

**Title:** Reading Comprehension in Adolescents and Adults with Down Syndrome

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**Introduction:** Adolescents and adults with DS desire greater independence, especially in employment opportunities and residential arrangements (Scott et al., 2013). Strong reading skills are one such way to help individuals with DS achieve this independence, yet there is a paucity of research on reading comprehension within this population. The Simple View of Reading (Hoover & Gough, 1990) is a well-supported framework in typical development that proposes that reading comprehension is the mathematical product of word identification and listening comprehension abilities. It has not, however, been well-tested in DS. Therefore, the purpose of this study was to examine reading and linguistic predictors of reading comprehension success in DS using the Simple View framework.

**Method:** Twenty adolescents and adults with DS (age  $M = 24.1$  years,  $SD = 6.4$ , range = 16.2-36.8; IQ  $M = 46.2$ ,  $SD = 5.9$ , range = 40-61) completed a series of standardized reading, language, and IQ assessments. Reading was assessed via the Woodcock Reading Mastery Test – 3<sup>rd</sup> edition, WRMT-III. The WRMT-III includes two reading comprehension subtests, word comprehension and passage comprehension, that can be analyzed individually or combined into a reading comprehension cluster. Three participants were unable to score on the reading comprehension tasks and were therefore not included in the following data-analysis. The WRMT-III also includes a basic skills cluster with word identification and phonological decoding subtests. Growth scores from the WRMT-III (i.e., raw scores weighted for item difficulty) were used in analyses (basic skills cluster:  $M = 483.12$ ,  $SD = 21.30$ , range = 452-521; reading comprehension cluster:  $M = 469.12$ ,  $SD = 14.53$ , range = 444-490). The Oral and Written Language Scales, 2<sup>nd</sup> edition, listening comprehension subtest was used to measure listening comprehension. Raw scores were used in analyses ( $M = 53.76$ ,  $SD = 15.74$ , range = 31-74).

**Results:** When examining the reading comprehension cluster, sixteen participants were reading at either the first or second-grade level. One participant was reading below the first-grade level. Multiple regression was used to assess the contribution of word identification and phonological decoding (basic skills cluster) and language comprehension to reading comprehension success. The total variance explained by the model was 49%,  $F(2, 14) = 8.74$ ,  $p = .003$ . Language comprehension emerged as the only statistically significant predictor,  $\beta = .79$ ,  $t = 2.84$ ,  $p = .01$ , uniquely contributing 26% of the variance to the full model. The basic skills cluster was not a statistically significant predictor,  $\beta = -.07$ ,  $t = -.23$ ,  $p = .82$ , and only uniquely contributed less than 1% of the variance to the full model.

**Discussion:** Listening comprehension appears to be particularly important to reading comprehension success for adolescents and adults with DS, at least for individuals who have achieved basic levels of word identification and decoding ability. This pattern of results is consistent with Roch and colleagues (e.g. Roch & Levorato, 2009) in suggesting that the Simple View may apply differently to readers with DS than the general population. Future research should further explore language comprehension subskills, such as vocabulary and syntax, to see how these contribute to reading comprehension in DS.

#### References/Citations:

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