Facing your Fears: How Mental Toughness and Incremental Theory Combat Feelings of Anxiety

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Anxiety is a problem ubiquitously experienced by every human being alive, and something this author feels on a daily basis. An effective way to combat feelings of anxiety is to develop a growth mindset, as defined by Carol Dweck, which will increase one's mental toughness and prepare them to face their fears head-on. To better understand why this is the case, several terms must first be defined and expanded upon, namely the concepts of mental toughness, growth mindsets, and of course anxiety itself.

Mental toughness is a term many people colloquially use every day, yet surprisingly has no unanimously agreed upon, concrete definition. Most people use the term fairly generally to refer to a person's ability to cope with difficult situations. This is fairly accurate, yet is still too broad. Numerous attempts have been made to aptly define this concept since 2002, most notably by Graham Jones, Daniel Gucciardi, and Peter Clough. However, even these definitions have limitations: most research has been conducted strictly in the context of competitive sport coaches and athletes. Moreover, studies suggest that even research within this narrow context is not entirely cohesive. A 2011 study by W. E. Narrow, Lee Crust and Christian Swan comparing different methods of measuring mental toughness shows that "results suggest instrument subscales with similar labels are not measuring the same components of mental toughness." Mental toughness is such a broad concept that any attempt to quantify it as a single measurement will be insufficient; multiple levels must be used instead. The most apt and applicable definition of mental toughness is Clough and Earle's. They argue that mental toughness "represents a constellation of positive psychological variables that help to buffer the harmful effects of stress and allow individuals to perform consistently well regardless of situational factors" (Clough, Earle, & Sewell, 2002). Their definition views mental toughness as a personality trait consisting

of many different parts, most prominently the ‘four Cs:’ confidence, control, commitment, and challenge. They refer to mental toughness as “a concept with broad application that should not be limited to the sports domain” (Clough et al. 2002), and have strongly encouraged more research to be conducted on the topic. This is the definition that will be used within this paper.

Confidence, control, commitment, and challenge together are an effective way of establishing true mental toughness. Clough’s questionnaire designed to measure mental toughness in these modalities, termed the MTQ48, defines them as follows. Confidence is the self-belief individuals have in their own abilities. People with a high confidence score are more likely to stand their ground and express their ideas. Control is the extent to which individuals can control the emotions they display. People with high control scores are better able to force themselves to do things, and more easily remain calm in emotionally distressing situations. Commitment is the extent to which an individual is willing to set goals they actively work towards. People with high commitment scores are more likely to accomplish their tasks and are generally seen as more reliable. Finally, challenge is the extent to which an individual is willing to have new experiences and push themselves out of their comfort zone. People with high challenge scores are more likely to learn from new experiences, and tend to be more creative as well (Clough et al., 2002).

The next term which is ambiguously defined with no clearly agreed-upon meaning is mindset. The concept of mindsets is once again something many people colloquially refer to in everyday life, yet oftentimes don’t truly understand. Mindset can be defined in one sense as a person’s worldview, or philosophy of life. However, problems arise with this definition, as worldview and philosophy of life are also both poorly defined terms. Mindset is also frequently

used in social sciences and politics to describe the general zeitgeist of a time, and the sudden shifts therin. In this context, the term would be used to describe things like the "Cold War mindset" or the mindset shift apparent in the French Revolution. However, this paper is primarily interested in the concept of mindset through the lens of cognitive psychology. Scientific study of the term mindset in this field initially began in the early 1900s, and expounded upon by P. M. Gollwitzer in the early 1990s. Interest in the term has exponentially increased since then, and prominent researchers have developed theories that outline several different definitions and types of mindsets. Most notable research on the term has in some way been shaped by Carol Dweck, a professor at Stanford University and the leading proponent of the concept of implicit theories of intelligence. The gist of her theory is that one's beliefs about intelligence can influence learning success through top-down biasing of attention and conceptual processing towards goal-congruent information (Mangels et al., 2006). Based on this assumption, she divides mindsets into two main categories: Fixed and Growth mindsets. Those who believe intelligence is a static trait that cannot be increased have a fixed mindset, while those who believe intelligence is malleable have a growth mindset. Individuals with a fixed mindset are termed entity theorists, while individuals with a growth mindset are termed incremental theorists (Mangels et al., 2006). Although recent research has cast some doubt on this theory (Park & Kim, 2015), the general consensus remains that adhering to incremental theory and developing a growth mindset allows individuals to reach higher levels of performance and achievement in their lives. This follows logically from the basic assumption that adopting a growth mindset leads to a desire to learn new things and better yourself as a person (Dweck, CS & Leggett, EL, 1988).

This mindset makes you more likely to embrace challenges as opposed to simply avoiding them, shown in Dweck's 1998 elementary school experiment. In six separate studies, individuals who were praised for their inherent intelligence (and later described intelligence as a fixed trait) performed statistically worse than individuals praised for their hard work and effort. After failing challenges, they displayed less task persistence, less task enjoyment, more low-ability attributions, and worse task performance than children praised for effort (Dweck, CS & Mueller, CM, 1998). In a similar vein to this, a growth mindset has also been shown to increase one's tendency to persist in the face of setbacks, academic or otherwise. Paunesku and colleagues conducted an experiment in 2015 which involved giving academically underachieving students mindset-related interventions. These interventions made the students more likely to persist when they experienced academic difficulty, shown by how the rate at which the students performed satisfactorily in core classes increased by 6.4% (Paunesku, et al. 2015). A third study conducted with the purpose of determining methods of repairing self esteem shows has also produced telling results. The study shows that when one's self esteem is damaged, entity theorists tend to devensively repair their self-esteem, while incremental theorists opted instead for self-improvement (Nussbaum, DA & Dweck, CS, 2008). This means that people with a growth mindset are more likely to better themselves when their ego is damaged, such as when they see someone else succeed instead of themselves. This reaction is exactly the same as the characteristics of one of the key components of mental toughness: challenge. By adopting a growth mindset, it seems as if one can gain mental toughness in at least one of the four major categories. Several questions arise from here this conclusion: Can mental toughness be increased

in the first place, or is it hereditary? If it can be increased, how can a growth mindset be developed such that that is possible?

Increasing one's mental toughness has been a subject of much interest in the wider community of cognitive science. The conclusion Clough and Crust have come to is that while a part of mental toughness can be attributed to genetics, it can still be developed in almost anyone (Crust & Clough, 2011). They place a particular amount of emphasis on the formative years of one's life, which is supposedly the easiest time to develop such skills. They identify the largest factor contributing to the development of mental toughness as the presence of strong role models and mentors, such as parents and coached. Other studies aiming to ascertain the source of mental toughness corroborate this fact as well (Connaughton, Wadley, Hanton, & Jones, 2007) (Coulter, Mallett, & Gucciardi, 2010). This is because the key to mental toughness is the development of independent problem-solving and personal responsibility in a challenging yet supportive environment. To develop mental toughness, one must be gradually exposed to new and challenging situations in order to learn how to cope (Crust & Clough, 2011). It seems that once the challenge component of mental toughness is met, the rest follows naturally. This means not only that mental toughness can be developed, but also that adopting a growth mindset would unquestionably play a key role in developing it. Research on mindsets supports this conclusion as well, stating that students who believe intelligence is malleable (incremental theorists) tend to rebound better from occasional failures (Mangels et al., 2006). Mental toughness is most commonly seen in children who have strong role models, because good role models will push children out of their comfort zones and toward excellence in their lives, forcing them to learn the skills necessary to survive. However, it is not necessary to have a strong role model or figure of

authority to push one beyond their boundaries; although it certainly helps, the same result can be accomplished by adopting a growth mindset and pushing those same boundaries yourself. The question remains, then, of how to adopt a growth mindset in the first place.

Numerous studies have shown that in many contexts, embracing a growth mindset and belief in incremental theory seems to objectively benefit your performance, self-esteem, achievement, and most importantly mental toughness. It seems almost too good to be true, then, that Dweck postulates anyone can cultivate this mindset. The first and most important step to switching mindsets is simply learning about it; once you become aware of the intricacies of the growth mindset, the rest comes much more quickly (Blackwell & Dweck, 2007). It's like Alcoholics Anonymous: acceptance is the first step. In a study on how implicit theories of intelligence predict achievement in adolescents, it was found that teaching an incremental theory to seventh graders promoted positive change in classroom motivation, and reversed the downward trajectory of grades among the students (Blackwell & Dweck, 2007). Beyond simply learning about incremental theory, the next best thing to do is to try to be actively aware of it. This means being observant of the actions you take, intentionally pushing your boundaries, and learning as much as possible. Many of these things also come as the result of a growth mindset, so it may seem counterintuitive to claim that the best way to develop this mindset is to do them. However, human beings are defined by the actions we take, so the best way to form a mindset it to repeatedly take action in a manner conforming to that mindset. It's like forming a brain habit. Once a growth mindset has been established, one's mental toughness will naturally increase. This in turn will greatly help one deal with anxiety problems.

The final and perhaps most important concept to be defined is anxiety. Anxiety is, in its most basic sense, a fundamental human emotion just like affection, boredom, and sorrow, and is commonly experienced as a normal reaction to the freedom and responsibility of making decisions. It is generally not seen in a very positive light, and much like mental toughness is often used as a blanket term for a swath of more specific concepts. People frequently say they "have anxiety" in multiple situations; either they're feeling the emotion anxiety at the time, or are referring to the fact that they possess an actual anxiety-related disorder, or both. Spielberger's Trait-State Anxiety Theory attempts to distinguish between the two. According to Heinrich and Spielberger, "this theory distinguishes between anxiety as a transitory emotional state (A-State) and as a relatively stable personality trait (A-Trait), and specifies the conditions under which different levels of A-State are around in persons who differ in A-Trait" (Krohne & Laux, 1982, p. 145). Simply put, A-State refers to people's level of anxiety at a specific moment in time, while A-Trait defines how prone they are to anxiety in general. This means that people with high levels of A-Trait experience high levels of A-State much more frequently. When A-Trait is taken to the extreme, anxiety disorders start to arise. Anxiety disorders are by far the most commonly experienced type of mental health problems in the United States, with conservative estimates placing around 15.1% of adults between 18 and 58 as affected by some kind of anxiety disorder. These disorders include Generalized Anxiety Disorder (GAD), Obsessive-Compulsive Disorder (OCD), Panic Disorder, Post-Traumatic Stress Disorder (PTSD), and Social Anxiety Disorder (SAD), among many others. Anxiety disorders are also closely associated with other mental health problems, including depression, bipolar disorder, and various eating disorders.

All of these anxiety disorders certainly greatly affect the quality of life for one who possesses them. Numerous studies have shown that anxiety disorders and generally high A-Trait levels objectively make one's life worse. According to Susan Orsillo, Lizabeth Roemer, and others, it directly correlates with "higher rates of financial dependence, unemployment, poorer quality of life, and increased risk for completed suicide" (2005, p.4). In addition to these long-term things, anxiety can affect one's ability to make decisions in the moment as well. According to a series of studies designed to measure anxious individuals' performance on tests, "high-test-anxious subjects tend to perform more poorly on cognitive tasks than do low-test-anxious individuals" (Krohne & Laux, 1982, p.108). High-test-anxious individuals spend more time occupied with intrusive thoughts and worrying about their ability, and as a result perform objectively worse. In addition to this, they also have a lower perception of themselves as a result, with Dweck et al. saying that they "are more concerned about how well they are performing and entertain more self-devaluative cognitions during the task than their low-anxious counterparts" (Krohne & Laux, 1982, p.109). This means that all of those self-deprecating memes people post online could be a result of anxiety disorders.

Anxiety disorders are often considered to be hereditary, and there is indeed some truth to this. Studies in psychiatric genetics and the structure of psychopathology have shown that psychiatric disorders such as anxiety are highly polygenic (Smoller et al., 2019). This means that the underlying characteristics of anxiety disorders can be strongly predicted by one's family's genetic history, much like alcoholism, depression, and other assorted health problems. However, genetics are certainly not everything; they may play a much smaller role than people commonly attribute to them. The same study in psychiatric genetics also concluded that while these

psychiatric disorders are hereditary, at the level of genetic etiology, there are no sharp boundaries between diagnostic categories or between disorder and normal variation (Smoller et al., 2019). This means that anxiety disorders such as GAD and SAD are somewhat arbitrarily defined. In reality, anxiety forms an entire spectrum, and it is possible to have an abnormally high A-Trait level while still not meeting the threshold for GAD or some other disorder. In many ways, this is fantastic news. This means that viewed in a certain way, there is almost no such thing as an anxiety disorder at all, only high levels of A-Trait. While defining anxiety in such a way doesn't change any of the feelings someone with high levels of anxiety experiences, it does quite a bit for one's mental game. The mere act of labelling yourself as possessing an 'anxiety disorder' makes that fact seem immutable, when in reality that is not the case. Much like Dweck's fixed and growth mindsets, viewing anxiety instead as a manageable problem everyone experiences to some degree is a giant first step to alleviating anxiety. This is true because reactions to one's own internal experiences may underlie the development/maintenance of anxiety disorders. More specifically, the fear of anxiety-related symptoms and fear of other emotional states have been identified as prominent factors in the development of anxiety disorders (Orsillo & Roemer, 2005, p. 6). Viewing anxiety in this manner makes it less scary, thusly decreasing anxiety.

Cognitive-Behavioral methods of therapy much as this are already part of many popular strategies for combating anxiety. Meta-Analyses of data concerning anxiety confirms that the application of these kind of treatments to Panic Disorder, OCD, GAD, and PTSD is associated with recovery from or improvement in anxiety symptoms (Orsillo & Roemer, 2005, p. 7). With this in mind, there is no reason that applying mental toughness and growth mindset thinking in a similar fashion should not be considered as a viable remedy to anxiety. The biggest contributing

factor as to why this kind of thinking would help reduce anxiety is that it combats experiential avoidance, which is defined as mental and behavioral strategies aimed at changing the form or frequency of one's current internal experience. Research shows that anxiety disorders develop when individuals engage in cognitive and behavioral strategies aimed at reducing or eliminating anxiety-related internal experiences (Orsillo & Roemer, 2005, p. 13). What logically follows is that to avoid or reduce anxiety disorders, it is productive to confront the experience which causes anxiety head-on and deal with it. This may seem counterintuitive at first. After all, wouldn't dealing with anxiety-causing events only trigger even more anxiety? While dealing with the event in the moment may temporarily increase levels of A-State, having faced the problem will help one grow as a person and become better prepared to deal with the problem again in the future. Anxiety disorders are thought to be caused and maintained in part by a disturbance in information processing that leads to an overestimation of danger or perceived threat and an associated underestimation of personal ability to cope (Orsillo & Roemer, 2005, p.10), so addressing the perceived threat head-on will dispel any inaccurate notions of danger. Facing anxiety-causing issues directly requires quite a bit of mental fortitude. However, a longitudinal study of Swiss vocational students has shown that a mindset of mental toughness enables an individual to cope successfully with the pressures and demands of life in the context of school, including relatively high levels of stress and anxiety (Gerber et al., 2013). Extrapolating from this and other previous sources, it is clear that actively developing a growth mindset will result in lower levels of stress and anxiety in one's life, by way of increasing their mental toughness to help them better face their fears.

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