



STUDY ON THE ROLE OF
MENTAL TOUGHNESS AT
THE TRANSITION POINT
BETWEEN PRIMARY TO
SECONDARY SCHOOL IN THE
NETHERLANDS

Background – The Dutch School System

The Dutch school system is built as follows:

PRIMARY SCHOOL

Formal education starts at the age of 4 or 5 and runs for eight years.

The first 2 to 3 years (year 1a and 2) take the form of nursery education (play based).

From year 3 onwards, (age 6 or 7) children start 'learning' in the traditional meaning of the word.

Year 8 is the final year (age 11 or 12) where it is determined what level of secondary school will be attended.

Most pupils change school at this point, so the year group they have been in for the previous six years is changed and the children enter a new environment.

In year 8 pupils take a test/exam, known as CITO. This is typically completed over two of days and has a major impact on the immediate future for most pupils. It is a serious point in a young person's development. Their next step in their education/learning is at stake.

Although the CITO results are not the only input that decides the level of the next school attended it is important. For example, if a score is too low, you cannot progress to some levels, even if your teachers advise and believe otherwise. It is not the end of the road but progress to higher levels generally requires another test is to be taken.

SECONDARY SCHOOL

There are roughly 8 levels in secondary school, starting at 'practical (VMBO-P)' up to 'preparing for scientific education (VWO)'. The number of years varies from 4 (practical) to 6 (VWO).

The first year is called 'brugklas', best translated as 'bridging year'. In this year children are exposed to a lot of changes i.e. new forms of education, more & different lessons, new school, different teacher for every subject, planning their own homework, different school times every day, etc. There is a wide variety of responses from pupils to this "bridging year".

The Study:

The object of the study is defined as follows:

Is there a correlation between mental toughness and the results and experiences during the first year at secondary school?

To answer this question the following data was collected:

1. 32 pupils in group 8 of two primary schools (OBS 'de Stapsteen' and BS 'de Steenen Brug', both situated in the beautiful town of Roermond) completed an MTQ48 test at the end of year 8. This took place in July 2008. No coaching on MT was provided.
2. The CITO scores of the pupils provided to the researchers (formal parental agreement)
3. The pupils completed a second questionnaire (LEGB) at the end of the 'brugklas' in which they assess their experiences during that year. Carried out in August 2009, pupils were asked to self-

assess how they well they felt they had coped with aspects of life during 'brugklas'. A copy of this questionnaire is appended.

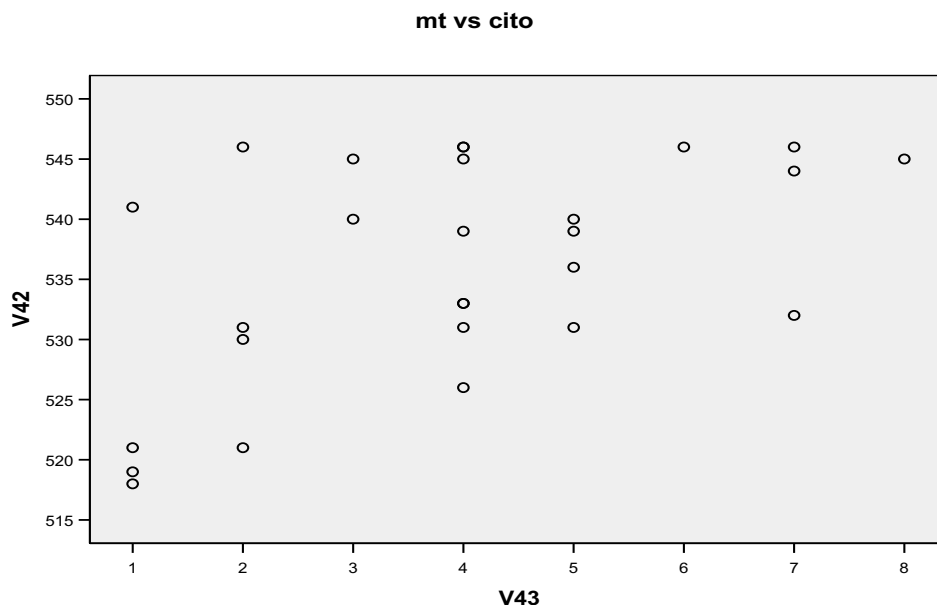
4. The data was analysed, to address the following hypotheses:
 - a. Is there a correlation between Mental Toughness and the results from the CITO test?
 - b. Is there a correlation between the assessment of pupil experiences in the first year of secondary school and the results in CITO test?
 - c. Is there a correlation between the assessment of pupil experiences in the first year of secondary school and Mental Toughness?
5. Data analysis was carried out under the expert guidance of Dr Peter Clough, Head of psychology at the University of Hull, United Kingdom

The Results:

Is there a correlation between Mental Toughness and the results from the CITO test?

The analysis showed a correlation of +0.53 which is significant at $p < 0.01$. This indicates that there is a very strong association between mental toughness (as measured by MTQ48) (V43) and an individual pupils CITO scores/results (V42). MT clearly predicts CITO. Basically, the MTQ48 explains 25% of the variation in the CITO score. This is very consistent with similar studies carried out using the MTQ48 on yr 10 (aged 15) students in Halewood College in the UK.

In essence mental toughness emerges as a significant factor in exam performance.



Is there

a correlation between the assessment of pupil experiences (LEGB data) in the first year of secondary school and Mental Toughness (as measured through MTQ48)?

There is a strong correlation between MTQ48 and the LEGB questionnaire which assesses pupil experiences in the first year of secondary school. That is, how well do they feel they have coped with the experience of the first year in the new school.

Correlations between MTQ 48 and LEGB Scale

Overall Mental Toughness and LEGB scale	0.48
Challenge and LEGB scale	0.27
Commitment and LEGB scale	0.51
Control and LEGB Scale	0.43
Emotional control and LEGB Scale	0.35
Overall confidence and LEGB Scale	0.38
Confidence in Abilities and LEGB Scale	0.54
Interpersonal Confidence and LEGB Scale	0.19

This indicates that MTQ48 is a useful indicator of the extent to which pupils feel they deal with these aspects of life in a new school.

Is there a correlation between the assessment of pupil experiences in the first year of secondary school and the results in CITO test?

Curiously, given the link between MTQ48 and LEGB scores and the strong link between MTQ48 and CITO scores there is no statistical relationship between the assessment of pupil experiences in the first year of secondary school and the results in CITO test. There is zero correlation.

This indicates that the MTQ48 measure is capturing something which the LEGB data is not. But that this (missing) factor is significant in exam performance.

Conclusion:

MTQ48 emerges as a valid and reliable measure of mental toughness which relates well to examination performance for young pupils. Studies elsewhere show that mental toughness can be developed in young people and that this translates (at different ages) into:

- Better performance
- More positive behaviours (better attendance and better engagement in class)
- Better wellbeing (lower reported bullying)
- Higher career aspirations
- Lower student dropout rates
- Better employability

MTQ48 emerges as a potentially valuable tool for the trained user to engage in diagnostic and evaluation activity in the development of young people.