Typography and Dyslexia: A Comparison Between Adults and Children With Dyslexia

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Specific fonts for people with dyslexia have been designed under the assumption that text readability benefits from decreased letter confusability. Such an assumption as well as authoritative recommendations about font usability (www.bdadyslexia.org.uk/) need stronger support from carefully controlled empirical research [1]. In this study – done in collaboration with ChiaLab, ISIA Urbino, Zanichelli Publishing House and IRCCS Burlo Garofolo– we asked children diagnosed with developmental dyslexia (DD children= 15; age range 11-14 years) [T1] to rank 7 different-font texts (Times + 6 new fonts) based on first-sight perceived readability; [T2-3] to read or discriminate material printed in the individual best/worst fonts (B vs W). New fonts included candidate dyslexia-friendly features (e.g., longer ascenders/descenders, sans serif, stroke width variance). T2 included a comparison of standard (S) vs. increased (I; +11%) spacing. We compared responses and performance of DD children with those of DD young adults (N=14; age range 18-25 years). The most interesting results regard T1 and T2.

[T1 - ranking] DD children and young adults produced weakly (but positively) correlated rankings of perceived readability of the 7 fonts. However, the dyslexia-friendly font was a clear outlier. After its removal, the correlation between the rankings of the two age groups became strong. The dyslexia-friendly font was positively evaluated by children with DD, while it was the absolute worst in young adults with DD.

[T2 - reading] Participants read aloud 4 short texts printed in the individual best/worst fonts, with standard vs. increased spacing. We analyzed both p(correct) and syll/s data, as well as a general efficiency score [E = p(correct) × syll/s] in the Font (B, W) x Spacing (S, I) design. The main effect of Spacing did not reach the level of statistical significance, but its direction was opposite to the expectation of better performance with the increased spacing text. Overall, children with DD read equivalent short texts better when letter spacing was standard rather than increased.

In general, in neither T2 (reading aloud) nor T3 (lexical decision and letter string matching) tasks performance of children with DD was improved by the preferred font.

1. Rello, Luz & Ricardo Baeza-Yates. 2013. Good Fonts for Dyslexia. ASSETS 2013: The 15th International ACM SIGACCESS Conference of Computers and Accessibility, Bellevue, Washington USA, 22-24 October.