

# USING BRAIN-COMPUTER INTERFACES: A SCOPING REVIEW OF STUDIES EMPLOYING SOCIAL RESEARCH METHODS

By reviewing the academic literature, this study reports the variety of studies on brain-computer interfaces (BCIs) in terms of the social research methods being employed, the various stakeholders being studied, and the thematical aspects being addressed in these studies.

**Reference:** Kögel, J. Schmid, J.R., Jox, R. J., & Friedrich, O. (2019). Using brain-computer interfaces: a scoping review of studies employing social research methods. *BMC Medical Ethics* 20:18 [doi:10.1186/s12910-019-0354-1](https://doi.org/10.1186/s12910-019-0354-1).

## WHO SHOULD READ THIS?

This paper addresses scholars of all disciplines that work on brain-computer interfaces (BCIs) and readers that are interested in an overview of what research has been done on BCIs. It may be of particular interests for social scientists as this paper portrays all studies that have deployed social research methods.



## WHAT IS IT ABOUT?

A scoping review is a synthesis that maps the field of research on a particular area or particular topic. This paper portrays the scope of studies that examine BCIs by means of social research methods. It points out key concepts and identifies research gaps in the field of BCI research.

## WHAT DID THE RESEARCHERS DO?

We searched various databases for studies on BCIs that used social research methods (i.e. quantitative methods (surveys/questionnaires) or qualitative methods (such as interviews or focus groups)). We categorize the various studies according to the kind of methods that are used and the research population. Finally, we sketch out various themes or objectives these studies are focused on.



## WHAT DID THE RESEARCHERS FIND?

The majority of studies addresses technical aspects of BCIs such as usability or feasibility aspects. Little research has been done on the experiential perspective of BCI users including their self-image or self-experience as a user. Few studies aim for the point of view of the users' caregivers.

## WHAT NOW?

We encourage more in-depth studies of the user and caregiver perspective. While there are many studies that employ social research methods most studies are conducted within the discipline of medical research. We would like to further the research of BCIs among the social sciences.

