

## Lertap5 Rasch Item Analysis Time Trials at 26 October 2021

- Using the [Lertap Quiz](#) “Knlwldge” subtest with 20 cognitive items and 60 workshop participants.

The times reported under Run1 and Run2 below are the number of **seconds** taken to complete a Rasch analysis in Lertap5 using the default run termination setting of SumSquaredResiduals < 0.25 (**four** iterations were required in this case; two runs were made as a check). Lertap version 5.11.1 / 10 September 2021 was used.

Computer	Processor	O.S.	Excel Version	Run1	Run2
Lenovo Yoga	i5-8250U - 1.8 GHz	Windows 10	365 / 2109	10	10
“	“	“	2010	4	4
SurfaceLaptop2	i5-8250U - 1.8 GHz	“	365 / 2109	11	11
MacBook Pro	i5 - 1.4 GHz	macOS 11.6	365 / 16.54	80	80

- Using Bond’s [“BLOT”](#) data with 35 cognitive items and 147 respondents.

The times reported under Run1 and Run2 below are the number of **minutes** taken to complete a Rasch analysis in Lertap5 using the default run termination setting of SumSquaredResiduals < 0.25 (**five** iterations were required). Lertap version 5.11.1 / 10 September 2021 was used.

Computer	Processor	O.S.	Excel Version	Run1	Run2
Lenovo Yoga	i5-8250U - 1.8 GHz	Windows 10	365 / 2109	1	1
MacBook Pro	i5 - 1.4 GHz	macOS 11.6	365 / 16.54	6	6

- Using the [“Negocios”](#) test with 60 cognitive items and 500 university students.

The times reported under Run1 and Run2 below are the number of **minutes** taken to complete a Rasch analysis in Lertap5 using the default run termination setting of SumSquaredResiduals < 0.25 (**six** iterations were required). Lertap version 5.11.1 / 10 September 2021 was used.

Computer	Processor	O.S.	Excel Version	Run1	Run2
Lenovo Yoga	i5-8250U - 1.8 GHz	Windows 10	365 / 2109	5	5
MacBook Pro	i5 - 1.4 GHz	macOS 11.6	365 / 16.54	40	40

- Notes

The laptop computers used in these trials were dated and, even when new, were not quite top-of-the-line models. At Lertap Central, when there’s need for speedy performance, Excel 2010 on a Windows computer is the choice – an example of its speed is reflected in the second line of the first table above. As another example, for the Negocios dataset, Excel 2010 completed the analysis in 2.5 minutes. Excel 2010 is still supported by Microsoft, but no longer easy to obtain.

Excel “365” is a generic label used when users have taken out a annual subscription to Microsoft Office. The version of Excel on their computers will be periodically updated automatically.

One might well expect better performance on Apple Mac computers now that the option of an “M1” processor is available.