

The Overflowing Brain: Information Overload and the Limits of Working Memory

By Torkel Klingberg



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As the pace of technological change accelerates, we are increasingly experiencing a state of information overload. Statistics show that we are interrupted every three minutes during the course of the work day. Multitasking between email, cell-phone, text messages, and four or five websites while listening to an iPod forces the brain to process more and more informaton at greater and greater speeds. And yet the human brain has hardly changed in the last 40,000 years.

Are all these high-tech advances overtaxing our Stone Age brains or is the constant flood of information good for us, giving our brains the daily exercise they seem to crave? In The Overflowing Brain, cognitive scientist Torkel Klingberg takes us on a journey into the limits and possibilities of the brain. He suggests that we should acknowledge and embrace our desire for information and mental challenges, but try to find a balance between demand and capacity. Klingberg explores the cognitive demands, or "complexity," of everyday life and how the brain tries to meet them. He identifies different types of attention, such as stimulus-driven and controlled attention, but focuses chiefly on "working memory," our capacity to keep information in mind for short periods of time. Dr Klingberg asserts that working memory capacity, long thought to be static and hardwired in the brain, can be improved by training, and that the increasing demands on working memory may actually have a constructive effect: as demands on the human brain increase, so does its capacity.

The book ends with a discussion of the future of brain development and how we can best handle information overload in our everyday lives. Klingberg suggests how we might find a balance between demand and capacity and move from feeling overwhelmed to deeply engaged.

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Editorial Review

From Publishers Weekly

As the technological environment speeds up to a maddening degree, Klingberg, a professor of developmental cognitive neuroscience at Sweden's Karolinska Institute, warns that the huge burden of information overload and multitasking can exceed the limits of our slowly evolving stone-age brain. Using data showing the subtle increase in IQ scores during the last century and its link to educational improvements, Klingberg notes a gap between the rapidity of electronic high-tech devices and the brain's relatively slower capacity to process information, leading to memory malfunctions. The text can be somewhat academic, but the amount of scientific fact translated to something the reader can use is still sizable, including keen writing on the impact on working memory of problem solving, meditation, computer games, caffeine and the existence of attention deficit disorder. Klingberg also reviews the evidence that mental exercise can increase the capacity of working memory. A highly sane look at the increasingly insane demands of the information age, this book discusses with precision a subject worthy of attention. B&w illus. (Nov.)

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Review

"[The Overflowing Brain] is a highly sane look at the increasingly insane demands of the information age."--Publishers Weekly

"Klingberg does his best to keep the material accessible, with lots of anecdotes..."--Washington Post

Named Most Important Book of 2008 by SharpBrains.com!

"...[The Overflowing Brain] has a scholarly tone, but Klingberg provides a good balance between the science and the practical...An interesting book..."--Sacramento Book Review

"Klingberg writes in an engaging, conversational style....He...does a straightforward job of explaining the background science without being overly simplistic....The description of his initial pilot studies, his larger validation experiments, and his extension to neuroimaging studies makes for an interesting narrative..."--New England Journal of Medicine

"...an elegant scientific book of the most accessible type...."--Neuron

"There are several reasons I think so highly of this book... Klingberg brilliantly and (yes) patiently explains

for non-scholars such as I (a) how and why our brains overflow with an increasingly greater number of 'messages' from an increasingly greater number of information sources (e.g. other persons, electronic and print media, The Web, telephones, billboard), (b) how and why at least some of it is retained by working and long-term memory capabilities, and (c) what we must do to achieve and then maintain a balance of working load with working memory capacity..."--Dallas Business Commentary Examiner

"Klingberg presents a lively and well-informed survey of a number of topics dealing broadly with attention, working memory, intelligence, and neuroscience....Klingberg writes beautifully, and he is strikingly knowledgeable about a variety of topics in cognition and neuroscience. By the end of the book, Klingberg has made an important and persuasive case for the importance of the systematic training of working memory."--As reviewed in *PsycCRITIQUES*

"How to measure, train and enhance working memory is the subject of *The Overflowing Brain*, an absorbing first book by neuroscientist and physician, Torkel Klingberg, who is well known for his studies of young people with attention deficit hyperactivity disorder...Klingberg's brief book packs a considerable punch."--*The Lancet*

About the Author

Torkel Klingberg is Professor of Cognitive Neuroscience at the Stockholm Brain Institute, Karolinska Institute, Stockholm, Sweden.

Users Review

From reader reviews:

Margaret Walker:

Information is provisions for folks to get better life, information presently can get by anyone from everywhere. The information can be a understanding or any news even an issue. What people must be consider while those information which is within the former life are challenging be find than now is taking seriously which one is appropriate to believe or which one often the resource are convinced. If you receive the unstable resource then you get it as your main information you will have huge disadvantage for you. All of those possibilities will not happen inside you if you take The Overflowing Brain: Information Overload and the Limits of Working Memory as your daily resource information.

Mark Malek:

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