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Constructing a flexible life history calendar for research on vulnerable older persons

Suen Johan Duke-NUS Medical School

This paper raises methodological issues pertaining to the generation of life history data for the study of ageing and downward social mobility. From a life course perspective, the present circumstances of vulnerable elder individuals need to be understood in relation to specific life events or transitions at earlier phases of their lives. However, systematically eliciting and capturing such temporally coherent information is a challenge. In most cases, individuals are not immediately cognisant of how and to what extent certain past events and actors have shaped, and will continue to shape, their life trajectories – in terms of influencing the amount of resources they have, their long-term wellbeing, and important decisions in the domains of employment, family, health, and housing. To facilitate the generation of such data during interviews, it is thus important to establish a conducive yet structured conversational space where respondents are stimulated to identify and narrate their lived experiences in a reflective, sequential, and relational manner. Based on my doctoral fieldwork with vulnerable older persons in Singapore, I explain how this could be achieved using a customised life history calendar as a tool for probing and guiding the conduct of semi-structured interviews. I will also discuss how the accounts of life history produced through this research process are impacted by factors such as the context of the interview, as well as the biographies and positionality of both researcher and respondents. The analytical value of this method for ageing and life course research will be presented alongside suggested strategies for improving validity and addressing its inherent pitfalls.

Keywords: life history, ageing, life course, vulnerable elders, research methods, interview

Older persons experience vulnerability in later life due to a combination of factors including cognitive impairment, the lack of social and familial support, caregiver burden, serious health problems, disability, and poverty. From a life course perspective, vulnerability in old age is a cumulative result of critical life events and transitions that should be analysed in terms of their sequence, intensity, duration, and the extent to which they shape life trajectories. Turning points (i.e., marked shifts in circumstances) and transitional phases (i.e., an assumption or loss of roles) have a sudden, drastic, and direct impact on individuals' lives – such as a debilitating accident or health condition. Additionally, individuals are also influenced through more indirect, distal, and latent processes, such as how caring for grandchildren can affect the quantity and quality of intergenerational support provided by adult children to their parents in old age.

Life course approaches further highlight the interplay between individual agency (personal choices and interpersonal interactions), macro-level structures (e.g., social policies and political-economic conditions), as well as socio-cultural (e.g., filial piety) and historical contexts (e.g., economic downturns). Life trajectories are thus a function of the interaction

between (i) social pathways – defined as opportunity structures available to individuals based on macrostructural conditions, socio-spatial environments, and their social identities including age, gender, social class, and ethnicity; (ii) persons and social processes – (i.e., the intertwining of individual actions and decisions with the life events of significant others); and (iii) temporal factors such as the timing and length of specific events, changing social trends, and demographic shifts (e.g., employment patterns, higher incidence of living alone, and shrinking family sizes) (Bronfenbrenner and Morris, 2006; Nelson, 2019; Belli, Alwin and Stafford, 2009).

In order to understand how the life course unfolds simultaneously across different domains in temporally interwoven and causally complex ways (Freedman et al., 1988), social scientists ideally require lifetime data records that chronicle the events and activities in the areas of education, work, family, and residence (Elder, 1992, p. 1122). Unfortunately, collecting high-quality data on the many events and activities occurring over lengthy and significant periods of the life course can be challenging, expensive, and time consuming (Freedman et al., 1998). Although longitudinal panel studies that interview the same individuals at multiple points over time are considered the 'gold standard' for collecting such data, such methods are expensive and must run over extensive periods of time. Furthermore, in order to obtain data that would be more than just 'multiple snapshots of individual lives', such panel studies would also have to collect retrospective details of events and activities that took place *between* interview points (Ibid., p. 39).

The life history calendar (LHC) is thus a less expensive method for generating time-linked retrospective data with improved reliability over standard survey and interview methods. A basic LHC comprises of a matrix of time units and domain cues listed respectively along horizontal and vertical axes, which allows research to situate an understanding of individual agency 'within multiple social contexts and historical time', (Nelson, 2019, p. 1204). While used primarily for large-scale quantitative research, LHCs have shown to be highly useful in qualitative studies because of their ability to stimulate the sharing of past experiences and generate information on underlying processes that explain individual actions, perceptions, and emotions (Martyn and Belli, 2002).

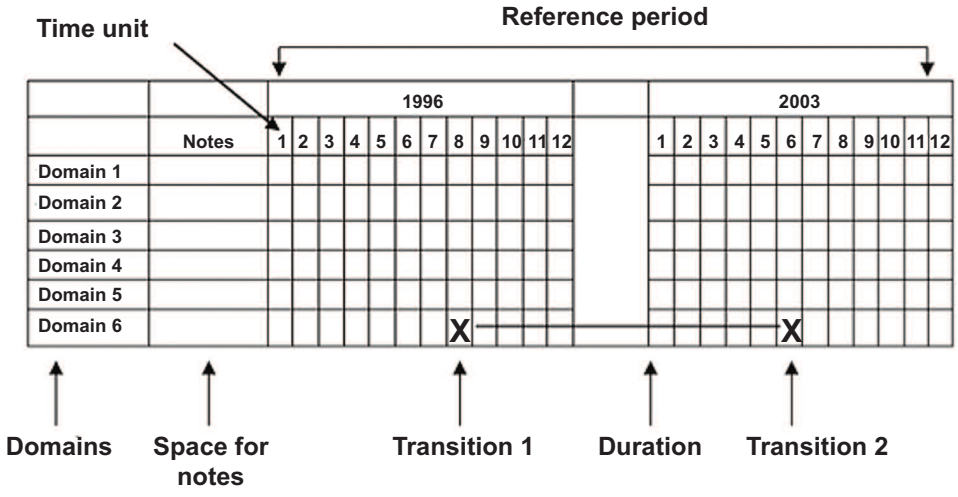

Figure 1. Diagram of a basic LHC (Harris and Parisi, 2007, p. 43)

However, adapting the LHC for the purposes of qualitative research requires a more flexible and semi-structured approach that involves entering data into the calendar (Figure 1.) while asking a series of domain-specific prompts and open-ended questions on key life course events (Harris and Parisi, 2007). As shown in Figure 1, the recording of timings and durations of transitions in relation to domains would facilitate cross-domain comparisons and the identification of overlaps, parallel developments, and possible relationships in the events between various domains. These would serve as cues for interviewers to probe further and establish the meanings and decision-making processes associated with the causes and consequences of such events.

The following sections will describe and explain how a semi-structured LHC was designed, implemented, and modified to generate life history data for a doctoral research project that explored the lived experiences of vulnerable older persons in Singapore. Interviews were conducted with 36 respondents aged between 63 and 93 years. The sample consisted of 25 women and 11 men who were of Chinese (20), Malay (11), and Indian (5) ethnicities. Most (23) had little to no formal education and were widowed, single, or divorced/separated (27). Almost a quarter of the sample lived alone or with at least one other household member who depended on the vulnerable older person for support. In 2015, the respondents' median monthly household incomes (S$500) was about 15 times less than the median for Singaporean resident households (S$7733). Among the various income groups at the national level, the respondents belonged to 11.7% of around 1.2 million Singaporean resident households who drew an average monthly income of less than S$1000. Within this segment, 9.7% of them had no household members who were employed (Department of Statistics, 2020).

Given the multifaceted character of vulnerability and the difficulties faced by researchers to coherently and reliably conceptualise as well as operationalise vulnerability (Perrig-Chiello, Hutchison, and Knopfli, 2016; Morawa, 2003), this study used a flexible inclusion criteria that focused on socio-economic vulnerability as the starting point for inquiry. Thus, respondents above the age of 60 years and who fulfilled at least two of the following three characteristics were included in the study: those who (i) earned an average monthly income of S$650 or less (the income criteria for receiving Public Assistance), (ii) had secondary school education or below (a significant obstacle for obtaining employment), and (iii) resided in 1-2 room public housing apartments (the cheapest type of housing in Singapore).

Respondents who met different combinations of the three criteria yielded data that illustrated important variations in the types of vulnerable life situations and trajectories. For example, an 83-year-old male respondent who earned S$800 a month working as a security guard also lived in a two-room public housing apartment and only had primary school education. While struggling to provide for both himself and his mentally disabled wife, he could not qualify to receive Public Assistance because he was employed and drew a monthly salary. Thus, although his situation may appear to be 'less vulnerable' due to his income, his experience of vulnerability manifested through the need to endure long working hours (12-hour shifts) despite deteriorating health, an inability to accumulate savings, and perpetually feeling a sense insecurity over the provision long-term care for his wife, who was much younger than him. Such conditions also rendered him susceptible to high levels of precariousness in the future. Research methods utilised for studying vulnerability should therefore be able to transcend the dichotomy of being vulnerable/not vulnerable and capture forms of vulnerability that are more latent (Oris et al., 2016) or brought about by different conditions and life course characteristics.

Another combination of characteristics that generated interesting insight were respondents who lived in 1-2 room housing apartments, had little to no sources of income, but were highly educated - possessing either a university degree or professional certification. These individuals were members of more affluent socioeconomic strata who experienced steep declines in their social positions. Even though they appeared to share similar circumstances with most of the other socio-economically vulnerable older persons, their paths and experiences leading up to present

conditions of vulnerability were vastly different. Harris and Parisi (2007) reported a similar observation in their research on experiences of poverty and transitions into welfare in the US. They cited an example of two women who had markedly different lives – in terms of their reasons for seeking welfare, their sources of social support, and their struggles to overcome financial strain – despite having almost identical demographic characteristics (age, gender, ethnicity, number of children) and timings of entering welfare. The authors highlighted how a 'panoramic' understanding of poverty must consider the complex relationship between welfare usage and welfare recipients' experiences of 'economic, social, and spatial conditions in their community' (Ibid, p. 51).

A semi-structured LHC interview for vulnerable older persons

As a dynamic and pervasive phenomenon, vulnerability encompasses three fundamental and interrelated processes that are best elicited and recorded using LHC methods – diffusion, accumulation, and interpretation (Morselli et al., 2016). Processes of diffusion refer to the spill-over effects between life domains, such as how events in the work sphere affect social relations or family life (and vice-versa). The disadvantages (e.g., lack of human and social capital) that engender vulnerability among older individuals are also accumulated over the life course through a sequence of crises, windfalls, and other significant life events. And thirdly, individuals' interpretation of life events are both causally and consequentially related to their life trajectories. The meanings and motivations attached to events play a crucial role in shaping patterns of decision-making, actions, and reactions, which may have triggered a downward spiral in circumstances (e.g., ceasing employment to fulfil caregiving obligations for an ill family member).

Defining reference periods and time units

In selecting a suitable timeframe for the LHC, reference periods and time units must be adapted to fit the study's objective of researching vulnerability. A preliminary review of relevant research and unstructured interviews with potential respondents indicated that encountering problems in the employment sphere greatly increased the risk of vulnerability for older persons in Singapore where financial security in later life is largely the responsibility of individuals (Asher and Nandy, 2008; Lee, 1998, Ramesh, 1992). Thus, the starting point for interviews usually asked respondents to describe their current or latest work experiences. Although they were prompted to include specific years in their accounts, details on the timings of events were initially categorised as 'Current', 'Past', and 'Future Aspirations' (Figure 2) in the pilot phase of the study. However, respondents in this study tended to segregate past experiences into two main timeframes – late-adulthood (50s and above) to the present, and childhood to mid-adulthood (40s and below). This narrative style was accommodated in the revised versions of the LHC (Figure 3) where the time unit of 'Past' was split into 'Recent Past' and 'Distant Past'.

Generally, it was observed that the respondents seldom initiated discussions about the future, which was mainly due to a fear of uncertainty and scenarios where they perceived themselves as inevitably becoming a 'burden' to their families. Nevertheless, there was a minority of respondents who had more optimistic outlooks as they pinned their long-term welfare on younger members of their family. Questions about the future covered the respondents' hopes, plans, and worries in relation to the various life-domains. In this study, it was found that respondents' aspirations for the final stages of their lives strongly influenced their actions and wellbeing in the present. Their chances at achieving their future goals were also heavily influenced by antecedent factors from personal histories. To illustrate, one respondent expressed a strong wish to live with her son and grandchildren who had emigrated to the United States. However, she had been unable to realise this aspiration because of a past conflict with her son over caregiving responsibilities for

	Current	Past	Future Aspirations
Employment situation			
Household/family landmarks, roles, and configurations			
Social and familial networks/dynamics			
Formal sources of support			
Health issues			

Figure 2. A simplified LHC (Pilot phase)

her husband (his father). This growing unhappiness caused her to feel increasingly depressed and has adversely affected her capacity to provide care for husband who suffers from severe dementia. Thus, the time cue of 'Future Aspirations' functioned to elicit information on long-term motivations and individual life narratives, which were useful in contextualising and explaining the respondents' current and past circumstances as well as decision-making. It also brought to light crucial events and dimensions of the respondents' socio-familial relationships that had a latent bearing on their long-term circumstances.

Adopting a flexible and broad approach to generating temporal data was intended to circumvent a tendency for respondents to limit their answers to details about event timings. Additionally, some respondents who had trouble recalling exact timings (e.g. years and months) would become reticent during interviews as they felt unable to contribute to the purposes of the study. These respondents only became more comfortable and forthcoming after being reassured that the recording of years and time periods was not the sole purpose of the project but was more of an aid for them to talk about their lives and recall important events. Nelson (2010) faced a similar challenge in her usage of the LHC to interview young adults of working-class family backgrounds.

It is thus imperative that once the timing of a specific event was established, the interviewer should introduce domain-specific questions to encourage respondents to describe details of the event and reflect on its impact in their lives. Such domain cues will be discussed further in the following section. Doing this also facilitated parallel and sequential retrieval (Belli et al., 2007) where respondents would be reminded of related events from the same or different domains. In such instances, interviewers should 'marshal' respondents to resume describing one event as thoroughly as possible before moving on to another. This would minimise missing out potentially important details. Other events mentioned in mid-conversation should be noted down in the relevant domains of the LHC and returned to at later points of the interview.

As the reference period for all the respondents' interviews spanned almost the entirety of their adult lives, an identification of landmark events and episodes proved to be more useful than calendar timeframes for organising narratives in a manner that is temporally meaningful. In this study, landmarks were defined broadly as memorable points of reference in the respondents' lives that included events, interactions with actors, and changes in the respondents' emotional states, which have had repercussions across multiple life domains. While turning points could be established as landmarks, not all landmarks entailed a decisive *change* in an individual's life trajectory. Respondents would anchor their accounts around landmarks, such as a death of a key family member, and attributed certain emotions and interactional patterns to specific segments of their lives. For example, the path to vulnerability for one respondent, an 86-year-old woman who worked as a live-in domestic helper and nanny, could be traced back to the death of her employer, which resulted in the respondent residing

with the adult son of her former employer. Although the respondent was initially grateful and happy with this arrangement, the son developed a gambling addiction shortly after his mother's death. The debts he amassed from gambling were so heavy that the son sold their home and rendered them homeless for a few years. Since then, their relationship had severely deteriorated with the son currently constituting a source of financial and emotional burden for the respondent.

'Pulling on threads' to identify landmarks

Respondents commonly found it difficult to single out events in their lives that have had a profound effect on them. In such instances, the interviewer would initiate 'locating' landmarks by first asking respondents to share their most pressing problems and worries. Next, they will be asked to explain, in their own terms, how and why such difficulties had occurred. This was often met with expressions of doubt, indifference, and a general reluctance to delve deeper. To mitigate this, respondents were asked 'tracing' questions that were more specific such as, 'What happened *just* before this?' or 'Do you think this was because of _____ (a particular event or an experience with certain organisations or individuals)?'. While respondents usually returned 'mundane' or seemingly unrelated answers, persisting with this line of inquiry aided both the respondents and interviewer in teasing out potential topics to follow-up on and gradually establish as a landmark. Identifying landmarks in this manner also helped determine the sequence of various landmarks and explore the relationships between them. This generated more coherent and nuanced accounts of transitional phases and the processes embedded within turning points.

Specifying domain cues and probes

Employment situation and histories

The substantive domains for the LHC were selected on the basis that they were the most relevant to analysing the processes of vulnerability as they unfolded throughout the life course of an older person. Employment was conceptualised as a primary domain because of its central role in structuring socioeconomic disparities, which become accentuated in later life (Townsend, 1981). Charting the work histories of vulnerable older persons revealed commonalities and differences in job-seeking styles, experiences of conducive and challenging work conditions, obstacles in the labour market, as well as patterns of labour force participation. Respondents were asked to describe the contexts, reasons, and consequences surrounding key employment decisions, such as job changes, temporary or permanent exits from the labour force, as well as re-entries into the labour market.

Household/family roles and configurations

The respondents' experiences in the employment sphere were intimately linked to their individual roles in the household and family. Caregiving responsibilities for dependent family members (spouses, siblings, children, grandchildren, nieces, and nephews) precipitated numerous instances of withdrawal from work. At the same time, involuntarily job loss and difficulties finding employment exerted enormous strain on families, and consequently became an impetus for changes in the compositions of households as family members moved out of the home in search for work and in several cases, having the rest of the household relocate with them. Questions in this domain should attempt to document how transitions in familial roles (e.g. caregivers becoming care recipients and vice-versa) and shifts in household configurations have impacted their resources and quality of life. It will also be important to find out how older persons have made sense of such changes and how such interpretations of events have influenced subsequent life choices and outcomes.

Social-familial networks and dynamics

The decision to distinguish socio-familial networks from household configurations was made after interviews in the pilot phase showed that almost all of the respondents' household resources were significantly impacted (both positively and negatively) by non-household members from their social circles and families. Interestingly, there were respondents who lived in households without any employed members but were in less precarious situations than some respondents who did have employed household members as the former were part of stronger and more stable networks of social support. Adopting the insights of social convoy theories (Phillips, Ajrouch, and Hillcoat-Nalletamby, 2010) and the concept of 'linked lives' (Elder, Johnson, & Crosnoe, 2003; Greenfield & Marks, 2006), data in this domain captures the development and disintegration over time of an older person's socio-familial networks extending beyond the household. To illustrate from the respondents' perspective, it was found that an inability to fulfil parental role expectations tended to negatively impact the amount of intergenerational transfers/support they received – or believed they deserved – in later life. There were also numerous instances of conflicts with in-laws and siblings that resulted in estrangement, emotional distress, and increasing the financial strain for respondents because they were unable to share the burden of caregiving. Alternatively, vulnerable older persons who possessed close relationships with individuals who experienced improvements in socioeconomic standing (e.g., when younger family members transition from the education system into employment) were likely to experience a reduction in financial burden as such family members gained the means to provide additional support. Probing questions should therefore explore the quality and quantity of key relationships and the meanings respondents attached to them. Interviewers should also focus on uncovering the processes and factors that contribute towards strengthening or weakening relationships of support.

Formal sources of support

Another important corollary of vulnerability is to understand how individuals cope with the challenges they face daily and in the long term. Given Singapore's 'many helping hands' approach to social welfare (Rozario and Rosetti, 2012), governmental social support agencies and voluntary welfare organisations constitute a safety net for those individuals and families who lack the resources to care for themselves or their family members in old age. However, due to means-testing procedures and bureaucratic requirements, vulnerable older persons tend to encounter difficulties in seeking and receiving formal support and assistance. For many respondents, obtaining public assistance and social services was considered by them to be demoralising, stigmatising, and a 'last resort'. Prompting respondents to recount their interactions with formal sources of support therefore helped to pinpoint periods where respondents experienced intense socioeconomic pressure and desperate circumstances. Like the welfare recipients in Harris and Parisi's (2007) research, recipients of formal support in Singapore also struggled with making drastic changes to their lives in order to meet the requirements to continue receiving assistance. Such changes include relocating residences or ceasing employment. Follow-up questions for this domain must address how receiving formal support could have directly or inadvertently affected events in other domains, especially social and family networks/dynamics and employment situations.

Health issues

Incidences of acute and chronic health issues featured prominently as triggers and amplifiers of vulnerability for older persons. Health problems ranged from stroke, heart problems, kidney failure, disability caused by accidents or diabetes, and cognitive impairment and depression among dependent family members. Health conditions appeared to be both independent and dependent variables as some respondents' health issues gave rise to problems with employment and their family. On the other hand, there were others who attributed the decline in their mental and physical health to the physically demanding

	Current	Recent Past	**Distant Past**	Future Aspirations
Employment situation				
Household/family landmarks, roles, and configurations				
Informal Economic Activities				
Social and familial networks/dynamics				
Formal sources of support				
Health issues				
Residential environment				
Other important life events				

Figure 3. A simplified LHC (revised)

nature of their jobs, or a sedentary lifestyle brought about by involuntary early retirement. Respondents were also likely to experience poor health due to the strain of providing care for ill family members. In most cases, a deterioration in health engendered even more precarious circumstances for respondents whose socio-familial support systems had fallen apart due to the immense burden of health crises.

Iteratively added domains

The list of domains in the pilot LHC (Figure 1) was iteratively revised to include three domains (Figure 3) whose thematic significance became more apparent as fieldwork progressed. 'Informal Economic Activities' was added because a quarter of respondents reported being involved in informal work arrangements - such as assisting at food stalls and newspaper vendors, collecting recyclable materials for sale, or selling cooked food out of their own homes – as a main or supplementary source of generating income as well as other resources in kind (meals or groceries). Probing questions in this domain explored the nature and conditions of informal work, the reasons and motivations for undertaking such activities (e.g. as a preferred alternative to menial post-retirement work), and the processes involved in finding and maintaining participation (e.g. activation of specific members in their social network).

'Residential environment' arose from numerous accounts from respondents about their experiences of opportunity structures and obstacles in the physical and social environment. A group of respondents felt increasingly isolated and threatened – usually after relocating to a new neighbourhood; while others were able to draw resources for their survival from networks in the community. Probing questions in this domain should examine the meanings, knowledge, and social networks older persons possessed in their residential locations as well as other spaces that featured prominently in their life history (e.g. a mosque or market where they had received charitable contributions). Attention should be given to how these environmental factors and interactions may have changed over time, particularly at landmark junctures in their lives.

Lastly, an open domain cue was added to record idiosyncratic events and characteristics of respondents' lives that challenged commonly accepted definitions of the domains. For instance, there was a male respondent whose 'family' had also been his 'employer' as he had been performing domestic chores and childrearing tasks for the family in exchange for lodging and food since arriving from Malaysia in the 1960s. There were also phases where respondents generated resources through unconventional economic activities such as street begging or by situating themselves at specific locations in the neighbourhood in order to receive charity, such as at shops whose owners sympathised with them.

Concluding remarks

When integrated with in-depth interviews, a simplified and open-ended LHC is a valuable tool for generating life history data in a systematic, structured, yet flexible way. By reconstructing the sequence of life events across various domains in a calendar format, both interviewer and respondent may mentally and visually review the information collected during the interview and be able to identify relationships, gaps, inconsistencies, as well as other salient aspects of the life course (Freedman et al., 1988). This not only enhances the accuracy of retrospective data, but also facilitates capturing details of certain significant features in life trajectories that may be overlooked or hard to recall due to their mundaneness or 'volatility' (e.g., use of social services, living arrangements, and employment details) (Ibid, p. 66). Other applications of the LHC in qualitative fieldwork have found the method to be more effective than conventional interview formats in aiding the recollection of long-term memories (Yoshihama et al., 2005) and in eliciting data that may be distorted by social desirability bias (Luke, Clark, and Zulu, 2011). This is mainly because of the LHC's potential to foster higher levels of rapport, enjoyment, and participation among respondents.

However, the LHC's strength in stimulating the respondents to 'co-author' their biographies is also a major weakness of the method. This is because of the likelihood for a significant number of respondents who, for a variety of reasons, are unwilling or unable to contribute substantially to developing such a coherent life narrative. There were several respondents in this study, for instance, who gave answers in a highly discrete and episodic manner despite the interviewer's attempts at probing and following-up. This resulted in their LHCs having multiple gaps between landmark events. To mitigate this, the researcher could 'hypothesise' possible relationships between events and 'test' them by asking speculative questions that may shed light on the context or factors surrounding the missing information. One respondent, for example, had adamantly avoided talking about a five-year period between his loss of employment and his return to Singapore from Australia, where the rest of his family remained. Since the respondent was unforthcoming about his relationship with family members, asking speculative questions about his health condition revealed he had suffered kidney failure during that period and struggled to find affordable dialysis treatments in Australia. The accounts he gave about the failure of his business and the financial burden his family bore as a result of his health were plausible explanatory factors underlying his current situation of familial estrangement.

Finally, in order to maximise the analytical value of LHC data, the researcher should examine possible intersections between the turning points in respondents' lives and broader historical events. A group of respondents in their 70s, who owned businesses or worked in the private sector, reported losing their jobs and encountered major problems with the employment market in their 50s, which was a period that coincided with the Asian Financial crisis of the late 1990s. Situating LHC data within broader socio-historical and economic trends therefore facilitated the identification of key macrosocial factors that shaped the respondents' descent into vulnerability. Perhaps further research on the use of the LHC for qualitative research could entail the development and refinement of more topic-specific domains, temporal units, prompting questions, and follow-up probes.

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Suen Johan is a Research Fellow at the Centre for Ageing Research and Education (CARE), Duke-NUS Medical School. He received his PhD in Sociology from the University of Cambridge in 2019. His research focuses on issues of employment among seniors, environmental gerontology, caregivers of dependent elderly, and the phenomena of precarity and vulnerability in later life. His doctoral dissertation explores how circumstances of downward mobility among older Singaporeans are fundamentally shaped by combinations of disadvantage and resources that accumulated at critical points and transitions in the life course. He has held research positions at the NUS-Tsao Foundation Ageing Research Initiative, the Faculty of Arts and Social Sciences, NUS, and Yayasan Mendaki, an ethnic self-help group. Johan's research at CARE include the evaluation of a community-based dementia care system, an integrated home and day care programme, and a nationwide functional screening programme in Singapore.
johan@duke-nus.edu.sg