

AN EVIDENCE-BASED AND INDIVIDUALIZED BLENDED TRAINING PROGRAM TO ASSIST HIGH PERFORMANCE STUDENT ATHLETES IN DEVELOPING WELL-BEING AND MENTAL TOUGHNESS SKILLS AND OPTIMIZING ACADEMIC AND SPORT GOALS

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Abstract

Research indicates that there is a large set of common malleable factors that predicts performance in both the sporting arena and in the classroom. These factors also have a major impact on the well-being of these performers. High performance student athletes at university level are under a lot of pressure to perform academically and on the sport field, and to simultaneously maintain a well and balanced life style. It therefore made a lot of sense for our university to invest in developing a training program for our high performance student athletes that will enable them to optimize both their sporting and their academic achievements, and to flourish in the rest of their lives as well. A blended training program with the title "Choose to Flourish" was therefore designed and implemented as part of a pilot project in 2016 at Stellenbosch University in South Africa. It has the specific aim of helping student athletes to develop the malleable factors that influence both their performance and well-being.

Keywords: Malleable predictors of performance and well-being, blended training program, individualization, support for high performance student athletes.

1 INTRODUCTION

Our philosophy is beautifully summarised by the following quotation from Professor Martin Seligman, the "father" of positive psychology [1]:

"What do you want for your children?

If you are like the thousands of parents I've asked this question, your responses included "happiness", "confidence", "contentment", "fulfilment", "balance", "purpose", "good stuff", "kindness", "health", "satisfaction". "love", "being civilized", "meaning", and the like. In short, wellbeing is what you most want for your children.

What do schools teach?

If you are like most parents, your responses included "achievement", "thinking skills", "success", "conformity", "literacy", "mathematics", "work", "test taking", "discipline", and the like. In short, what schools teach is how to succeed in the modern workplace.

There is almost no overlap between these two lists.

I am all for success at work, but this book asks you to imagine that schools could, without compromising either side, teach both the skills of wellbeing and the skills of achievement."

The aim of the "Choose to Flourish" workshop series is do exactly that, namely to equip high performance student athletes with skills that will enable them to simultaneously perform optimally on the sport field and in the classroom, and to flourish in life.

This paper will firstly discuss the malleable factors that have an influence on performance and well-being (section 2) and then describe the theoretical models of success and well-being the "Choose to Flourish" program is based upon (section 3).

A comprehensive description of our blended and individualized approach is provided in section 4. All the self-evaluations and personal growth activities that were implemented in the online implementation of the program are listed and referenced, allowing readers to learn more about the science behind the assessments and activities and empowering them to design interventions of their own.

The paper concludes with the results of a pilot project of the course that was run in 2016 (section 5) and a brief outline of developments that are planned for the near future (section 6).

2 MALLEABLE FACTORS

Research indicates that there is a large set of common malleable factors that predicts performance in both the sporting arena and in the classroom. These factors also have a major impact on the well-being of these performers. Some of the evidence-based factors that were identified by leading scientists and are applicable to sportsmen- and -women are grit[2], growth mindsets[3], optimism[4], a positive outlook on life[4], goals[5], self-efficacy[6], hope[7], harmonious passion[8], purpose[9], flow[10] [11], deliberate practice[12], positivity[13], the upside of stress and emotions[14], confidence[15], motivation[15], resilience[15], positive and supporting relationships[16], and some very specific mental toughness factors[15]. The good news is that all of these factors are malleable and can be developed [2][3][17]. The “Choose to Flourish” training program provides opportunities to student athletes to develop each of these factors and to hopefully optimize their performance and well-being in the process. It is, however, not easy to develop these factors – it requires great effort and purposeful practice.

The world’s leading expert on grit, Angela Duckworth, formulated her theory of the psychology of achievement in two simple equations that explain how one gets from talent to achievement:

Talent x effort = skill and skill x effort = achievement.

“Talent is how quickly your skills improve when you invest effort. Achievement is what happens when you take your acquired skills and use them. What this theory says is that when you consider individuals in identical circumstances, what each achieves depends on just two things, talent and effort. Talent - how fast we can improve a skill - absolutely matters. But effort factors into the calculations twice, not once. Effort builds skill. At the very same time, effort makes skill productive.” [2]

Although talent (defined by Duckworth as how quickly you can improve your skills when you put in the effort) is important, effort is counted twice. And, of course, we have control over how much effort we put in - which is exciting. The amount of effort we put into cultivating our talent equals our skills. The amount of effort we put into giving our skills to the world equals our achievement. We believe that this is not only applicable to intellectual and physical skills (like sporting skills), but also to life, performance and well-being skills like the ones we focus on in our “Choose to Flourish” curriculum. To develop these will require effort, but it is definitely possible to improve them. Our approach (spelled out below in section 4) demands effort and purposeful practice from participants.

Anders Ericksson, the world’s leading authority on deliberate practice, has the following to say about purposeful practice – a form of practice we can all strive for and the kind of activity we encourage all participants in our “Choose to Flourish” course to strive for in order to enhance their performance and well-being skills:

“Purposeful practice has several characteristics that set it apart from what we might call ‘naive practice,’ which is essentially just doing something repeatedly, and expecting that repetition alone will improve one’s performance. Purposeful practice has well-defined, specific goals. Purposeful practice is focused. Purposeful practice involves feedback. Purposeful practice requires getting out of one’s comfort zone. So here we have purposeful practice in a nutshell: Get outside your comfort zone but do it in a focused way, with clear goals, a plan for reaching those goals, and a way to monitor your progress. Oh, and figure out a way to maintain your motivation.” [12]

The bottom line: The large set of common factors that predict performance in the sporting arena, in the classroom and in life are malleable, but for anyone to change their current capabilities will require effort and purposeful practice.

3 CONTENTS OF THE “CHOOSE TO FLOURISH” PROGRAM

The Gritty VIPER Mindset model of performance (VIPER = Vision, Intention, Purpose, Energised Execution, Resilience) and Seligman’s PERMA model of well-being (PERMA = Positive emotions, Engagement, positive Relationships, Meaning, Achievement) were chosen as the theoretical models to base the contents of our intervention program on.

3.1 The Gritty VIPER Mindset Model of Performance

The VIPER model of peak performance was proposed by Angela Mouton in her PhD thesis with the title “Positive Psychology Predictors of Performance in Academics, Athletics and the Workplace” [18]. We chose this model as one of the foundations our “Choose to Flourish” course is built upon firstly,

because it addresses all, or most of, the malleable factors listed in section 2 above, secondly, because it has a nice sound to it and can be used as a memory hook to help athletes remember the different elements we try to develop in the course, and lastly, because it links up well with our own research and frameworks. [19] [20] [21]

Mouton described her model as follows [18]: "In short, the "VIPER Model of Peak Performance" suggests that (controlling for talent, opportunity and environment) peak performance depends on five developable predictors (being skills or orientations, rather than tools): Vision, Intention, Purpose, Energized Execution, and Resilience."

Vision summary. In sum, the first component of the VIPER Model is Vision, informed by previous literature on mental imagery and realistic optimism, which suggests that peak performance requires creation of a mental image of success and having an optimistic but nevertheless realistic expectation that this vision will be realized.

Intention summary. In sum, the second component of the VIPER Model is Intention, informed by previous literature on self-efficacy, hope, and implementation intention. This literature suggests that peak performers bridge the gap between Vision and Execution through Intention, particularly building self-efficacy, being hopeful (engaging personal agency and identifying alternative pathways to achieving valued goals), and having implementation intention (being proactive in formulating a specific plan of action to achieve goals, and having an intention to implement that plan).

Purpose summary. In sum, the third component of the VIPER Model is Purpose, informed by previous literature on meaning and purpose in life, calling, and passion. This literature suggests that some peak performers act in accordance with a sense of greater meaning or purpose in life, a calling, and/or passion that provides the fuel or "reason to" motivation required to initiate and maintain a striving for peak performance over time.

Energized Execution summary. In sum, the fourth component of the VIPER Model is Energized Execution, informed by previous literature on deliberate practice, flow, and emotion regulation. This literature suggests that peak performers energetically execute their vision by perfecting their skills through deliberate practice, being in flow, and by regulating their emotions to amplify those emotions that increase their performance and dialling down emotions that do not.

Resilience summary. In sum, previous literature suggests that resilience, including mental toughness, is required not only to sustain striving towards peak performance but also to bounce back from adversity and to recommit (in turn) to the Vision, Intention, Purpose and Energized Execution stages of the VIPER cycle."

We added and combined grit and a growth mindset, both important predictors of performance and components of positive psychology, to the VIPER model and named the resulting model the Gritty VIPER Mindset model of performance. This new model is depicted in figure 1 below.

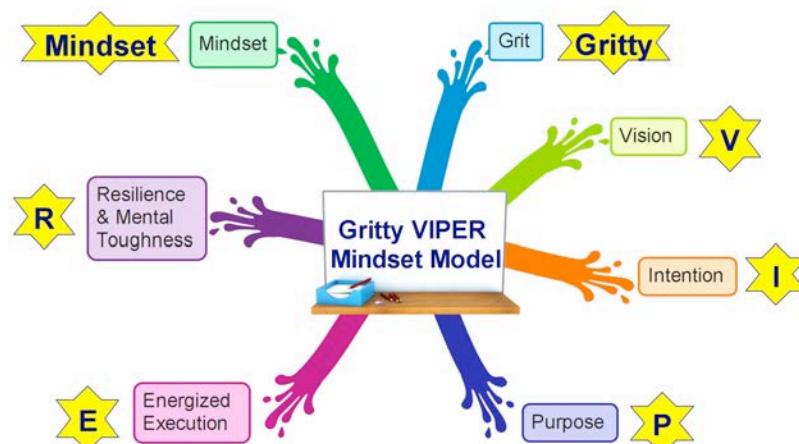


Figure 1: The Gritty VIPER Mindset Model of Performance.

3.2 PERMA Model of Well-being

Seligman, the “father” of positive psychology, defined well-being as follows [22]: ‘here then is well-being theory: well-being is a construct; and well-being, not happiness, is the topic of positive psychology. Well-being has five measurable elements (PERMA) that count toward it: Positive emotion (of which happiness and life satisfaction are all aspects), Engagement, Relationships, Meaning and Achievement.

No element defines well-being, but each contributes to it.”

We like to add the V of Vitality to this model since we strongly believe in the positive influence sufficient physical, emotional, mental and spiritual energy (Tony Schwartz's model from "Be Excellent at Anything" [23]) has on the quality of our lives and whether we really flourish, or not. See figure 2 below for a visual summary of the PERMA-V model of well-being.



Figure 2: The PERMA-V Model of Well-being.

Our aim was to develop a curriculum (to populate the two models with topics) that simultaneously facilitates the development of both the performance and the well-being factors listed in section 2. Table 1 below provides a summary of how the main topics covered within this curriculum are associated with the various dimensions of both the Gritty VIPER Mindset model of performance and the PERMA model of well-being. It also indicates in which of the six modules of the course these topics are covered and which dimensions of the various models are addressed within in each module.

Table 1: Contents in a Nutshell, Connection with Different Models and Structure of Course.

Gritty VIPER Mindset Dimension	Main topic(s) addressed in the corresponding module	Module	PERMA Dimension Addressed
Gritty	Grit	Module 1	Achievement
Vision	Mental imagery, realistic optimism	Module 2	Achievement Positive emotions
Intention	Self-efficacy, implementation intentions, hope	Module 3	Achievement Positive emotions
Purpose	Meaning, calling, passion	Module 4	Meaning
Energised Execution	Flow, deliberate practice, emotion regulation	Module 5	Engagement Positive emotions
Resilience	Mental toughness, resilience	Module 6	Achievement Relationships
Mindset	Growth mindset	Module 1	Achievement

4 A BLENDED AND INDIVIDUALIZED APPROACH

A blended learning approach and a so-called "GROK-GAUGE-GROW-TRACK" model of presentation are followed in delivering the program (GROK means to understand something profoundly and intuitively [24]): Face-to-face workshops (with group work) are complemented by a comprehensive online service that provides individualized developmental websites (tools) for all athletes - each site contains GROK, GAUGE, GROW and TRACK pages.

To help student athletes to GROK properly they must attend the workshop lectures, study downloadable reading material and presentation slides and watch enriching videos on the GROK pages of their sites.

Self evaluations, with feedback, are available for each of the components of the PERMA model of well-being and the Gritty VIPER Mindset model of performance on the GAUGE page of these sites. These evaluations are taken anonymously and no personal information is collected. The purpose of these self evaluations is to cultivate a self-awareness of the various factors that may impact performance and well-being. Optional one-on-one support by a registered psychologist is available to all athletes to help them in interpreting their results.

A collection of online activities and exercises are available on the GROW pages of these sites to help athletes to improve their skills and develop the malleable factors that impact performance and well-being. These activities are the core of the program and are meant to be deliberately practised!

All interactions with the GROW activities are recorded and are available on the TRACK pages of an athlete's site. The individualized sites of all participants are password protected and for their eyes only. These sites are updated daily and since these sites are meant to be used as developmental tools they remain available to athletes after the workshops have ended.

Our grok, gauge, grow and track approach therefore demands effort from our participants and allow them to purposefully practise their new skills. We therefore believe that our framework creates the right conditions for growth, but it remains the responsibility of participants to make use of it.

Table 2 summarises the different components of this approach, table 3 lists all the self-evaluations that are available per module, and table 4 (below section 5) gives information about the various online activities and exercises which are available and linked to the different modules of the course. Complete references are provided to enable readers to learn more about the science behind the assessments and activities and empowering them to design interventions of their own.

Table 2: The Grok, Gauge, Grow and Track Model and Blended Presentation Approach.

Stage / Mode	Face-to-Face	Online
GROK	Workshop lectures	Slides, specially prepared reading material, videos
GAUGE	Optional one-on-one support	Online self evaluations
GROW	Group work during sessions	Journal activities and exercises
TRACK		Track and report on individualized websites of users

Table 3: Self-evaluation Assessments per Module¹.

Section / Module	Self Evaluations / Assessments
Start: Well-being, Mental Toughness and Intention to Grow	PERMA Profiler [25], Weinberg's Mental Toughness in Sport Questionnaire [15], Personal Growth Initiative Scale [26]
Module 1: Develop Your Grit and a Growth Mindset	Grit and Growth Mindset Assessment [2] [3], Determine Your Goal Orientation [27]
Module 2: Develop Your Vision / Outlook	Shortened Questionnaire Upon Mental Imagery [28], Learned Optimism Assessment [4], Strategic Optimism vs Defensive Pessimism Assessment [29]
Module 3: Develop Your Intention	The General Self-Efficacy Scale [30], The Adult Hope Scale [31], The Spontaneous Implementation Intentions Scale [32], Assess Your Desire to Achieve [33], Assess Your Preference for Challenges [18]
Module 4: Develop Your Purpose	The Purpose Checkup [9], Assessing Your Passion [34], The Sport Motivation Scale [35], The Brief Calling Scale [36]
Module 5: Flow, Peak Performance and Energised Execution	Assess your proneness for psychological flow [37], The Self-Consciousness Scale [38], The Revised Competitive State Anxiety Inventory [39], The Brief Fear of Negative Evaluation Scale [40], A Measurement of Deliberate Practice [18], The Emotion Regulation Questionnaire [41], Executing with intensity [18], The Stress Mindset Measure [14], Positivity Ratio Assessment [13]
Module 6: Develop Your Resilience and Mental Toughness	Commitment Self-Help Test [15], Excelling Under Pressure Assessment [15], Assessment of Concentration [15], Assessment of Self-Talk [15], Assessment of Confidence [15], Mental Imagery Questionnaire [15], Assess Your Source of Social Support [42], Sport Mental Toughness Questionnaire [43], Assess Your Resolve / Commitment / Determination [44], Mindfulness Assessment [45] [46], Sports Competition Anxiety Test [16], Sources of Sport-Confidence Questionnaire [16], Mood Profiling [16], Self-Motivation Test [16]

5 PILOT PROJECT²

The “Choose to Flourish” workshop series was offered for the first time during March and April 2016. Three two hour sessions were conducted in the Innovation Centre of the university’s gymnasium – a multipurpose room next to the exercise equipment – the face-to-face part of the program. The sessions took place between 19h00 and 21h00 in the evenings, allowing students to follow their normal academic programs during the day and their physical training sessions after class. All students also received access to their own individualized grok, gauge, grow and track websites – the online part of the program.

A second round of the workshop series will be offered (still as part of the pilot project) during the second half of 2016. After evaluating and revising the 2016 offering of the program it will hopefully be a compulsory part of each high performance athlete’s personal development plan from 2017 onwards (during 2016 it was not compulsory).

¹ All self evaluations have been implemented by utilizing Formstack’s form building service at www.formstack.com. They are available on the private websites of participants (for self awareness). Participants are also referred to popular websites, like www.authentichappiness.com, where many of these assessments are also available.

² The “Choose to Flourish” curriculum most probably require at least 60 hours of intense engagement to enable the effective transfer of knowledge and skills (via purposeful practice and lots of effort). It was only possible to cover the bare essentials in presenting it as part of this pilot project where only 6 hours were available. It will be repackaged and offered as a short course.

15 student athletes took part in the workshops during the first round in 2016. At the conclusion of the last session participants were offered the opportunity to evaluate the workshop as a whole: Firstly, to rate their overall impression of the workshop on a scale from 1 to 10, and, secondly to list positives, negatives and interesting stuff regarding the workshop. The average rating for the program was 8.2 on a 1 to 10 scale. Table 5 provides a representative sample of the positive, negative and interesting qualitative feedback that were received.

Table 4: GROW Activities and Exercises per Module³.

Module / Section	GROW Activities / Exercises
Everyday Activities	Engaging PERMA Questions[47], Performance Analysis Journal [48]
Module 1: Gritty Goals and Growth Mindsets	Questions to Grow Your Grit [49], Gritty Goals [24], WhyTry Exercise [24], Expand Your Mindset [3] [5]
Module 2: Develop Your Vision and Outlook	Setting Product & Process Goals [50], Kill Automatic Negative Thoughts (ANTs) [51], Changing Hot Thoughts [51], Learn to Visualize [52]
Module 3: Develop Your Intention	Making Hope Happen [7], WOOP Your Life! [53]
Module 4: Develop Your Purpose	Create Your Purpose Statement [9], Self-Affirmation of Values [14], Values Clarification [54]
Module 5: Flow, Peak Performance and Energised Execution	Increase Your Flow Experiences [10] [11], [54], Strengths Flow Audit [55], Emotional Messages [56], The Mood Elevator [57]
Module 6: Develop Your Resilience and Mental Toughness	Performance Analysis Journal [48], Performance Analysis & - Profile [16], Performance Statements [52], Power Priming for Success [58], Your Personal Highlight Reel [52], Your Mental Preparation Profile [16], 100 Seconds Mental Workout [50], Mindfulness Tracker [54] [59], Active Constructive Responding Log [54] [59]

Table 5: Qualitative Feedback about the “Choose to Flourish” Program.

Positives	Negatives	Interesting Stuff
“refreshing topics”; “practical examples of exercises that can be taken home”; “I’ve learned a lot and already used this at the 7’s”; “Relevant”; “Very educational”; “stimulating”; “Helps be a better person”; “The workshop sessions helped me to plan my life better; it motivated me to be a better person and to push myself to the limit so that I can become better in what I’m doing.”	“Hard to concentrate after practice”; “A bit late at night but I understand it is the only time”; “relatively long” Note: Course content designed for at least 60 hours of intense engagement – only snippets covered in 6 hours of contact time.	“Found modules very interesting & relevant for being a student athlete.”; “Learning all the techniques and ways you can add to your life/profession”; “How flow works & the fact that it’s something that can be learnt & applied to all aspects of your life”; “various techniques on how to improve mentally”; “all the literature available”; “Mental training, confidence + stress + how to turn everything into a positive”

6 FUTURE DEVELOPMENTS

A 100% online version to broaden the possible reach of the course is envisioned for the near future. Future plans to make this possible, and to also improve engagement online in the blended version, include: 1. Record and make short TED-like videos on the various “Choose to Flourish” topics available on the individualized websites of each participant (this will complement the existing content on the GROK pages of users); 2. Integrate gamification principles within the individualized websites of

³ These activities and exercises are the core of the program, in both the face-to-face workshops and when done online. All interactions are tracked and retrievable via online journals within the private websites of participants.

participants to enhance engagement, competition amongst participants in terms of personal growth, and motivation – gamification has already been used successfully locally in a campus-wide peer mentoring system to motivate students to engage in well-being enhancing activities (also a blended approach) [21]; and 3. Utilize social media (like Twitter and Instagram), forums and blogs to create a dynamic online community.

This same model is also currently being used to develop a first-year curriculum that will hopefully facilitate academic success and enhance wellness and well-being (it shares many of the same aims as the “Choose to Flourish” program but the target group is first-year university students). A similar course for the working environment is also envisioned. Our end goal is to create a generic framework with enough GROK, GAUGE and GROW material so that it will be possible to easily create an online grok, gauge, grow and track service that is taylor-made for the developmental needs of a wide variety of audiences, including university students, working professionals, sportsmen and –women, and other individuals who want to flourish and optimize their lives.

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