



Published in final edited form as:

*Electron Int J Time Use Res.* 2015 December ; 12(1): 180–185.

## REFLECTIONS ON MEASURING TIME ALONE

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Time use surveys have included columns for participants to report time spent alone for decades. Early surveys, including those in the Szalai samples, included open-ended columns for people to note who they were with using their own words (Robinson 1977). More recently, phone surveys tend to include a filter question asking if diarists were alone or with others. Paper and web-based diaries tend to offer a tick box in the who else was present section for people to designate time spent alone. Very little research analyses this wealth of data on time spent alone. This time piece sets out reasons why this field might benefit from thinking about what “being alone” means conceptually, what aspects of time alone might matter most for policy (hence should be captured in time diaries), and how we best collect data on this concept.

Some recent literature documents the time use of people who live alone. Utz (2014) examined the prevalence of walking and other healthy behaviour among people living alone in the USA who have or look after pets. Hanifi (2012) profiles the daily activities of men in Finland in single person households. Baxter (2011) examined the activities of Australians who reported having time on their hands – and those who made such reports in 1997 and 2006 were more likely to live alone (though Baxter does not consider time with and not with others, just the activity profiles of people who report having time on their hands).

More articles concentrate on time spent alone by specific populations of particular policy concern. Aizer (2004) summarised the literature on children and young people in the USA who spent time without adult supervision after school while their parents worked, and conducted original analysis showing an increased risk of anti-social and other problematic behaviours for those children spending less time in the care of adults. Golant (1984) and Jun (2014) demonstrate that longer time spent alone can serve as a measure of social isolation associated with negative health and well-being outcomes for older people.

Other research examines more general trends in time alone as an element of policy interest. Nabli and Ricroch (2013) observe a general shift from watching TV and on-line leisure as social activities to spending more time in front of screens alone in France. Older people and unemployed adults spent particularly long hours watching TV, while younger people spent longer spells in front of computers. Nabli and Ricroch (2013) note this shift not only reflects a growing proportion of the French population living alone but also that more people who live in family homes spending time apart in front of separate screens when at home. This alone and inactive time may raise health concerns. Hamrick, Hopkins and McClelland (2008) use the American Time Use Study Eating and Health Module to demonstrate the obesity risks associated with trends to preparing and eating food alone. Roberts (2014) summarises the literature examining safety concerns when people walk alone outside at

night. Fisher, Shahbazian and Sepahvand (2012) show that in states in the USA with stronger environmental protection policies, people spend less time inside buildings alone, particularly less time alone engaged in energy-intensive leisure, like watching TV or playing computer games, compared to people living in states with more lax environmental regulations.

A common theme in much of the literature addressing time alone associates solo time with negative outcomes. Roeters, Cloin and van der Lippe (2014) set out to see if spending time alone might offer respite to time-pressed employed women who also look after children or adults in the Netherlands. They found instead that for both women and men, spending a higher proportion of total leisure time alone is associated with negative mental health consequences. Roeters, Cloin and van der Lippe (2014), whose paper is the most detailed examination of the time alone literature available at the time of writing, found modest or no effects associated with time alone during other activities.

The current literature gives little consideration to what it means to be alone. Roeters, Cloin and van der Lippe (2014) explicitly define alone as not being in the same room or space in the presence of household members, non-household family, friends or other well-known persons. When time diary instruments offer instructions defining being alone, these instructions use similar definitions. This is not the same as not being in the presence of other people.

In most surveys from most countries in the current episode file of the Multinational Time Use Study (Fisher and Gershuny 2013), the activity which features most frequently among episodes when people report being alone and also do not report other people being present in Australia, Austria, Finland, France, Germany, Spain and the United Kingdom is personal care. Personal care is the second most common activity in episodes where people report being alone in Israel, and features in the top 10 most frequent activities when people are alone in the USA. Sleep, food preparation, eating, and television viewing also feature frequently among episodes when people report being alone. While at face value, it is credible that people engage in such activities alone, there are instances where it is highly likely that other people are present. Even though the majority of instances of eating alone take place at home, there are a minority of episodes in all surveys in the MTUS where people report eating out alone in a restaurant, canteen, café, bar or pub. A small number of episodes of watching TV alone take place in cafes, bars and pubs.

In Israel, commuting appears most frequently in episodes where people report being alone and other people are not around. In the USA, personal or household care-related travel tops this list. Travel features among the ten most frequent activities in all surveys when people report being alone. Though the majority of travel alone takes place in cars, there is a sufficiently high proportion of diary episodes where people report being alone while travelling by public transport, on foot or on bicycle in public places during daylight and normal business hours to permit meaningful analysis.

In some episodes where people have reported being alone and not with others, diarists record their activities as conversation, physical child care or physical adult care, which are

activities that generally necessitate interaction with other people. No research has considered what such reports might mean in terms of how we understand and explain behaviour.

The possibilities for interacting in real time with other people over the internet have expanded rapidly. Surveys increasingly explicitly code real time social media and video call interactions. At a minimum, future research should explore whether interaction with others on-line is more like face to face social time, alone time, or a distinctive form of interaction. Time use survey designers might explore how best to capture such activities. The time piece on the UK 2014–2015 Everyday Life Survey in this volume gives more detail on issues arising from adjusting diaries to improve the reporting of on-line behaviours generally. No national survey has yet directly addressed the overlap of who else was present information with time on-line.

Time use data processing generally has proceeded under the assumption that being alone is the opposite of (or at least incompatible with) being with other people. A few surveys have documentation detailing that data cleaning involved recoding of cases where a diarist reported being alone at the same time as being with other people to simply time with other people (but not alone). Nevertheless, most surveys included in the MTUS episode file do not include cases where diaries contain reports of being alone at the same time as being with other people (except in cases of a limited number of child and adult care codes that necessarily involve the presence of another person). Only four surveys in the MTUS episode file contain episodes where diarists recorded being alone and being with other people for a range of activities (shown in the table). More recent surveys from each of these countries do not include such reports. This suggests that most surveys “correct” such reports before releasing data.

The experience with the 2014–15 UK Everyday Life HETUS Survey and the UK Millennium Cohort Survey age 14 wave (each described in other time pieces in this volume) indicates that people still report being alone while with other people in time diaries. In the UK HETUS (prior to the final period of data collection), 7916 episodes, representing 1.5% of episodes, contained in nearly one-fifth (19.4%) of diaries reflect this pattern.

Unlike the UK HETUS, which collected only paper diaries, the MCS survey conducted a mixed mode approach. From the first pilot test, the time diary app forced young people to select between alone, others present, or don’t remember. Selecting others present then brought up additional options. The app diary did not allow diarists to make an alone with others report. In the two pilot phases, the web diaries and the paper diaries did allow young people to report being alone while with others, and both these modes collected this pattern. In the main stage of data collection, the web diaries were programmed like the app diaries to prevent alone with others reporting, but the paper diaries allowed and have continued to collect this pattern.

Is it right to assume that all alone with others reporting reflects participant errors? If such accounts arise by mistake rather than deliberate reporting, we might expect that alone with others episodes would appear disproportionately in diaries with other data quality problems and also would be dispersed across activity categories. In both the MCS pilot testing phases

and in the mainstage data collection of the UK HETUS (excluding the final additional phase of data collection), the alone with others reporting primarily appears in good quality diaries (which have a variety of activities including basic behaviours people undertake every day - sleeping or resting, eating, personal care, and some form or exercise of travel; 7 or more episodes; no more than 90 minutes of missing activity time, attached to basic demographic details about the diarist and the date the diary account reflects). Most time alone while with others in the recent UK surveys clusters with eating, sleep, resting, personal care, food preparation, housework, listening to audio or watching video content on devices, paid work, and travel. The alone with others reporting tends not to appear in out of home leisure, social activities or physical activities. In the surveys in the MTUS that include this pattern, a majority of alone with others behaviours are associated with child care in all countries (though this partly is a function of the MTUS diary harmonisation process). In the Spanish 2002–03 survey, informal social time also features with this pattern, while in the UK in 1987, alone with others often appears with personal care. In the USA in 1965–66 and 1975–76, alone with others accompanies eating, shopping and service use. Alone while with others reports accompany a variety of activities, but the distribution is not random and varies by country.

Undoubtedly some participants record being alone with others by mistake. Quality checks (prompts in app or web-administered diaries, or follow-up questions from interviewers) could distinguish errors from conscious reporting. Qualitative interviews could reveal why people might identify some time near other people as alone. Would it be worth the effort to allow participants to make this choice and to try to understand what such reports mean to people?

Many people in this field will have observed the increasingly common phenomenon of groups of people sitting together on sofas or at tables paying more attention to content on hand held devices than they are to the people with whom they are in very close proximity. It might be possible that the way people use smart devices makes the concept of being alone with others more relevant now than before. If data cleaning phases do not automatically remove such reporting as assumed error for at least a few surveys, it will be possible to test who else is present reporting further – such data can be recoded later to remove alone with others reports if researchers so desire. When these accounts are removed before data are released, however, it is not possible to reconstruct which diaries included these patterns (or not cost effective or easy to do so). We may be missing research opportunities if we limit the way we permit people to report how they spend time alone (both generally and alone with others).

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## Reporting of time alone while with others

Country	Survey years	Number of episodes including alone with others reporting	% of diaries including alone with others episodes
Spain	2002–03 <sup>*</sup>	1837	3.9%
UK	1987	624	5.9%
USA	1965–66 <sup>^</sup>	92	4.6%
USA	1975–76	1090	23.8%

<sup>\*</sup> The MTUS includes both the Spanish national HETUS survey and the Basque country survey from 2002–03; these cases only appear in the national HETUS sample.

<sup>^</sup> In this table, the Szalai Jackson, Michigan and USA national sample surveys are combined.