FAQ 8: When is it good to use a longitudinal design?

Written by Ingrid Paus-Hasebrink, Philip Sinner and Fabian Prochazka, Austria

What's the issue?

The main aim of longitudinal studies is to analyse change over time. Childhood is about change; research on children is about development and socialisation processes. Therefore it seems necessary to use research designs that are able to describe individual changes within and beyond single life spans. In principle, cross-sectional designs are able to provide at least some evidence on changes when they ask for retrospective information. However, most are limited to descriptions of the status quo.

Common practice

True longitudinal studies rely on panel data and panel methods where the same individuals are measured on more than one occasion, checking the same variables. An alternative is an omnibus (or multi-thematic) panel where the information collected varies from one point in time to another. Another alternative is the cohort study where people who belong to the same cohort are measured on more than one occasion.

Questions to consider

Studies relying on either true longitudinal design or repeated measurements of similar groups seem to be quite rare in the field of media studies. A thorough overview of studies on children's use of online media in 18 European countries between 1999 and 2006, for example, found only two examples of a longitudinal study (Staksrud, Livingstone, & Haddon, 2009). This is probably mostly due to the fact that these studies are often more complex and more expensive than cross-sectional studies.

Research projects using repeated surveys as a method for measuring social change should aim to keep changes in the research design between surveys to an absolute minimum. Duncan (1969) laid down this principle in simple terms by pointing out that, "if you want to measure change, don't change the measure." This is perhaps one of the reasons why longitudinal designs are so little used for media research as it is very difficult to adhere strictly to this principle in studies where the nature of the object of study is constantly changing. This problem is especially evident when the time span of a research project stretches over several decades. When researching (online) media, however, major changes in the object of study can occur even if the project stretches only over a few years, as changes can come into effect very quickly. Then the ideal of standardization eventually comes into conflict with the need to collect meaningful information from the respondents or participants in the study. In these cases, the measure should be changed very carefully, in order to acquire relevant and valid data.

Pitfalls to avoid

Conducting longitudinal research means collecting a large amount of data. It is therefore particularly important to maintain all data and all related documents very carefully and thoroughly from the beginning of the project to its end. This concerns questionnaires and codebooks as well as strict and consistent anonymization, particularly in qualitative research. A further important aspect is to include all participants, or as many participants as possible, in all survey waves. Researchers should avoided "losing" participants or adding new ones. To achieve this, the research team should also remain in contact with the people in the sample between the survey waves, noticing changes of residence or contact details. In an ideal case, there would be one single team to plan, conduct, and analyse the research in all the survey waves. Due to the fact that longitudinal studies extend over several years, changes within the team are almost inevitable, however. To counter this situation, the team leader should draw up a handbook that includes strict instructions and formulations on how to conduct the research and how results should be written down. This should be kept up to date at all times. Furthermore, it is important to note changes and reforms. It should be possible to reconstruct what was done at earlier stages of the project, how, and why, even if measures and team members change. Both old and new researchers should also exchange practices within the research team.

Example of a longitudinal study: Swedish Media Panel project

A good example of true longitudinal research is the Swedish Media Panel project, covering the period between 1 January 1975 and 1 January 1998. All data are kept by the Swedish National Data Service (see http://snd.gu.se/en/start) and may be requested online. Founded by Karl Erik Rosengren and Sven Windahl in 1975, it was a long-term research programme focused on basic aspects of the use of mass media by Swedish children, adolescents, and young adults, as well as on the causes, consequences, and effects of that media use. Since 1995, the programme has been directed by Ulla Johnsson-Smaragdi.

During a long period of continuous research the Swedish Media Panel project group produced a data bank in which a large mass of data related to individual media use, its causes, effects, and consequences are stored, covering a number of cohorts and panels of children and adolescents passing through the school system and into work or continued studies during their early adulthood. In all, the bank contains data about some 5,000 children, adolescents, and young adults; their family background, activities, and relations; their relations to peers and their school experiences (including school grades etc.); their media use, lifestyles, present occupation, and activities, as well as their plans for the future. Relevant data from their parents have also been collected on several occasions (for the project summary, see www.ssd.gu.se/index.php?p=displayStudy&id=387).

In the entry of the study at the Swedish National Data Service there is a more detailed description and documentation of the project as well as key publications and the possibility of ordering the data of the project or of searching for related data (see http://snd.gu.se/en/catalogue/study/387).

Example of a long-term study: Children and Television in Iceland

An example of a long-term research project on media use in children is the Children and Television in Iceland study, in which information on media use by children aged 10–15 has been recorded regularly since 1968, thus enabling comparison over time. The project comprises seven cross-sectional school surveys spread over 41 years, with the latest data collection in 2009, and it provides a long-term perspective on the use of traditional media as well as new media and communication technologies that have been introduced over time (see Broddason, 2006).

A researcher's experience: socialization and change in research with children

In order to really deal with socialization processes, the dynamic character of the socializing factors, which determine how adolescents select media and acquire symbols useful for their daily lives over a long-term period, has to be taken into account. Various research studies point out that children employ and assign significance to media depending on their socio-cultural conditions such as the societal stratum, educational level, family form, place and size of residence, and parental income (Warren, 2003; Livingstone & Bovill, 2001; Austin, 1993; Messaris, 1983). However, the media socialization of children is influenced not only by objective socio-economic conditions, but also by personal and interaction-related processes, such as diverse family lifestyles, different forms of family, and the position of children within their peer groups that determine the ways in which media content is acquired. All these factors are subjects of change themselves. Thus, in order to get valid information on developmental changes, longitudinal designs are necessary. These designs enable us to draw a picture of the socialization process of children and the role that media play in their lives (Paus-Hasebrink, 2011; Paus-Hasebrink & Bichler, 2008).

References and further resources

Austin, E. W. (1993). *Exploring the effects of active parental mediation of television content. Journal of Broadcasting and Electronic Media, 37*(2), 147–158.

Broddason, T. (2006). Youth and new media in the new millennium. *Nordicom Review 27*(2), 105–118.

Bryman, A. (2008). *Social research methods* (3rd ed.). Oxford: Oxford University Press.

Duncan, O. D. (1969). *Indicators of social change*. New York: Russell Sage Foundation.

Livingstone, S. & Bovill, M. (2001). *Children and their changing media environment: A comparative European study*. Mahwah, NJ: Lawrence Erlbaum Associates.

Messaris, P. (1983). Family conversations about television. *Journal of Family Issues, 4*, 293–308.

Paus-Hasebrink, I. (2011). Zur Mediennutzung sozial benachteiligter Familien [On media use of socially disadvantaged families]. In A. Lange & M. Xyländer (eds), *Bildungswelt Familie. Theoretische Rahmung, empirische Befunde und disziplinäre Perspektiven* (pp. 167–189). [*Educational world family. Theoretical framing, empirical findings and disciplinary perspectives*]. Weinheim and Munich: Juventa.

Paus-Hasebrink, I. & Bichler, M. (2008). *Mediensozialisationsforschung – theoretische Fundierung und Fallbeispiel sozial benachteiligte Kinder* [Media socialization research – theoretical foundations and case study of underprivileged children]. Wien: Österreichischer Studienverlag.

Peter, J. & Valkenburg, P. M. (2008). Adolescents' exposure to sexually explicit internet material and sexual preoccupancy: A three-wave panel study. *Media Psychology, 11*(2), 207–234.

Staksrud, E., Livingstone, S., & Haddon, L. (2009). *What do we know about children's use of online technologies? A report on data availability and research gaps in Europe* (2nd ed.). London: LSE. Available at www2.lse.ac.uk/media@lse/research/EUKidsOnline/EU%20Kids%20I%20%282006-9%29/EU%20Kids%20Online%20I%20Reports/D11,secondedition.pdf

Valkenburg, P. M. & Peter, J. (2009). The effects of instant messaging on the quality of adolescents' existing friendships: A longitudinal study. *Journal of Communication, 59*(1), 79–97.

Warren, R. (2003). Parental mediation of preschool children's television viewing. *Journal of Broadcasting & Electronic Media, 3*, 394–417.