Unravelling the social, urban, and time-space context of activity-travel behaviour: Results from a social network data collection experience

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A relevant part of activities and their associated travel have a social motivation; however, current travel demand analysis still has mostly an individual approach, which does not capture explicitly these social processes. On this regard, one of the main problems to improve our understanding of this social dimension has been the lack of appropriate data. Recently, some methods from the social network literature have been adapted to understand these dimension of travel; however, we need having more experience to improve our theory and empirical insights about these social processes.

This paper adds to this body of knowledge by presenting a new data collection effort, which – building from recent experience on the field – collects a wide array of information about the social, urban, and temporal context where social activity-travel behaviour occurs. The data collection effort took place in the Great Concepción Area, Chile, during 2008, involving 240 respondents from four different urban contexts. The discussion not only presents the instrument design, but also surveys some key aspects about the overall discussion on the role of social networks in travel behaviour, as well as illustrating these aspects with empirical examples drawn from this data collection experience.

1. Unravelling different urban contexts: Income and access
In order to assess the role that the urban and accessibility contexts have on social structures and consequent social activity-travel patterns, the respondents were drawn from four specific areas. These areas represent specific urban contexts, in terms of the overall neighbourhood socioeconomic characteristics, as well as their access to services and transport facilities. The study area is an interesting laboratory to study social interactions due to: i) its high and increasing level of suburbanization, ii) its high levels of segregation and income differences, iii) its different levels of transport service and access to facilities, and iv) its quality as a middle size and growing area. Concretely the study focuses on urban contexts with different proportions of high or low-income population, on the one hand, and high or low access to services and transport facilities, on the other hand. By choosing paradigmatic study areas the analysis regarding of the relationship between social structures, spatial, and interactional patterns, is capable of controlling and comparing explicitly the socio-urban context where this behaviour occurs.

2. Unravelling the social context: Personal networks
The personal networks approach employed in this data collection captures the people (alters) with whom the respondents (egos) are emotionally close and/or frequently contacted, as well as all the relationships between alters in the same network. Building upon previous experiences from the author in Canada, as well as other efforts from Switzerland and the Netherlands, the method to elicit alters – called name generator – is able to capture relatively large sets of them compared with traditional experiences in the Social Networks literature. In addition, the instrument that elicits the characteristics of each ego-alter relationship – called name interpreter – is able to capture in detail both i) who the alter is
(in terms of roles, emotional closeness with the ego, socioeconomic characteristics, and spatial location), as well as ii) their frequency and duration of face-to-face and virtual (ICTs) interactions. An important improvement on this section is its capability to collect information about all the elicited alters rather than a subsample, as occurred in previous experiences.

3. Unravelling the temporal context: Social activity-travel patterns and networks
One of the main challenges on capturing social activities and the role of the traveller’s social context is their low frequency and relatively longer time horizons. Since a unique approach will not be able to capture the overall temporality of social networks and social activities, the instrument collects the relationship between social activity-travel and the individual’s social dimension in three complementary ways. First, using as a departing point the respondent’s personal networks, a collection of ego-alter frequencies of interaction (face-to-face and virtual) captures a wide spectrum of time horizons, including those activities that occur only on special occasions. A two-day diary complements this information, recording activities and travel of a one working day and one weekend day, explicitly recording all the participants’ interactions during those days, and giving a good indicator of their routines. Finally, the instrument collects four of the most usual social activities between the respondents and their alters, setting the unit of analysis on the social activity, and querying both temporal and spatial characteristics about the last time it occurred, as well as space-time fixities and routines around each specific activity.

4. Network capital and activity-travel patterns
One of the central discussions around the importance of studying the relationship between social networks and travel is the role that social contacts provide on giving support, both emotional and economic. Studying the previous travel behaviour urban, social, and temporal context would not be completed without a proper understanding of the respondents’ network (social) capital in relation to these aspects. Inspired on sociological methods such as the “resource generator”, the instrument collects the interchange of support between egos and alters, in a variety of monetary, emotional, and mobility resources.

5. “Elicited” versus “revealed” personal networks
As discussed previously, most of the current methods – including this instrument – mainly concentrate on the emotional closeness, which is appropriate in the social activities case studied here. However, these elicited alters from the name generator only represent a portion of the entire ego’s network, and in particular, daily but not emotionally close contacts are also relevant to understand the respondents’ social activity patterns. Tackling this issue, the data instrument explicitly collects these daily revealed contacts on both the time use and the main social activities listings, and prompts for their relationships with the elicited contacts, linking both respondents’ personal networks, and enriching how the social contact is captured.

Synthesis
The revision of the design and empirical results of a new social network data collection experience serves as the background to discuss key aspects about the role of social processes in travel behaviour, and the relevance of the urban, social and time-space contexts.