

# Maximizing Student Achievement:

## A Review of the Process-Focused Exam Performance Program to Improve Student Performance and Achievement.

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March 2015

“Testing situations are objectively stressful. The stakes are high, and students must cope with time and evaluative pressures. In acute stress situations such as these, stress arousal can be adaptive and functional. The Exam Performance Program is at the leading edge of test preparation. This novel program “bucks the trend” and focuses on improving students’ mental mindsets leading up to and during stressful testing situations. Students of this program are taught to harness the power of their biological responses to stress to improve cognitive performance and ultimately, their test scores, so that that scores more accurately reflect students’ ability and knowledge and give them the best chance to succeed while under stressful exam conditions.”

*" We cannot solve our problems with the same thinking we used when we created them."  
– Albert Einstein*

## Executive Summary

The Exam Performance Program is an eLearning program that trains students to perform better in high-stakes situations – academic testing, standardized admissions exams, and licensing/professional exams. Based on peak performance training techniques derived from the fields of neurology, clinical psychology and sports psychology, The Exam Performance Program helps students train to be calm, confident and focused so they perform at their best during stressful exam conditions, when a peak performance mindset matters most. The program incorporates techniques used by top athletes and professionals who train to perform at their best while under pressure.

The Exam Performance Program is premised on the fact that academic exams and standardized tests not only test to see how much of the tested material students know, they also test to see how well students can perform while under stressful exam conditions. Students who are unprepared to handle both the stress and mental rigors of the testing situation are not “fully” prepared for what is being tested and they risk panicking and not performing to their highest ability, which can possibly lead to disappointing exam scores. The program is especially helpful to those students who say/believe “I don’t test well”, “I’m not a good test-taker” or “I suffer from test-anxiety”.

The Exam Performance Program is a great tool for educators in this 21<sup>st</sup> century landscape. Educators have long focused on the standard tools to improve academic outcomes: curriculum development, professional development, student and teacher evaluation, and technology. The Exam Performance Program not only addresses all of these traditional methods of improving education but also goes further. The Exam Performance Program addresses student engagement, self-efficacy, motivation and mindset, and other socio-emotional learning issues like “stereotype threat” which are not currently addressed by standard teaching practices. The Exam Performance Program bridges the gap between traditional teaching practices and the needs of 21<sup>st</sup> century learners who are in today’s classrooms. Bringing all of this together can enable students to focus on emotional self-regulation and mindfulness and the Exam Performance Program can enable peak cognitive performance in stressful testing situations. Therefore, The Exam Performance Program is a piece in the equation to help students achieve new levels of self-efficacy, self-confidence, growth-mindset, self-motivation and emotional self-regulation to enhance academic achievement and testing performance.

The Exam Performance Program incorporates the techniques practices of peak performance training, similar to those practices used by athletes, military personnel, and business executives. Peak performance training now helps students enhance their mental skills, with the goal of gaining a mental edge in competition or while in a high-stakes situation. The Exam Performance Program helps students train to develop a peak performance state of mind when one is calm, confident, and focused. Mindsets about ability and intelligence are especially important to consider in education because students’ beliefs about their abilities to perform well can have profound effects on their scores.

The Exam Performance Program is designed for any student or test-taker who is facing an academic exam or standardized test. Some examples of these high-stakes tests may include college or graduate school admissions exams, professional or licensing exams, and the Common Core State Standards. It is a tool for educators, parents, and students to use to improve student academic achievement and testing performance. It can be a tool to be used alongside traditional test preparation programs as it focuses on the psychological component

of the testing process, a compliment to the test-specific content that test prep provides. Recently, educational researchers have begun to recognize the necessity of considering stress in the context of testing. The Exam Performance Program can be customized to help many different students face high-stakes situations and improve their outcomes as it bolsters the psychological confidence that maximizes performance. This means that the program is particularly useful for students who suffer from test-anxiety. The Exam Performance Program can help produce higher scores when one learns to manage the stress of testing and prevent students from feeling test-anxiety in the first place.

The Exam Performance Program consists of 6 workshop videos, a corresponding workbook, and 10 daily training videos. The two-hour online workshop component is designed to walk students through the principles of peak-performance training and how to develop a “Champion Mindset”. Students learn how to develop high-quality habits that help them improve their confidence and motivation, control their psychological responses to stress, to recover from mistakes quickly (resilience), and to be prepared to perform at their best during stressful situations. It is recommended that students use The Exam Performance Program for two-three weeks prior to any testing situation, doing 20-30 minutes of daily training per day.

The Exam Performance Program can be purchased as an individual skill-building program, professional development for teachers, parents and administrators, or as group trainings for students. The Exam Performance Program is ideal for working with students from under-represented communities as the program helps students develop a growth mindset, overcome stereotype threat, increase student engagement, improve self-efficacy, improve emotional self-regulation and improve STEM motivation. ExamPerformance.com has historically worked with federally funded student programs for low-income, minority and foster care students, and various community-based organizations in order to improve student motivation, self-efficacy, self-confidence, engagement, retention, and academic achievement.

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I am delighted to offer my endorsement for The Exam Performance Program (EPP). As an Assistant Professor of Psychology at the University of Rochester I have consulted with Mr. Cyrus Hekmat and am impressed with the degree of attention paid to scientific research findings to inform development of the program. In fact, my assessment of the program is so positive that I am excited to begin collaborations with the EPP team to test and integrate cutting-edge psychological research and theory to maximize the effectiveness of the program. In short, The Exam Performance Program is a promising test preparation program to enact positive change in students' lives and I give the program my strongest endorsement.

More specifically, The Exam Performance Program is rooted in psychological research that indicates changing upstream cognitive appraisals can directly improve downstream performance outcomes. That is, stressful testing situations are not the direct cause of student underperformance, but rather cognitive processes are the more proximal processes through which testing situations impact outcomes. This theoretical structure is consistent with myriad research domains, such as classic research on Rational Emotive Behavioral Therapy (REBT), Cognitive Behavioral Therapy (CBT), and emotion regulation, to name a few. The Exam Performance Program successfully integrates research findings and distills the messages to be accessible to most any student.

An added benefit of The Exam Performance Program is that it can be delivered either as part of classroom instruction or online, without the need for scheduled classroom time. This flexibility makes the program even more accessible to those students who need it the most. The online delivery method is important for reaching underprivileged students and their teachers who may not be able to afford or devote the time necessary to utilize classroom sessions. Reaching underprivileged or minority students with preparation programs like EPP is immensely important given persistent achievement gaps in academics. For example, research on stereotype threat indicates that stigmatizing social identities (e.g., women in math domains) impairs performance via affective, motivational, and cognitive processes. Methods built into EPP directly address these mechanisms.

In summary, The Exam Performance Program is a slam-dunk investment for students. It has the potential to improve not only their performance in academic testing situations, but also maximize students' ability to cope with a wide array of acutely stressful situations in their lives. From my assessment EPP is grounded in sound scientific evidence and the program developers are supportive of using data-driven research to enhance the effectiveness of the program going forward.

Best wishes,



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Gentlemen;

I am more than happy to endorse Cyrus Hekmat and his Exam Performance Program to you, and to let you know that I am excited to see the new Brainrush Academy come together, through your new association with him. I know Cyrus through the stellar work he contributed, introducing the Exam Performance software to our 50, high-school aged (Grades 9 – 12) foster youth on-campus at UCLA.

The goal of our program is to leverage the academic knowledge, life skills and community at major universities to address the statistic that only 3% of foster youth earn a Bachelor's Degree as a ladder for overcoming the life risks associated with foster care. First Star houses, educates, and encourages foster youth on the university's campus each summer of grades 9 through 12, and brings them back non-residentially one day of each month in the same grades. Peer Counselors are ex-foster youth, now undergraduate or graduate students. The entire purpose is to prepare 14 to 18 year olds intellectually and psycho-socially for college, to help them believe it is possible, and enable them to work vigorously toward it. Six of these Academies are running now (UCLA, UConn, URI, GW, Rowan NJ, UCF) and 2 more launch early next year (Pepperdine, Loyola Chicago). The best two short videos are here: [www.vimeo.com/65436956](http://www.vimeo.com/65436956) and here: [www.vimeo.com/28022043](http://www.vimeo.com/28022043).

During the 2014 summer session of First Star at UCLA, Cyrus met with our classes, some of whom can suffer from a lack of motivation in school and from test anxiety. Cyrus gifted his company's eLearning program to our students to help improve their mindset, attitude and performance on their upcoming standardized tests. In my opinion The Exam Performance Program was very well received by our students. Cyrus is a gifted and charismatic presenter. The youth bonded well with him and seemed fully in the zone of his teaching throughout. And he has a tremendously helpful program to present.

Happy to discuss further if helpful to you.

Best regards,

Peter Samuelson  
 President

## Recommendations

### Bob Cohen

Education Management Professional

“ I am honored and privileged to offer my endorsement and commentary for The Exam Performance Program (EPP). I am a retired New York City Department of Education Administrator. My career spanned over 40 years starting as a high school mathematics teacher, school administrators, central office administrator, deputy superintendent, deputy executive director for operations and finally network leader for over 33 schools. Most of my career was serving students, schools and their respective school communities in the Bronx. My conversations with Mr. Cyrus Hekmat have been energizing and thought provoking as he brings to the table a high degree of understanding for the social-emotional dynamics of the students and their families that we serve. As educators we need to understand that the academics is only part of what we provide to our students. Serving the “whole student” is the answer to having successful students who can determine and meet their own self-fulfilling destiny. Mr. Cyrus Hekmat and the Exam Performance Program provide a comprehensive approach to having our students and our own children become successful citizens.

As a mathematics teacher I informally used some of the techniques that are part of the program. Although I was not formally trained in the program, I understood the importance of teaching and addressing the entire student. Having students' comfort and confident level at a point that they could take examinations such as the “New York State Regents Examinations” was crucial. School attendance records indicate that many students do not attend school for these and other test administrations because of their “fear” of taking and possibly failing examinations. Incorporating the examination genre, vocabulary and questioning techniques into daily lessons and interim assessments in addition to the content knowledge will improve students' success and lessen intense anxiety with test administrations. The classes that I taught had high numbers of students achieve passing scores on the regents examinations. These results improve student self-esteem and their ability to move forward.

If I were still a school administrator, it would be without hesitation that I would adopt and adapt this program to meet the needs of the students and the entire school community that I serve. This program is about improving the school culture so that everyone benefits from it. Whether we acknowledge the fact that in addition to students; teachers, administrators and parents experience their own anxieties with test administrations – they do! Teachers and administrators and schools are evaluated based upon students' achievement and progress on the various high stakes examinations that are administered. This program can be a positive influence on addressing these emotions and the anxieties resulting in better performance and higher outcomes for students on high stakes examinations.

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## Introduction

The current educational landscape in the United States is more fast-paced than ever before. The ways students learn and perform are different from any time in our country's history and the education system has struggled to keep up with these changes in real time. Changes in technology and industry that usually dictate the needs of the education system are moving faster than the ways our schools change. Regardless of how education evolves in the United States, testing is still an integral part of how students (and teachers) perform and are evaluated.

At the national level, there has been a transition from No Child Left Behind (NCLB) to the Obama Administration's reauthorization of the Elementary and Secondary Education Act (ESEA). NCLB focused on standardized testing and school-level interventions based upon the results of that testing. The goals of ESEA are to simultaneously move away from standardized testing and aggregate information collection and to move towards equity and standards-based reform for all students and educators. In contrast to the standardization mentality of NCLB, through ESEA states have been given the authority to create their own college and career-ready standards, with 46 states adopting the implementation of the Common Core State Standards (CCSS). Schools are no longer viewed as proficient or not proficient, but ESEA differentiates the achievement of schools based upon student growth and progress. ESEA does not mandate that schools use specific supplemental educational services but instead allows school leaders to make autonomous decisions about what programs and support systems will benefit their individual schools and their needs. This "new world order" in education allows for more flexibility and creativity than ever before so that teachers, school leaders, and administrators can make the best possible decisions for their students.

This autonomy and flexibility via ESEA is also opening the minds of educators as to what other skills their students need to be successful. This "whole-student" approach is finding traction in many schools and districts throughout the country. The premise is that a student is at his best as a learner when he is engaged and challenged. This also means his other socio-emotional needs are being met along with his academic needs. For example, Mindfulschools.org trains schools and teachers how to incorporate mindfulness and meditation into their teaching practices. Mindfulness "decreases toxic stress and impulsivity and increases attention, emotion regulation, classroom engagement and compassion". All of these are skills that students can benefit from as they are encouraged to control and monitor their own states of being as learners. One Northern California low-income middle school has incorporated mindfulness practices into its daily lessons and has seen drops in detentions and referrals, and increases in student's ownership of their own behavior. Socio-emotional learning practices take the students' home lives and experiences into account, which is important in low-income and under-served communities as the challenges that students deal with on a daily basis – like poverty and violence – affect students' abilities to be present in school and to engage in their learning. When students worry about gunshots or where their next meals come from, it is difficult to focus during the school day to learn what they need to learn in order to be academically successful.

Another priority of ESEA is to facilitate more students' proficiency and success in Science, Technology, Engineering and Math (STEM) programs and course work. STEM courses, programs, and outcomes are clearly tied to future employment opportunities, as technology continues to expand the job opportunities in computers, engineering, science, the arts and math-based fields. The United States' slip in PISA ranking and in overall math student

performance correlates with its lack of competitiveness in the global job market in STEM-based fields. The focus on STEM support in schools, especially for female, minority and low-income students, is a way to not only increase opportunities for more students but also to increase the country's strength in the fields that will keep the US at the forefront of innovation and earning potential for its students and citizens. For the United States to continue to be competitive in the global economy, STEM courses and programs need to be offered to every student in every community.

### **Current State of Testing: The Need for Psycho-Situational Test Preparation Programs**

In an attempt to improve academic performance and testing scores in the 21st century, educators and the current education/test-prep teaching paradigm have focused their attention on the development of curriculum, improved instruction, student learning and evaluation, and more effective teacher evaluation. Although these factors are important solutions to current educational issues and problems, there is another component contributing to students' academic and testing performance that has not received sufficient attention; this component includes crucial topics such as student engagement, motivation and mindset (ie., self-efficacy) and other personal qualities that influence academic achievement and testing performance.

High stakes standardized tests are stressful. In fact, nearly every student reports experiencing some stress during testing, oftentimes saying/believing "I'm not a good test-taker" and "I don't test well". This is not surprising considering all that students go through with testing: they expend cognitive resources and apply knowledge to actively solve problems, they are under time pressure, and they face evaluative scrutiny from parents, teachers and peers. Scientific research spanning such disparate fields such as biology, psychology, and educational science highlights the integral role of stress in determining cognitive performance and academic achievement. In a way that is almost exactly disproportional to the huge role that stress plays in testing situations, preparation programs brush stress under the rug. Little is done to help students prevent or cope with their stress during testing and to improve their self-confidence other than some encouraging words or anecdotal evidence from a tutor or a test preparation course or book.

Historically, test preparation has a narrow focus on improving outcomes (test scores) rather than identifying and understanding mechanisms that determine or improve performance, which tend to occur more upstream. This unilateral focus on performance outcomes limits the development of preparation programs based on intermediate psychological constructs such as arousal or affect. That is, test preparation program developers have favored a preparation style that starts from the terminal outcome measure (test scores) and works backwards. For instance, "top-down," outcome-focused test preparation approaches might start with the question, "How can we raise students' test scores?" On the other hand, process-focused programs – which are virtually nonexistent – are developed from the "bottom up," and start with questions such as, "What determines students' test scores?" The first step for developing process-focused preparation programs is collecting data that elucidates the mechanisms that give rise to terminal outcomes. Then, underlying mechanisms can be targeted to help improve test scores. On the surface the differences between "top-down" and "bottom-up" approaches seem trivial, but the distinction can be very important for students. Rather, preparation programs need to support research that identifies underlying causes and addresses these psycho-situational factors that impact standardized test performance.



Contrary to lay beliefs, stress is not always negative. There are both maladaptive *and* adaptive types of stress responses. Unfortunately, stress typically implies a negative connotation and test preparation programs do not help students use the adaptive benefits of stress. In fact, people – Americans especially – devote considerable time and resources to reducing stress levels via regulatory behaviors, such as taking vacations, exercising, or having cocktails at the local pub after work. These efforts, however, do not change the experience of stress but rather provide escapes from stress. What are the options for coping with stress when escape is not possible? ***What can students do in the moment to modify/improve their experience of stress during high stakes standardized tests and other high-pressure, evaluative environments?*** Whatever changes may come to the education landscape, be it common Core State Standards or other evaluations, students need to learn the skills they need to perform at their peak levels. ExamPerformance.com has developed The Exam Performance Program to answer these questions pursuant to the scientific literature highlighted below.

## **The Mind–Body Link**

Scientists have long believed that the mind and body are tightly linked, with changes in one directly affecting the other. No longer do we hold to antiquated notions that somehow the mind and body are different substrates. Seminal work by Schachter and Singer (1962), for example, specified that cognitive processes, physiological signals, and situational cues interact to determine emotions. The idea that the mind and body operate in concert to produce psychological states is evident in current models of emotion. For instance, Conceptual Act Theory argues that appraisal transforms internal states into emotions by integrating bodily changes with external sensory information and knowledge of the situation (Barrett, 2006). There are many ways in which a student's stress level can affect his or her performance. We examine a few of the common ways below.

### *Self-Esteem and Efficacy*

Classic psychological research by Bandura (1977) defined self-efficacy as one's belief about one's ability to complete domain-specific tasks. Although it has been applied to wide array of domains including job performance (Stajkovic & Luthans, 1998) and parenting (Salonen, Kaunonen, Astdt-Kurki, Jarvenpaa, Isoaho, & Tarkka, 2009), self-efficacy is most commonly applied to students' beliefs about their ability to complete academic tasks. This model places the brunt of explanatory weight on expectations. Educators and parents are used to hearing this from students as "I'm not a good test taker", "I don't test well" and "I'm not a good student". Simply, if students expect to perform well, they will exert more effort to succeed. Although the theoretical model is somewhat dated and has been subsumed by more complex process models (e.g., the biopsychosocial model of challenge and threat), decades of correlational research have found self-efficacy to be positively associated with many academic outcomes, such as class participation and GPA (Gaylon, Blondin, Yaw, Nalls, & Williams, 2012), student engagement (Linnenbrink, & Pintrich, 2003), persistence and retention, (Brown & Robinson Kurpius, 1997), and even aspirations and career trajectories (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). Research on self-efficacy is but another example for how cognitive factors (i.e. appraisals or expectations) can exert strong influences on students' performance. We know that there is more to student performance than the expectations that are set. Therefore, again research calls out for the need for intervention programs that target psycho-situational factors.

## *Test-Anxiety*

The most common standardized tests assess students' "ability" in two general domains: mathematics and verbal knowledge/reasoning. Though it is not surprising that, for example, prospective American graduate students outperform non-US citizens on verbal sections of the graduate record examination (GRE), it may be equally unsurprising that American students lag behind international students on math scores. This gap may, at least partly, be due to students' attitudes and perceptions of the different subject matter. In fact, Americans students have a special term for disliking math: math anxiety, which has been defined as a negative affective reaction to numbers, math, and calculations (Ashcraft & Moore, 2009). Math anxiety is a growing problem among students as meta-analytic data indicates that high levels of math anxiety predict worse standardized test scores, lower grades, and enrollment in fewer math courses (see Ma, 1999, for a review). Moreover, math anxiety has been associated with poor performance in timed testing situations both in the laboratory and in the classroom (Ashcraft, 2002). Highly math anxious students experience math as so aversive researchers observe activation in neural pain networks in math evaluation situations (Lyons & Beilock, 2012).

At its core, math anxiety is a form of stress. In the "BPS framework" outlined below, math anxiety is classified as a negative-valance, high-arousal, avoidance-motivation emotional state. Like other forms of anxiety it is accompanied by maladaptive stress responses (i.e. *threat*). Students high in math anxiety perceive that they do not have the coping resources (knowledge, preparation, ability, etc.) to meet the situational demands of high stakes math exams. Their body enacts a threat response, constricting their vasculature, releasing cortisol, and impairing cognitive performance as less blood gets to their brain. Thus, for the subset of students who are highly math anxious, understanding the role of stress in testing situations can go a long ways towards helping improve the outcomes for these students. Towards this end, researchers Mark Ashcraft, Sian Beilock, and their colleagues have compiled a large corpus of data that specifies the mechanisms of math anxiety on academic achievement. They found that math anxiety predicted poor test outcomes because it depleted the cognitive resources that support complex math performance (Ashkaft & Kirk, 2001). When anxious students were trained such that their solutions to math problems became automatic or prepotent (i.e. responding no longer required demanding computations), those who received training performed well on their math exams (Beilock, Kulp, Holt, & Carr, 2004). Therefore, process-focused research indicates that lessening cognitive demands can alleviate the effects of math anxiety. However, in a perfect world test preparation programs would seek to treat feelings of math anxiety at the source (cognitive appraisals) rather than altering test attributes to help students. This means that we need to help students harness the positive aspects of stress and not to succumb to the physical manifestations of stress while taking tests and not give extended time conditions. So, going back to the important question: *What can students do in the moment to help improve their stress responses during testing?*

### *How to Harness Student Stressors for their Benefit: The Biopsychosocial Model of Stress*

The biopsychosocial (BPS) model of challenge and threat offers an explanation of how perception interacts with the situation to shape stress responses (see Blascovich & Mendes, 2010, for a review). Challenge and threat theory emphasizes interactions between cognitions, biology, and situations. Both challenge and threat states are experienced during acute (i.e.

short term) stress, but differ in antecedent appraisal processes, physiological responses, and downstream cognitions and behaviors (see Table 1 below for a taxonomy). Individuals experience challenge when cognitive appraisals of personal coping resources exceed perceptions of situational demands. Challenge states are characterized by improved cardiac efficiency and dilation of the vasculature, which facilitates delivery of oxygenated blood to the brain and has obvious positive consequences for performance (more oxygen = better function). These biological changes are accompanied by increases in “approach motivation” – striving towards success – which predicts a host of positive emotions and downstream benefits including improved problem solving during testing (e.g., Elliot, Shell, Henry, & Maier, 2005). On the other hand, threat states manifest when perceptions of situational demands exceed assessments of available coping resources – or “I am not a good test taker” syndrome. Threat is accompanied by a reduction in cardiac efficiency and vasoconstriction, changes that signal an avoidance motivation – seeking to avoid failure – and prepare the body for damage/defeat (Mendes, Blascovich, Hunter, Lickel, & Jost, 2007). Whereas challenge is typically associated with positive outcomes, threat impairs cognitive processing in the short term (and hence test outcomes) and is even associated with accelerated “brain aging,” cognitive decline, and cardiovascular disease over the long haul (Jefferson, Himali, Beiser, Au, Massaro, Seshadri et al., 2010; Matthews, Gump, Block, & Allen, 1997).

Table 1: A taxonomy of acute stress responses

<b>Challenge</b>	<b>Threat</b>
<i>Appraisals:</i> personal resources > situational demands <i>Motivation:</i> approach <i>Affect:</i> pride / excitement / ↑ self-esteem	<i>Appraisals:</i> personal resources < demands <i>Motivation:</i> avoidance <i>Affect:</i> anxiety / shame / ↓ self-esteem
<i>Cardiovascular reactivity:</i> ↓ Pre-Ejection Period (PEP): ↑ SNS arousal ↑ Cardiac output (CO): ↑ cardiac efficiency ↓ Total Peripheral Resistance (TPR): vasodilation <i>Neuroendocrine reactivity:</i> ↔ Cortisol / ↑ DHEA: decreased allostatic load ↑ sAA: improved cognitive performance ↑ Testosterone: increase in social dominance	<i>Cardiovascular reactivity:</i> ↓ PEP: ↑ SNS arousal ↔/↓ CO: ↓ cardiac efficiency ↑ TPR: vasoconstriction <i>Neuroendocrine reactivity:</i> ↑ Cortisol / ↔ DHEA: increased allostatic load ↔ sAA: impaired cognitive performance ↓ Testosterone: social defeat
<i>Recovery:</i> Fast. Responses return to baseline quickly	<i>Recovery:</i> Slow. Cortisol lingers after stress
<i>Performance:</i> Facilitated cognitive performance	<i>Performance:</i> Poor performance. Low test scores

The cascade of biological changes that accompany challenge (“good stress”) and threat (“bad stress”) states can have a profound impact on academic testing performance. From an evolutionary perspective, our bodies’ responses to stress may be interpreted as functional. In the evolutionary past most stressors were physical. So, withdrawing from potential sources of harm such as a predator to limit damage was the most adaptive response when situational demands were seen as exceeded coping resources. The stress we typically face in today’s modern society, such as high stakes standardized testing, are not physical but social in nature. Although we are in little danger of being eaten by predators, students cannot avoid taking exams if they want to succeed. If students experience standardized tests as stressful (which they do), they may be prone to experience threat (bad stress) because of common conceptualizations of stress in our society. A direct biological consequence of the experience of threat is high levels of the adrenal hormone cortisol (see Dickerson & Kemeny, 2004 for a review). To date the majority of research on stress and threat has focused on catabolic hormones like cortisol, but it is recognized that catabolic hormones interact with anabolic hormones (such as dehydroepiandrosterone, DHEA) during stress. Healthy (i.e. adaptive or good) stress responses are characterized by strong anabolic responses that protect the body

from damaging catabolic stress responses. In contrast, under activation of “anti-stress” hormones like DHEA contributes to pathology (McEwen, 1998). Prolonged exposure to high levels of cortisol takes a toll on the major regulatory systems - such as the cardiovascular, metabolic, and immune systems - and on the brain (Dubrovsky, 1997). To go even further to be relevant to high stakes testing, higher levels of anabolic hormones relative to catabolic hormones predicts improved performance on difficult math problems (Morgan, Southwick, Hazlett, & Rasmusson, 2004; Rasmusson, Vasek, Lipschitz, Vojvoda, Mustone, et al., 2004).

To summarize, due to the automatic negative perceptions of stress, students preparing for high stakes exams are more apt to interpret signs of stress as anxiety or nervousness. It is rare that students will view signs of stress – racing heart, sweaty palms, etc. – as positive without the proper training and preparation. This pattern of cognitive appraisal promotes threat responses, which (as shown above) produce maladaptive physiological responses and impairs performance. So, students experiencing “bad stress” are likely to receive test scores well below their ability level. This negative performance relative to ability can then solidify students’ negative perceptions of stress regarding tests. In fact, common statements such as “I’m not a good test taker” represent students’ negative appraisals of testing situations and their inability to successfully cope with the acute stress that accompanies tests. Thus, stress appraisals and stress responses are important determinants of high stakes standardized testing performance. Recently, educational researchers have begun to recognize the necessity of considering stress in the context of testing. Even with these changes in the education industry, traditional test preparation programs have yet to embrace this innovative research and remain focused on outcomes, techniques and skills.

### *Reappraisal & Mindsets*

The strong mind-body connection suggests cognitive factors have very real effects on downstream bodily responses. So, reinterpreting the meaning of cues or situations can go a long way towards improving responses during stressful situations. Reappraisal as specified by classic emotion-regulation models typically involves the reinterpretation of the affective meaning of contextual cues. In other words, emotionally charged stimuli and situations are presented, and individuals are instructed to reinterpret the stimuli (e.g., “The images are fake;” Ochsner & Gross, 2008) or to distance themselves from the situation (e.g., by adopting a third-person perspective; Kross & Ayduk, 2011). Reframing the meaning of stress inducing cues and/or distancing oneself from stressful situations improves responding by decreasing stress arousal and helping people to relax. For example, a student who adopts a third-person perspective during a standardized test may perceive the exam as less self-relevant, and therefore, less stressful (i.e. less physiologically arousing). Along these lines, research on math anxiety found that students who wrote about their anxiety before testing performed better on their exams because they were less anxious than those who did not write about their worries (Ramirez & Beilock, 2011).

Similarly, clinical researchers developed cognitive behavioral therapies (CBT) to help improve patient outcomes by modifying cognitive factors and emotional responses (Barlow, 2004; Hofmann & Smits, 2008). For instance, depressive patients are taught to identify biases in thinking (e.g., “Everyone hates me and always will”) and replace them with more rational thoughts. Two CBT components - mindfulness meditation and interoceptive exposure - are particularly relevant for understanding students’ preparation for stressful standardized tests. Mindfulness meditation is the nonjudgmental awareness of experiences in the present moment (Kabat-Zinn, 1990). The first component of this approach is the regulation of attention to

immediate experiences, and the second component is approaching experiences with openness (see Hölzel et al., 2011, for a review). Thus, mindfulness seeks to focus attention on internal cues and observe them as they pass. This includes stress cues. Mindful individuals perceive increases in stress, but remain calm as they let the feeling wash over them. Thus, a student preparing for a high stakes exam would remain aware of their feelings of stress and focus attention inwards as they let the arousal fade before beginning their exam. Related to mindfulness approaches, the key mechanism of interoceptive exposure is modifying pathological associations through disconfirmation derived from experience. For instance, a patient who exhibits panic attacks may be exposed to a situation in the lab meant to elevate their heart rate. Through this exposure the patient learns that cardiac arrest will not occur and it is this disconfirmation of the increased heart rate-heart attack association that underlies improvements in patient well being. To link back to test preparation, an example of an interoceptive exposure approach might have a student complete a practice test in a controlled setting (like a research laboratory) while their biological stress signals are monitored. After performance, the researcher could then demonstrate to the student via biofeedback that that his or her internal responses did not predict negative performance.

To summarize the classic reappraisal techniques outlined above, reappraisal from the emotion-regulation literature centers on decreasing stress arousal during passive tasks such as observing images or watching films (e.g., Gross, 2002). Likewise, reappraisal processes originating in the clinical and mindfulness literatures typically either seek to decrease arousal via mindfulness meditation (Cincotta, Gehrman, Gooneratne, & Baime, 2011) or teach people to accept stress via interoceptive exposure techniques (Levitt, Brown, Orsillo, & Barlow, 2004). Taken together, decreasing stress arousal and restoring homeostasis is a principal concept underlying classic research on reappraisal. Relaxation and the restoration of homeostasis are certainly adaptive and beneficial when no instrumental responses are required. People believe that relaxation is the best way to cope with stress and optimize performance under stress. However, during stressful tasks – including standardized tests – increases in stress arousal facilitate the mobilization of oxygenated blood to the brain and periphery, thereby improving performance. If a person remains completely relaxed, they cannot benefit from the adaptive functions of stress. Thus, test preparation programs should encourage students to embrace their arousal, not teach them to be completely relaxed going into testing situation. This advice is consistent with the most recent advances in scientific research. A new reappraisal technique termed “arousal reappraisal” seeks to harness the power of stress. Specifically, this approach alters the *type* of stress (i.e. changes “bad stress” to “good stress”) rather than eliminating stress altogether (cf. Dienstbier, 1989; Mendes & Jamieson, 2011).

The benefits of arousal reappraisal versus “detached reappraisal” (i.e. relaxation-focused reappraisal) are clear in empirical research that compares these different perspectives. For example, Shiota and Levenson (2012) examined the effects of detached and positive reappraisal (i.e. arousal reappraisal) and found that whereas detached reappraisal reduced arousal, positive reappraisal promoted the experience of stimulus-appropriate positive emotions. Similarly, psycho-physiological research demonstrates that arousal reappraisals increases the delivery of oxygenated blood to the periphery of the body (including the brain) compared to interventions that instruct individuals to relax and ignore stress (Jamieson, Nock, & Mendes, 2012). Perhaps most important for students preparing for exams, the efficacy of arousal reappraisal techniques has specifically been tested in standardized testing situations (Jamieson et al., 2010). In the first study of its kind, students preparing to take the GRE were brought into the lab for a “practice GRE study.” Half of the prospective test takers were informed that signs of stress (e.g., increased heart rate) that accompany testing situations

predict better, not worse, performance. So, rather than perceiving signs of stress are nervousness or anxiety, reappraisal students were taught about the adaptive benefits of stress during testing. Before beginning the practice test, all participants provided a saliva sample that was analyzed for alpha amylase, a protein found in the saliva that is a biomarker of sympathetic nervous system activation (Nater & Rohleder, 2009) that co-varies with catecholamines (e.g., dopamine, epinephrine adrenaline, and norepinephrine; Rohleder, Nater, Wolf, Ehler, & Kirschbaum, 2004). Students assigned to reappraise stress as adaptive exhibited an increase in alpha amylase and improvements in their practice GRE scores relative to control students who did not receive any instructions. Then, one to three months after the laboratory session, students returned to the lab with their score reports from the actual GRE. Compared with controls, reappraisal participants scored 65 points higher on their actual GRE tests and reported that arousal on the day of the test had aided their performance. These findings demonstrate that a brief arousal reappraisal manipulation can dramatically improve standardized test performance, possibly even several months later.

The aforementioned research on arousal reappraisal resonates with concurrent findings from the sports psychology literature. Just as test-takers must marshal cognitive resources to perform at their peak of their ability, athletes also must marshal resources to perform well. The parallel between athletic performance and test-taking is actually much closer than one might think. Both athletic contests and exam situations are acutely stressful, demand goal-directed responding, and require physiological arousal and “good stress” to maximize performance.

Most closely related to research on reappraisal, sports psychologists studying peak performance have developed the concept of the “Champion Mindset.” Briefly, the notion of a Champion Mindset hinges on the idea that cognitive and mental processes play a pivotal role in determining athletic performance. For example, baseball hitters on successful streaks might say they are “in the Zone.” The batters report being able to see the ball better, executing their swings more fluidly, and anticipating pitches more accurately. These “in the Zone” moments contrast with times when batters are not performing well, or slumping. The two mindsets that accompany hot streaks and slumps mirror the two types of stress covered earlier: challenge and threat. Like challenge or good stress states, athletes experience approach motivation when they are “in the Zone” as they strive to perform well. Alternatively, during slumps athletes often focus on “not performing poorly” rather than “trying to do well.” This elicits avoidance motivation and results in threat or bad stress responses. Recent research on “choking under pressure” highlights the important role of mindsets in determined athletic performance (Beilock, 2011). In the choking literature, threat mindsets cause athletes to engage in efforts they believe will get them out of their slump (“slump-busting”). So, a slumping athlete might try to “go back to basics” and exert a lot of effort executing each component of his/her athletic skill (e.g. a baseball swing) as well as possible. The problem is that trying to perform each component well can break down the proceduralization (or automaticity) of athletic skills. So, paradoxically, the harder the athlete tries to get out of their slump, the worse they perform. On the other hand, if the athlete is in the midst of a hot streak and is experiencing good stress, proceduralized actions like a baseball swing or other sequences of movements are facilitated by the increased arousal.

*Returning to the topic at hand – high-stakes testing performance – mindsets about ability and intelligence are especially important to consider during test preparation because students’ beliefs about their ability to perform well can have a profound effect on their scores. For instance, students with fixed mindsets believe that intelligence is a trait. They are either smart or not. Alternatively, students possessing growth mindsets believe that intelligence and*

academic ability can be developed through preparation and hard work (Dweck, 1999). Whereas students with growth mindsets seek to develop their abilities and skills, fixed mindset students focus on proving their intelligence and avoiding failure (Dweck, 2006). That is, a growth mindset student may be more apt to perceive a stressful exam as a challenge instead of a threat compared to a fixed mindset student. So it stands to reason that if test preparation programs can promote growth mindsets in test-takers, the programs will have success improving test scores. This idea can be seen in recent classroom intervention research designed to reduce racial gaps in academic performance. In an initial study, researchers tested whether they could lessen psychological threat by having students complete a brief in-class writing assignment to reaffirm a personal adequacy mindset and provide a sense of “self-integrity.” This brief intervention significantly improved the grades of African-American students and reduced the racial achievement gap by 40% (Cohen, Garcia, Apfel, & Master, 2006). The researchers then conducted a follow-up study two years later. The students who completed the writing intervention two years prior exhibited increases in their grade point average (GPA) of 0.24 points on average. Moreover, African-American students particularly benefited. Their GPA improved, on average, 0.41 points (Cohen, Garcia, Purdie-Vaughns, Apfel, & Brzustoski, 2009). Thus, treating students' mindsets directly can have long-term benefits for academic achievement. Along similar lines, Blackwell, Trzesniewski, and Dweck (2007) found that middle school students who attended an eight-session workshop teaching them that the brain is like a muscle and grows with effort displayed a sharp increase in math achievement for the rest of the school year, an effect not shown by students who attended a workshop that taught them only study skills. Therefore, to best prepare students for high stakes standardized tests, preparation programs need to incorporate the research from reappraisal techniques in order to improve students' mindsets and performance.

### **The Exam Performance Program: A New Frontier in Testing Performance**

The large corpus of research highlighted above indicates that psycho-situational factors – particularly mindsets and cognitive appraisal processes – are important determinants of students' test performance. Testing situations are stressful. Unfortunately, test preparation does little to address test-takers' experience of stress and/or their mental mindsets leading up to and during testing. Specifically, arousal reappraisal and mindset shifting techniques are markedly absent from these programs. So, students who think they are preparing for high stakes standardized tests are left experiencing threat or bad stress leading up to and during their exams, with no information as to how to combat that stress. In lieu of addressing psycho-situational factors and students' mindsets, the business of test preparation has focused almost exclusively on the techniques or skills test takers need to succeed to that certain outcome – a test score. Fortunately a groundswell of research in combination with personal experiences led to the development of a promising test preparation program designed to promote adaptive mindsets during testing and get students “in the Zone” in order to maximize their performance.

The Exam Performance Program went online in 2009 as a supplement to content-based test preparation programs. The program includes five seminar modules and ten daily training modules, with the goal of promoting adaptive mindsets in test-takers. In fact, the concept of mindset and promoting the “Champion Mindset” in test-takers is at the core of The Exam Performance Program. In the emotion regulation research we covered previously, we presented findings showing the mechanisms through which mindsets are shifted and the myriad biological and cognitive improvements that students can reap when in approach motivated mindsets. Thus, The Exam Performance Program is rooted in empirical, scientific

theory. To improve test-takers' mindsets during and leading up to high stakes tests, The Exam Performance Program provides students with a series of training techniques and exercises presented in modules. Below we briefly review these modules and highlight how they link back to the scientific literature.

The evidence-based methods used in The Exam Performance Program can be traced back to classic research by Albert Ellis on changing cognitive appraisals to enact positive change (Ellis, 1957; 1962). Similar to Ellis' Rational Emotive Behavioral Therapy (REBT) and core concepts from Cognitive and Behavioral Therapy (CBT), the modules included in The Exam Performance Program seek to maximize achievement by focusing on altering mindsets and cognitive appraisals associated during stressful performance situations. More broadly, REBT and other appraisal-based intervention methods are not based on a traditional theory of psychopathology. That is, stressful performance situations do not directly determine outcomes. Rather, performance outcomes depend more proximally on cognitive processes, such as appraisals, about performance situations.

The first seminar module of The Exam Performance Program focuses on getting "in the Zone," which the program identifies as an optimal state of mind for maximizing test performance. The video-aided material leads students through exercises and examples illustrating times when performance flowed naturally. Many of the concepts in this first module are derived from research on what sports psychologists refer to as flow – a state of consciousness where people become totally immersed in an activity (Csikszentmihalyi, 1997). For example, self-report data indicates that flow is higher when teams or individuals win athletic contests than when the contest results in a loss (Bakker et al., 2011). Both "flow" and the "the Zone" are instances of adaptive, approach-motivated states that the stress literature refers to as "challenge." As covered in our review of stress research, when sympathetic activation (or stress arousal) is accompanied by approach motivation during testing situations, individuals exhibit improvements in performance and cognitive functioning, as compared to people who experience avoidance-motivated stress. These individuals who get "in the Zone" even outperform people who remain relaxed. Thus, experiencing the right kind of stress is better than keeping calm as a tester does not harness the physiological benefits of stress. Therefore, perhaps the most important message contained within The Exam Performance Program is presenting methods for getting students to get "in the Zone" during testing.

Directly related to the concept of being "in the Zone," the second seminar module of The Exam Performance Program establishes the concept of the "Champion Mindset." In our previous examples, we discussed how altering mindsets benefits subsequent performance. More specifically, The Exam Performance Program outlines four characteristics of the Champion Mindset: dedication, confidence, optimism, and stress management. Each of these aspects of the "Champion Mindset" may be subsumed under the umbrella of positive affect in the scientific literature. Thus, methods that shift students' mindsets from negative emotion states (threat) to positive emotion states (challenge) have the potential to dramatically improve test performance. Arousal reappraisal is a particularly promising component for improving the delivery and effectiveness of the Champion Mindsets in testing situations. Recall that arousal reappraisal changes negative, threat type stress responses into positive, challenge type stress responses. By promoting adaptive stress responses, test takers can be confident, focused, and optimistic during their high stakes standardized tests.

Seminar module three addresses the topic of healthy living. To maximize performance test takers need to consider their lifestyle leading up to the test. No matter how much studying a



student does or how good their mindset during testing is, performance will suffer if the body's resources are depleted. Proper sleep and nutrition are necessary for building a store of the biological resources needed to actively take on difficult and stressful standardized tests. So, as the program suggests, proper sleep, nutrition, hydration, etc. will allow students to take advantage of approach motivation and good stress.

In addition to establishing adaptive mindsets during testing, the fourth seminar module of The Exam Performance Program provides prospective test-takers with supporting modalities. This module includes goal setting, time management, visualization, deep breathing, autogenic training, and biofeedback methods, among others. Goal setting training encourages students preparing for tests to strive towards a goal so as to better establish approach motivation. Research shows that striving to do well, as opposed to avoiding failure, is associated with a host of positive outcomes including positive emotion and improved problem solving (e.g., Elliot, Shell, Henry, & Maier, 2005). Time management training ensures that students do not waste resources focusing on the wrong preparation strategies. That is, developing a Champion Mindset frees up cognitive resources for studying that students would otherwise use worrying about and managing their anxiety during testing (e.g., Ramirez & Beilock, 2011). Visualization techniques are common in the sports psychology literature. These methods typically encourage athletes to imagine a successful sequence of events. By creating positive mental imagery the athlete will be more likely to experience approach motivation ("trying to win" or striving towards a goal) rather focusing on avoiding failure which disrupts proceduralization and impairs performance (Beilock, 2012).

Somewhat tangential to training and establishing positive, approach motivated mindsets in test takers are relaxation and breathing exercises. A growing body of scientific evidence clearly demonstrates that "good stress" is better than "no stress" during stressful testing situations (Dienstbier, 1989; Jamieson et al., 2013; Shiota & Levenson, 2012). So, it is important students experience the right kind of stress going into tests and not the wrong kind of stress – for example a completely relaxed flat affect. The Exam Performance Program recognizes this in the concept of the Champion Mindset. Students are trained to focus and establish an approach-motivated mindset during high stakes standardized tests. However, before students can learn to embrace their stress and experience challenge, they must first break old habits. Contrary to popular belief, not all stress is bad. It can be adaptive. But most students will not be able to embrace this idea because of years of hearing that stress is bad. So, relaxation techniques such as deep, paced breathing and mindfulness meditation will help bring students back to equilibrium and relax. Once in a state of homeostasis, students can then get "in the Zone" and ramp up their sympathetic nervous system in a good way. In other words, relaxation methods (like deep breathing) bring students from bad stress states back down to baseline, then reappraisal and mindset shifting methods can push students from relaxed, baseline states to approach-motivated challenge type stress states.

Other methods suggested by The Exam Performance Program are autogenic training and biofeedback. Autogenic training is a self-relaxation procedure by a relaxation response is elicited by a set of visualizations and self-talk (see Stetter & Kupper, 2002, for a review). Studies of daily sessions of autogenic training have most often focused on alleviating mental health problems such as insomnia, depression, or clinical anxiety. However, like breathing techniques, autogenic training has the potential to help decrease negative stress responses in students preparing for exams. Finally, biofeedback methods are promising auxiliary tools test-takers can use during their preparation for an important exam. Humans have relatively poor interoceptive accuracy – the ability to perceive bodily changes (Critchley, Wiens, Rotshtein,

Ohman, & Dolan, 2004). With the advent of wearable biotechnology such as the popular Nike FuelBand, however, people can now accurately monitor their biological signals and use that information to guide their behavior. For example, it is well-established that “good stress” aids testing performance. Biofeedback tools can let a test-taker know when they are “in the Zone” by providing information about their physiological arousal and (ideally) their cardiovascular functioning. When arousal and cardiovascular efficiency (i.e. more blood is getting to the brain) are elevated, the biofeedback tool may, for example, change color (say to green). Conversely, if arousal is high but cardiac efficiency is low this is a sign of threat. In this case the biofeedback tool could change colors to red to signal to the student that they should engage in reappraisal methods to establish a Champion Mindset. Even though its role in testing situations will be in question, wearable technology options will increase and we anticipate there being a number of potentially customizable options available to students to assist them with achieving the proper mindset during high stakes testing.

## Reducing Achievement Gaps

There exists great potential for programs administered both online and in hybrid in-class presentation models, such as The Exam Performance Program, to reach a wide range of students and help to reduce achievement gaps as a function of race or socioeconomic status (SES). That is, enabling students to engage material as it fits their schedule allows students who might not be able to pay for or attend test prep classes at specified times to reap the benefits of evidence-based preparation strategies. Moreover, the material included in The Exam Performance Program will help alleviate the negative psychological effects of stigma on the academic performance of female and minority students.

Notably, one of the most heavily studied topics in social psychology seeks to understand the psychological processes that give rise to achievement gaps in academic performance situations. For instance, negative stereotypes abound regarding minority students intelligence relative to White students. Also, female students are purported to be less capable than males in mathematics, resulting in a large gender gap in Science, Technology, Engineering, and Mathematics (STEM) careers. The psychological process thought which stigmatizing social identities negatively impact performance has been termed *stereotype threat*. More specifically, stereotype threat refers to the concern that is experienced when one feels at risk of confirming, as self-characteristic, a negative stereotype about one’s social group (Steele & Aronson, 1995). Awareness of the stereotype, beliefs that stereotypes are applicable to self-identity, and evaluation in the context of stereotypes are all necessary for the experience of threat (Jamieson & Harkins, 2011; Quinn, Kallen, & Spencer, 2010, Wout, Danso, Jackson, & Spencer, 2008). Given the reliability of stereotype threat effects across a variety of negative group stereotypes, the more recent work in this area focuses on identifying mechanisms to develop intervention approaches. Converging evidence suggests stereotype threat effects are mediated by affective, motivational, and cognitive processes (Steele, Spencer, & Aronson, 2002).

As might be expected, research on affective processes of stereotype threat focuses on anxiety (Bosson, Haymovitz, & Pinel, 2004). Stigmatized individuals who are the targets of negative stereotypes exhibit an inhibitional, threat pattern of responding during performance situations (Vick, Seery, Blascovich, & Weisbuch, 2008). Likewise, anxiety biases attention for threat-related cues (Jamieson, Nock, & Mendes, 2013). So, the experience of threat directs attention to negatively valenced information, which elicits more feelings of anxiety, and so on. Thus,

anxiety snowballs to create powerful negative emotional experiences. Research on motivational processes involved in stereotype threat follows directly from affective states. That is, central aspects of the emotional experience are behavioral patterns. Motivation is the root of these patterns. So, whether one approaches or avoids a demanding situation depends on motivational orientation derived from affective state. More specifically, approach motivation is associated with positive emotions and downstream benefits, including improved problem solving (e.g., Elliot, Shell, Henry, & Maier, 2005). On the other hand, avoidance motivation stems from the experience of threat. Avoidance-motivated threat states impair cognitive processing (Kassam, Koslov, & Mendes, 2009). Recent research in stereotype threat has seen an increased emphasis on motivational processes (e.g., Carr & Steele, 2009; Forbes, Schmader, & Allen, 2008; Jamieson & Harkins, 2007, 2009, 2011, 2012; Rydell, Rydell, & Boucher, 2010; Rydell, Shiffrin, Boucher, Van Loo, & Rydell, 2010). The crux of motivational explanations is that stigmatized individuals' efforts to avoid performing poorly can have the paradoxical effect of harming performance. Initial studies of stereotype threat mechanisms focused on cognitive processes (Schmader & Johns, 2003). Like motivation, cognition is directly tied to the affective experience: the feeling of threat itself. Stereotype threat leads stigmatized individuals to worry about their ability to perform, which depletes cognitive resources (see Schmader, Johns, & Forbes, 2008, for a review). Worries can manifest as ruminations that themselves absorb cognitive resources (Beilock et al., 2007), but they also stimulate efforts to push worries out of mind. This self-regulatory action further impairs cognitive processing capabilities (Johns, Inzlicht, & Schmader, 2008).

With increased knowledge regarding stereotype threat mechanisms, researchers have turned their attention to developing process-focused interventions for alleviating the negative effects of stereotype threat to reduce academic achievement gaps. In addition to past research on decreasing anxiety by educating students about stereotype threat (Johns, Schmader, & Martens, 2005) and encouraging strategies to increase cognitive flexibility (Jamieson & Harkins, 2009), more recent studies have sought to maximize the performance of stigmatized individuals through cognitive appraisal-based training ala The Exam Performance Program. Notably, recent research indicates that implementing arousal reappraisal training – a major component of The Exam Performance Program – significantly reduces stereotype threat performance effects (John-Henderson, Rheinschmidt, & Mendoza-Denton, 2015). Moreover, not only did the arousal reappraisal intervention improve performance, but it also improved biological functioning. That is, relative to placebo controls, the arousal reappraisal materials buffered inflammatory cytokine responses during stressful exam situations. Given the evidence-based methods and the accessibility of The Exam Performance Program, there is substantial potential for this program to help reduce academic achievement gaps in underprivileged and stigmatized social groups.

## **Conclusion**

In the space above, we highlighted the many positive strides that The Exam Performance Program has made over other test preparation programs that focus exclusively on technique training. Notably, The Exam Performance Program tackles a domain of test performance – psycho-situational factors – that is untapped by traditional preparation programs. Using scientific evidence, The Exam Performance Program creates a Champion Mindset and growth-mindset in test-takers. By altering students' mindsets about stressful testing and exam situations, The Exam Performance Program gives students the opportunity to realize their potential and successfully apply their skills and knowledge. One of the strongest aspects of

The Exam Performance Program is that is evidence-based. Thus, components of the program shift with new developments in scientific research and evolve along with students and their testing needs.

Test preparation is big business in the United States. Educators and policy makers have called for the development of successful intervention programs for improving student performance in the classroom and on high-stakes tests. Traditionally, in an effort to improve performance educators have focused on developing curricula, improving instruction, and enhancing the effectiveness of teacher evaluation. Although these factors are important to consider, they have not always been effective. American students continue to underperform – especially in math and science – relative to students from other industrialized countries. A major reason why traditional, skill-based programs have not been successful is they do not sufficiently address psycho-situational factors such as stress, emotion, and mindset, which have repeatedly been shown to impact academic performance. So, traditional programs have sought to provide students with the “skills” necessary to succeed, but have ignored the “will” needed to optimize performance. Thus, there is a great need for test preparation that addresses psycho-situational factors. Towards this end, The Exam Performance Program provides a program designed to optimize psycho-situational factors underlying academic performance outcomes. Testing situations are objectively stressful. The stakes are high, and students must cope with time and evaluative pressures. In acute stress situations such as these, stress arousal can be adaptive and functional. The Exam Performance Program is at the leading edge of test preparation. This novel program “bucks the trend” and focuses on improving students’ mental mindsets leading up to and during stressful testing situations. Students of this program are taught to harness the power of their biological responses to stress to improve cognitive performance and ultimately, their test scores, so that that scores more accurately reflect students’ ability and knowledge and give them the best chance to succeed while under stressful exam conditions.

The benefits of improving students’ test performance can extend far beyond those testing situations. For one, enabling students to realize their academic potential can enhance student persistence in future classes (Richardson, Abraham, & Bond, 2012). If students are better able to cope with stressful testing situations as a result of The Exam Performance Program, they will be more likely to persist in the face of adversity down the road. Another facet of facilitating persistence is reducing drop out rates and increasing retention in high-level courses (Dumbrigue, Moxley, Dumbrigue, Moxley, Najor-Durack, & Najor-Durack, 2013). Along similar lines, The Exam Performance Program also has the potential to increase student comfort with and engagement in Science, Technology, Engineering, and Mathematics (STEM) domains while also reducing stereotype threat in these areas. Math anxiety is a major impediment to success in STEM fields, especially for women and minority students (Ashcraft & Moore, 2009). However, arousal reappraisal interventions have been shown to attenuate math anxiety by targeting students’ cognitive appraisals and stress responses during testing (Jamieson et al, 2010; 2013). Arousal reappraisal with The Exam Performance Program has the potential to increase the involvement of students STEM domains, and down the road, STEM careers.

The Exam Performance Program can also benefit students in a myriad of situations outside the classroom. For instance, students completing The Exam Performance Program will receive training on how to maximize their performance during acutely stressful situations. Beyond testing performance, this instruction has direct relevance for any stressful social evaluative situation, such as admissions or job interviews, auditions, or performance reviews. So, administering The Exam Performance Program to students has the potential to improve

student academic achievement and testing performance. The Exam Performance Program provides important training and skills that students will use throughout their academic experiences to ultimately become college ready, career ready and to improve their performance while under stressful conditions.

**Please contact us to discuss how The Exam Performance Program can help your students:**

**(888) 778-6113**

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## The Exam Performance Development Team

### Cyrus Hekmat - Founder and CEO



Cyrus is responsible for the daily operations of the company. Cyrus earned his Bachelors Degree in Business Economics from UCLA , his law degree from Northwestern University School of Law, and his MBA and Master of Real Estate Development as a joint degree from USC. His professional work outside of academia includes several years as a real estate transactional attorney at the LA office of Paul, Hastings, Janofsky & Walker. After completing the MRED/MBA program at USC, Cyrus became General Counsel for a boutique real estate development, investment and management firm in Westwood

Village whose projects include commercial office properties and hotel development projects in Westwood Village. His professional work has taken a recent turn when he became an eLearning entrepreneur as the founder and CEO of Exam Performance Publishing. Cyrus developed the concept for The Exam Performance Program as a final class project for an Entrepreneurship class at USC's Marshall School of Business, where his professor and future mentor, Dr. Bill Crookston, challenged students to develop a business concept "which is a pain killer, not a vitamin." Drawing from his experience as a student who suffered from test-anxiety and believed "I don't test well" throughout his schooling, he reasoned that standardized tests also test to see how well test-takers can perform under pressure, and that the proven peak performance training techniques used by top athletes and other elite performers can be used to help students and test-takers, to eliminate test-anxiety, improve academic achievement and improve testing performance.

### Dr. Mark Goulston - Development Team Member



A noted expert in the field of clinical psychiatry, Dr. Goulston contributed to the ideas and content of The Exam Performance Program. Dr. Goulston is a business advisor, consultant, trainer and coach trained as a clinical psychiatrist who is known for his ability to help people overcome their self-defeating behaviors and their own internal roadblocks to success, having authored the best selling book, *Get Out of Your Own Way: Overcoming Self-Defeating Behavior* and its sequel, *Get Out of Your Own Way at Work...and Help Others Do the Same*. He is also known for his ability to help others get through to

anyone in their lives, having honed his skills as an FBI and police hostage negotiation trainer and authored the recent best selling book, "[Just Listen](#)" *Discover the Secret to Getting Through to Absolutely Anyone*. Because of Dr. Goulston's expertise on individual and interpersonal psychology, he is frequently sought out by the radio, television and print media and has appeared on Oprah, Today, and ABC/NBC/CBS/CNN/msNBC/CNBC/BBC News and in the Wall St. Journal, NewYork Times, Fortune, Forbes, Investors News Daily, Time, Newsweek, Los Angeles Times. He writes the Tribune nationally syndicated column, "Solve Anything with Dr. Mark," is the editor of "The Resilient Life" at the Huffington Post, writes the "Just Listen" blog at Psychology Today. Dr. Goulston's speaks widely and provided executive coaching and training to companies and institutions including: IBM, GE, Goldman Sachs, Bank of America, Wells Fargo, State Farm, Kodak, FedEx, Kaiser Permanente, Accenture, Hyatt, American Bar Association, California Bar Association, Superior Court Judges of Los Angeles County, Museum of Contemporary Art, UCLA, USC, Pepperdine, Harvard Westlake High School, Crossroads High School, Brentwood High School, Marlboro High School, Pasadena High School. Dr. Goulston earned a B.A. from UC Berkeley, and an M.D. from Boston University and completed his Post Residency Training in Psychiatry at UCLA's Neuropsychiatric Institute. He is a Fellow of the American Psychiatric Association (the highest award that organization offers) and was named one of America's Top Psychiatrists for 2004-2005 and again in 2009 by the Consumers' Research Council of America. For more information, see <http://markgoulston.com> and [http://en.wikipedia.org/wiki/Mark\\_Goulston](http://en.wikipedia.org/wiki/Mark_Goulston)

## Dr. Michael Gervais - Development Team Member



A noted expert in the field of sports psychology, contributed to the ideas and content of The Exam Performance Program. Dr. Gervais develops systems and strategies for improving performance for individuals and organizations. For more than 10 years, Dr. Gervais has applied this methodology in consulting with top sports organizations, including the NBA, NFL, NHL, MLB, UFC, US Olympic Team, NIKE and Red Bull's North American athletes. His work has also played an integral role to the US Military, as well as several collegiate and high school programs. Dr. Gervais has published numerous peer-reviewed papers related to sport psychology systems for innovative strategies toward performance excellence. He is a nationally recognized speaker on issues related to high performance psychology and sport-based life skills programming. Dr. Gervais is the curriculum author of F.O.C.U.S. (Finding Our Center Using Sport) and Late Night Sports, a nationally acclaimed life skills training program for high school and college-aged athletes. Dr. Gervais received his undergraduate degree from Loyola Marymount University. He completed his PhD while studying under the father of American applied sport psychology, Dr. Bruce Ogilve, at San Diego University, Integrative Studies. For more information, see <http://michaelgervais.com/about.php> and <http://www.wsj.com/articles/the-shrink-on-the-seattle-seahawks-sideline-1422402204>