



**ASSESSING MENTAL
TOUGHNESS IN A UK
SCHOOL TO EVIDENCE LIFE
SKILLS DEVELOPMENT AND
FURTHER DEVELOPMENT
NEEDS**

The Background

In 2017 the Independent Schools Council (ISC) identified the importance of demonstrating the value that Independent Schools add for their pupils. The academic value that Independent Schools add can easily be demonstrated through exam results but the softer values (the so-called “soft skills”) that they add such as Confidence, Commitment etc. have historically not always be easily demonstrated.

The hypothesis is that Independent Schools develop pupils in such a way that they have a long-lasting significant advantage over pupils developed in the state system. A number of studies already exist that support this hypothesis.

In 2017, ISC commissioned AQR International to carry out an exercise using the Mental Toughness Concept and the related Mental Toughness Questionnaire – MTQ48. The study, carried out on almost 10,000 pupils in 58 independent schools, was able to provide a more definitive answer to the question as to whether independent schools in the UK do in fact develop pupils’ soft skills in a way that they are likely to have a long-lasting significant advantage over pupils developed in the state system.

AQR International has a reliable dataset for more than 40,000 pupils in state schools against which comparison can usefully be made. The MTQ concept and questionnaire was chosen because of its more integrated approach, providing a measure that embraces multiple types of soft skills, resilience, mindset and character traits.

Mental Toughness: Overview

Mental Toughness is defined as, ***“A personality trait which determines in large part how individuals deal effectively with challenge, opportunity, stressors and pressure...irrespective of circumstances”*** (Clough & Strycharczyk, 2015).

Mental Toughness describes the mindset that every person adopts in everything they do. It defines how we think and shouldn’t be confused with behavioural traits (such as extraversion and introversion) which can be more situational.

It is closely related to qualities such as mindset (Dweck), character, resilience, grit (Duckworth), Learned Optimism (Seligman), etc. All these qualities have been identified in studies as important in the education and development of young people. The ability to deal with the demands of schools is at the core of Mental Toughness (Clough, Earle & Sewell, 2002). The Mental Toughness model and framework is widely recognised as embracing all of these elements in one integrated model.

Studies show that Mental Toughness may have a hereditary component. However, research also shows that both genetic and environmental factors contribute to the individual differences in Mental Toughness (Horsburgh, Schermer, Veselka & Vernon, 2009). Mental Toughness has been shown to be a narrow plastic (i.e. capable of change) personality trait. Published research shows that an individual's Mental Toughness is closely correlated with

- Attainment/Performance –
- Wellbeing
- Behaviour
- Transition/Change

The Mental Toughness model and framework is summarised below:

Mental Toughness Constructs	What this means ... what does MTQ48 assess The factors
CONTROL	<i>Life Control</i> – I really believe I can do it. I believe that I am in control of much of what determines my ability to do things.
	<i>Emotional Control</i> – I can manage my emotions and the emotions of others
COMMITMENT	<i>Goal Setting</i> – I promise to do it – I like working to goals and will set goals for myself
	<i>Achieving</i> – I'll do what it takes to keep my promises and achieve my goals
CHALLENGE	<i>Risk Taking</i> – I will stretch myself and welcome new situations – I am not frightened of new things
	<i>Learning from Experience</i> – even setbacks are opportunities for learning and I will try again if I have not succeeded the first time
CONFIDENCE	<i>In Abilities</i> – I believe I have the ability to do it – or can acquire the ability. I have less need for validation from others.
	<i>Interpersonal Confidence</i> – I can influence and engage with others – I can stand my ground if needed – I will ask questions of others

Mental Toughness has emerged as a significant factor in the development of young people. Over the past several years, research and case studies have emerged which show that Mental Toughness is strongly correlated with performance, wellbeing, positive behaviours, aspirations and employability as well as transition to and from school.

As Damian Allen, Director of Learning Opportunities & Skills at Doncaster Council put it “Not only can we, in many cases, enhance a young person's performance, these particular skills are useful for just about everything else that person is going to have to do in life”.

Can we develop Mental Toughness in young generations?

The good news is that Mental Toughness can be developed. There is a wide range of interventions, almost all experiential, developed by the subject experts, which enable parents and educators to work with young people helping them to grow their mindset. It is worth noting that it isn't always necessary to develop Mental Toughness in an individual. Self-awareness is the key here.

Some more mentally sensitive individuals can become more effective by showing them the core behaviours and actions that a mentally tough person adopts and supporting them to adopt these behaviours. These learn to **cope**, in time move on to learning how to deal with life and its challenges. Others, on reflection, will consciously seek to change. They will be more open to changing mindset and through that behaviour and attainment. This shows them how to **deal** with stress, pressure, challenge and opportunity.

As with any development activity, the starting point is to define areas of attention for development and to assess the situation. We need to examine where we are now. Only carefully designed, valid and reliable assessments will deliver the information required to make better informed decisions as to which areas require our attention, what might come next and which tools we might usefully deploy in our work.

It has to be said that many schools already do many things which will contribute to mental toughness development in individuals. However, our experience is that many schools do not optimise this. Either because the activity is poorly specified, or the activity is not clear as to purpose. Again, a reliable framework and reliable means of assessment are crucial here. The Mental Toughness concept and the measures provide these.

How do we assess the level of Mental Toughness?

The Mental Toughness of young adolescents is assessed using the MTQ48 Young Person's Questionnaire which assess six factors (shown in green in the diagram above). The Mental Toughness of Staff is assessed using the MTQPLUS Questionnaire which assess eight factors. This is important. Most studies show a close correlation between the mental toughness of staff and their pupils.

The programme

The Outline Proposal

Assessing Pupils and their "life skills" development.

The programme tested all pupils, using the MTQ48 psychometric, at the start of the 2017/18 academic year - in the first two weeks before any significant development activity takes place. This has been completed.

Subsequently we test all the same pupils at the end of the academic year - probably immediately after completion of GCSEs and A Levels.

The Potential Outputs and Outcomes.

The study enables the following analyses to be carried out:

- The patterns of mental toughness scores across year groups - to what extent there is progression through the school
- The patterns of mental toughness scores over the academic year for each year group. How do young people develop?*
- The same analyses split by gender.

If we can gather additional data efficiently and cleanly, we can also carry out analyses, which correlate mental toughness scores with

- Attainment - exam and test results
- Attendance
- Participation in sports or other extracurricular activities
- Behavioural assessment

Assessing Staff

All staff were similarly assessed using the MTQPLUS (which includes the MTQ48). This will provide a picture of the mental toughness aspects of school culture and will enable two important observations:

- Where there is a correlation between pupils scores and staff scores generally
- What might be development needs for staff.

*The study can be enhanced if we are able to identify specific activities to which pupils are introduced in each academic year. For example, if they attend an outdoor experiential event This enables us to assess to some extent the impact of those activities in developing key soft skills

Executive Summary

This report sets out the key outputs from the initial collection of data on pupils and staff in the school and seeks to compare the data where possible with equivalent data from Independent and state schools. It is a purely quantitative study and represents a “snap shot in time”. No qualitative work was undertaken at this time.

The initial phase of study examined to what extent pupils possessed a flexible mindset (i.e. were likely to possess soft skills). Few schools specifically targeted a specific model or framework for mindset or aspects of mindset in their work with their pupils although most or all sought to develop broader life skills or what are often called soft skills.

The Mental Toughness 4 Cs framework (Control, Commitment, Challenge, Confidence) is very well evidenced and it is generally recognised as embracing most of the models which today are used to develop “character and resilience” in young people. The framework serves to standardise what individual schools do and enables useful and meaningful comparisons to be made.

Understanding Mental Toughness is considered important because it is developable and closely correlated with attainment, wellbeing, behaviour, and transition change. For example, Mental Toughness, as measured by the MTQ48 accounts for 25% of the variation in performance in young people. The outputs are interesting and, in their turn, they raise some interesting questions. Such is the nature of this kind of work. All data collected, for pupils and for staff, show good spreads of results consistent with a normal distribution., We can be confident that the measures are reliably gathering data about Mental Toughness.

The key findings were:

MTQ48 Measure Overall Analyses.

Generally, when looking at overall data, state school pupils appear to achieve small but significant higher Mental Toughness scores than independent schools in the 2017 ISC study. In turn these are also higher than average scores seen in a large sample of state schools.

Table showing Mental Toughness Scores by factor for all pupils.

	Y7 (27)	Y8 (37)	Y9 (35)	Y10 (32)	Y11 (42)	Y12 (49)	Y13 (42)	Overall (264)
Total Mental Toughness	3.85	4.35	4.26	4.56	3.88	4.39	4.76	4.31
Control	4	4.19	4.4	4.53	4	4.39	4.57	4.31
Emotional Control	4.63	4.32	5	4.44	4.69	4.88	4.6	4.66
Life Control	3.67	4.11	3.8	4.44	3.57	3.86	4.6	4.01
Commitment	4.22	4.43	3.97	4.63	4.17	4.31	4.71	4.35
Challenge	3.89	4.54	4.46	4.28	3.83	4.57	4.55	4.33
Confidence	4.19	4.46	4.49	4.59	3.93	4.73	4.76	4.47
Confidence in Abilities	4.78	4.89	4.43	4.38	3.71	4.67	4.5	4.47
Interpersonal Confidence	3.59	4.03	4.43	4.75	4.57	4.59	5.12	4.49
ISC Study - Total Mental Toughness	4.4	4.23	3.9	4.14	4.16	4.31	4.47	4.26
<i>State School data (approx.)</i>								<i>3.94</i>

The data shows a general and steady progression through year groups. This is interesting because many studies (including the ISC study) show a dip in years 8 and 9. The low score at Year 7 can be explained by the fact that pupils were assessed in first two weeks of transition to the senior school. The ISC study assessed pupils later in Year 7 (this would slightly affect the overall score for the whole school).

Scores at Years 12 and 13 are significantly higher than equivalent scores from the ISC study (and higher than scores generally in State schools). These scores would place the school in the upper quartile of independent schools in the 2017 study. This suggests that the school is effective at developing life skills during the pupil's life in the school especially at that point where they prepare to transition to HE/FE or work.

Scores at Year 11 need some consideration. The highest scores are achieved around Emotional Control (less likely to respond emotionally to events) and Interpersonal Confidence (more likely to express themselves). The Lowest score is achieved with Life Control (otherwise described a self-worth and where the sense of "can do" sits). However, it is almost exactly in line with scores found in independent schools generally. One hypothesis is that this might reflect teaching style adopted. Developing Life Control might usefully be a general focus for attention. Otherwise there is a reasonable balance between most of the factors.

Analyses by Year Group.

As noted earlier, there is little evidence of the U shaped curve (low scores at Year 8 and 9) found in most other studies.

Analyses by Gender.

The data shows a significant difference between overall Mental Toughness scores for males and females with male scores being significantly higher. This is seen consistently across most studies on adolescents in secondary school.

Males scores generally progress steadily through their life in the school. Female scores do dip in years 10 - 12. Interestingly, both score almost exactly the same in Year 7. Again, this consistent with what we have seen elsewhere. Male pupils score significantly higher than female pupils on the Control, Challenge and Confidence scales. Female pupils score higher on Commitment. Males scores in year 13 for Challenge and Confidence (all scales) are exceptionally high. The norm for adults is 5.50. These scores are higher than this.

Table showing Mental Toughness Scores by factor for MALE pupils.

	Y7 (13)	Y8 (18)	Y9 (19)	Y10 (17)	Y11 (21)	Y12 (25)	Y13 (11)	Overall (124)
Total Mental Toughness	3.85	4.33	4.32	5	4.14	4.8	5.64	4.55
Control	3.92	4.39	4.58	4.94	4.38	5	4.82	4.6
Emotional Control	4.54	4.83	5.21	4.88	5.48	5.84	4.64	5.16
Life Control	3.46	4	3.74	4.65	3.48	3.96	4.64	3.95
Commitment	4	4.22	3.74	4.94	4.04	4.32	5	4.28
Challenge	3.62	4.39	4.42	4.71	3.95	4.96	5.64	4.51
Confidence	4.54	4.44	4.74	5.18	4.38	5.24	6.09	4.9
Confidence in Abilities	5.08	4.67	4.68	4.71	3.9	4.92	6.36	4.79
Interpersonal Confidence	4	4.28	4.37	5.35	5.1	5.32	5.36	4.85
ISC Study - Total Mental Toughness	4.4	4.23	3.9	4.14	4.16	4.31	4.47	4.56

Table showing Mental Toughness Scores by factor for FEMALE pupils.

	Y7 (14)	Y8 (19)	Y9 (16)	Y10 (15)	Y11 (21)	Y12 (24)	Y13 (31)	Overall (140)
Total Mental Toughness	3.86	4.37	4.19	4.07	3.62	3.96	4.45	4.1
Control	4.07	4	4.19	4.07	3.62	3.75	4.48	4.04
Emotional Control	4.71	3.84	4.75	3.93	3.9	3.88	4.58	4.22
Life Control	3.86	4.21	3.88	4.2	3.67	3.75	4.58	4.06
Commitment	4.43	4.63	4.25	4.27	4.29	4.29	4.61	4.41
Challenge	4.14	4.68	4.5	3.8	3.71	4.17	4.16	4.16
Confidence	3.86	4.47	4.19	3.93	3.48	4.21	4.29	4.09
Confidence in Abilities	4.5	5.11	4.13	4	3.52	4.42	3.84	4.18
Interpersonal Confidence	3.21	3.79	4.5	4.07	4.05	3.83	5.03	4.16
ISC Study - Total Mental Toughness	4.4	4.23	3.9	4.14	4.16	4.31	4.47	4.00

Analysis of Mental Toughness scores for staff.

Table showing Mental Toughness Scores by factor for ALL STAFF and by 3 Categories of Staff

	All Staff (56)	Male Teach (16)	Female Teach(23)	Support (15F.2M)
Total Mental Toughness	5.45	6.38	5.17	4.94
Control	5.84	6.56	5.57	5.53
Emotional Control	5.55	6.31	5.17	5.35
Life Control	5.93	6.31	5.83	5.71
Commitment	5.45	5.63	5.52	5.18
Goal Orientation	5.63	6	5.7	5.18
Achievement Orientation	5.5	5.56	5.61	5.29
Challenge	5.34	6.25	5.13	4.76
Risk Orientation	5.2	6	5.09	4.59
Learning Orientation	5.39	6.56	4.91	4.94
Confidence	5.36	6.31	5.17	4.71
Confidence in Abilities	5.25	6.13	5.04	4.71
Interpersonal Confidence	5.64	6.69	5.52	4.82

Overall, all staff have an average score of 5.45. This is broadly in line with the general population (the average “person in the street” would score 5.50). We might expect teachers to score slightly higher on average. However, these results are consistent with, and generally higher than results for teachers and senior staff in schools seen elsewhere in state education. Samples for independent schools are still small but these results are broadly in line with these.

What is especially interesting is the significant difference in scores for male and female teaching staff. Only in one area, Commitment, are scores comparable. Female teacher Confidence in Abilities is particularly interesting. This is alternatively described as where Self Belief sits. This would be a productive area for staff development.

Support Staff scores are lower than Teaching staff scores. This is not unusual. However, there would be benefit at examining how this might be developed. It could increase engagement.

Table showing Mental Toughness Scores by factor for ALL STAFF and by Teaching Staff in Senior and Junior School

	All Staff (56)	Senior Teach (27)	Junior Teach(12)
Total Mental Toughness	5.45	5.74	5.5
Control	5.84	6.19	5.5
Emotional Control	5.55	5.78	5.33
Life Control	5.93	6.19	5.67
Commitment	5.45	5.41	5.92
Goal Orientation	5.63	5.52	6.5
Achievement Orientation	5.5	5.52	5.75
Challenge	5.34	5.59	5.58
Risk Orientation	5.2	5.49	5.42
Learning Orientation	5.39	5.63	5.5
Confidence	5.36	5.96	4.92
Confidence in Abilities	5.25	5.56	5.33
Interpersonal Confidence	5.64	6.48	4.92

Scores for teaching staff in senior school are on average higher than for teaching staff in junior school. The pattern varies between scales.

- Commitment scores are higher in junior schools
- Challenge Scores are broadly the same in both schools
- Control and Confidence scores are significantly higher in senior school

Table showing Mental Toughness Scores by Gender for ALL STAFF

	All Staff (56)	Male Staff (18)	Female Staff (38)	M/F Diff
Total Mental Toughness	5.45	6.22	5.08	1.14
Control	5.84	6.61	5.47	1.14
Emotional Control	5.55	6.39	5.16	1.23
Life Control	5.93	6.28	5.76	0.52
Commitment	5.45	5.61	5.37	0.24
Goal Orientation	5.63	5.83	5.53	0.3
Achievement Orientation	5.5	5.61	5.45	0.16
Challenge	5.34	6.06	5	1.06
Risk Orientation	5.2	5.83	4.89	0.94
Learning Orientation	5.39	6.33	4.95	1.38
Confidence	5.36	6.06	5.03	1.03
Confidence in Abilities	5.25	5.89	4.95	0.94
Interpersonal Confidence	5.64	6.61	5.18	1.43

Male and Female staff scores are significantly different. Except for Commitment, the differences are statistically significant. This merits further discussion. Male and female workers and male and female pupils/students will often look at those in charge as role models. Pupils scores show similar gender differences. It might be that this is a factor.