

Enhanced Liver Fibrosis Test Is Associated With Poorer Cognitive Performance During An 11-year Follow-up Period

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Association between liver health and cognition has repeatedly been shown, but less is known about fibrosis of metabolic dysfunction-associated steatotic liver disease (MASLD). We show for the first time, that liver fibrosis, measured with Enhanced Liver Fibrosis Score (ELF), is associated with poorer cognitive performance in a population with liver disease most likely accountable to MASLD.

INTRODUCTION

MASLD is a prevalent liver manifestation of metabolic diseases. Numerous studies have been published about its association with poorer cognitive performance and cognitive decline.

ELF is a marker of liver fibrosis, and its association with cognitive performance has not yet been studied.

METHODS

This study was based on a nationally representative Finnish adult population sample.

For measuring ELF, venous blood samples were drawn, and concentrations of markers of liver fibrosis were determined (hyaluronic acid, amino-terminal pro-peptide of type III procollagen (PIIINP), and tissue inhibitor of matrix metalloproteinase 1 (TIMP-1)) (1).

At baseline, verbal fluency, word list learning, delayed wordlist recall, and simple and multiple-choice reaction times were tested. All tests except the reaction time tests were repeated at follow-up (2).

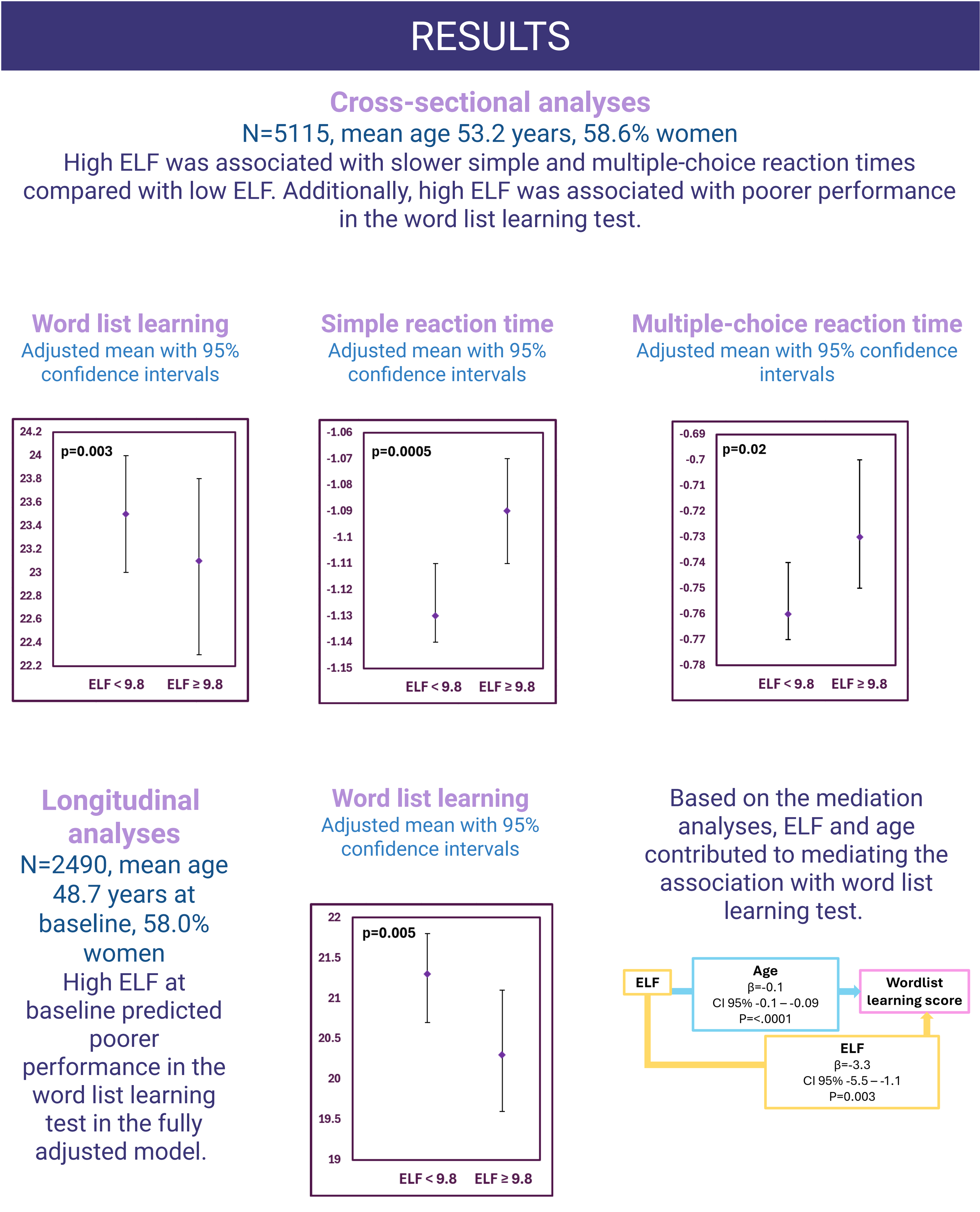
Multivariable regression analysis was performed using SAS JMP, and adjustments were made for demographic, metabolic, and cardiovascular covariates in three models:

**Model 1:** age, sex, years of formal education

**Model 2:** Model 1 + APOE4 allele carriership, hypercholesterolemia, hypertension, diabetes mellitus

**Model 3:** Model 2 + smoking status, physical activity, Beck's depression inventory (BDI) score

Mediation analyses were performed using the MeMoBootR package (3) in R software.



CONCLUSION

We show for the first time that liver fibrosis, measured with Enhanced Liver Fibrosis Score (ELF), is associated with poorer cognitive performance in a population with liver disease most likely attributable to MASLD.

REFERENCES

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