

METHODEN UND FORSCHUNGSLOGIK  
DER KOMMUNIKATIONSWISSENSCHAFT

Christina Peter / Teresa K. Naab / Rinaldo Kühne (Eds.)

# Measuring Media Use and Exposure

Recent Developments and Challenges

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## Measuring Media Use and Exposure: Recent Developments and Challenges

Media use and media exposure are core concepts of mediated communication processes. While the terms are often used interchangeably, they emphasize somewhat different conceptions of media reception processes. ›Media use‹ typically refers to people's active and holistic use of media to satisfy certain needs or fulfil certain functions, whereas ›media exposure‹ rather emphasizes users' passive contact with specific media contents. Accordingly, these concepts and conceptualizations find their way into empirical communication research in many ways: A broad strand of research investigates how traits, needs, and motives predict people's media use – including the general use of certain media (e.g., television or internet), specific media outlets (e.g., a particular television channel or newspaper), or specific content categories (e.g., the international affairs section of a newspaper). Another large part of our discipline's research focusses on media exposure as an outcome and pursues to explain what individual and social predispositions as well as environmental factors lead individuals to expose themselves to certain media content while avoiding other. In addition, research on media effects mostly looks at the consequences of media use and exposure, such as knowledge gain, attitude formation, or behavioral consequences. Finally, studies investigate the process of media use itself and associated psychological states, cognitions, and emotions. Even if not the central construct under investigation, everyday media exposure is often considered as a moderator or mediator of various relationships, for instance in experimental research, to explain why some recipients are more influenced by a treatment than others. Considering the important role of

media use and exposure for many empirical models, the precise measurement of these concepts is of uttermost relevance to our discipline, while at the same time it posits one of the main methodological challenges in communication research. The importance of this subject is regularly highlighted by symposiums and special issues on the topic (e.g., DE VREESE/NEIJENS 2016; FISHBEIN/HORNIK 2008).

Although challenges regarding the measurement of media use and exposure are not new, emerging communication technologies substantially affect communication research in this regard. The amount of media content produced by professional and non-professional actors available to recipients has never been more extensive and more diverse. Mobile technologies allow to access media content in nearly all situations of everyday life and enable usage in heterogeneous contexts. First, this changes existing patterns of media use, creates new types of media content, thus presenting innovative research phenomena. Second, the altered media use challenges established methods of communication research. For example, the dynamic and fast-paced media environments make it more and more difficult to grasp media exposure in self-report surveys (NIEDERDEPPE 2016). Consequently, questions on how to gain valid information of people's media use and exposure in an economic way are as pressing as ever, may it be for online or traditional media use.

Third, digital technologies and their increasing adoption in large segments of the population provide new opportunities for the assessment of media use. These include the adoption of digital technologies to assist and advance traditional measurement procedures like using mobile online questionnaires or wearables to collect information. Additionally, researchers can make use of the various digital data traces that users of new media leave behind intentionally and unintentionally. Of course, making use of these innovative methods comes with its own challenges.

In 2016, the methods division of the German Communication Association (DG PuK) gathered in Amsterdam to discuss recent developments and challenges in measuring media use and exposure. This volume comprises a collection of papers presented at the conference and additional manuscripts on the topic. It includes contributions on the refinement and advancement of classical measurement approaches, points to new methods for the assessment of media use and exposure, and contributes to the combination of measurement approaches. Yet, by no means does the collection attempt to be seen as a comprehensive review of all recent methodological and measurement challenges in the area of media use and exposure.

Our volume starts with a chapter by BENJAMIN KRÄMER and FELIX FREY. By presenting the concept of ›strategies of media use‹, the authors lay a theoretical basis to investigate how people use the media in an encompassing manner, thus contributing to our understanding of media use as a practice and in its social context. They look at important methodological decisions that must be made when approaching strategies of media use. These also apply to research concerned with comparable concepts and research on specific dimensions of how people use media.

An important strategy of media use is habitual use. As ANNA SCHNAUBER-STOCKMANN and TERESA K. NAAB indicate, media habits have traditionally been measured with self-reports, which may limit measurement validity because individuals often struggle to provide information about less conscious behavior. To address this issue, the authors have developed a response-frequency measure of media habit (RFMMH), which is based on an implicit measurement approach. In chapter 2, they present the results of a study which expands on previous findings on the RFMMH's validity. They do not only provide additional evidence confirming its construct validity and usefulness among additional populations (i.e., elderly people and less educated people) but also establish incremental validity by comparing the RFMMH's predictive power with established measurement approaches.

VERONIKA KARNOWSKI, TERESA K. NAAB and DANIELA SCHLÜTZ report on the challenges of measuring mobile media use by comparing survey results with data from mobile experience sampling. Although both methods assess media use through self-report, mobile experience sampling minimizes the time lag between media exposure and measurement and allows for measurement (nearly) in the situation of use. The authors discuss retrospective and in-situ approaches to measuring mobile media use. They present findings of an empirical study comparing both methods pointing to surprising differences and emphasizing the need for careful choice of methods. Results show that respondents systematically estimate their use to be higher in retrospective surveys compared to the in-situ measurement provided by mobile experience sampling.

ANNE-LINDA CAMERINI and PETER J. SCHULZ also concern themselves with self-report measurements of media usage and introduce the actor-partner interdependence model as a way to gain more valid insight into children's media use. Here, dyadic data from both children and their parents are collected in order to contrast and cross-validate both perspectives. The

method is explained in detail and a case study on parental mediation and children's media use is presented.

A crucial desideratum in research on media uses and effects are longitudinal designs, because they support the identification of causal and reciprocal relationships (e.g., SLATER 2007). However, as STEFFEN LEPA points out, longitudinal designs do not only come with advantages but also with additional challenges. Notably, panel attrition often produces missing values in measures of media use and unit-nonresponse bias, which raises the question of whether observed trajectories are indicative of true change or merely a methodological artifact. In his chapter, he reviews different solutions to this problem and explains why Inverse Propensity Score Weighting is a particularly promising approach to tackle missing values in longitudinal research. The implementation of the approach is illustrated in a longitudinal media repertoire study.

Linkage analyses constitutes a methodological advancement in the measurement of media exposure, which has been known for a long time (e.g., ERBRING/GOLDENBERG/MILLER 1980) but recently gained traction. It is based on the idea that valid measurements of media exposure can be constructed by linking questionnaire measures of media exposure with content-analytical measures of media content. As STEFAN GEISS discusses, a main challenge in linkage analysis is that it requires the researcher to make a series of methodological choices that can substantially affect the outcomes. In his study, he demonstrates how consequential methodological choices in linkage analysis are, compares different approaches, and makes suggestions which choices are to be preferred. Finally, he introduces an R script which allows the user to evaluate the utility of different approaches.

MICHAEL SCHARKOW and MARKO BACHL further contribute to advances in linkage analysis. They consider the prevalence and consequences of measurement error in both parts of linkage analyses, the survey data as well as the content analytic data. They discuss possible remedies in measurement and data analysis and highlight the importance of serious diagnostics of measurement quality. They introduce estimation or imputation approaches to incorporate this information in the data analysis.

ARNE FREYA ZILLICH and SABRINA HEIKE KESSLER consider challenges in the measurement of media selection behavior on the background of the dramatically increased number of media outlets and available media content. In particular, they are concerned with the selection of attitude-consistent online information. They compare the advantages and disadvan-

tages of established methods of measuring selective exposure and present an experimental study recording selection behavior via eye-tracking. The results indicate that users who are free to search the Internet for an unlimited period do not show attitude-consistent search behavior.

The contribution by FRANZISKA MARQUART and JÖRG MATTHES also deals with eye-tracking in the context of selective exposure theory. While prior research on the topic mostly focused on actual media choice or content selection, the authors investigate whether assumptions also hold when looking at selective attention at the level of the actual reading process. After a comprehensive overview of the use of eye-tracking in communication research, a case study on selective reading behavior is presented. Contrary to assumptions derived from selective exposure, respondents mostly divided their time equally between both sides of an argument. Their contribution ends with a discussion of practical implications for using eye-tracking in communication science.

FREYA SUKALLA concerns herself with the phenomenon of counterarguing during media processing and introduces a lexical decision task as a method to measuring these processes post-exposure. After an overview of different approaches to measure media processing in general and counterarguing in particular, she discusses the potential of post-exposure implicit measures for assessing counterarguing and sets out the development of a lexical decision task to capture counterarguing post-exposure. The practical application of this method is then presented in a case study.

Social media have become relevant digital intermediaries for information and news. STEFANIE FUCHSLOCH, GERRET VON NORDHEIM and KARIN BOCZEK address opportunities and legal challenges that researchers face when they directly access data that is collected by and generated on social media platforms through text mining. They draw attention to the current EU reform process and highlight the possibilities to improve access to social media data for researchers.

DAMIAN TRILLING further discusses implications of digitalization and social media for the consumption of news: the unbundling of news. Accordingly, in a digital news environment, media users are less likely to read a full newspaper or watch a complete news program. Instead, they are more and more exposed to single news pieces and news clips. As Trilling elaborates, this development has substantial implications for communication theory as well as for the methodological approach to the study of news uses and effects. In his chapter, he explains how the conceptualization of

news exposure as a network of users and news items helps to cope with emerging theoretical and analytical challenges. In addition, he provides an introduction of how the network perspective can be implemented in empirical research.

Finally, the contribution by CHRISTIAN STRIPPEL deals with log file analysis as a method for automated measurement of Internet usage. The author thoroughly explains the principles of different types of log files and their technical standards. After that, log file analysis as a method is explained and the author elaborates both on advantages as well as limitation of each type in detail. In this context, log file analysis as a measurement of internet usage is critically discussed, also in the light of alternative methodological approaches.

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