

Title: Reading and writing difficulties' association with self-rated health among Danish adolescents. A cross-sectional study based on the FOCA cohort.

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Introduction: People struggling with reading and writing difficulties (RWD) have poorer odds of achieving a good and healthy life. RWD are independent risk factors in relation to education and employment, which are essential in order to obtain a good and healthy life. Therefore, the purpose of this study was to investigate the association between RWD and self-rated health among adolescents, and to investigate how mental health affects the association between RWD and self-rated health.

Methods: A cross-sectional study was performed based on the FOCA-cohort, a Danish population-based survey among 15- and 16-year-olds gathered in the spring of 2017. The study-population contained 9,748 respondents. The exposure was self-reported RWD; yes and no, respectively, and the outcome was measured with the SF-36 self-rated health question ranging from *poor* to *excellent*. Self-rated health was dichotomised in *high* and *low*. A logistic regression model was used to estimate the association between RWD and self-rated health, and to estimate how loneliness and perceived stress, as proxies for mental health, affected this association.

Results: A significant association between RWD and self-rated health was found, after adjusting for potential confounders, OR 0.73 (95% CI: 0.60-0.87). Mental health approximated by loneliness and perceived stress, explained a minor part of this association.

Conclusion: It seems that adolescents with RWD are not only struggling with RWD but also several negative consequences, low self-rated health being one of them. In order to clarify the causal relationship, longitudinal studies are needed. If a causal relationship can be confirmed this strengthens the need for early identification of RWD, in order to prevent this health inequality.

Key words: *reading and writing difficulties, self-rated health, adolescent, public health.*