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Mental Fortitude Training™: An Evidence-Based Approach to

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Developing Psychological Resilience for Sustained Success

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## 26 Abstract

27 Drawing on the body of knowledge in this area, this article presents an evidence-based  
28 approach to developing psychological resilience for sustained success. To this end, the  
29 narrative is divided into three main sections. The first section describes the construct of  
30 psychological resilience and explains what it is. The second section outlines and discusses a  
31 mental fortitude training™ program for aspiring performers. The third section provides  
32 recommendations for practitioners implementing this program. It is hoped that this article  
33 will facilitate a holistic and systematic approach to developing resilience for sustained  
34 success.

35 *Keywords:* environment, excellence, intervention, mindset, performance, personal qualities,  
36 resilient, resiliency, sport.

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38                   Mental Fortitude Training™: An Evidence-Based Approach to  
39                   Developing Psychological Resilience for Sustained Success

40           Human history is characterised by our individual and collective desire for  
41 advancement. Since the times of Confucius and Socrates, philosophers have extolled the  
42 virtues associated with humans pursuing worthwhile and challenging ideals. From the  
43 formation of ancient civilizations to the exploration of the cosmos, we have always  
44 endeavoured to extend the frontiers of our experience and accomplishment. Such ambition,  
45 however, brings pressure. Irrespective of the arena, our attempts to progress are accompanied  
46 by internal and external demands that test our capabilities, often to their limits. As  
47 expectations intensify, it is not an overstatement to suggest that only the fittest will survive.  
48 However, merely surviving is not enough to succeed at the highest levels; humans must  
49 thrive on the pressure.

50           Underpinned by resilience-related theory and research, we present a program of  
51 mental fortitude training™ for persons wishing to develop resilience for sustained success.  
52 To begin with, we describe what psychological resilience is. We then outline the main  
53 aspects of the training program and discuss its application to enhance performers' ability to  
54 withstand and thrive on pressure. We then reflect on our experiences of implementing the  
55 program to provide recommendations for professional practice in this area.

56                   **What is Psychological Resilience?**

57           Put simply, psychological resilience refers to the ability to use personal qualities to  
58 withstand pressure. As Fletcher and Sarkar (2013) and others have pointed out (cf. Alexander,  
59 2013; Gillespie, Chaboyer, & Wallis, 2007; McMurry, 2010; Reghezza-Zitt, Rufat, Djament-  
60 Tran, Le Blanc, & Lhomme, 2012; Rogers, 2012), the meaning of the word *resilience* has  
61 evolved somewhat from its Latin origin of *resilire* translated as “to leap back” to its current  
62 psychological-related usage of having a protective effect (Luthar, 1993; Rutter, 1987) that

63 involves individuals maintaining their functioning (Bonanno, 2004; Carver, 1998)<sup>1</sup>. To  
64 represent its etymology and lexicology, we use the term “robust resilience” to refer to its  
65 protective quality reflected in a person maintaining their well-being and performance when  
66 under pressure, and the term “rebound resilience” to refer to its bounce back quality reflected  
67 in minor or temporary disruptions to a person’s well-being and performance when under  
68 pressure and the quick return to normal functioning. In line with both traditional and  
69 contemporary meanings of the word *resilience*, training in psychological resilience – otherwise  
70 known as mental fortitude – should be *both* proactive (cf. robust resilience) and reactive (cf.  
71 rebound resilience) in nature and target performers' before, during and after stressful or adverse  
72 encounters. In contrast to a resilient individual, vulnerable<sup>2</sup> people tend to succumb to pressure  
73 with it significantly affecting their well-being and/or performance and, as a result, they have to  
74 then attempt to cope with and recover from their negative experiences. Because people’s  
75 mental characteristics and outlook changes over time, so too does their psychological resilience.  
76 Psychologists and others can, therefore, seek to influence – and hopefully enhance – people’s  
77 mental fortitude.

#### 78 **The Mental Fortitude Training™ Program**

79 Drawing on the existing body of knowledge in this area, this section presents an  
80 evidence-based approach to the development of psychological resilience for sustained  
81 success. The mental fortitude training™ program focuses on three main areas – personal

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<sup>1</sup> Although the polysemy of resilience can be frustrating from a research and operational perspective, we believe that it can be of heuristic and pragmatic value, particularly for practitioners, students, coaches, and performers seeking to develop resilience. Nonetheless, in writing this practically orientated article, we also are minded of Alexander’s (2013) observation: “if only language were kept simple in scholarly work on resilience, one feels that much of the debate about what terms mean and how to interpret them would be unnecessary” (p. 2713).

<sup>2</sup> Rather than implying weakness or potential for abuse (cf. Hutcheon & Lashewicz, 2014), we use the term vulnerable in this context for heuristic purposes to promote greater understanding of resilience and its development (cf. Lotz, 2016). In reality, resilience and vulnerability are not antonyms of each other; rather they are orthogonal whereby they co-exist in everybody (cf. Miller, Osbahr, Boyd, Thomalla, Bharwani, Ziervogel, Walker, Birkmann, Van der Leeuw, Rockström, Hinkel, Downing, Folke, & Nelson, 2010).

82 qualities, facilitative environment, and challenge mindset – to enhance performers’ ability to  
83 withstand pressure (see Figure 1)<sup>3</sup>.

#### 84 **Personal Qualities**

85         The cornerstone of this resilience training program is, not surprisingly, an individual’s  
86 personal qualities, which can be described as the psychological factors that protect an  
87 individual from negative consequences (cf. Fletcher & Sarkar, 2012). When considering the  
88 psychological architecture underlying an individual’s personal qualities, the distinction  
89 between personality and skills is an appropriate starting point. Personality can be defined as  
90 the “psychological qualities that contribute to an individual’s enduring and distinctive  
91 patterns of feeling, thinking, and behaving” (Cervone & Pervin 2013, p. 8) and is multi-  
92 layered consisting of dispositional traits, characteristic adaptations, and self-narrative  
93 identities (Coulter, Mallett, Singer, & Gucciardi, 2016; McAdams, 2013). Psychological  
94 skills are defined as the cognitive-affective techniques and processes that are strategically  
95 used by an individual to enhance and optimize his or her functioning (cf. Hardy, Roberts,  
96 Thomas, & Murphy, 2010; Thomas, Murphy, & Hardy, 1999), and can be used on their own  
97 or in combination and described along a basic to advanced continuum (Hardy, Jones, &  
98 Gould, 1996). Personality, therefore, is a more stable personal quality, whereas  
99 psychological skills are more malleable personal qualities.

100         Another important distinction in this area, which is often overlooked, is between an  
101 individual’s psychological processes and outcomes. To illustrate, MacNamara, Button, and

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<sup>3</sup> Although the mental fortitude training™ program is designed for individuals performing in any pressurized domain (cf. Sarkar & Fletcher, 2014a), much of the underpinning evidence stems from research that ourselves and colleagues have conducted in the elite sport environment. As part of Team GB’s preparations for the London 2012 Olympic Games, Dr David Fletcher led a programme of research at Loughborough University to study resilience (and growth) in the world’s best athletes and teams, the findings of which have been presented in a series of reports (Fletcher, 2008, Fletcher & Sarkar, 2010) and publications (Fletcher & Sarkar, 2012; Howells & Fletcher, 2015, 2016; Morgan, Fletcher, & Sarkar, 2013, 2015; Sarkar & Fletcher, 2014b; Sarkar, Fletcher, & Brown, 2015). Through Dr Fletcher’s role as the Director of Sport Psychology Services, the research findings have been translated and applied to the preparation of athletes and teams across the campus. Following ongoing refinement, the mental fortitude training™ program presented in this article represents the Rio 2012-2016 Olympiad version.

102 Collins (2010a; MacNamara & Collins, 2011) list a range of psychological characteristics for  
103 developing excellence (see also MacNamara et al., 2010b; MacNamara & Collins, 2013);  
104 however, without differentiating between processes (e.g., imagery, goal-setting) and  
105 outcomes (e.g., self-confidence, commitment) it is difficult to determine underlying  
106 mechanisms and developmental pathways (cf. Gould & Maynard, 2009; Hardy et al., 1996;  
107 Thomas et al., 1999; Vealey, 1988). For example, personality characteristics, such as self-  
108 esteem and optimism, combined with effective goal-setting, self-talk and imagery skills, are  
109 likely to lead to a more confident and efficacious individual.

110         With the above conceptual distinctions in mind, in our resilience training program  
111 within the area of personal qualities, we differentiate between personality characteristics,  
112 psychological skills and processes, and desirable outcomes that protect an individual from  
113 negative consequences (see Figure 2). In any moment of time, these personal qualities will  
114 likely be tested by stressors and adversities and/or supported by social and environmental  
115 resources (see the next subsection). The distinction between different types of personal  
116 qualities is important for two main reasons. Firstly, because it is problematic to “use the skill  
117 of confidence or motivation”, this differentiation focuses attention on the underpinning  
118 personality characteristics and psychological skills that make-up mental readiness for  
119 demanding situations. Secondly, it is important that skills such as goal-setting, self-talk and  
120 imagery are not (solely) taught for practice’s sake; rather, they should be trained with a view  
121 to developing specific and measurable desirable outcomes (e.g., enhance confidence,  
122 optimize motivation).

123         The most salient, evidence-based personal qualities for developing psychological  
124 resilience are categorized and summarised in Table 1. It is important to note that the  
125 relevance and importance of these qualities will vary across contexts and time. For example,  
126 in the sport domain, being resilient to training-related stressors will likely necessitate a

127 different combination of personal qualities than those needed to withstand competition-  
128 related stressors. Another point worth reinforcing is that personality characteristics are less  
129 amenable to change than psychological skills, both of which underpin desirable outcomes.  
130 Hence, in terms of the developmental potential of psychological resilience, there are aspects  
131 of an individual's psyche which are more malleable than others. Based on this observation,  
132 we refer to an individual's 'resilience bandwidth' as an indication of his or her natural  
133 developmental trajectory compared to his or her point of highest potential with psychosocial  
134 intervention. In Figure 3, we illustrate the natural development trajectories of two individuals  
135 who have minimal resilience-related training; however, one individual is high in resilience-  
136 related personality characteristics and the other individual is low. (Although the trajectories  
137 are presented linearly to facilitate comprehension, they will in reality most likely follow  
138 nonlinear pathways). In Figure 4, we show how the developmental trajectory alters with the  
139 introduction and maintenance of resilience-related training to develop relevant psychological  
140 skills and processes. Here, the individual low in resilience-related personality characteristics  
141 benefits from the training (to the extent that they become more resilient than the individual  
142 high in resilience-related personality characteristics who has not had training).

143 With these points in mind, the aim of mental fortitude training™ is to optimise an  
144 individual's personal qualities so that he or she is able to withstand the stressors that they  
145 encounter at any given moment. This aim is, of course, aspirational because any individual,  
146 no matter what his or her psychological make-up is, will succumb at some point (his or her  
147 'breaking point') to (extreme) adversity and hardship (cf. Basoglu, 1997; Basoglu, Mineka,  
148 Paker, Aker, Livanou, & Gök, 1997; Sales, 2016; Schleifer, 2014)<sup>4</sup>. It is, therefore,

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<sup>4</sup> We make this (extreme) point to illustrate that the conception and development of psychological resilience cannot occur by solely focusing on an individual and that the stressors he or she encounters, together with the support he or she receives, always need to be considered in parallel with personal qualities.

149 imperative to look beyond an individual's personal qualities to the wider environment in  
150 which he or she operates.

### 151 **Facilitative Environment**

152         Although psychological resilience is, by definition, a fundamentally cognitive-  
153 affective construct manifested in individuals' behaviours (Fletcher & Sarkar, 2013), it is  
154 profoundly influenced by a wide range of environmental factors. Such factors may originate  
155 from social, cultural, organizational, political, economic, occupational and/or technological  
156 sources; therefore, any psychological resilience training program should, as much as  
157 practically possible, consider the broader environment within which individuals operate (cf.  
158 Fletcher & Sarkar, 2012). We refer to a setting or context that fosters the development of  
159 psychological resilience as a facilitative environment. Since person-environment interactions  
160 are highly complex (cf. Egeland, Carlson, & Sroufe, 1993), it is helpful to identify cross-  
161 cutting properties that span the aforementioned environmental factors. In terms of  
162 developing psychological resilience, we propose that the concepts of challenge and support  
163 are of fundamental importance.

164         Sanford (1967) was the first to discuss the importance of challenge and support in  
165 human development in his work on student advancement. He argued that for students to  
166 improve their academic performance, the educational environment must balance the  
167 challenge and support presented to them (see Figure 5). Challenge involves having high  
168 expectations of people, and helps to instil accountability and responsibility. The provision of  
169 developmental feedback is important to inform about how to improve and, in the context of  
170 the present discussion, develop resilience. Support refers to enabling people to develop their  
171 personal qualities, and helps to promote learning and build trust. The provision of  
172 motivational feedback is important to encourage and inform about what has been and is  
173 effective in developing resilience. Sanford's theory of challenge and support has been widely



174 adapted and applied in various domains, including in teaching and mentoring (Cameron-  
175 Jones & O'Hara, 1997; Daloz, 1986; Martin, 1996), medicine (Bower, Diehr, Morzinski, &  
176 Simpson, 1998), education (Hamrick, Evans, & Schuh, 2002; Ward, Trautvetter & Braskamp,  
177 2005), executive coaching (Bird & Gornall, 2015; Blakey & Day, 2012; Jones, Gittens, &  
178 Hardy, 2009), military (Hardy, Arthur, Jones, Shariff, Munnoch, Isaacs, & Allsopp, 2010),  
179 and sport (Arthur, Hardy, & Woodman, 2013; Fletcher & Streeter, 2016).

180 Sanford's theory of challenge and support led to the development of various 2 x 2  
181 matrixes (cf. Blakey & Day, 2012; Daloz, 1986; Sanford, 1967) which differentiate between  
182 four categories: low challenge-low support, high challenge-low support, low challenge-low  
183 support, and high challenge-high support. In our mental fortitude training™ program, we  
184 label these quadrants as stagnant environment, unrelenting environment, comfortable  
185 environment, and facilitative environment, respectively (see Figure 6). Each environment is  
186 characterised by different features (see Table 2), but for resilience to be developed for  
187 sustained success, a facilitative environment needs to be created and maintained. If too much  
188 challenge and not enough support is imposed then the unrelenting environment will  
189 compromise well-being; conversely, if too much support and not enough challenge is  
190 provided then the comfortable environment will not enhance performance.

191 Importantly, the notion of balancing challenge and support needs to be considered  
192 over time rather than in any one instant (cf. Cameron-Jones & O'Hara, 1997; Daloz, 1986;  
193 Martin, 1996; Sanford, 1967). In pressurized performance domains, an effective method for  
194 oscillating challenge and support is pressure inurement training™, defined as the  
195 manipulation of the environment to evoke a stress-related response with the aim of  
196 maintaining functioning and performance under pressure. Its theoretical origin lies in the  
197 medical practice of inoculation involving exposing an individual to a small amount of an  
198 infectious disease, known as a vaccine, to develop immunity to the disease. These principles

199 were originally applied to treating human stress-related disorders in clinical populations by  
200 Wolpe (systematic desensitization training, 1958) and Meichenbaum (stress inoculation  
201 training, 1976, 1977), and more recently to managing stress in performance contexts in non-  
202 clinical populations by Johnston and colleagues (stress exposure training, Johnston &  
203 Cannon-Bowers, 1996; Driskell & Johnston, 1998)<sup>5</sup>. In the sport domain, a growing body of  
204 evidence supports the effectiveness of the aforementioned (viz. Driskell, Sclafani, & Driskell,  
205 2014; Mace & Carroll, 1985, 1986, 1989; Mace, Eastman, & Carroll, 1986, 1987) and similar  
206 (viz. Bell, Hardy, & Beattie, 2013; Lewis & Linder, 1997; Oudejans & Pijpers, 2009, 2010;  
207 Seifried, 2008; Smith, 1980) psychosocial training programs for stress desensitization and  
208 inoculation. Based on the procedures outlined in this work, we propose a multi-phased  
209 pressure inurement training™ approach to oscillate and balance challenge and support,  
210 develop resilience, and enhance performance (see Figure 7).

211       Following skill acquisition and automation, pressure inurement training™ involves  
212 gradually increasing the pressure on an individual(s) via challenge and the manipulation of  
213 the environment. This occurs in two main ways: firstly, by increasing the demand of the  
214 stressors, through their type (e.g., competitive), property (e.g., novelty), or dimension (e.g.,  
215 frequency) and, secondly, by increasing the significance for the appraisals, through their  
216 relevance (e.g., beliefs), importance (e.g., goals), and consequences (e.g., punishment).  
217 Ideally, but not always necessarily, these modifications should simulate where possible  
218 features of the environment where high or peak performance is desired. Concomitantly, the  
219 environment should also be manipulated to increase the support provided to individuals to  
220 enhance their personal qualities (see the previous subsection) through increased learning and  
221 practice. Importantly, coaches and psychologists will need to carefully monitor how

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<sup>5</sup> Aligned with these training programmes, various psychological concepts support the premise of pressure inurement training, including steeling (e.g., Rutter, 1987), psychophysiological toughness (Dienstbier, 1989, 1992), eustress (Hargrove, Becker, & Hargrove, 2015), and discretionary vulnerability (Lotz, 2016).

222 individuals react to these manipulations, both in terms of their psychological responses and  
223 other outcomes (e.g., wellbeing, performance). When the pressure exceeds the available  
224 resources, individuals are likely to react with more debilitating responses and negative  
225 outcomes, in which case increased motivational feedback and support should be provided (cf.  
226 Mahoney, Gucciardi, Gordon, & Ntoumanis, 2017; Mahoney, Ntoumanis, Gucciardi, Mallett,  
227 & Stebbings, 2016), together with possibly temporarily decreasing the challenge.  
228 Conversely, when individuals react with more facilitative responses and positive outcomes,  
229 indicating that they are/have adapted to the pressure, then increased developmental feedback  
230 and challenge should be imposed (cf. Bell et al., 2013; Oudejans & Pijpers, 2009). As the  
231 German theologian, Dietrich Bonhoeffer, succulently advised: “comfort the troubled, and  
232 trouble the comfortable” (a quote that the Australian, Ric Charlesworth, is known for  
233 applying to the sports coaching process).

#### 234 **Challenge Mindset**

235 Arguably the pivotal point of any psychological resilience training program is for  
236 individuals to positively evaluate and interpret the pressure they encounter, together with  
237 their own resources, thoughts and emotions (cf. Fletcher & Sarkar, 2012). Largely predicted  
238 by (the combination of) an individual’s personal qualities and his or her immersion in a  
239 facilitative environment, the ability to evoke and maintain a challenge mindset is of crucial  
240 importance in developing resilience. The focus here is on how individuals react to stressors  
241 and adversity, rather than the environmental events themselves. As Epictetus wrote in  
242 Enchiridion: “Men are disturbed not by things, but by the views which they take of them,”  
243 and as Shakespeare wrote in Hamlet: “There is nothing good or bad but thinking makes it  
244 so.”

245 Drawing on the theorising of Lazarus (1964, 1966) and others (viz. Arnold, 1960;  
246 Grinker & Spiegel, 1945; Spelman, Lazarus, Mordkoff, & Davison, 1964), during any

247 encounter an individual will appraise the relevance and significance of what is happening in  
248 relation to his or her's goals and the implications of what is at stake ("how might this affect  
249 me and do I care?") – an ongoing process known as primary appraisal. An individual may  
250 react negatively, evaluating an encounter as a harm/loss or threat, or positively, evaluating the  
251 encounter as a challenge (Lazarus, 1966, 1981; Lazarus & Folkman, 1984; Lazarus &  
252 Launier, 1978). The distinction between challenge and threat appraisals is evident in much of  
253 the stress theory in sport psychology (see, e.g., Anshel, Kim, Kim, Chang, & Eom, 2001;  
254 Burton, 1998; Burton & Naylor, 1997; Fletcher & Fletcher, 2005; Fletcher, Hanton, &  
255 Mellalieu, 2006; Fletcher & Scott, 2010; Gill, 1994; Rotella & Lerner, 1993; Tenenbaum,  
256 Jones, Kitsantas, Sacks, & Berwick, 2003a; see also Anderson & Williams, 1988; Smith,  
257 1980, 1985, 1986) and supported by research findings (see, e.g., Didymus & Fletcher, 2012;  
258 Meijen, Jones, Sheffield, & McCarthy, 2014; Moore, Vine, Wilson, & Freeman, 2012, 2014,  
259 2015; Moore, Wilson, Vine, Coussens, & Freeman, 2013; Neil, Hanton, Mellalieu, &  
260 Fletcher, 2011; Turner, Jones, Sheffield, & Cross, 2012; Turner, Jones, Sheffield, Slater,  
261 Barker, & Bell, 2013; Turner, Jones, Sheffield, Barker, & Coffee, 2014; Vine, Freeman,  
262 Moore, Chandra-Ramanan, & Wilson, 2013).

263         Although an individual's appraisal of pressure and adversity is an important part of  
264 resilience training, it is not the whole story of developing a challenge mindset. In addition to  
265 evaluating an environmental encounter, individuals also appraise the availability of coping  
266 resources to deal with the harm/loss, threat and challenge ("what can I do about this and will  
267 it be enough?") – an ongoing process known as secondary appraisal (Lazarus, 1964, 1966).  
268 Furthermore, regardless of primary and secondary appraisal, individuals also evaluate their  
269 own thoughts and emotions – a process known as meta-cognition and -emotion (Flavell,  
270 1979; Hooven, Gottman, & Katz, 1995; Mayer & Gaschke, 1988) – in terms of their  
271 relevance for performance and well-being (Crum, Salovey, & Achor, 2013; Hanin, 1997,

272 2000; Fletcher & Fletcher, 2005; Fletcher et al., 2006). This evaluation of thoughts and  
273 feelings occurs at a higher level of cognitive-affective processing than the evaluation of the  
274 environment demands and personal resources, and is often overlooked by stress and  
275 resilience researchers (see, for exceptions, Fletcher & Sarkar, 2012; MacIntyre, Igou,  
276 Campbell, Moran, & Matthews, 2014), despite having important implications for  
277 withstanding pressure and sustaining performance.

278         With the above in mind, our mental fortitude training™ program places emphasis on  
279 helping individuals to positively evaluate and interpret the pressure they encounter, together  
280 with their own resources, thoughts and emotions. Central to this is changing negative  
281 appraisals into positive or constructive thinking. For those who due to their personalities,  
282 background, or surroundings tend to look on the dark side, this can be very difficult. This is  
283 why, as noted earlier, psychological skills and processes need to be practised regularly and  
284 why the environment needs to facilitate this development through an appropriate balance of  
285 challenge and support. Fundamental to changing this mindset should be individuals having  
286 an awareness of any negative thoughts that make them more vulnerable to the negative  
287 effects of stress (for some examples, see Table 3) and realizing and accepting that they have a  
288 choice about how they react to and think about events.

289         Drawing in part on cognitive-behavioural therapies (cf. Beck, 1976; Ellis, 1962; see  
290 also Turner, 2014; Turner & Barker, 2013, 2014; Turner, Slater, & Barker, 2014, 2015), the  
291 key to dealing with negative thinking is to regulate one's thoughts (for some examples, see  
292 Table 4). Although the aim is to engender and maintain a positive evaluation of pressure and  
293 a challenge mindset, it is important to recognize that we are all human and will at times  
294 engage in negative thinking. Indeed, it may be that automatically initiating the thought  
295 regulation strategies outlined in Table 4 in a habitual fashion proves too difficult at times to  
296 begin or maintain. In these circumstances, individuals are at risk of becoming trapped in a

297 state of distress characterized by prolonged worry and rumination. Individuals should be  
298 accepting and non-judgemental about any negative thoughts so that they can begin, when  
299 they are ready, to adapt how they respond to such thoughts and beliefs (Perfect & Schwartz,  
300 2002; Wells, 2011). An important message for those wishing to develop a challenge mindset  
301 is that this occurs at multiple levels of cognitive-affective processing, involving positive  
302 evaluations and interpretations of the pressure individuals' encounter, together with their own  
303 resources, thoughts and emotions. We believe that it is this ongoing process that coach Bob  
304 Bowman (2016) was (implicitly) referring to when he described his swimmer, Michael  
305 Phelps, the most successful Olympian in history, as a "motivational machine" who could take  
306 anything that happened to him – 'good' or 'bad' – and channel it to his advantage to enhance  
307 his performance.

#### 308 **Developing Psychological Resilience: From Theory to Practice**

309 Resilience training, like many areas of applied psychology, is arguably easier to  
310 research and write about than to put into practice and elicit positive change. As noted earlier,  
311 we have attempted to translate and apply the findings of our resilience research program to  
312 the preparation of athletes and teams for the 2012 and 2016 Olympic Games. Most of this  
313 work has occurred on the Loughborough University<sup>6</sup> campus but, following the London 2012  
314 Olympic Games, the training program has been in part refined with colleagues from the  
315 United States Olympic Committee, the Swedish Sports Confederation, and High Performance  
316 Sport New Zealand in preparation for the Rio 2016 Olympic Games. Drawing on our  
317 ongoing reflections, in this section we provide some practical recommendations for those  
318 implementing or undertaking this program (see also Fletcher & Sarkar, 2013; Robertson,

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<sup>6</sup> Loughborough University was Team GB's Official Preparation Camp Headquarters prior to the London 2012 Olympic Games. The University has a long sporting heritage and has Britain's largest concentration of world-class training facilities across a wide range of sports. At the London 2012 Olympic and Paralympic Games, 90 athletes with University connections competed, winning a total of thirteen medals, and at the Rio Olympic and Paralympic Games, 85 athletes with University connections competed, winning a total of 34 medals.

319 Cooper, Sarkar, & Curran, 2015; Sarkar & Fletcher, 2016).

320 Any psychologist operating in an organization with aspirations of sustained high  
321 achievement should pay careful attention to the constantly unfolding psychosocial and  
322 political dynamics (cf. Fletcher & Wagstaff, 2009; Ravizza, 1988). Of particular importance  
323 is identifying the main decision-makers (e.g., performance directors) and personnel (e.g.,  
324 coaches) whose views will likely influence potential intervention. It is also worth noting who  
325 within the organization is receptive to the fields of psychology and/or management (cf.  
326 Hardy, Jones, & Gould, 1996). It is likely that, for a variety of reasons, individuals will vary  
327 in the extent that they are willing to engage with support in these areas. For example, it may  
328 be that individuals who are high in resilience-related personality characteristics (and therefore  
329 tend to better withstand pressure in their lives) perceive less need for resilience training. We  
330 have observed, however, that the effectiveness of work in this area can depend on the breadth  
331 and depth of commitment from *all* layers of and personnel within an organization.

332 Because misunderstandings exist about resilience, training in this area should begin  
333 with an explanation of what resilience is and is not. It should be emphasised that feeling  
334 vulnerable to stress or struggling to cope with adversity should not be perceived as weakness.  
335 Rather, open discussion about this topic is a sign of strength and the potential beginning of  
336 positive change that will hopefully lead to individuals withstanding – and potentially thriving  
337 on – pressure. The initial phase of training should seek to determine how individuals react in  
338 pressurised situations and utilize a range of diagnostics including self-report, observation, and  
339 physiological indices (cf. Sarkar & Fletcher, 2013). Any training should be endorsed at a  
340 group level but tailored to meet individuals' needs and circumstances. Where possible, the  
341 intervention should be integrated into performers' existing (physical and psychological)  
342 training programs and provide varied opportunities for experiential learning. Performers'  
343 responses to resilience training should be closely monitored so that the content of the training

344 can be modified and optimised accordingly. A successful resilience training program should  
345 be progressively adaptive over time with evidence of developments in both wellbeing and  
346 performance.

347         One of the most important implications of the mental fortitude training™ program is  
348 that the development of psychological resilience for sustained success is a multifactorial  
349 endeavour. All three areas – personal qualities, facilitative environment, and challenge  
350 mindset – need to be appropriately addressed to enhance performers’ ability to withstand  
351 pressure. Interventions that solely focus on personal qualities (e.g., “psychological  
352 characteristics for developing excellence”), the environment (e.g., autonomy-supportive  
353 climate), or mindset (e.g., challenge state), will not comprehensively develop psychological  
354 resilience or sustain high performance over time. Although these three areas have been  
355 presented separately in this article to facilitate reader understanding, in practice they will  
356 need to be addressed and integrated collectively rather than in isolation to maximize their  
357 effect.

358         Although the focus of this article has been on psychological resilience at an individual  
359 level, there is evidence to suggest that resilience is also occurs at a group level (Morgan et al.,  
360 2013, 2015). Rather than simply aggregating individuals’ levels of psychological resilience,  
361 it appears that team resilience is “greater than the sum of its parts” (Aristotle). Just because a  
362 team might contain resilient individuals it doesn’t necessarily follow that the team will be  
363 resilient under pressure. At a team level, what is crucial is the way that the individuals’  
364 collective qualities (e.g., defined roles and responsibilities, group goal commitment and  
365 alignment, nurtured supportive and caring relationships, strong belief in one another) are  
366 harnessed in which every member of the team can thrive (Morgan et al., 2013, 2015). Hence,  
367 any resilience training program implemented within teams must focus on building not only  
368 individual capability but also interpersonal relationships, shared processes, and group



369 functioning.

370           In further extending the notion of team resilience, our wider experiences and research  
371 in elite sport (see, e.g., Fletcher & Wagstaff, 2009; Fletcher & Streeter, 2016) have  
372 emphasized the importance of individuals' perceptions of their organization as a whole and,  
373 in the context of developing resilience, individuals' perceptions of how people within the  
374 organization perform under pressure. Of particular importance is the language that  
375 individuals use about pressure-related events and their behaviors when under pressure. Put  
376 simply, is there a challenge culture where individuals view pressure as an opportunity to  
377 perform, or a threatening culture where pressure evokes a fear of failure? In a challenge  
378 culture, the majority of people, the majority of the time, will express and display the personal  
379 qualities (see Table 1 and Figure 2) and challenge mindset (see Table 4) discussed previously  
380 when faced with a pressurized situation, thus contributing to a facilitate environment (see  
381 Table 2 and Figure 6). Furthermore, the leadership, management, coaching, support staff and  
382 parents have important roles in creating and role-modelling the desired culture, through  
383 appropriate motivational and developmental feedback. The organization's vision should  
384 inspire those within it to establish a collective identity that embodies cultural and behavioral  
385 norms of reacting positively to pressure. The vision should also be authentic, drawing on the  
386 organization's heritage and desired legacy. Stories and images of team members  
387 withstanding and thriving on pressure and subsequent success will further reinforce the  
388 challenge culture. It is also important to seek input from current members of the organization  
389 to engender ownership of resilience development at all levels. Because how individuals feel  
390 and what they do will continually affect those around them, shaping cultural and behavioral  
391 change are critical factors in developing resilience for sustained success.

392

### **Concluding Remarks**

393 In conclusion, this article has presented a mental fortitude training™ program for  
394 developing resilience for sustained success. In describing this training program, we have  
395 extolled the virtues of resilience and its development. Although the benefits are wide-ranging  
396 and far-reaching, it is important to emphasize that resilience training is most certainly *not* a  
397 panacea for all mental health or performance problems. Training in this area should be part  
398 of a holistic psychosocial support program that includes other areas of focus, such as ethical  
399 awareness, emotional intelligence (Laborde, Dosseville, & Allen, 2016), performance  
400 intelligence (Jones, 2012), and counselling (Longstaff & Gervis, 2016), to develop well-  
401 adjusted, high performers. It may also be appropriate to supplement aspects of resilience  
402 training, such as enhancing self-awareness, with complementary training in related areas,  
403 such as mindfulness (Röthlin, Horvath, Birrer, & Holtforth, 2016). The point that we are  
404 making here is that, without other psychosocial assests and contextual sensitivity, training  
405 resilience on its own may actually become a vice that undermines wellbeing and performance  
406 (cf. Friedman & Robbins, 2012). Indeed, those seeking to develop resilience would be wise  
407 to bear in mind Adolf Hitler, a resilient individual who was high performing in some respects  
408 (e.g., outstanding orator, dynamic leader) but who was also unequivocally and devastatingly  
409 flawed.

410 In view of the misunderstandings that exist in this area, there is need to further  
411 underscore that resilience is *not* about choosing to place one's (or others') health, wellbeing  
412 or even life at risk. Confusion occurs when, paradoxically, weakness is misconstrued as  
413 strength. Examples include being under stress and denying it, being so single-minded and  
414 focused on performance that everything else is ignored, continually pushing hard when it is  
415 clear to others that it is futile and can only compromise health or wellbeing, and the  
416 suppression or absence of emotions. At a team level, examples include celebrating  
417 dysfunctional behaviors and mislabelling them as “badges of honor”, conforming to unethical

418 norms and behaviours, sacrificing one’s health and wellbeing for the “good of the team”, and  
419 blaming or isolating those who are struggling with stress or mental health issues. Scholars,  
420 practitioners, and others working with performers should distinguish between resilience and  
421 weakness to minimize misunderstanding.

422         There is another important reason why a lack of resilience should not be confused  
423 with weakness. As we noted earlier, resilience and vulnerability co-exist in everybody and  
424 any individual will at some point succumb to extreme adversity and hardship. It is, in fact,  
425 one the paradoxes of human psychology that being vulnerable (cf. Brown, 2012, 2015) to  
426 pressure and adversity may be needed to (later) develop the resilience necessary for high  
427 performance (cf. Joseph, 2013; Rendon, 2015). Put another way, in order to withstand and  
428 thrive on the highest levels of pressure, individuals may first need to succumb to adversity to  
429 subsequently benefit from the psychological and behavioural changes that only this level of  
430 trauma can bring. Research findings show that failing to cope with adversity can, ultimately,  
431 lead to growth and enhanced resilience in across various performance domains (Joseph,  
432 Murphy, & Regel 2012; Linley & Joseph, 2004; Tedeschi & Calhoun, 2004), including sport  
433 (Howells & Fletcher, 2015, 2016; Sarkar, Fletcher, & Brown, 2015). Trauma can sometimes  
434 be required for re-evaluation and reflection, opening up dialogue and frank communication,  
435 enhancing relationships, stimulating learning, gaining perspective, humility, and a new  
436 beginning. The aphorisms “what doesn’t break me, makes me stronger” and “every cloud has  
437 a silver lining” are relevant here<sup>7</sup>.

438         In conclusion, this article has presented a mental fortitude training™ program for  
439 developing resilience for sustained success. Although it is based on a wide-ranging evidence-

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<sup>7</sup> Of course, it should go without saying, that this is not to be confused with the unethical and inappropriate imposition of adversity. Worryingly, it appears that extreme challenge-no support environments have been created under the guise of ‘toughening-up’ performers (cf. Hodgson, 2006; Lord, 2005), and it is important that we learn the lessons from these and comparable cultures (see Cavallerio, Wadey, & Wagstaff, 2016; Coulter, Mallett, & Singer, 2016; Gucciardi, Hanton, & Fleming, in press; Tibbert, Andersen, & Morris, 2015).

440 base, the effectiveness and efficacy of the intervention has not been comprehensively  
441 evaluated using research designs that maximize internal and external validity. This training  
442 program therefore represents a ‘work in progress’ that will undoubtedly be further refined  
443 and adapted, particularly with respect to how best to optimize both wellbeing and  
444 performance across different domains. In the meantime, it is hoped that the program  
445 described in this article will facilitate a holistic and systematic approach to developing  
446 resilience for aspiring performers.

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Table 1. Salient Personal Qualities for Psychological Resilience.

Type of Personal Quality	Personal Quality (and Related Terms)
Personality characteristic	<ul style="list-style-type: none"> <li>• Outgoing and seek attention from others (extraverted)</li> <li>• Thorough and concerned about doing things correctly (conscientious)</li> <li>• High personal standards (perfectionist)</li> <li>• Positive expectations about the future (optimistic, hopeful)</li> <li>• A grandiose view of oneself and feelings of entitlement (narcissistic)</li> <li>• Subdued experience or expression of emotions (alexithymic)</li> <li>• Compares oneself to others (competitive)</li> <li>• Creates or controls a situation (proactive)</li> <li>• Enjoys doing activities and tasks (intrinsically motivated)</li> <li>• Wants to demonstrate competence over others (ego orientated)</li> <li>• Wants to demonstrate competence through personal improvement (task orientated)</li> <li>• Able to maintain self-esteem by putting success down to own abilities and efforts, but putting failure down to external or transient factors (self-serving attributional style)</li> <li>• Belief in oneself and one’s ability (self-confident)</li> </ul>
Psychological skill	<ul style="list-style-type: none"> <li>• An awareness of oneself, others, and the environment (self-awareness, social awareness)</li> <li>• Direct thoughts and mental images (self-talk, imagery, mental rehearsal, visualization)</li> <li>• Direct attention appropriately (attentional control)</li> <li>• Regulate arousal levels (relaxation, activation, arousal control)</li> <li>• Set effective goals (goal-setting)</li> <li>• Plan for expected and unexpected events (preparation routines, VUCA (volatility, uncertainty, complexity and ambiguity) planning, ‘what if’ scenario analysis, ‘black swan’ event response)</li> </ul>
Desirable outcome	<ul style="list-style-type: none"> <li>• Optimally motivated (self-determined, intrinsically motivated)</li> <li>• Regulate thoughts, mental images, and emotions (executive functioning, cognitive control, emotional regulation/control)</li> <li>• Maintain attention on what matters (concentration, focus, control)</li> <li>• Attain, maintain and regain confidence in oneself and others (confidence, self-efficacy)</li> <li>• Handle pressure and deal with distress (stress management, coping)</li> <li>• Automatically execute skills, processes, strategies and routines (automaticity)</li> <li>• Recognize support (perceived social support)</li> <li>• Manage relationships (emotional intelligence, communication)</li> <li>• Work with the environment (political acuity)</li> </ul>

Table 2. Environment Characteristics.

Environment	Characteristics
Stagnant environment	<ul style="list-style-type: none"> <li>• Unseen leaders and managers</li> <li>• People are not stimulated</li> <li>• People are just going through the motions and surviving</li> <li>• Culture of mediocrity</li> <li>• Little is going on</li> <li>• Good performance more by accident than by design</li> <li>• People either don't know what to do or don't care</li> </ul>
Unrelenting environment	<ul style="list-style-type: none"> <li>• Unhealthy competition</li> <li>• Leader exposes and ridicules under performers</li> <li>• Blame culture when high standards are not met</li> <li>• Avoidance mentality due to consequences of making mistakes</li> <li>• Little care for well-being</li> <li>• People feel isolated</li> <li>• Potential conflict</li> <li>• Performance unsustainable</li> <li>• Stress and potential burnout</li> <li>• "Sink or swim"</li> </ul>
Comfortable environment	<ul style="list-style-type: none"> <li>• An over-caring, parent-like culture</li> <li>• The people are "nice"</li> <li>• Too cozy</li> <li>• People are working in their comfort zones</li> <li>• Air of complacency</li> <li>• People are bored</li> <li>• Ambiguity and uncertainty</li> <li>• Stifling for individuals who want to be stretched</li> <li>• Difficult conversations are avoided</li> <li>• Lack of personal and professional development</li> <li>• Lack of celebration of achievement</li> <li>• Underperformance is not addressed</li> <li>• "A happy performer will be a great performer"</li> </ul>
Facilitative environment	<ul style="list-style-type: none"> <li>• Supportive challenge towards a goal</li> <li>• People thrive in a challenging but supportive environment</li> <li>• Individuals have input into and take ownership of goals</li> <li>• Individuals seek out challenges to develop</li> <li>• Individuals crave constructive feedback</li> <li>• Good relationships between performers and leaders or coaches</li> <li>• Psychologically safe environment that encourages sensible risk-taking</li> <li>• Healthy competition</li> <li>• Everyone supports one another</li> <li>• Learn from mistakes and failure</li> <li>• Success is recognized and celebrated</li> <li>• "We're in this together"</li> </ul>

Table 3. Examples of Types of Negative Thinking Patterns.

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“End of the world” thinking	Catastrophizing by blowing things out of proportion and thinking that the worst has, will, or may happen: “I’m not ready to perform tomorrow – it’s going to be a disaster”
“It’s all the same” thinking	Overgeneralising by applying your own thoughts, feelings and attitudes across all people and situations: “He didn’t say anything positive about my performance – this team aren’t supportive”.
“Yes, but...” thinking	Taking positive events and twisting them into negative ones: “Okay, so everyone told me my performance was good, but nobody said that it was great”.
“Second guessing” thinking	Making assumptions about what others are thinking and with negative repercussions for yourself: “The coach looks bored. He’s not interested in what I’m doing”.
“It can’t be done” thinking	Looking into the future and predicting a negative outcome: “I’ll never be able to improve my performance”.
“Black and white” thinking	Viewing the world in an either/or way, with little scope for grey areas: “If I don’t perform now I’ll never get another chance”
“Taking things personally” thinking	Viewing failures or negative feedback as a reflection of your own shortcomings: “They said that I could have performed better. I’m useless”.
“It has to be perfect” thinking	Viewing any mistakes as failure: “I made a mistake – I never get it right”
“Should and must” thinking	Constantly reminding yourself of what you <i>should</i> or <i>must</i> do: “I must get off to a good start”

Table 4. Thought Regulation Strategies.

Stop	Stop negative thoughts by simply thinking “stop!” or similar thoughts such as “don’t go there”, “take control”, or “wait a minute”. Be assertive. For maximum effect, use imagery to reinforce the statements, such as visualising a red “stop” sign.
Verbalise	Expose negativity by telling someone about your thinking. Ensure that this person will help you confront any irrationality and replace with more positive thoughts.
Park	‘Park’ any negative thoughts by writing them down or drawing pictures of what they represent, and either disposing of them or putting them aside in an envelope to be confronted later.
Confront	Challenge any irrationality by asking questions (“have I got all the information?”, “is there another way to view this situation?”, “is there anything positive I can take from this situation?”, “what is the worst thing that could happen?”, “if I had a month to live, how important would this be?”). Sometimes, this is easier if you imagine (a “better” version of) yourself or someone you respect asking such questions to you in a safe place. Alternatively, switch it around by imagining a close friend who is talking negatively (similar to your thoughts) and what rational, encouraging support you would provide. At some point, however, it is likely that you will need to take ownership of your thoughts and focus on making choices that you have probably forgotten you have.
Replace	Once negative thoughts are eliminated, minimised or parked, you need to replace them with positive thoughts and images. These thoughts should ideally focus on what is in your control, on processes, the present, what’s positive, and staying composed. If thinking about your performance is proving too difficult, then distract yourself by doing and/or thinking about something completely different and thinking about your performance later.

Figure 1. A Mental Fortitude Training™ Programme for Sustained Success.

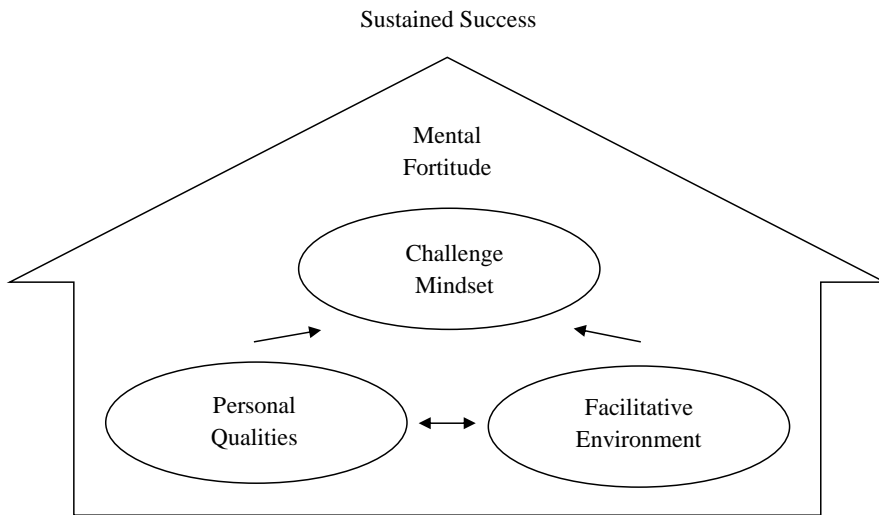




Figure 2. A Basic Psychological Structure of Personal Qualities and Influencing Factors for Developing Psychological Resilience.

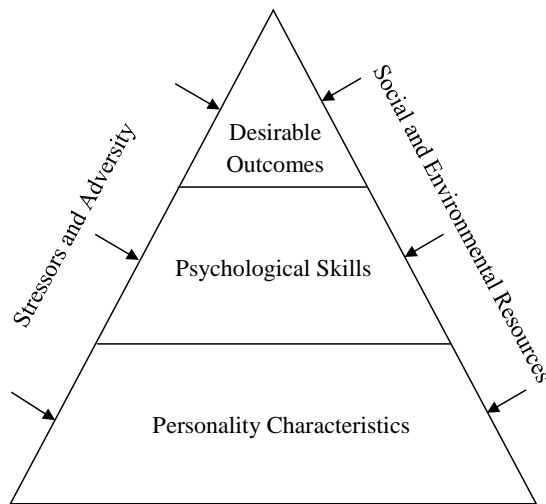


Figure 3. Differences in the Development of Resilience in Individuals with Minimal Resilience Training.

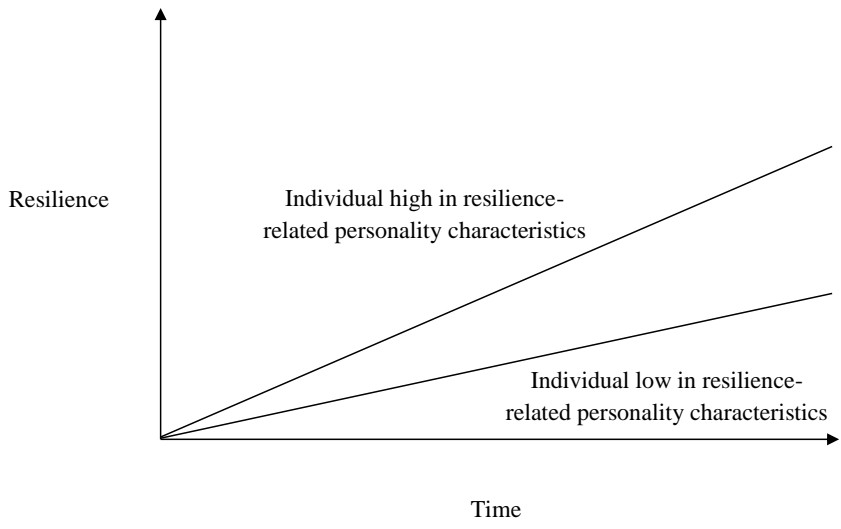


Figure 4. Effect of Resilience Training on an Individual Low in Resilience-Related Personality Characteristics.

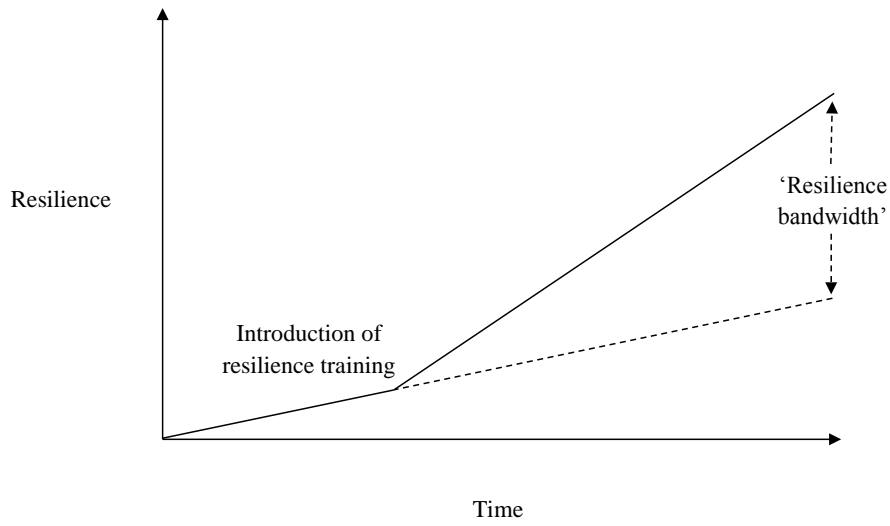


Figure 5. The Relationship between Challenge, Support and Performance (reproduced from Sanford, 1967).

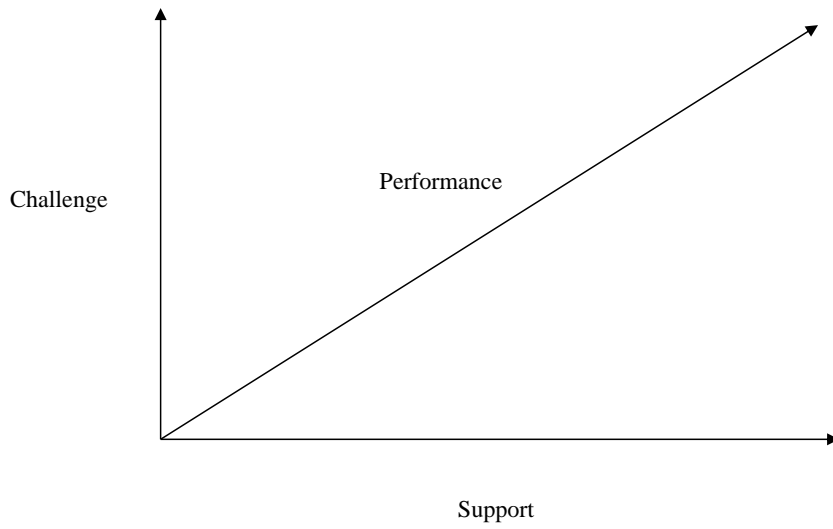


Figure 6. A Challenge-Support Matrix for Developing Resilience (adapted from Daloz, 1986; Sanford, 1967).

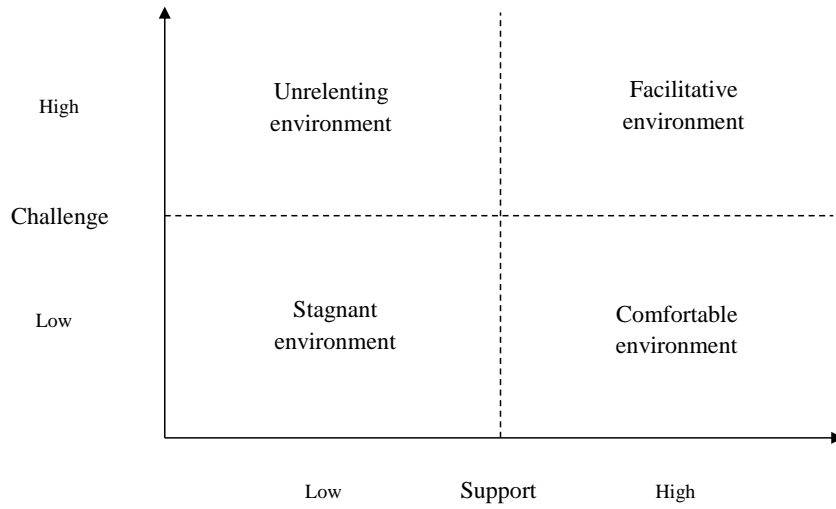


Figure 7. A Model of Pressure Inurement Training™ for Developing Resilience.

