MENTAL TOUGHNESS: IS IT THE KEY TO ACADEMIC SUCCESS?

This paper explores the relationship between mental toughness and end-of-semester grades in university students.
Mental toughness (MT) is a multidimensional psychological construct that conceptualises the way in which individuals respond to adversity and recover from setbacks. Students in sports-related studies who are high in MT, are reported to not only be more resilient in stressful situations, but flourish in them. Clearly, these constructs are characteristics that are fundamentally important in dealing with the challenges of higher education. One point to note is that much of the research leading to the development of these components has been conducted in the area of sports and students for studying sports-related degrees. Therefore, the recent concern is whether this can be applied to students on other degree courses.

Cognition and mental toughness
Studies are emerging that have reported that MT is associated with cognitive functioning and ultimately achievement and progression. Dewhurst et al. (2009) reported that those high in MT were less distracted by irrelevant information during a memory task. This indicates that mental toughness helps individuals to remain focussed on current goals with less interference from unnecessary intrusion. Furthermore, Hardy et al. (2014) found that mental toughness was associated with complex task learning in particular on the MT sub-scale that related to self-belief. Their finding appears supported by the research of Crust et al. (2014) who reported that there was a positive correlation between MT, grades and ultimately progression in university students studying for a sport degree. That is, the higher the MT score the higher the grades, hence the student is more likely to remain in HE and progress.

What is ‘mental toughness’?
Mental toughness (MT) is a multidimensional psychological construct that conceptualises the way in which individuals respond to adversity and recover from setbacks. Students in sports-related studies who are high in MT, are reported to not only be more resilient in stressful situations, but flourish in them. Clearly, these constructs are characteristics that are fundamentally important in dealing with the challenges of higher education. One point to note is that much of the research leading to the development of these components has been conducted in the area of sports and students for studying sports-related degrees. Therefore, the recent concern is whether this can be applied to students on other degree courses.
Gender differences in mental toughness
An area that has been given little attention is that of possible gender differences in mental toughness. One of the few studies to have systematically investigated these potential differences is that of Nicholls et al. (2009). However, it should be noted that this research was again conducted on athletes and individuals studying sports related degrees. The researchers reported that males were significantly higher in MT in comparison to females on total MT scores as well as on the subscales of ‘control-of-life’, ‘control-of-emotion’, ‘confidence-in-abilities’ and ‘challenge’. Nicholls et al. suggest that this could be due to differences in the way males and females express mental toughness or reflect socialisation differences. This difference in scores therefore does not necessarily mean that females are less mentally tough than their male counterparts, but they may exhibit MT in different ways perhaps due to social expectations. It is also possible that both males and females give socially desirable answers and the differences in scores could reflect this. For example, females may be reticent to give answers that suggest aggression whereas the converse may be true of male. That is, males may feel pressured to give responses that suggest high levels of aggression. Thereby, perceived gender difference might reflect the giving of social acceptable answers. However, it does seem that this is an area that needs further consideration as the number of females entering HE has increased substantially and HESA figures for 2013/14 reveal that 56% of students entering University are females. If the scores to reflect a real difference in MT between males and females then this could have an impact on attrition and attainment.

The role of age and experience in mental toughness
Nicholls et al. (2009) also investigated the impact of age in their study and found that it was a significant predictor of MT scores. Given the age of a typical student entering HE this would seem to highlight a potential area of vulnerability. That is, the majority of students transitioning into higher education are 18-19 years old, who may have not yet reached a degree of mental toughness necessary for the rigours of higher education. Further to this, Nicholls et al. also reported that years of experience (as an athlete) was a significant predictor of mental toughness. As the authors point out, age and experience are likely to be highly correlated. However, it is possible to have a mature student who is new to higher education, thereby having age but lacking in recent education experience. This does seem to suggest that research should consider age and experience as factors that could have an impact on levels of mental toughness.

Research in higher education
It is important to note that research on mental toughness was initiated in the area of sport and has been advanced further in the area of occupational psychology. It is only more recently that studies have endeavoured to investigate the role that mental toughness may play in higher education. While studies such as Crust et al. (2014) offer some insight into mental toughness in HE, this and other studies have been mainly conducted on students studying for sport-related degrees.

One of the aims of the present study is to investigate whether HE students who report higher mental toughness are more likely to be academically successful than those reporting lower mental toughness. A further aim is to gain further insight into the role of affect, that is, positive and negative emotions, in academic success. Given that there are also some indications that gender and age may have an influence, both factors were taken into consideration.

An opportunity sample of 161 undergraduate students, 120 females (age range 18-48) and 41 males (age range 18-28) took part in a survey. Participants were asked to fill out two questionnaires to assess mental toughness and affect (emotion). The first questionnaire was the “Mental toughness Questionnaire 48” (MTQ48) (Clough et al. 2002) a 48 item validated questionnaire with the subscales as described above. This has a 5 point Likert scale where participants rate a number of statements on a scale of 1 (strongly disagree) to 5 (strongly agree). The
second questionnaire was the “Positive and Negative Affect Scale” (PANAS) (Watson et al. 1988). Participants are asked to rate 10 positive mood descriptors and 10 negative mood descriptors as to how closely they reflect their mood state on a scale of 1 to 5, where 1 = slightly/not at all and 5 = extremely. With the students’ permission their questionnaire data was compared to their mean end of year mark.

Findings of the present study
Analysis was conducted separately for males and females and age was accounted for within the analysis by using partial correlations that removed any confounding effects of age. However, given the low number of male participants these results for males should be treated with caution. Interestingly in females, there was a negative relationship between grades and ‘control-of-emotion’ and a negative relationship between ‘confidence-in-abilities’ and grades. Indicating that as control-of-emotion and confidence-in-abilities increased grades decrease. This could suggest that there is an element of over-confidence that perhaps leads female students to take less notice of the requirements of an assignment than they should. The negative relationship between control-of-emotion and grades may indicate a lack of emotional engagement in their studies. In males there was a positive relationship between grades and commitment. That is, the more committed male students are to their chosen course of study, the higher their grades.

As might be predicted by the research of Crust et al. (2009) there were no relationship between the PANAS and grade in females. While it is as predicted, this would seem to be at odds with the correlation between grade and control-of-emotion. That is, given that control-of-emotion is related to grades it might be expected that the PANAS that directly measures emotion does not show a similar relationship with grades. As such, this seems to be difficult to easily explain and perhaps requires further investigation. Surprisingly, for males there was a positive relationship on the positive PANAS scale and grade, that is the higher the positive emotion the higher the grade. This seems to indicate that having positive affect (emotion) is related to academic outcomes in males.
Females who believe that they are in control of the outcomes, engage in their studies to a greater extent than those with lower mental toughness. Given the perception of greater emotionality in females, the finding that control-of-emotion has little impact comes as something of a surprise.

**Conclusion**

The above are the preliminary findings and data is still being collated at this time. It is hoped that with more data some of the above findings will be clarified particularly the gender difference by an increase in male participants. To summarise the findings to date, confidence-in-ability and control-of-emotion were found to have a negative impact on performance. In HE we try to instil a sense of confidence in students, however this research suggests that students should be cautioned against being overly confident. Furthermore, high levels of control-of-emotion may be indicative of lack of emotional investment in studies which relates to a negative performance. This could suggest that lack of emotional investment is an important factor in academic success that needs further investigation.

As an institution we should consider ways in which emotional investment in studying can be encouraged in our students. Arguably, one of the most important findings is the positive relationship between control-of-life and grades. It is perhaps unsurprising to those teaching in HE that students who see their attainment as being in their control have better outcomes than those who do not. The problems we face is engendering in students control-of-life, that is, a sense that their attainment is within their control and not externally driven.

**About the authors**

Dr Frances Hunt is a Senior Lecturer in Psychology and Senior Fellow of the Higher Education Academy
Dr Lee Usher is a Lecturer in Psychology and Fellow of the Higher Education Academy
Dr Liory Fern Pollak is a Lecturer in Psychology and Fellow of the Higher Education Academy
Dr Rosemary Stock is a Lecturer in Psychology and Senior Fellow of the Higher Education Academy
Dr Siobhan Lynam is a Lecturer in Psychology and Fellow of the Higher Education Academy
Dr Moira Cachia is a Senior Lecturer in Psychology and Fellow of the Higher Education Academy

**Keywords**

Mental toughness, higher education, student attainment
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