

DearScholar: A mobile application to conduct qualitative and quantitative diary research

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Background

Increasingly, scholars in the social and behavioral sciences prefer longitudinal data over cross-sectional data to explore new research phenomena, test effects, and build theories. Indeed, top-tier journals in, among others, management, psychology, and organization science nowadays tend to reject studies in which no longitudinal data has been used to investigate causal relations (e.g., Bono & McNamara, 2011; Jonge, 2011; Rico, 2013), in particular when testing mediation effects (cf. Kline, 2015).

Diary studies are one particular class of research methods in which “self-report instruments [are] used repeatedly ... to investigate social, psychological, and physiological processes, within everyday situations...” (N. Bolger & Rafaeli, 2003, p. 578). While there is a rich tradition of diary studies (cf. M. Iida & Bolger, 2012; S. Ohly & Zapf, 2010), these methods are used relatively infrequently to collect data compared to other methods such as experiments, panel studies, and archival research. Given the administrative burden of diary studies for both respondents (research participants) and researchers, their relative unfamiliarity (or unpopularity) is understandable.

However, given their potential to obtain a better understanding of both *between* and, especially *within* individual differences over time, scholars across disciplines call for more research in which diary methods are applied, such as in public administration (e.g., Bakker, 2015; S. Grimmelikhuijsen & Pandey, 2017), marketing (e.g., R. Elliott & Patterson, 2005), and health research (e.g., Jones, 2000).

Diary research apps and DearScholar

A limited number of (commercial) diary research apps have been developed, including [Indeemo](#), [LifeData](#), [PIEL Survey](#), [Open Data Kit](#), [RedCap](#), and [Teamscope](#). Acknowledging their value, some of these apps target the researcher as primary respondent instead of research participants; some are rather expensive for (large-scale) projects and make it difficult to change diary tasks during the study period; some are especially designed to collect qualitative data or quantitative data for one particular type of platform only (often Android), and—last but not least—some store data outside the European Union, which is problematic for European researchers.

DearScholar is a hybrid, open-source smartphone application (app) that can be used on iOS devices (iPhones and iPads) and Android devices (basically all other smartphones and tablets) to conduct diary studies (and, obviously, can also be used for other types of longitudinal research such as repeated-survey designs and log studies). DearScholar’s aim is to facilitate the research process for both respondents and researchers taken the limitations of the alternatives for DearScholar into consideration. Researchers only have to specify measurement occasions (measurement schedule), survey layout, and question format. Respondents have to download the app on the App Store¹ or Google Play², fill out their credentials, and start participating.

Use cases

Currently, DearScholar is used in a study by Glenn Houtgraaf MSc, dr. Peter M. Kruijen and prof. dr. Sandra van Thiel to investigate work-related creativity in government organizations. We use DearScholar to follow about 100 participants over a period of six months, asking them closed- and open-ended questions at bi-weekly measurement occasions to investigate creative processes. In September and October, Liesbeth Faas MSc, dr. Peter M. Kruijen, and prof. dr. Sandra van Thiel will replicate this study in local care teams.

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Resources

Visit the project page on [Github](#) for all resources (e.g., the manual, the source code and guides).

Footnotes

1: [Link to App Store](#) 2: [Link to Google Play](#)

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