

Impact case study (REF3b)

Institution: Leeds Trinity University
Unit of Assessment: Sport and Exercise Sciences, Leisure and Tourism
Title of case study: Mental Toughness: Measurement and its Impact on Performance.
<p>1. Summary of the impact</p> <p>The impact of International Centre for Mental Toughness Development (ICMTD) research has primarily been on increasing the mental toughness of young people and improving their attitudes to learning. This has been achieved through Perry’s involvement in numerous educational projects working with vulnerable young people at risk of becoming NEET (Not in Education, Employment or Training). Specifically, mental toughness has been found to improve the performance, behaviour, and wellbeing of individuals. His research has been spread among several countries, ensuring a global impact and significant reach.</p>
<p>2. Underpinning research</p> <p>The research is a progression of collaborative work conducted with the University of Hull (Dr Peter Clough, Dr Keith Earle and Dr Adam Nicholls) and University of Lincoln (Dr Lee Crust). Of late, key developments in research involving John Perry (Senior Lecturer, Leeds Trinity University, 2010 – present), have (a) established the validity of the MTQ48 model and the questionnaire, (b) established the relationships between mental toughness and performance and (c) established the relationships between mental toughness and psychological health and wellbeing.</p> <p>Clough, Earle and Sewell (2002) conceptualised mental toughness as the quality that determines how people effectively deal with challenge, stressors and pressure, irrespective of prevailing circumstances. In doing so, they presented the 4Cs model; challenge, commitment, control, and confidence, which was measurable through a questionnaire, the Mental Toughness Questionnaire-48 (MTQ48). This questionnaire is the most widely-used assessment of mental toughness globally and in 2013, it is expected to be used by 2,700 test centres in business, health, sport, and education, across 86 countries. Despite its widespread use, the factorial validity had not been rigorously examined. After questions were raised in published literature, Clough, Earle, Perry and Crust (2012) defended the validity of the MTQ48, citing support for its criterion validity, before Perry, Clough, Crust, Earle and Nicholls (2012) presented robust support for the factorial validity of the measure using a sample of 8207 and a series of confirmatory factor analyses and exploratory structural equation models. This large, heterogeneous sample was collected from subsamples in senior management, lower and middle management, clerical/administrative staff, athletes, and students. Examining single-factor, four-factor, and six-factor models, Perry et al. reported satisfactory model fit in all samples. Further, with the exception of control of emotion, all subscales yielded good reliability.</p> <p>Working with collaborators at the University of Basel (Gerber et al, 2012) Perry has shown that mental toughness is linked to mental health. The results showed that mental toughness mitigated against the relationship between high stress and depression in adolescents. It is argued that improving mental toughness may be an effective way of enhancing mental health in groupings that are difficult to reach by more typical health interventions.</p> <p>Perry’s role in this recent research has been primarily as a psychometrics expert. In the response paper (Clough et al., 2012), Perry wrote a significant section on the statistical assessment of measurement scales. This was one of three major points made in the paper. The paper on the factorial validity was led by Perry, as the main work on the paper required complex data analyses.</p>

In the Gerber et al. paper, Perry again offered his statistical input.

3. References to the research

- Clough, P. J., Earle, K., **Perry, J. L.**, & Crust, L. (2012). Comment on “Progressing measurement in mental toughness: A case example of the Mental Toughness Questionnaire 48” by Gucciardi, Hanton, and Mallett (2012). *Sport, Exercise, and Performance Psychology*, 1, 283-287. doi:10.1037/a0029771 [Impact Factor = N/A, APA journal only one year old]
- Gerber, M., Kalak, N., Lemola, K., Clough, P. J., **Perry, J. L.**, Pühse, U., Holsboer-Trachsler E., & Brand, S. (2012). Are adolescents with high mental toughness levels more resilient against stress? *Stress Health*. doi:10.1002/smi.2447 [Impact Factor = 1.229]
- **Perry, J. L.**, Clough, P.J., Crust, L., Earle, K., & Nicholls, A. (2013). Factorial validity of the mental toughness questionnaire-48. *Personality and Individual Differences*, 54, 587-592. doi:10.1016/paid.2012.11.020 [Impact Factor = 1.877]

These papers are all in peer-review journals. The ‘Factorial validity of the mental toughness questionnaire-48’ paper was also presented at the British Psychological Society (BPS) Northeast and Northwest Annual Conference in Manchester in November 2012. For this, Perry won an Early Career Researcher award and wrote an article for the Northeast BPS Newsletter. Perry also supplied a shortened version of the mental toughness questionnaire and an article on it to the Dutch version of popular magazine, *Psychology Today*, after being contacted by the editor. Most recently, Perry was invited to speak at the International Psychology Conference, Dubai, on mental toughness. This was the first internal psychology conference held in the Gulf, where the model of mental toughness presented by Clough, Perry and others is widely used.

4. Details of the impact

Perry is a founding member of the International Centre for Mental Toughness Development, which is run by AQR Ltd, an international test publisher and business consultancy. As a group, there are currently several key current projects demonstrating an educational impact.

The validation of the MTQ48 has proved important for a number of educational bodies who use it as routine. For example the Institute of Leadership & Management (ILM) is the UK’s largest management body, combining industry-leading qualifications and specialist member services. In 2011, 90,000 people gained an ILM qualification. The MTQ48 is available free of charge to its members and is incorporated into a number of their courses. Also, in 2011, Dubai Women’s College established the Middle East’s first mental toughness centre for education. This will act as a hub for the International Centre for Mental Toughness Development in the U.A.E.

There are presently several ongoing funded projects to demonstrate the educational impact. These include:

Right Track Project- Department for Education funding was awarded to ‘Reach for the Right Track’ project (<http://www.reachfor.org.uk/right-track-project>) to address the Improving Outcomes Theme 6 priority: Early intervention to increase participation by, and improve the achievements of, disadvantaged young people. Right Track is an initiative delivering bespoke packages of support to 4,500 young people (school years 6, 9, 10 and 11) from across the United Kingdom, including

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Mental Toughness assessments (validated by Perry) and a ten-week coaching programme (developed by Dr. Clough at University of Hull) in order to improve attainment, attendance, behaviour and ultimately progression of the target cohort. Initial evaluation has shown that 49% of the sample increased their mental toughness over this time period. Of this group, the average increase in mental toughness was 19%. The impact of this was that those indicating a desire to study full-time after year 11 rose from 17% to 28%, pupils indicating that they liked being at school rise from 53% to 60%, and pupils believing that “teachers are always getting at me” dropped from 40% to 29%. Teacher feedback was similarly positive, suggesting that 45% of pupils improved their behaviour, 33% improved their attendance, and 46% improved their work in class. Indeed, attendance data highlights that of those pupils with attendance below 85% at the beginning of the project, 73% improved their attendance (on average, by 6.2%).

The main input from Perry in this project is two-fold. Firstly, he conducted the statistical analysis from the first phase of the project. Secondly, he has been central to the development and validation of a career management tool, “Carrus”, which assesses ability and behaviour-based personality traits, creating reports to help career management for young people, which is to be provided alongside the MTQ48.

Greater Merseyside Connexions (GMC) have started a 3-year project working with 3,900 vulnerable young people mostly aged 14-16. The purpose is to identify ways of preventing these becoming labelled as NEETs (Not in Education, Employment or Training). It includes people in public care, people with a learning difficulty and young offenders. GMC are keen to work with Leeds Trinity to improve the behaviour and attendance of the young people, and to help them acquire qualifications and employment, by testing and improving mental toughness.

HULT International Business School run the biggest international MBA programme in the world across 6 campuses; London, Boston, San Francisco, Shanghai, Dubai and Sao Paulo. They are about to open a seventh in New York. For the last year they have been using the MTQ48 on all students at the beginning and end of their MBA and are then tracking their employment post-graduation.

Mental toughness is not just beneficial to students, but to teachers also. Teaching Leaders (TL) is an organisation aiming to develop what they refer to as “middle leaders” to enable them to take up more senior positions in education. There are currently around 200 middle leaders on the TL Fellows programme. They are regularly assessed by themselves and peers against a competency framework to track their development. They are also participating in a project with Perry and Clough to assess their mental toughness throughout the period and they have received training to enhance this mindset. Halfway through the project, one year in, performance against the competencies has significantly improved in all areas. Analysis conducted and presented by Perry show that this is partially attributable to mental toughness.

From his work on mental toughness and the impact on education, Perry was invited to give a day’s training to the Oman Ministry of Higher Education at London South Bank University in November 2013. Further, he has been asked to conduct additional research regarding higher education in partnership with City and Guilds in 2014 across several nations in the middle east.

5. Sources to corroborate the impact

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- (1) Interim formal evaluation of **Right Track** project available on request. Once the evaluation is complete it will be publicly available at: <http://www.reachfor.org.uk/right-track-project>.
- (2) Kieran Gordon, Chief Executive, **Greater Merseyside Connexions**: corroborating lower levels of stress and better performance of managers.
- (3) **Centre for Mental Toughness in Education in Dubai**:
<http://news.hct.ac.ae/2011/10/dwc-launches-the-middle-east-first-mental-toughness-center-for-education/>
- (4) **Teaching Leaders** fellow programme curriculum: <http://www.teachingleaders.org.uk/wp-content/uploads/2012/11/Curriculum.pdf>