

# Different reading devices, different modes of reading?

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A book or a screen – which of these two offers more reading comfort? There are no disadvantages to reading from electronic reading devices compared with reading printed texts. This is one of the results of the world's first reading study of its kind undertaken by the Research Unit Media Convergence of Johannes Gutenberg University Mainz (JGU) in cooperation with MVB Marketing- und Verlagsservice des Buchhandels GmbH. "E-books and e-readers are playing an increasingly important role on the worldwide book market. However, readers in Germany are particularly skeptical when it comes to e-books and electronic reading devices. The objective of the study was to investigate whether there are reasons for this skepticism," says the initiator of the study, Professor Dr. Stephan Füßel, chair of the Gutenberg-Institute of Book Studies and spokesperson for the Media Convergence Research Unit at Johannes Gutenberg University Mainz. "This study provides us with a scientific basis for dispelling the widespread misconception that reading from a screen has negative effects," explains Füßel. "There is no (reading) culture clash – whether it is analog or digital, reading remains the most important cultural technology."

However, the result of the study stands in stark contrast with the participants' subjective reaction. "Almost all of the participants stated that they liked reading a printed book best. This was the dominant subjective response, but it does not match the data obtained from the study," specifies Professor Dr. Matthias Schleewsky, Head of the Research Group Neurocognition of Language Universals of the Department of English and Linguistics at Johannes Gutenberg University

Mainz, who designed and conducted the study together with Professor Füssel. In fact, tablet PCs actually provide an advantage over e-ink readers and the printed page that is not consciously perceivable: the information is processed more easily when a tablet PC is employed. Furthermore, while there were no differences between the three media employed in terms of rates of reading by the younger participants, the older participants exhibited faster reading times when using the tablet PC.

Similarly, the participants' subjective perceptions did not match the results of a comparison of e-ink readers and printed paper texts. Almost all participants stated that reading from paper was more comfortable than from an e-ink reader despite the fact that the study actually showed that there was no difference in terms of reading performance between reading from paper and from an e-ink reader. "We have thus demonstrated that the subjective preference for the printed book is not an indicator of how fast and how well the information is processed," concludes Professor Schlesewsky.

The co-initiator and cooperating partner institution of the study is MVB Marketing- und Verlagsservice des Buchhandels GmbH, operator of the e-book platform libreka!. "We are pleased to have had the opportunity to work with and support Mainz University in this one-of-a-kind study. As a subsidiary of the German Publishers and Booksellers Association (Börsenverein des Deutschen Buchhandels e.V.), we have established the prerequisites for publishing companies and bookstores to adapt to the digital age by setting up the libreka! platform. Shaping the market is important to us, and that also includes understanding the readers' needs," states Ronald Schild, CEO of MVB, explaining the reasons for the organization's participation in the study.

The study analyzed the differences in reading from various kinds of media (e-book, tablet PC, paper) in two sample groups, young and

elderly adults. Each participant read various texts with different levels of complexity on an e-book reader (Kindle 3), on a tablet PC (iPad), and on paper. The reading behavior and the participants' corresponding neural processes were assessed by means of concurrent measures of eye movements (eye tracking) and electrophysiological brain activity (EEG). The criteria that were taken into account and analyzed were changes in the theta frequency band power, reading behavior, text comprehension, and information recall as well as the participants' preferences for the respective medium.

Provided by Johannes Gutenberg Universitaet Mainz

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