Callegaro, 2009). Belli and collaborators have developed an approach that uses life calendars in interviews to stimulate the processes of retrieval of biographic information. These scholars suggested that, with this approach, life calendars could also be used for qualitative research. Following their lead, this paper presents a mixed methods approach to life calendars in a research project on immigration – the Calendar Interviewing Device (CID). The CID consists of a life calendar for characterizing trajectories and collecting life stories through open-ended interviews. This paper examines the process of interviewing. Interview transcripts were analyzed to put in evidence the ways the calendar has been used by the interviewees to build their life stories. The analysis also focuses on the strategies used by the participants to provide with precision the times and places of events in their lives. The use of the CID results in two types of data: (1) calendars containing standardized data; and (2) audio-recorded narratives for qualitative analysis. The two types of data can thus be analyzed separately or in combination, for example, on case studies.

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C o r r e s p o n d e n c e t o

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1. Introduction

This paper presents and discusses a mixed-methods "device"1 for data collection with a life course approach to migration. This device comprises different data collection instruments, namely, a life calendar, a questionnaire and an interview guide for researching life stories. These instruments are often considered difficult to combine, because they have been developed in different research traditions – quantitative and qualitative. These instruments are associated with the positivist and constructivist research paradigms in social science, considered by some scholars to be incompatible (Guba & Lincoln, 1994). However, research methods can be combined in a given research paradigm. This combination emerges from a pragmatic approach to research in social sciences: specific objects of study and specific research questions require specific methods or combinations of methods for data collection and analysis (Bergman, 2008). The triangulation of methods, cross-validation of data, and complementarity are three main methodological advantages of mixing methods (Tashakkori & Teddlie, 1998). However, it is important to address the ways methods can be combined to meet the needs of a specific research question (Bergman, 2008; Tashakkori & Teddlie, 1998).

In life course research, mixing methods can constitute a response to the complex goals of this research field. Life course research examines "agency within structures", i.e., how individual trajectories are modeled in the framework of social structures (Settersten & Gannon, 2005). Additionally, the cross-disciplinary and interdisciplinary characteristics of life course research (as presented by Elder, 1995; Levy, Ghisletta, Le Goff, Spini, & Widmer, 2005; Oris, Ludwig, Ribaupierre, Joye, & Spini, 2009) also need an integration of different levels of analysis, using different methodological approaches. The life course approach usually applies longitudinal data collected either prospectively, in successive waves, or through retrospective reports (Giele & Elder, 1998). Concerning retrospective reports, it is possible to distinguish two main types of data collection. The qualitative approach collects life stories through in-depth interviews; the quantitative approach uses standardized questionnaires. In recent years, life calendars have been increasingly used as a particularly suitable instrument for life course research (Axinn, Pearce, & Ghimire, 1999; Belli & Callegaro, 2009).

According to Wingens, de Valk, Windzio, & Aybek (2011), the life course approach is still limitedly used for the study of migration. These researchers consider this approach important for research in migration because it focuses "on the dynamic interplay of societal structuring and institutional framing of migrant's life courses" and "the patterns of migrant's biographical mastering of transitions and coordinating of life spheres" (id, pp. 2-3). As de Valk, Windzio, Wingens, & Aybek (2011) emphasize,

immigration is a major transition in the lives of individuals, implying changes in different trajectories of the life course, for example, family, work, health and residence trajectories. This transition begins with migration and extends its consequences for a long time after it happened. Understanding these aspects of migration implies researching different dimensions and addressing objective and subjective (as seen by migrants) features of the life course with different qualitative and quantitative methodological approaches.

In this paper, we suggest that combining different methods for a life course approach to migration can advance research in this field. The next pages will show how life stories and life calendars can be combined in a mixed-methods device – the Calendar Interviewing Device (CID) – for a life course approach to migration. We begin by presenting a conceptualization of the CID and the procedures for operationalizing it. Next, we present a study on the practical use of the CID, examining interactions between participants and the research instruments that compose the CID. Finally, we discuss how the resulting data can be analyzed. This paper closes with a discussion regarding the advantages and limits of this mixed-methods research approach.

2. Calendar Interviewing Device (CID)

There are different ways of "mixing methods" and varied classifications of types of mixed-methods research (for a revision, cf. Creswell & Clark, 2011). These classifications generally consider the following criteria: (1) the "dominance" of the research approaches (quantitative or qualitative); (2) the phases of the research where methods are combined (research design, data collection, data analysis, interpretation); (3) and the generativeness of one approach over the other (sequential or parallel) (Tashakkori & Teddlie, 1998). Bergman (2008) criticizes this profusion of classifications by underpinning the fact that their roots rely on the traditional division between quantitative and qualitative approaches. Bergman advises pragmatism and parsimony, suggesting that the most important principle to be followed when planning a mixed methods research is the distinction among the different phases of the research where methods are being "mixed". We follow the advice for parsimony from this researcher. In this paper, we focus particularly on the data collection stage of the research.

Life stories as a research method have their origins in psychology, anthropology (e.g., Lewis, 1959; 1961) and microsociology (e.g., Thomas & Znaniecki, 1927 – a pioneer work on the life course approach to migration). For more than a century, one important focus of this method is the importance of oral history and the everyday lives of people. In the field of psychology, the use of psychobiographies

developed during the first decades of the XX century (Runyan, 1982). Psychobiographies concerned mostly a psychodynamic approach to case studies, such as the pioneering examples from Freud (e.g., his case study of the childhood of Leonardo da Vinci in 1910) and Erickson (e.g., his biography of Gandhi associated with his approach to moral development) (for a revision, cf. McAdams, 2005a). However, criticisms of methodological issues concerning objectivity relegated this approach to the margins of the discipline until recently (Runyan, 1982). Since the early 1980s, the interest in biographies in the field of psychology and other social sciences has been growing again, with new theoretical and methodological approaches to life narratives. Life stories allow access to the meanings people give to their lives (McAdams, 2005b). Life stories enable a reconstruction of the past, and they mobilize projections of the future, providing coherence to the lives of narrators. Life stories articulate different dimensions, such as the personality of individuals, their culture, and the features of the context and the social structure where they live. Life story approaches are especially suitable for understanding individual characteristics in a developmental perspective, and the social life in a socio-anthropological perspective (Ferrarotti, 1983). Narratives are simultaneously statements of social practices and social practices themselves (Bertaux, 1980; 1997). Thus, life stories reveal the intertwining of individual agency, meaning making and the socio-historical context where lives develop (Cohler & Hostetler, 2003). Life stories also provide information for understanding processes of continuity and change across lives by focusing on turning points – major changes in the course of a life trajectory (Laub & Sampson, 1998). Life story approaches can be focalized on the life course as a whole or on particular periods of life. The interviewee may be free to go through the themes of his choice; it is also possible to establish from the beginning central themes to explore (Poirier, Clapier-Valladon & Raybaut, 1983). Concerning data collection, this research approach is characterized by in-depth interviews, and it can be combined with other qualitative research approaches, such as ethnography or document analysis (Barbeiro & Machado, 2011).

The life course research paradigm (Elder, 1995) also considers biographies under a different approach. In this approach, the goals are (1) quantification of the data; (2) comparison of trajectories in different life domains; (3) accuracy when distinguishing and locating life-events over time. However, one problem of retrospective reports is their accuracy, because they employ autobiographical memory (Belli, 1998). For example, contents and quantity of autobiographical memories vary according to the age of individuals (Conway, 2005). Autobiographical memories contain knowledge that includes different levels of specificity: it may refer to lifetime periods, general events and event-specific knowledge. With the recalling of an autobiographic memory, these different levels usually relate to one another in a complex process, through the generation of cues (Conway & Pleydell-Pearce, 2000).

The life calendar is a data collection instrument that has been successfully developed to improve accuracy in retrospective reports (Axinn et al, 1999; Freedman, Thornton, Camburn, Alwin, & Young-DeMarcco, 1988; Morselli, Spini, Le Goff, Gauthier, Brändle, & Mugnari, 2013). Life calendars are standardized questionnaires that function also as visual tools. Life calendars organize questions and answers along a timeline and across different life domains (e.g., family life, work, education, health). The design of life calendars meets the cognitive processes of recalling autobiographical memories (cf. Belli, 1998; Conway, 2005). On the analysis of 14 life course inquiries using calendars, the GRAB (1999) synthetizes their following main principles: (1) assignment of parallel calendars to various domains of the life course; (2) distinction and location in time of life episodes in each domain; (3) repetition of the same questions concerning different periods of the life course; (4) simplification and rationalization of data collection; (5) quantification of data and statistical analysis; (6) and the possibility of being filled by the respondent. Other advantages of life calendars are their chronological organization, the easy visualization of the relationship among each life domain (by putting different trajectories in parallel), and the use of visual cues (Axinn et al, 1999). Compared with traditional questionnaires (question lists), the use of life calendars has provided more profuse and accurate data (Belli, Sangeeta, & Bilgen, 2012; Belli, Shay, & Stafford, 2001; Glasner & van der Vaart, 2009).

Belli and Callegaro (2009) have suggested that life calendars should be collected in the context of a flexible interview, rather than through standardized interviewing techniques or self-completion. The standardized approaches are problematic regarding the quality of retrospective reports, even if improved by the use of calendars. This problem can be overcome by using flexible interviewing techniques, which involve adapting to the idiosyncratic mode where the interviewee retrieves information, while using a standardized instrument (the calendar) to register it. When conducting the interview, the interviewer can use several strategies for stimulating the evocation of information (Belli, Bilgen, & Al Baghal, 2013; Belli & Callegaro, 2009). Stimulating "sequential retrieval" facilitates the recall of time sequences in a specific domain and the relationship between these sequences. Sequential retrieval includes, for example, the location in time of the consecutive jobs of the respondent or the consecutive changes in residence. Stimulating "parallel retrieval" facilitates the building of linkages among trajectories and events that occur in different life domains, for example, the link between the birth of a child and the retreat of the labor market. The following strategies proposed by Axinn and collaborators (1999) can also be used by the interviewer: using important cues of the life course of the interviewee and writing them on the calendar (e.g., year of marriage); annotating historical cues which could be situated at a

micro level (of neighboring), or at the macro level (national); and annotating the age of the interviewee with the time units of the calendar and dates.

Calendar interviewing is a data collection device originally conceived for conducting quantitative research (Belli et al., 2013; Belli & Callegaro, 2009). The articulation between the filling of the calendar and the interviewing process improves the precision of the evocation of events. Therefore, calendar interviewing's main goal remains the collection of standardized and quantifiable data. However, Belli and Callegaro (2009) also consider that calendar interviewing has the potential for accomplishing qualitative research, namely, the production of rich verbal data in the course of the interview. Researchers in different domains already started to explore this potential. For example, Bell (2005) used a life calendar (life-grid) for qualitative interviews focused on the emotional lives of married couples. He found that calendars were useful for stimulating the recall, but in an event-centered and non-reflexive way. Porcellato, Carmichael and Hulme (2014) were more successful on using calendars in a mixed method research on the long working lives of older people. They aimed at studying the interplay between work and family in the shaping of employment histories. The researchers concluded that calendar interviewing allowed for collecting rich and detailed qualitative and quantitative data. The different conclusions of Bell (2005) and Porcellato and colleagues (2014) may be related to the aims of their studies, as well as with the fitness between the design of the calendars and the research goals. Further studies on the use of calendars with a mixed methods approach are needed, in order to establish the best situations where this method is appropriated.

In this paper we expand the evaluation of calendars when used in a mixed methods approach. We designed and tested a Calendar Interviewing Device (CID). An analysis of twelve interviews highlights several features of this particular research device.

3. Method

Design and pilot-test of the Calendar Interviewing Device

The CID collects data for a research project examining the experiences of Portuguese immigrants to Switzerland, namely their experiences in institutional contexts, across their life trajectories. In this project we were also interested in the migrant's representations of justice and injustice. We were especially interested in studying experiences with institutions linked to the settlement and integration of the immigrants, such as work related institutions, housing, the Swiss administration, schools, health services, social security, etc. This research requires the articulation of both standardized and

idiosyncratic data. Standardized data involves the reconstruction of life trajectories to compare them. "Qualitative" data implicates gaining access to personal experiences and meaning making by the interviewees.

A preliminary version of this mixed methods device has been built and tested in a pilot phase with two interviewees. This version of the CID comprised two different parts: a calendar and an interview guide. The calendar contained a grid displaying different life domains in the rows and years in the columns. The interview guide addressed the experiences with institutions (the institutions concerning the life domains mentioned on the rows of the calendar) across the life course. Both interviews were followed by a debriefing that introduced improvements to the interview guide and calendar. Most improvements concerned the graphic aspects of the calendar, such as enlarging the size of the calendar's cells and filling the rows of the grid with different colors to facilitate the location of each life domain.

The final Calendar Interviewing Device includes a life calendar for collecting life stories and trajectories through open-ended interviews, an interview guide and a socio-demographic questionnaire. This questionnaire characterizes the family of origin and the current family of the interviewee.

<u>Presentation document</u>

<u>The goals of the interview</u>
I am doing research on how people, and particularly migrants, relate to institutions across their lives […]. I would like to have an interview with you about your life story and about your story as a migrant. I'm particularly interested in your relationship with institutions such as school, work, social security, immigration services…

<u>The interview</u>
I would like to audio-record this interview. The recording is confidential and the information you provide will only be mentioned in my work in short anonymous parts. I also have a calendar that we can fill in together. This calendar is also useful to help you locate events in time. There is no precise order to tell your story. We can go back and forth in time and on subjects as you wish.

Figure 1: Short version of the presentation document.

<u>Interview guide</u>

<u>(meant to be flexible, not following a rigid sequence and to be used with the calendar)</u>

Socio-demographic questionnaire

Calendar

-   Synthesis of migration course (first arrival to Switzerland…)
-   Main life events (born, married, birth of children….)
-   Life course and institutions

    example from the "school trajectory"

    Tell me about your experiences concerning your relationship with the school (positive and negative experiences)

    For each mentioned experience:

    > When/where did it happen?
    >
    > Do you feel that you have been treated with injustice in this situation?
    >
    > Would you consider this injustice a form of violence?
    >
    > Do you think that it could have been avoided? How?
    >
    > Did you witness any injustice inflicted on your friends or colleagues?

Open ended questions

-   Present life in Switzerland
-   Relationships with others (Swiss, Portuguese, other foreigners)
-   Projects for the future

Figure 2: Short version of the interview guide.

Year											
Age	0-5	6-12	13	14	15	16	17	18	19	20	21
Life events											
School/education											
Work											
Migration and permits											
Social security											
Residence											
Family life and migration											
Education of children in Switzerland											
Banks and credit in Switzerland											

Figure 3: Detail of the left and upper side of the calendar with the names for each trajectory.

These instruments are completed with a presentation document (c.f. Figure 1 for a short version) containing general information regarding the research project, the subject and characteristics of the interview, and the terms of anonymity, confidentiality and informed consent. The interview guide is intended to be used with the calendar. A short version of the interview guide is presented in Figure 2, which presents a group of questions involving the educational trajectory; similar questions were asked concerning other trajectories.

The calendar has been designed to fit on two A3 format sheets of paper, oriented as "landscape" to be displayed side by side. The first page concerned trajectories up to 37 years old and the second from 38 to 65. As an interviewee was older than 65, a third page was created. The calendar contains a simple grid where each column represents a year in a given trajectory (see Figure 3). The chronological line is horizontal and represented by two rows. The first row is filled with the chronological years since birth, and the second row is filled with the age of the respondent. The third row concerns life events. The

following eight rows address different trajectories associated with institutions: "school", "work", "immigration and permits", "social security", "residence", "family life and migration", "education of children in Switzerland", and "banks and credit in Switzerland" (cf. goals of the research above mentioned). The last eight rows were left open to be filled with other trajectories and institutions that could be mentioned by the respondents, such as relationships with the police, courts and hospitals. The rows have different colors, and, for every ten years, the lines that separate the columns are thicker. To facilitate the identification of each trajectory, its title was written at the beginning of each row, on the first page, constituting the first column on the left side, and at the end of each row on the second page, constituting the last column on its right. These features provided for an easy reading of the calendar during the interview. In its global aspect, the calendar has a very simple, homemade design.

Participants

Participants were selected from among the first generation of Portuguese immigrants in Switzerland. Seeking a variety of life experiences, the selection criteria targeted participants that arrived in Switzerland in different periods, at different ages, and with different positions in the labor market. Participants were met and "recruited" through informal contacts in the daily life of the interviewer in Lausanne, such as at work, supermarkets, in the neighborhood, cafés and restaurants. Networking was an important feature of the recruitment of participants; each participant could suggest new contacts. However, we avoided recruiting members of the same family or very close friends. Consequently, different networks were accessed, avoiding the bias of getting similar stories and perspectives related to the intertwining of linked lives (Oris et al, 2009). This type of non-probabilistic sampling, also called snowball sampling, hardly produces representative samples. However, it is considered adequate for researching with "hidden populations" such as minorities (Aguirre, 1995; Handcock & Gile, 2011).

The interviewer (the first author of this paper) presented herself as a researcher in social sciences at the University of Lausanne, working with Portuguese immigrants in Switzerland. As the interviewer was also a Portuguese immigrant to Switzerland, the language barriers were not a problem. Each participant was asked whether she/he was willing to participate in an interview concerning her/his experiences of migration. The goals of the interview were explained, emphasizing a focus on the experiences with institutions through the life course. The "presentation document" was handed to the participant at this moment.

Five interviews were conducted at the home of the participants by their choice. These home interviews provided the researcher with a glimpse of the life of the participants. The location also

created the opportunity for introducing some particular elements to the interview, such as photos or documents, which enhanced the precision and richness of recalling (cf. infra). Most interviews occurred in the home of the researcher in the city center of Lausanne. The interviewer's home was a more practical and personalized place than the University, which was the alternative "professional" setting suggested to the participants but only chosen by two of them.

Table 1: Synthesis of the socio-demographic characteristics of the interviewees

	Name	Age	Education	Profession	Length of stay	Living arrangements	Length of interview	Uses of the CID
Women	Clara	48	Compulsory	Cleaning	27	Partner & children	00:59:47	RELIANCE
	Celina	39	Compulsory	Restaurant server	19	Partner & children	01:12:42	RELIANCE
	Joana	36	Compulsory	Restaurant server	4	Partner	01:59:47	RELIANCE
	Flor	47	Secondary	Logistics manager	25	Partner & children	02:41:26	PROACTIVE
	Susana	26	University	Nurse	3	Shared apartment	01:38:29	PROACTIVE
	Sandra	57	University	Secretary	27	Partner & children	03:51:25	MIXED OS/P [b]
Men	Paulo	26	Secondary	Salesman	23	Alone	01:18:20	MIXED OS/R [c]
	Silva	59	Secondary	Secretary	33	Partner	02:11:29	OWN SCRIPT
	Manuel	52	Secondary	Warehouse worker [a]	1	Shared apartment	03:55:31	MIXED OS/P
	Joaquim	51	Secondary	Construction worker	32	Shared apartment	02:23:12	OWN SCRIPT
	Pedro	27	University	Architect	0	Shared apartment	01:02:14	PROACTIVE
	Bruno	33	University	Physio-therapist	3	Shared apartment	01:30:49	MIXED OS/R

Note: The names of the interviewees are fictional. The last column concerns different types of uses of the CID by the interviewees and will be explained at the presentation of results.

[a] Salesman in Portugal

[b] Mixed: own script/proactive

[c] Mixed: own script/reliance

For the purposes of this paper, 12 interviewees were selected out of 22 who constitute the corpus of the data for the main research. The characteristics of the 12 participants meet the criterion of assuring variability in data (Charmaz, 2014) (cf. Table 1). Therefore, 6 women and 6 men were selected; at the time of the interviews, their age ranged between 26 and 59 (M=42; SD=12; Median=43), and their length of stay varied between 0 (one interview had been conducted when the interviewee arrived in Switzerland) and 33 years (M=16; SD=13; Median=21). The participants were all working, except one man and one woman who were unemployed and searching for training to obtain new qualifications. Qualifications of the respondents varied from primary school (n=1) to university degree (n=3), and the others had completed high school or professional training certifications. The sectors of employment also comprise a wide range. According to the International Standard Classification of Occupations (International Labour Organization, 2007), among the interviewees, there were 3 respondents in the group of "professionals", 3 in the group of "technicians and associate professionals", 3 in the group of "service and sales workers", 1 in the group of "craft and related trades workers" and 2 in the group of "elementary occupations". All the interviewees who were working occupied a position that matched their qualifications, except for one man who recently arrived to Switzerland and was overqualified (sales) for the position he had at his employment (warehouseman).

4. Analysis

The audio-recorded parts of each interview had a duration between one and four hours (cf. Table 1) (Mean= 2:03:45h SD=1:00:28h; Sum=24:45:11h). Two of the interviews were completed in two meetings because the subjects of the interview had not fully been covered at the first meeting. The interviews were transcribed, and side notes were taken concerning features of non-verbal language when the calendar was used. The transcriptions were submitted to thematic analysis (Braun & Clarke, 2006) using QSR International's NVivo 10 qualitative data analysis software. The interviews were coded to gather all the interview materials that concerned the interactions regarding the use of the questionnaire and calendar. Then, this specific material was recoded in detail. The purposes of this recoding were to: (1) identify types of uses of the CID across the interaction between the interviewer and the interviewee; (2) describe and understand the strategies used by the interviewees to provide time and place precision; and (3) understand how the uses of the CID met, in practice, the goals of life course research.

5. Results

According to the goals of the analysis, the results will be presented in three parts. The first part – general dynamics of the interviews – examines the use by the participants of the CID materials. This part emphasizes the typical sequence employed by the participants (interviewee and interviewer) to complete the tasks implicated in the use of the data collection instruments. In the first part, we also refer to variations of the typical uses of the CID materials. The second part – strategies for specifying time and place –analyses the strategies employed by the participants to provide information for completing the calendar. The third part – complex tasks of the CID – describes the ways through which participants "match different trajectories" and "locate turning points".

General dynamics of the interviews

The general dynamics of the interviews developed according to the following sequence: (1) "reading the presentation document"; (2) "filling in the socio-demographic questionnaire"; (3) "presenting the calendar while filling in the lines of dates to match the line of age"; (4) "starting the life storytelling"; and (5) "filling in the calendar" (cf. Figure 4).

The interviews began with the reading of the presentation document by the interviewee, followed by a clarification of it, if needed. The documents, black and color pencils, an eraser and a ruler were placed on the table with the audio-recorder to the side. The interviewer invited the participant to sit in a place where she/he could easily read and work with the instruments of the CID. Then, the interviewer and interviewee completed together the socio-demographic questionnaire. The standardized questions of the questionnaire were followed by probing and open-ended questions to facilitate discussion on the subject and to "break the ice"; for example, when answering questions regarding family, the interviewee was invited to discuss its members in a less-structured way. Therefore, the socio-demographic questionnaire was also useful for becoming introduced to the lives of the interviewees.
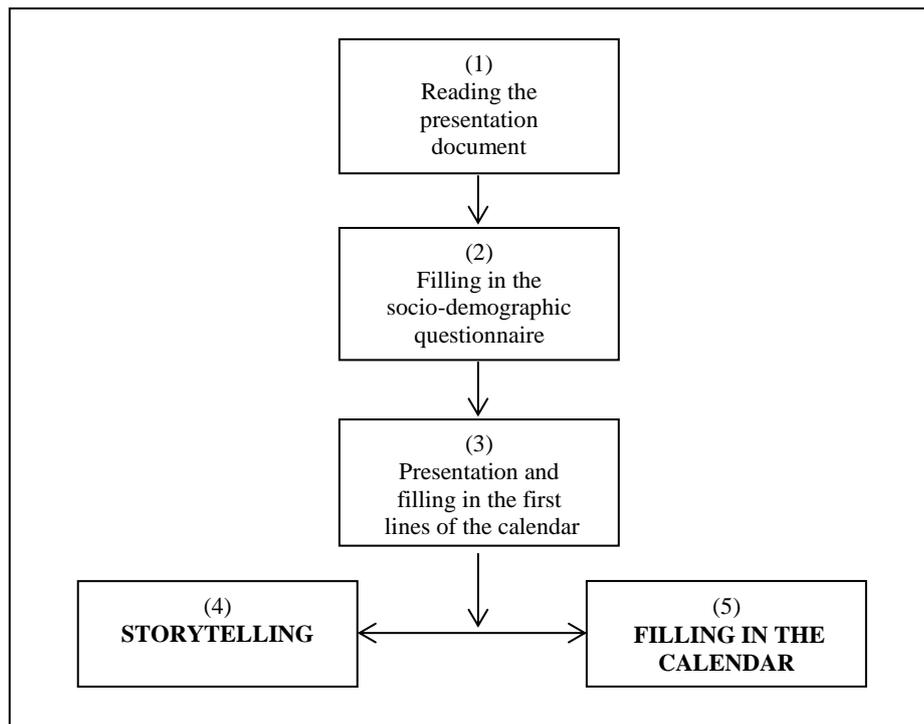
Figure 4: Standard sequence of the use of the CID.

The calendar was then presented, and the first step in completing it was the alignment of the chronological years with age (already in the template of the calendar). Some main life events, already mentioned during the questionnaire, were added to the calendar (e.g., the dates of arrival to Switzerland, marriage and birth of children). The interviewee was invited to add other important dates. The completion of the different trajectories began by an invitation to discuss childhood and school, although it was clarified that the interviewee could begin with any other theme. Following this invitation, the interview developed by alternating "storytelling" periods and the filling in of the calendar.

The sequence described above was not rigidly followed. A case-by-case reading of the interactions between the interviewer and the interviewee identified three prototypical styles of use of the CID: "reliance", "proactive" and "own script". Memo notes have been taken for each case, synthetizing their styles for using the CID. These styles can be located on a continuum. At one extreme (reliance style), interviewees relied on the structure of the CID and on the guidance of the interviewer to build their life story. At the other extreme of the continuum (own script style), the interviewees appeared to have their own script for the interview (including certain "messages" that they wanted to pass on with their stories). These interviewees built their narrative almost independently of the calendar. The proactive style combines the existence of a script and an active adaptation to the structure of the CID. Following, we exemplify the prototypical styles with the cases of Clara, Susana and Silva.

The interview of Clara followed the standard sequence and her style was characterized by "reliance". She relied on the guidance of the interviewer for telling her story according to the interviewing device. Clara's understanding of the research instruments developed during the interview. The calendar worked as a structure that provided her with a basis for building her narrative.

> Clara expressed her worries about being capable of "telling the things" I wanted to know. I reassured her: we would build together the interview as a conversation. I gave a first explanation about the calendar and started the interview. We started by filling in the socio-demographic questionnaire. She was able to see what I was writing down. Then, I annotated the year of her birthday into the calendar, as well as some of events that she had mentioned. At the same time, I explained how the calendar worked. She never wrote into the calendar, but she kept paying attention to my notes. She would look at the calendar to remember dates, phases and events. The interview went along by switching between short stories about her life, and informative answers, in order to filling in the calendar.
>
> [Research memo notes on the interviewing dynamics]

Susana was proactive in structuring her story while engaging in completing the calendar and in adapting to the guidelines of the interview. Susana's interview was a balanced compromise between the story she wanted to tell, the questions asked by the interviewer and the demands of the CID.

> After I filled in the years, Susana referred to the third line (important events). She immediately started talking about the passing away of her father, few years early. This event also coincided with her preparing for migration. Then she went back in time to talk about her childhood. She developed her story in a chronological order, using the structure of the calendar. Small stories of specific events alternated with the more general descriptions of phases of her life (such as the "phase of the university"). She told me that that she had been preparing for this interview, which was patent in the way she easily structured her story. She was very active on understanding the goals of the interview and on meeting them, as much as on putting in evidence the particularities of her trajectory.
>
> [Research memo notes on the interviewing dynamics]

Finally, at the opposite extreme, Silva showed that he already had a precise script for the interview. However, he was cooperative by providing the information needed to complete the calendar. He progressively used the information that I annotated to introduce new stories.

Silva read the introductory form and immediately started to tell his story. After 12 minutes, I introduced the calendar. He showed receptive, but then he talked again ignoring the calendar. His stories were rich in information such as dates and places; while he was talking, I was annotating dates and events in the calendar. In between stories, I collected further information for filling in the calendar, by asking questions such as "and in what year did this happen?" and "this happened before or after that?". At the same time, these questions and the process of "calling him into the calendar" elicited the recall of other events or stories... and he would start storytelling again! The socio-demographic questionnaire was completed at the end of the interview. His narrative developed by going back and forth in time. The calendar was very helpful for conducting the interview. It helped me to understand the chronological order of the life story and to conduct the interview in order to fill the gaps when needed.

[Research memo notes on the interviewing dynamics]

The last column of Table 1 classifies the interviewees according to the styles they adopted for using the CID instruments. Some of the interviewees adopted mainly one prototypical style, as the in cases described above, and others alternated between styles (mixed). These distinguishable styles show the flexibility of the CID, which adapted to the ways the interviewees developed their narratives. The different ways of using of the CID appear to be related with the education and the professional world of the interviewees. The interviewers that adopted the "reliance" style hold compulsory education and had low qualified jobs. The "proactive" respondents hold university degrees and/or have qualified jobs. We hypothesize that the instruments of the CID are shaped in an academic style, facilitating a proactive use by the interviewees that are familiar with the academic culture. For the ones who are not so used to deal with this kind of formal instruments, the guidance of the interviewer appears to be of most importance for the development of a life narrative that meets the demands of the CID. However, as the respondents that adopted this style were all women, it is possible that this style is also related to gender; a future study with a more comprehensible sample may help to disentangle the effects of gender and education. As for the "own script" style, it appears to be less related to the education and occupation of the respondents. The content of the narratives of the respondents show that they wanted to pass on some "messages" in their stories. These messages were part of a meaning making process. They consisted of a "moral of the story", either personal or political (in a broad sense). For example, in their stories, the interviewers stated positions towards the Portuguese dictatorship and democratic revolution, the economic crisis and the immigration policies and practices in Switzerland.

Despite the diversity of the ways participants interacted with the CID, two main dynamics of interaction generally alternated in the interviews and developed one another. The storytelling

component was the first dynamic (cf. Figure 4). Here, the interviewer assumed a predominately non-directive and person-centered attitude (Rogers, 2007), and the interviewees intercalated the narration of specific events in the form of small stories with more general accounts concerning their lives. The second dynamic was the location of these stories in the calendar, either spontaneously or through direct questions. Follow-up questions were usually asked at the end of each story to clarify feelings and meanings regarding what was being told.

Strategies for specifying time and place

Completing the calendar implies specifying time of phases and life events. This implication was quickly understood by the interviewees who used many strategies intertwined with one another to fulfill this task. Figure 5 schematizes the dynamics of the CID concerning the strategies associated with specifying time and place. Figure 5 displays the categories resulting from an analysis of the interviews and the relationships among these categories. The main categories are represented by ellipses and refer to the interventions of either the interviewer (category A- "interviewer's framing inputs") or the interviewee (category B – "interviewee's strategies", which includes categories B2 – "core strategies" and B2 – "innovative strategies"). The sub-categories are represented by polygons, and they detail the actions of the interviewer and the interviewee. In the following pages, we show how these categories are related to one another.

Interviewer's framing inputs. Although it was clarified to the interviewees that it was important to provide information to complete the calendar, some questions by the interviewer, which punctuated the narratives, allowed the interviewees to integrate this need in their discourse. These questions are schematized in category A – "interviewer's framing inputs" – (Figure 5), which groups the following three types of questions: "asks for time precisions" (category 1); "asks for sequence precisions" (category 2); and "asks for place precisions" (category 3). The questions concerning category 1 were directed to obtain time precision concerning events. For example, the interviewer asked "when did it happen?", "in what year?", or "what age were you?" If one of the questions seemed difficult to answer, an alternative question was asked, for example, "if you don't remember the year, can you recall what age you were?". Concerning information regarding the sequences of events (category 2, "asks for sequence precisions") and places (category 3, "asks for place precisions"), similar dynamics were developed in the interviews. The interviewer would ask for precision involving the sequences of events either along a trajectory or across trajectories. Progressively, interviewers also began providing time, sequence and place precision without being asked.
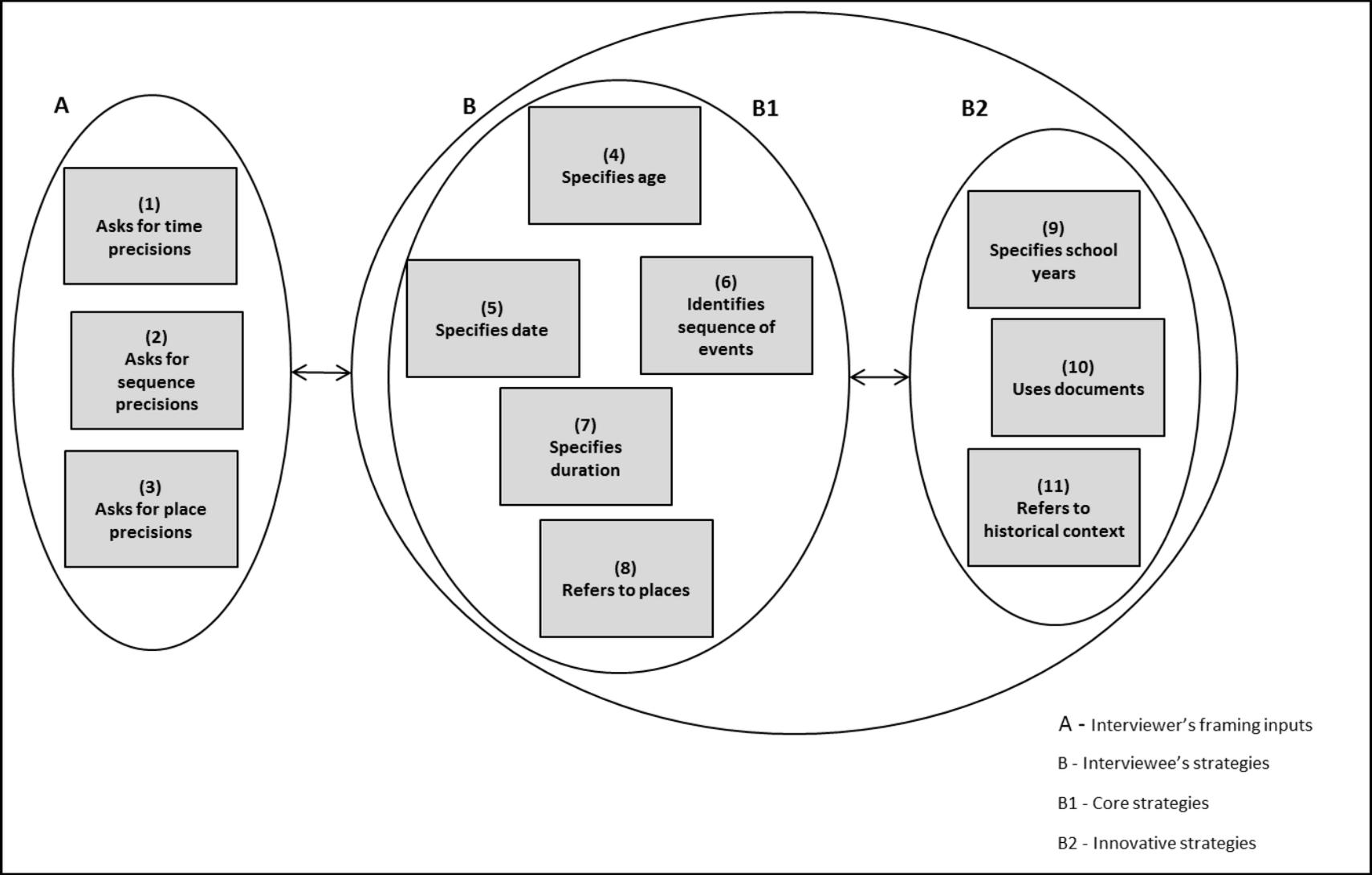
Figure 5: Strategies for specifying time and place.

Strategies of the interviewees. The strategies employed by the interviewees to retrieve time and place memories (category B) contain two subcategories: "the core strategies" (category B1) and the "innovative strategies" (category B2). The "core strategies" concern strategies that were used by all interviewees. These strategies are directly related to the interviewer's framing inputs either as direct responses or inclusions in the narratives. The "innovative strategies" were introduced spontaneously by some of the interviewees.

a) Core strategies. The analysis of the interviews identified five "core strategies" (category B1) used by the interviewees to provide time and place information. These strategies are the following: (interviewee) "specifies age" (category 4); "specifies date" (category 5); "identifies sequences of events" (category 6); "specifies duration" (category 7); and "refers to places" (category 8). All five categories are deeply intertwined. These categories were often used together or in alternation by the interviewees to define time and places. For example, when asked for time precision concerning events, interviewees would mention their age (category 4) before retrieving the year when it occurred (category 5) and then would define the duration between the two events (category 7). Or the interviewees could first remember the place where an event occurred and then retrieve the year when it occurred. Thus, the sequence of retrieval worked through different types of interchangeable cues. "Identifying a sequence of events" (category 6) while "specifying duration" (category 7) was also a way for the interviewees to retrieve time and define trajectories in the calendar. The following extract from the interview with Celina shows this process:

> Ana: Since when were you in this job?
> Celina: Since 2001, 10 years.
> Ana: Since 2001, 10 years? *[if it was in 2001, the duration would be longer, according to previous information given by the interviewee]*
> Celina: Well because 2001, I worked there full time. I worked there full time for 10 years.
> *[specifies duration of the first phase]* And then, in 2002, I started working half time for about 3 years.
> *[specifies duration of the second phase]* During this period, when there were no students, during the months of July, August and September, there was no work to do there and the boss would send us to "technical unemployment". *[specifies sequence]*
> [work trajectory between 1991, when Celina arrived to Switzerland, and 2005]

Duration and sequences were particularly important features of the interviews with participants who had been seasonal workers. In fact, until the beginning of the 2000s, most

immigrant workers in Switzerland had to perform four work contracts of nine months, alternating with three months outside Switzerland, before they could request a resident permit with a right to family reunification. During each season of nine months of work, the immigrants could work for different employers if one employer decided that he could "lend the worker to someone else" (according to one of the interviewees). In addition, some sectors of employment, such as hotels, organized the annual activity in two periods: the winter and summer seasons. Employers could vary significantly, and 9 months of work had to alternate with a three-month stay in Portugal. An understanding of the particularities of immigration policies and employment practices in a specific historical context directed the questions to help the interviewees disentangle memories concerning these periods of instability. Therefore, to translate this long period of time to the calendar, interviewees were encouraged to evoke the sequence of different employers for each period of nine months, as in the following example from the interview with Silva.

> Silva: ...And that's it, it was my first contract in Switzerland. Afterwards, I worked at another hotel.
> Ana: Right after?
> Silva: Yes, well, I went back to Portugal, and then in December, I came back for the winter season to Valais, to the [name of the hotel], where I was until March. And in April, I came to the [name of the hotel] in Lausanne, where I worked during the summer season of '79.
>
> [sequence of jobs as a seasonal worker between 1977,
> when he arrived to Switzerland, and 1979]

"Referring to places" (category 8) plays a very important role in the interviews. One of the trajectories in the rows of the calendar concerned residence, which is especially relevant on migration research (GRAB, 1999). However, interviewees went far beyond mentioning places of residence. Places are connected to references of age, dates, duration and sequences of events. Thus, referring to places is deeply implicated in the process of specifying time. Referring to places is also a powerful way of contextualizing life stories and events. Some interviewees produced detailed and vivid descriptions of places. In the following excerpt, Manuel describes one of his jobs as a warehouseman. Manuel explained his function, and in the process, he provided a detailed description of the warehouse and the pace of the work.

> Manuel: I work on the conveyor belt. It works like this: the trucks arrive with the merchandise that is unloaded by our colleagues, the forklift operators. The merchandise comes on pallets. […] Then, they

bring the merchandise to a robot […] that reads the bar codes – each box has a bar code – and the boxes arrive through the conveyor. It extends across the warehouse, which measures more than 100 meters, and it has several terminals. Each terminal corresponds to a shop. And we are at those terminals. We take the boxes from the line, and we pile them for each shop. And there are two or three of us on both sides of the belt, piling up the boxes with the products: meat, fish, vegetables … cakes, cheese, yogurts… […] it's physical work, very physical. Piling up, piling up… […] Because if the line [of products on the conveyor] gets overloaded, it prevents the other boxes to come further... and they accumulate at the end of the conveyor, and they go back to the robot that scans again the bar codes. So, each time the line gets filled up, a red light turns on and we have to run all over the place. […] and all of this happens from five [p.m.] to two [a.m.].

[explaining his work at a distribution warehouse in 2013]

Information regarding places is also important when describing the practical aspects of daily life, such as in the case of undocumented immigrants. Sandra describes her knowledge of places to avoid being "controlled" by the police in the early 1980s, when she had no legal documents to live and work in Switzerland.

Sandra: When I lived in Geneva […] I remember being at the shopping mall […] and seeing the police coming in from the main door. I was drinking my coffee. I got up, paid and left from the other door, and no one ever found me. […] It was very hard, I had to avoid certain places. I didn't go to night clubs or other places where I knew that there could be police. However, I used to go to the cinema and restaurants. In these places, police control didn't usually happen…

[discussing life in Switzerland as an undocumented immigrant from 1983 to 1986]

b) Innovative strategies. "Innovative strategies" (category B2) were used by several interviewees without "framing inputs" by the interviewer. These strategies are the following: "specifying school years" (category 9, in nine of 12 interviews), "using documents" (category 10, in four interviews) and "referring to the historical context" (category 11, in seven interviews).

The degree of importance of specifying school years (category 9) in the interviews is linked to the importance of school to the interviewees and their degree of schooling. Participants who had a higher degree of schooling referred more to school years to locate age or dates.

Although concerning only one-third of the respondents, the "use of documents" (category10) marked important moments in the interviews. Documents were either photos or administrative documents, such as the residence permit. Some administrative documents were valid, and others were out of date. Many

administrative documents were retrieved from a drawer to bring to the interview. The use of documents was at the initiative of the interviewees. Two of the interviews were facilitated by the fact that they were conducted at the homes of the interviewees, and, consequently, the documents were easy to retrieve. Using documents created a material dimension of the life stories; part of the life stories was contained in these artifacts, and reviewing them elicited vivid descriptions of the time and places to which they referred. The use of documents also created an atmosphere of deeper emotional contact for the participants because a material component of the life of the interviewee was being shared, as, for example, photos of children when they were young.

"Referring to the historical context" of some events and phases of life (category 11) was also spontaneous from 7 participants[2]. These references evoked, for example, the period of the dictatorship in Portugal (the second republic, 1933-1974), the Portuguese colonial war (1961-1974), the democratic revolution of 1974, the post-revolution years, and the financial crises that implicated the intervention of the International Monetary Fund in 1977, 1983 and 2008. Features of the different periods of immigration policies and practices in Switzerland were also discussed. Historical references not only provided cues for times and places but also contextualized life events in a societal framework. Historical references also conveyed representations of society and the political positions of the participants. In fact, interviewees who engaged in a politicized discourse regarding their life story mentioned the historical context more often. These interviewees tended to explain their life conditions and choices according to a socio-historical framework. For example, two of the interviewees explained their withdrawal from high school by the fact that they were in high school during the post-revolutionary period of the 1970s in Portugal. This was a period where authority, including the teachers', tended not to be respected. Some students and teachers tried to implement a more democratic functioning of the schools. However, there was also an atmosphere of "anarchy" that undermined the conditions for an effective learning environment, as Manuel reported:

> Manuel: I went to high school in the period of the RGAs [general assemblies of students], […] and the army was often present outside the school […] because sometimes there were incidents. It was a period of turmoil. There were different groups of students, ones from the left wing and others from the right … and sometimes the meetings would end up in fights. […] I was 12, I didn't quite understand what was happening […] I didn't have a sense of politics. Yet it was a period that marked my life. […] But some people started to take the notion of freedom a bit too far […], towards anarchy […], and of course, it was not good for studying. There were lots of days without classes.
>
> [high school between 1974 and 1979]

Another example of the use of historical references to give meaning to life trajectories is Joaquim. At one point in the interview, Joaquim connected the period of his second immigration to Switzerland, Swiss immigration policies, his experience, and his trajectory concerning his administrative status as an immigrant worker.

> Joaquim: When I came in 2000 [for the second time], I got again a 9-month contract. Bilateral agreements [between Switzerland and the European Union allowing free circulation] were not yet enforced. And what happened was that, as the employer had acquired us for 9 months, if he didn't have enough work, he would lend us to other employers. […] It was my fifth A permit [9 months working visa corresponding to seasonal work without a right to family reunification], but then the law changed, and I got an L permit [short term permit that permitted family reunification]. And then, after the L permit, I got the B [five-year permit] and the C [resident permit carrying some rights of political participation] in the same year. Because I already had been in Switzerland for so many years!
>
> [administrative status in the second period of migration to Switzerland from 2000 to 2003]

Complex tasks of the CID. The complex tasks with the use of the CID involve the principles of life course research. These tasks are associated with a combination of several strategies to specify time and place. These tasks became evident at a higher level of the analysis, and they concern the tasks of "matching different trajectories" and "locating turning points".

Events in one life trajectory may cause changes in other trajectories. Following specifications of time and place, the interviewers "matched different trajectories" between parallel rows in the calendar. For example, Clara located the year when she worked at a medical center by matching the beginning of primary school for her daughter with the change of residence, to finally retrieve the date.

> Interviewer: In what year did you work at the medical center?
> Clara: It was in 85. 85? But my daughter only started school when we moved to this apartment, and that happened in 86. So, it was in 86 that I worked there.
>
> [locating a change of job in 1986]

"Locating turning points" is also related to "matching different trajectories". Turning points are moments in life where major changes occur, implying a change of direction in the pattern of one or more trajectories (Abbott, 1997). Thus, turning points are important cues for matching different trajectories and specifying times and places. Although migration is not necessarily a turning point

(Wingens et al., 2011), for most of the interviewees, the moment of migration to Switzerland can be considered a turning point, according to their own accounts and visible changes in their trajectories. When discussing turning points, interviewees tended to make multiple references to times, places and changes in different trajectories, such as the case of Clara.

> Ana: When did you arrive for the first time in Switzerland?
>
> Clara: It was in '83. [...]I will always remember this date, when I arrived here, because I had my little one... there they are, my three children [points to a photograph with three children, displayed in the living room – *using documents*]. The one in green was only a few months' old! [...] Yes, she was born in May and we came in August [*matching events and trajectories*]. [...] At first, my husband was already here. He came here when he was single and he spent four years here as a seasonal worker, the four years! When I arrived, he still had the A permit [seasonal]. And it was then that he got the B permit in December. I arrived in August, and in December, he got the B permit.
>
> Ana: So he came in '79?
>
> Clara: Yes.
>
> Ana: And he came single?
>
> Clara: Single. And then we got married in '80. [...] We got married in '80, and in '81, my first child was born.
>
> Ana: So, your first child was born in '81...
>
> Clara: ... And in '83 was the second.
>
> Ana: And then you had the little one, he still had the A permit, and you decided to come with the children... [*matching trajectories*]
>
> Clara: It has not been easy! It has not been easy but I made the decision: "I am married, I have my children, I have my husband, I have to live with them". [...] Because the separation from my mother was hard, very hard. You know, I lived in a village at five kilometers from the town, but when I arrived in town, I was still crying for leaving her... [*referring to cherished places*].
>
> [discussing the arrival in Switzerland in 1983]

For Clara, coming to Switzerland represents a major transition that began two years before immigrating, when she married a seasonal worker in Switzerland. During these two years, she stayed living at the home of her parents, and she gave birth to two children. To reconstruct this period of transition toward the immigration turning point, which coincided with a turning point in her family life, she evoked dates of important events (marriage) and the age of her children. Clara also discussed the characteristics of Swiss immigration policies in that period, used photos, matched different trajectories,

and referred to places. We can thus hypothesize that turning points, in a calendar interviewing procedure, will concentrate multiple types of references.

Analyzing data resulting from calendar interviewing

Although the focus of this paper is the use of the CID for data collection, it is also relevant to synthetically address how data can be analyzed. Rough data obtained through this device can be classified in the following two types: (1) verbal in-depth data on life stories; and (2) standardized data from the socio-demographic questionnaire and the calendar. Both types of data can be analyzed separately with the qualitative or the quantitative approaches in social sciences. As we have tried to demonstrate, both of the datasets can gain in accuracy and depth when collected through calendar interviewing. However, it is also possible to articulate both datasets in a single analytical approach, for example, with comparative case study procedures (e.g., as proposed by Smith, Flowers and Larkin, 2009). The calendar for each case produces a fast visualization of objective trajectories, which can be easily compared. In addition, the ways each interviewee experiences the objective content of her/his calendar and the meanings attributed to events and turning points can be associated with each part of the calendar. This introduces a chronological reordering of the themes and content of the interviews, generating, for example, a systematic analysis of retrospective meaning making.

6. Discussion

In this paper, we have described and evaluated the use of a mixed methods device for researching migration with a life course approach. This device comprises an interview schedule to collect life stories, a life calendar and a socio-demographic questionnaire. The CID was utilized with 22 Portuguese immigrants in Switzerland. Twelve of the interviews were analyzed with a focus on the interactions among the interviewer, the interviewee and the materials that compose the device.

The analysis of the interviews shows that the interviewees appropriated this device in diverse styles and with different levels of commitment. These styles can be characterized as belonging to a continuum that ranges from a strong reliance on the calendar to tell the life story to the construction of a narrative independently of the structure provided by the calendar. The examples of how Clara, Susana and Silva used the calendar during the interviews show that the flexible structure of the calendar and the interviewing schedule are adaptable to different storytelling styles. However, two main dynamics alternated in each interview. The first dynamic is the building of small stories in the life story, where the

interviewer assumes a non-directive and person-centered attitude. The second dynamic comprises the interactions directed at the collection of standardized data with the socio-demographic questionnaire and the calendar. These dynamics fed off one another. Referring to times and places evoked memories of episodes that were freely narrated by the interviewees. Meanwhile, the numerous references to times and places that appeared in the narration of episodes were annotated in the calendar. These features of the CID are also important for conducting the interview. The calendar provides some chronological order to the life story, which goes back and forth in time. During the interview, the calendar is an important guide for the interviewer. The interviewer can trace the order of events and the intertwining of trajectories, while following the personalized way the interviewee tells her/his story. Calendar annotations provide cues for formulating questions and "filling in the gaps" of the life story. The calendar facilitates understanding of what is being told and frees the attention of the interviewer to center on the interviewee.

Another focus of the analysis of the interviews was on the strategies used by participants for specifying times and places regarding their life stories. These strategies are shown to be linked at different levels and were categorized in two groups: the core and the innovative strategies.

The core strategies are deeply intertwined and they succeed one another in different sequences during the interviews. The calendar facilitated the interviewees alternating among cues concerning dates, age, places, sequences of events, and durations of phases of stability. Alternating among cues on "sequences" and "duration" was particularly important for interviewees who had been seasonal workers. The changes of employers and the alternation between seasons of work in Switzerland and stays in Portugal were recalled by using these cues. These two strategies are referred by Belli and collaborators as strategies of "sequence retrieval" (Belli et al, 2013; Belli & Callegaro, 2009). The use of these strategies demonstrates the pertinence of the CID for researching migrants. "Referring to places" is a strategy that the interviewees explored deeply and far beyond the scope that was previewed. Places are references that arise across a wide variety of other references (e.g., years, historical context and age). "Referring to places" has also showed to be a powerful way of producing rich and vivid narratives, improving the quality of the data on the life stories.

The innovative strategies concern types of cues that were used by interviewees in a spontaneous way. "Specifying school years" was mostly used by interviewees with higher levels of education. "Referring to the historical context" is recommended by researchers who use life calendars, for example, providing historical cues in the calendar (e.g., Axinn et al., 1999). Although this strategy was not previewed in the design of the calendar, some participants used it with significant results. Interviewees used historical

references as cues for locating their life story in time and producing rich narratives by connecting their stories to the social contexts where they occurred. Similarly, the "use of documents" was also an initiative of the interviewees that facilitated the production of rich verbal data and time precision based on official information. In future applications of the CID, the use of documents should be encouraged, for example, when inviting the participants to the interview, by suggesting that they bring photos and administrative documents that they find important for telling their life story.

"Complex tasks" are related to fundamental features of life course research, such as matching trajectories in different life domains and locating turning points. The interviewees evoked events that were related to different life domains: they consequently matched different trajectories in the calendar; they used the strategy of "parallel retrieval", presented by Belli and collaborators (Belli et al, 2013; Belli & Callegaro, 2009). Locating turning points also resulted in the combination of different cues in the narration of the life stories.

We should, however, be cautious regarding the results of this analysis. Analyzing the interactions of participants with the CID requires the future study of its applications in other research domains. One of the limits of analyzing the interactions among two persons and visual artifacts, by listening to the audio-recording and reading the transcripts, is that the non-verbal communication is difficult to access. Consequently, video-recording the calendar interviewing interactions would provide better data.

Some general limits of the CID, as presented in this paper, can also be noted. The recruiting of participants, depending on the presence and personal skills of the researcher, and the long duration of the interviews, imply spending a significant amount of time for interviews. Consequently, small samples will severely limit the statistical approach of the data. The need for advanced training of the interviewers is also a limitation. However, it is possible to use the CID with respondents recruited in a more formal way, for example, through institutional settings (which, in the case of the present research, was intentionally avoided because the core theme was, precisely, institutions). The interview guideline may also be simplified and made more instructive for the use of different interviewers (e.g., by adding sideboard instructions and clarifications for the interviewers to use).

7. Conclusion

Calendar interviewing is a method developed in life course research to facilitate the collection of accurate and quantifiable data (Belli et al, 2013; Belli & Callegaro, 2009). This paper presented a different use of this method for researching migration and life course and obtaining both quantitative

and qualitative data. This has been done by combining different instruments of data collection within a Calendar Interviewing Device. Results show that the CID is adaptable to respondents with different characteristics. They are free to develop their own styles for building their stories and for completing the tasks related to the data collection instruments.

A crucial added value of the CID should be emphasized. If it is promising for improving the quality of data both of the standardized instruments and the verbal accounts of life stories, it fundamentally obtains rich data of different types for each participant. These data – structured and less structured, objective and subjective – can be articulated with different designs of data analysis (e.g., case studies). Finally, the matching between the calendar and the narrative allows for an analysis of the intertwining of structures and agency on the life course of individuals; the CID addresses the phenomena of "agency within structures" of the lives of migrants.

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[1] The use of the word "device" distinguishes from a single research instrument. As will be shown, "calendar interviewing" can be considered a "device" because it applies different methods and research instruments.

[2] Some researchers who use calendars suggest the annotation of historical cues in calendars (cf. Axinn et al., 1999; GRAB, 1999) depending on the goals of the research. In our calendar, we chose not to include these annotations to avoid constraints in the interviews that were not central to the research goals.

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