

Paper-based version:

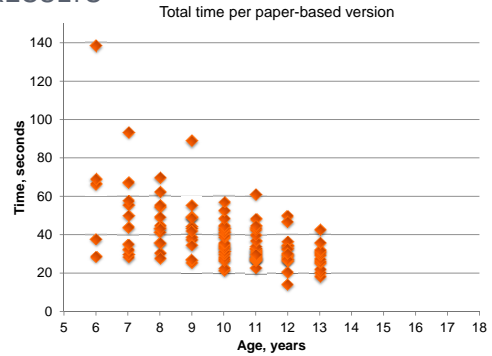
- Performed at 30-40 cm
- Not known:
 - Which elements are omitted
 - Is one and the same element found repeatedly
 - Sequence of the search

Computer-based version:

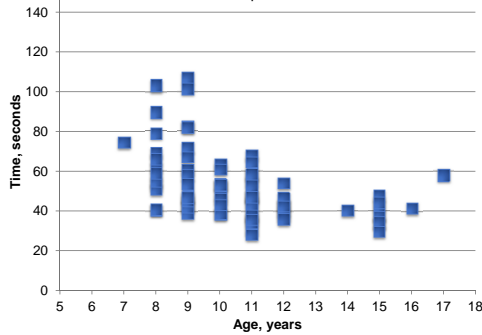
- Performed at 40 cm
- Program records:
 - Time to find each symbol
 - Total time to complete the task
 - Errors and their localizations
 - It is possible to locate omitted elements and analyse them

•We recorded time needed to complete the task, number of counted elements, number of errors (Baranov-Krylov, 2009)
 •Data analysis using MS Excel un OriginPro 7.0
 •Data analysis using corrected time (Cheal&Lyon, 1992)

RESULTS

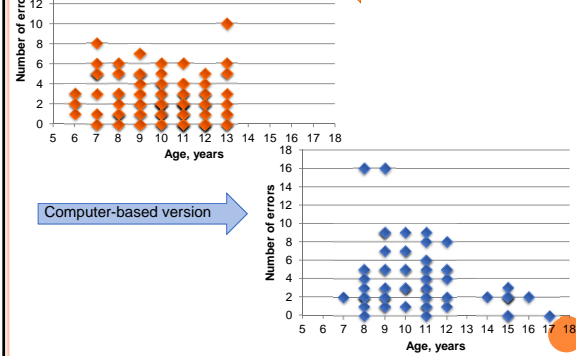


RESULTS Total time for a computer-based version



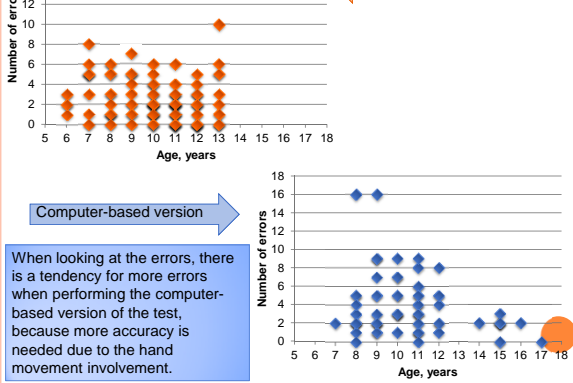
The results demonstrate that paper-based version of a visual search task is completed significantly faster comparing with a computer-based version ($p < 0.05$, ANOVA).

Number of errors ← Paper-based version



→ Computer-based version

Number of errors ← Paper-based version



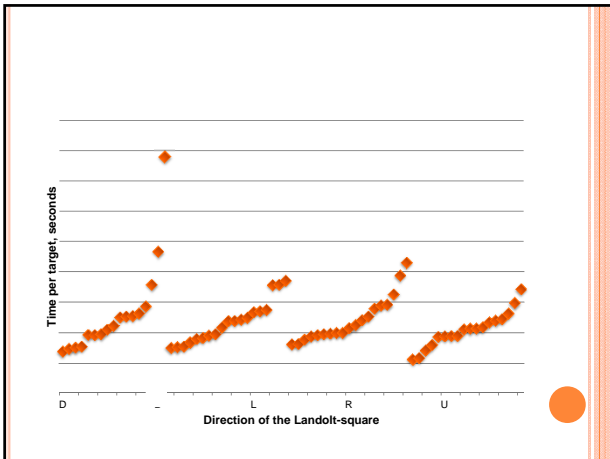
When looking at the errors, there is a tendency for more errors when performing the computer-based version of the test, because more accuracy is needed due to the hand movement involvement.

A SET OF 25 ELEMENTS

Direction	Number of errors
D	341
L	188

A SET OF 100 ELEMENTS

Direction	Number of errors
D	65
L	76
R	54
U	60



CONCLUSIONS

- The results demonstrate that paper-based version of a visual search task is completed significantly faster comparing with a computer-based version ($p < 0.05$, ANOVA).
- Visual search task is completed faster with age for both computer-based and paper-based version of the test.
- Number of errors do not differ significantly between paper-based and computer-based tests

DEVELOPMENTS IN
optics
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