

Typeface Matters: Psychophysical Insights into Readability Across Different Reading Tasks

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Abstract

Although reading is a complex activity, as skilled readers, we often do not realize how often we naturally engage in this task in our everyday lives. The field of reading research is vast, encompassing diverse perspectives, from single letter recognition in the periphery to evaluating comprehension and fatigue in reading longer texts. While our visual system operates similarly in various reading tasks, the specific underlying visual mechanisms for each task may differ. To gain a complete understanding of the factors affecting reading, it is crucial to assess and compare their impact across different tasks. Here, we investigated the impact of typefaces, by using eight different fonts, across three different reading modes: i) interlude (150-word long paragraphs), ii) sentence (followed by true/false questions), and iii) glance (single word/pseudoword lexical decision task). Fifty participants completed the study and their reading speed / reaction time and accuracy were measured during each task. Preliminary results demonstrated that the optimum typeface, associated with the best performance, showed correlations across reading tasks, suggesting shared underlying mechanisms. The highest correlation was found between glance and sentence reading ($r = .52, p < .001$), with moderate correlations observed between glance and interlude tasks ($r = .44, p < .001$), as well as sentence and interlude tasks ($r = .36, p < .001$). However, there were also observed differences in the optimum typeface across different tasks. Specifically, while Merriweather was found to be the optimum font for interlude and glance reading, Source Serif Pro yielded the best performance in sentence reading. Current findings suggest that the complex processes of reading may lead to the development of diverse reading strategies, with external factors potentially influencing the process variably. This suggests that individuals' preferences for optimal reading parameters, especially fonts in this study, may vary depending on the task, despite correlations.

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