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Increased Entrepreneurial Performance through T Augmentation and C Abatement and the Exercise Tax Incentive Plan

In a faltering economy, exacerbated by the exorbitant 9.1% unemployment rate, depreciating home values, and illiquid financial institutions, myriads of economic theorists introduce their dogmatic ideas in how to incite an economic recovery. In response, the current Obama administration has introduced the *cleverly* contrived "government stimulus packages," which have injected over one trillion into our financial institutions and markets to construct the guise of economic stability and security in hopes to create a foundation from which the economy could proliferate. Although these transient band-aid solutions provide ostensible relief through increased corporate profits and stable stock prices, these solutions prejudiciously ignore the catalyst which has incited this vacillating economy—the people's uncertainty and paucity of confidence in our nation's financial strength and stability. Thus any change evoked by stimulus capital is illusory, transitory, and will ultimately fail to endure. Perhaps, our efforts should be focalized in instilling confidence and mollifying the uncertainty prevalent in the nation, rather than employing economic contrivances—but, how do we commence such a labyrinthine task?

In qualifying the scope of this paper, we can look to a passage from Frank Chodorov's *The Rise and Fall of Society:*

> Society is a collective concept and nothing else; it is a convenience for designating a number of people ... The concept of Society as a metaphysical concept falls flat when we observe that Society disappears when the component parts disperse... When the individuals disappear so does the whole. The whole has no separate existence. (Chodorov, 1959)

Chodorov explains that the integrity of society as the whole rests in the propitious functioning of its parts, and should the parts operate ineffectually, the whole, too, will fail. Accordingly, within such a broad economic problem, if the whole is representative of our economy, the part could most congruently be representative of the myriads of small-business entrepreneurs. Although, the Office of Advocacy defines small businesses as holding fewer than 500 employees, these small businesses, however, are categorically the breadth of the U.S. economy insofar as they "represent 99.7% of all employer firms, employ half of all private sector employees, pay 44% of the total U.S. private pay roll, generate 65% of net new jobs over the past 17 years, comprise 97% of all identified exporters, and produce 13 times more patents per employee than large patenting firms" (SBA.gov). Within this context, could we, alternatively, redress this mammoth economic conundrum by instilling confidence in the people through increased performance and productivity among small-businesses entrepreneurs, thus eradicating the fear and uncertainty prevalent in consumers, businesses, and banks, and therefore incite an economic recovery? Perhaps, but, what actions could be taken to incite such gargantuan entrepreneurial growth? In this paper, we will analyze evidentiary methods to increase entrepreneurial performance; more

specifically, we intend to demonstrate how the manipulation of testosterone (T) and cortisol (C) within propitious natural levels evokes an aggrandized approach, motivation, and perseverance, while concertedly minimizing fear, stress, and avoidance behavior, thereby optimizing entrepreneurial performance and productivity, and thus redressing the prevailing paucity of confidence in our nation's financial strength and stability. First, we will discuss the role of T and C in the human body, followed by the relational significance of physiology to entrepreneurial success, and then conclude with pragmatic solutions to attain propitious levels of these entrepreneurial-shaping hormones. We will also conduct and analyze personal studies putting this physiological solution to the test, followed by the proposal of a tax incentive to provide the most befitting incentive to champion propitious physiological levels for these entrepreneurs to evoke augmented productivity and corporate revenue, thus inciting an economic recovery.

Before we analyze T's positive correlation with entrepreneurial profitability, we must understand the role of this hormone and its influence on the human body. T is the principal androgenic hormone produced by the Leydig cells of the testes in men, and by the ovaries in women, as well as secreted in small amounts by the adrenal gland. The normal physiological range is 300-1,000 ng/ml for men, and 15-65 ng/ml for women. T performs multifarious functions. In men, T is responsible for the development of male sex characteristics such as reproductive organs, facial hair, muscle and bone strength, sex drive, libido, and spermatogenesis. In women, T is responsible for ovarian function, muscle and bone strength, sexual function, and libido. In both genders, T increases lean body mass, cardiac tissue mass, muscle strength and power, recovery ability between workouts, protein synthesis, and vasodilation, and decreases body fat percentage. The psychological benefits of T are improved quality of life, mood, concentration, and memory, reduced minor depression, and enhanced quality of sleep**.** Despite, T's salubrious effects on the mind and body, there are no shortage of anti-T activists waiting for the indiscriminate opportunity to preach the deleterious effects of the hormone. However, these activists contend for the prevention of "steroid T," which can be defined as supraphysiological levels of T, greater than 1,000 ng/dl—the antithesis to low T levels. However, neither low nor steroid T is beneficial to psychological and physical health. Steroid T can lead to multitudinous side effects such as enlargement of the heart, high blood pressure, atherosclerosis (hardening of the arteries), elevated cholesterol levels, heart palpitations, heart attack, stroke, prostate enlargement, sterility, sexual dysfunction, baldness, breast enlargement, testicular atrophy, damage to the liver and kidneys, and causing cancer, jaundice, bleeding, and hepatitis (Abuse, 1997). Contrarily, low T levels, which are prevalent in hypogonadal men, can lead to fatigue, loss of muscle mass, fat gain, poor recovery, irritability, depression, decreased memory, lack of libido, and erectile dysfunction (Crisler). Low T symptoms are easily recognizable and manifest through multifarious deleterious diseases and conditions including cardiovascular disease, cancer, diabetes, abdominal obesity, high blood pressure, decreased HDL (the "good") cholesterol, elevated triglycerides, and elevated fasting glucose (Crisler). The overindulgence in or absence of any vitamin, mineral, or hormone can cause deleterious side-effects. The aim, here, is to maximize T levels within the normal physiological range of 700-1000 ng/dl for men and 15-65 ng/ml for women to maximize entrepreneurial profitability; not to raise levels beyond physiological limits and cause undesirable side-effects. The foregoing demonstrates that several of the side effects of low T are also shared by steroid T; neither is conducive to salubrious health, thinking, or behavior.

Before we begin our studies' analyses, it is important to clarify that 98% of total T is bound by steroid-binding proteins, thus leaving only 2% unbound for available use, known as free testosterone (fT). In this paper, we, nevertheless, focus on total T, as opposed to fT, augmentation. Our rational is grounded in the evidence that increases in total T levels are matched with smaller increases of steroid-binding proteins, thus leaving exponential levels of fT remaining (Zmuda, 1996, Kuoppasalmi, 1980). The significance, therefore, lies in effectual methods to augment total T levels, although in the diet protocol section (pg. 36), we will also outline an additional method to decrease levels of these steroid-binding proteins, and thus further increase fT levels.

Having explicated T's role in the human body, we will begin our analyses by examining a study performed in the University of Cambridge, which demonstrates the relation between T and profitability for 17 City of London male traders.

> [D]aily testosterone levels [of 17 City of London male traders] were significantly higher on days when [these] traders made more than their one-month daily average than on other days. . . .To measure the traders' hormones, [the researchers] took saliva samples twice per day at 11:00 a.m. and 4:00 p.m., times that fell before and after the bulk of the day's trading. At each sampling time, traders recorded their profit and loss (P&L) (University of Cambridge).

This study attempts to show that high T levels were the cause for increased profitability for these 17 traders. Antithetically, though, we could present the argument that the idea extracted from this study is fallacious in that we are confusing causation with correlation: Simply because high T levels were present on profitable days, does not imply that high T levels were the cause of increased profitability. The market opens at 9:30 a.m.; the initial saliva test was taken at 11 a.m. Sufficient time had passed for the traders to gauge the market, and should the market have been volatile on a specific day, this volatility, alone, could have spiked the traders' T levels, by way of the adrenal gland, prior to the 11 a.m. testing. Volatile markets are also the arena in which significant profits can be made. At first glance, this counter-argument has merit. However, delving deeper, the facts show the traders were tested for eight consecutive days. In each day that they were profitable, their testosterone levels were considerably higher. Conversely, in each day that their capital gains were average, their T levels, too, were average. Considering there were 17 traders with an 8-day track record; an aggregate total of 136 days for this concordant relation to remain true—without exception—demonstrates there is a conspicuous, valid correlation between the two. Moreover, although correlation does not imply causation, this line of reasoning minimizes the premise that in all 136 days among the 17 traders, profitability did not occur in the absence of high T levels—with no exception. Therefore, we can deduce that although high T may not be evidenced to spawn profitability, profitability cannot occur in an environment devoid of high T, and thus if we wish to achieve profitability, high T levels must be antecedently attained.

Before we explore numerous studies to see which entrepreneurial attributes that T strengthens that engender increased productivity, let us examine an antithetical study which

purports that high T levels elicit disadvantageous decision-making to see if this counterclaim holds any merit. In a study conducted in the University of Michigan, 154 students, comprising 78 male and 76 female, were recruited to ascertain the effect that T has on a subject's perspicacity to make advantageous decisions over a series of 100 trials (Stanton, 2011). All subjects were salivary tested for T levels and then seated in front of a computer to perform a test called the Iowa Gambling Task. Subjects commenced with a $2,000 loan, and were apprised to generate maximum profits over 100 trials. Each selection yielded an initial reward followed by a monetary punishment. Two decks were advantageous, initially offering modest rewards, but also modest punishments; two decks were disadvantageous, initially offering higher rewards, but also substantial punishments. Two groups were selected for each sex, men: assay 1 (mean T level = 98 pg/ml, standard deviation = 44), assay 2 (mean T level = 129 pg/ml, standard deviation = 41); women: assay 1 (mean T level = 32 pg/ml, standard deviation = 17), assay 2 (mean T level = 39 pg/ml, standard deviation = 15). The assay 1 group was labeled the "low T group"; the assay 2 group was labeled the "high T group." The aim was to measure the percentage of the 100 attempts that each group chose from the advantageous decks. After 100 attempts, the high T group chose the advantageous decks 57%, and the low T group chose the advantageous decks 67%. Steven Stanton, the experimenter, suggested that low T levels in the low T subjects had predisposed them to increased sensitivity to punishment, and therefore the low T subjects were more prone to advantageous decision-making. However, Stanton's conclusion was fallacious for three reasons. First, he committed a *post hoc* fallacy: Simply because two events were correlated, does not imply that one had caused the other. The high T group choosing 10% less frequently from the advantageous decks does not indicate that high T levels engendered disadvantageous decisions. The high T group could have been less incisive or doltish, and thus had higher T levels to compensate for this deficiency in a highly competitive environment. To reasonably ascertain whether high T levels were the cause would require testing of the same individuals before and after T administration, or as in the traders' study above (University of Cambridge, 2008), test the same individuals on alternate days, or time of day, to distinguish between low T and high T levels. Using the same individual with varying T levels would provide a fair analysis of T's influence on decision-making. Second, the study was flawed. Notice the standard deviation for the male low T group was 44, which signifies their T range could have varied between 54-142 pg/ml; whereas the standard deviation for male high T group was 41, which signifies their T range, too, could have varied between 88-170 pg/ml. These ranges overlapped considerably, and therefore both groups were not truly high or low T, but rather mixed. The same standard deviation fallacy applied to the female subjects. Last, the study failed to consider other hormones or influences such as cortisol that may have adversely contributed to the subjects' decisions. When compounded with a diminutive 10% resulting differential, the study shows little merit, and is therefore inconclusive.

Unconscious Processes Governed By T and C Manipulation That Incite Augmented Entrepreneurial Performance, Productivity, and Revenue

Although the endocrinology community is replete with T studies, the traders study above (University of Cambridge, 2008) is the first pioneering research to study T's complementary relationship with entrepreneurial profitability. So, how exactly does T contribute to profitability, and does T evoke any unconscious processes that may lend support to this conclusion? First, we

will observe T's role in motivation and ambition for higher status by analyzing an Alan Lightman quote, followed by a research study conducted at the University of Texas at Austin. Below, Lightman portrays a man who feels such congenial comfort in his status position that his transition to a higher status is highly improbable:

> [A] young man and his mentor sit in a small library, quietly discussing the young man's doctoral work. It is the month of December, and a fire blazes in the fireplace with the white marble mantel. The young man and his teacher sit in pleasant oak chairs next to a round table, strewn with pages of calculations. The research has been difficult. Each month for the past eighteen months, the young man has met his professor here in this room, asked his professor for guidance and hope, gone away to work for another month, come back with new questions. The professor has always provided answers. Again today, the professor explains. While his teacher is speaking, the young man gazes out the window, studies the way the snow clings to the spruce beside the building, wonders how he will manage on his own once he has received his degree. Sitting in his chair, the young man steps hesitantly forward in time, only minutes into the future, shudders at the cold and uncertainty. He pulls back. Much better to stay in this moment, beside the warm fire, beside the warm help of his mentor. Much better to stop movement in time. And so, on this day in the small library, the young man remains. His friends pass by, look in briefly to see him stopped in this moment, continue on to the future at their own paces. (Lightman, 1994, p. 101)

The young man ponders what lies ahead in his equivocal future. For him, the warm library, his mentor, this state of complacency, all appear much safer and devoid of homeostatic risk. Why should the student engage in activities of unknown proportions and in endeavors replete with uncertainty, and potentially risk failure, when his complacency of this moment, in his unassuming position as a student, is rewarding enough? Moreover, he has the luxury of a professor, who by definition holds a higher position in the same educational hierarchy, and thus can be trusted to cultivate his talents, advance his interests, and govern him to further comfort. Could the student's complacency of his position in an educational hierarchy, and aversion from engaging in novel ventures, be prompted by deficient physiological levels of T? Is it possible to gauge one's T levels by the simple observation of one's comfort threshold and complacency in a hierarchy, or conversely, does an increase in one's T levels create displeasure in one's status in a hierarchy and as a consequence prompt one to take that risk into the sphere of uncertainty for the potential reward of higher status? Could the unwillingness to engage in activities outside of one's comfort threshold impact one's profitability? These are the bigger questions that we will analyze in the following study that demonstrate that the T levels of entrepreneurs reasonably govern their consciousness of, and comfort toward, the status position in a hierarchy, which, dependent on their measure of T levels, may augment or attenuate their motivation and cognitive capacity to financially prosper in the entrepreneurial role.

To understand the relationship between testosterone and status position, we will analyze a research study conducted at the University of Texas at Austin. This study has revealed that individuals have a strong predilection or aversion to high-status positions in a hierarchy based on their T levels. A total of 73 subjects, comprising 34 females and 39 males, were recruited. The

subjects were categorized into two groups of "high T" and "low T" cases based on a preliminary T level evaluation; thus, 26 subjects with median T levels were eliminated. The remaining subjects were apprised that they would be competing with one another by completing three cognitive tests. The first test was manipulated by differing in complexity; the tests were fixed to be either facile or strenuous. The subjects were aware only of their relative performance, not the diverse complexity of the exams. This manipulation was contrived to assign each subject either a high or low self-perceived status. Thus, if a subject scored well, he or she assumed the "high-status position"; conversely, if the subject scored poorly, he or she assumed the "low-status position." Following this ostensible diagnostic test, the subjects had to complete a word search puzzle in seven minutes, which contained 10 high and low status occupations; i.e., doctor, lawyer, paralegal, president, secretary, and a collection of neutral words. The third test was the analytical section of the Graduate Record Exam (GRE). Cognitive performance was measured by the total number of correct answers on the GRE test.

Each test was presented as one component of the total score, whereas performing well on the subsequent test could offset the previous loss, or performing poorly could offset the previous win. The results were prodigious. In the GRE tests, the high T group scored 50.6% higher in the high-status position than in the low-status position. Conversely, the low T group scored 37.0 % higher in the low-status position than in the high-status position. This mismatch relationship was not the only material finding. The second test, comprising a word search puzzle, was designed to show implicit attention to status. The results were compelling. The high T group identified 51.2% more status-related words in the low-status position than in the high-status position. Conversely, the low T group identified 402% more status-related words in the high-status position than in the low-status position. The subjects in the control group, who were given no details of their initial diagnostic test score to keep them unaware of their statuses, showed no significant difference in their cognitive results. Refer to the table below for the results (Mehta, 2006).

GRE and Status-Words Results

Status Position	Testosterone Level	Type of Test	Mean Score	Standard Deviation	No. of Subjects
High	Low	GRE	6.75	2.25	8
		Status Words	4.52	4.52	
	High	GRE	10.67	1.58	9
		Status Words	3.90	4.56	
Control	Low	GRE	7.57	2.64	7
		Status Words	2.20	3.85	
	High	GRE	7.57	1.81	7
		Status Words	6.60	4.27	
Low	Low	GRE	9.25	1.98	8
		Status Words	.9	2.62	
	High	GRE	7.25	1.91	8
		Status Words	5.90	4.40	

Much can be extrapolated from this study. The high-T group in the low-status position scored poorly on the cognitive GRE test. Each member of this group demonstrated a 50% decline in cognitive function compared to the high-T group in the high-status position. Conversely, the low T group in the high-status position demonstrated a 27% decline in cognitive function compared to the low T group in the low-status position. These declines may be due in part to the emotional distraction on cognitive function when the subjects were placed outside of their comfort threshold; accordingly, the affected subjects were not comfortable in their status deracination. Both groups invested a considerable portion of their mental resources into their lost status, not the cognitive task at hand, as evidenced by their heightened awareness of status-related words in the second test. It follows then that when individuals, as a result of a status displacement, fall outside the scope of their comfort threshold, their work efficacy may decrease stemming from the abatement in cognitive function. Summarily, as evidenced by the extreme volatility of cognitive function in both groups, we can conclude that one's T level is a strong indicator of one's presumed position in a hierarchy. Considering the members in the control group, whose statuses were not compromised, showed no differential in cognitive function in either high or low T groups, this finding of T serving as the strong indicator holds true only if one's status is threatened.

Relating this concept to our aim, we can see that entrepreneurs by virtue of their occupation hold a high-status position. Our focus is qualified solely to the small-business entrepreneur, devoid of the crutch of extraneous succor, whose likelihood of success reasonably lies in the arduous task of remaining profitable every month. Achieving profitability every month is no facile task; if sufficient profits are not attained, an impending shutdown is imminent, and thus the entrepreneur's position is constantly threatened. Therefore, if an entrepreneur holds a high-status position, and we have demonstrated that only high T subjects whose statuses are threatened can excel in high-status positions, then we can reasonably conclude that entrepreneurs maximize their probability of success by maintaining high T levels, or at a minimum by augmenting their T levels to reach a propitious range. Conversely, the low T subjects, as evidenced above, performed poorly in the high-status position, and therefore would perform poorly in the entrepreneurial role.

By applying this concept to the student in Alan Lightman's foregoing quote, we can observe that within an educational hierarchy, the student assumes a low-status position as opposed to the professor's high-status position. He is complacent. It is fair then to induce that if the student experiences the pangs of discomfort creeping in with the mere thought of a potential higher status position, the student therefore holds substandard T levels. His most pragmatic choice then to overcome this psychological hurdle without compromising his cognitive capacity in a forced higher status position would be to augment his T levels. As such, he would unconsciously conquer his psychological resistance naturally through a physiological change and compromise no cognitive function while attaining a higher status. The antipodal argument, however, would be that by virtue of this act, he compromises the very comfort of his low-status position, and this paucity of comfort could adversely affect his work productivity. In support of this counterclaim, we could look to a study conducted in Nigeria to ascertain the adverse effects that a paucity of comfort and complacency in the work environment holds on a worker’s productivity (Taiwo, 2009). Through his research, Taiwo found that worker’s complacency and

comfort in the work environment were positively correlated with increased productivity; conversely, the paucity of worker's comfort in the work environment correlated with decreased productivity, and therefore work efficacy depends largely on the workers' comfort in the environment. While this conclusion may hold true for employees, this premise fails to be relevant to small-business entrepreneurs, who by virtue of their constant imminent threat of shutdown engendered by a dearth of financial resources, could never feasibly feel comfort in their work environment or condition. Entrepreneurism is categorically an arduous endeavor, which demands productivity despite the lack of comfort. Our aim, therefore, is to equip entrepreneurs with physiological-enhancing tools to compensate for this paucity of comfort, and in spite of this handicap, optimize their work efficacy and performance. It follows then that if threat is prevalent in small-business entrepreneurism, and the precondition of threat for high T subjects elicit augmented performance in their respective high-status positions (Mehta, 2006), and threat is antithetical to comfort, then, we could use this dearth of comfort to the entrepreneurs' advantage, by increasing T levels, and thus optimizing the entrepreneurs' efficacy within their high-status positions.

Understanding T's role on status displacement is of cardinal significance insofar that we need to create a superlative physiological environment for entrepreneurs to ensure they have all their unconscious resources working to optimize their performance, and hence induce profitability. Of course, status position is only one of a myriad of conditions which create the ideal entrepreneurial environment. Another factor that can debilitate entrepreneurial moral, focus, and ambition is fear, a crippling emotion that evokes aversion to all rewarding aspects of the environment by virtue of its stronghold. Below, Lightman describes a man who is rife with fear and therefore fails to approach rewarding aspects of the environment, which would otherwise be effortless for most:

> [A] young man and a woman, in their late twenties, stand beneath a street lamp on Gerberngasse. They met one month ago. He loves her desperately, but he has already been crushed by a woman who left him without warning, and he is frightened of love. He must be sure with this woman. He studies her face, pleads silently for her true feelings, searches for the smallest sign, the slightest movement of her brow, the vaguest reddening of her cheeks, the moistness of her eyes.
>
> In truth, she loves him back, but she cannot put her love in words. Instead, she smiles at him, unaware of his fear. As they stand beneath the street lamp, time starts and restarts. Afterwards, the tilt of their heads is precisely the same, the cycle of their heartbeats show no alteration. But somewhere in the deep pools of the woman's mind, a dim thought has appeared that was not there before. The young woman reaches for this new thought, into her unconscious, and as she does so a gossamer vacancy crosses her smile. The slight hesitation would be invisible to any but the closest scrutiny, yet the urgent young man has noticed it and taken it for his sign. He tells the young woman that he cannot see her again, returns to his small apartment on Zeughausgasse, decides to move to Zurich and work in his uncle's bank. The young woman walks slowly home from the lamppost on Gerberngasse and wonders why the young man did not love her. (Lightman, 1994, pp. 109-110)

Lightman describes a man who is emotionally scathed from a failed relationship. Emerging from this man's perceived failure, the singed remnants of the prior relationship manifest into a crippling fear which envelopes his thoughts. This fear carries with it an elephantine price: a deleterious perspective that prejudices his thoughts, and thus can only serve to blight his new rapport. He fears rejection; he fears reliving this former pain; he fears that she, too, may shatter his spirit; he fears that he no longer owns his will. The fear capitalizes on and dominates his very being insofar as he is paralyzed from taking any propitious action that could advance his aim. He desires the woman; yet, he preemptively sabotages the relationship based on and oppressed by an emotion that subsumes him; an emotion that decimates his will to continue in spite of his fear. If he could eliminate or abate this fear, or if he could strengthen his will to continue despite the fear; maybe, then, he could realize the truth—that she adores him. But instead, he walks away and thus, his fated, baneful lot awaits. How could this man have overcome this ostensibly insurmountable hurdle; what could direct him to subjugate this fear and alter its form to augment, not attenuate, his will to continue; how could he consciously conquer a debilitating emotional state that is seemly unconscious by virtue of its origination? These are the questions that we will analyze in the following study that illustrates T's role in abating unconscious fear, which is an imperative attribute for an entrepreneur in that it evokes approach to and abates aversion from potential profitable opportunities of the environment.

To understand the relationship between testosterone and fear abatement, we will analyze a research study conducted at the Helmholtz Research Institute in the Netherlands. This study has demonstrated that increased T levels diminish an individual's unconscious fear. A total of 16 women were recruited, ranging in age from 19 to 26 years. The subjects were divided into two groups: the "T group," which received a single dose of .5 mg T, and the "placebo group," which received the placebo. Next, both groups were directed to sit in front of a 70 hertz computer screen at a distance of 110 cm at eye level. They were then apprised to take a Stroop test, which is a neuropsychological diagnostic test that measures a subject's attentional process. First, a fixation point is shown for 750 milliseconds; followed by a target stimulus, comprising a happy, neutral, or fearful face presented for 14 milliseconds; before being replaced by a masking stimulus, diffused with colors of red, green, or blue shown for 300 milliseconds. Following the masking stimuli, the subjects were asked to name the color shown in the masking stimuli. See Figure 1 below for the sequence of stimuli and presentation times in the Stroop test (Jack van Honk, 218-225):

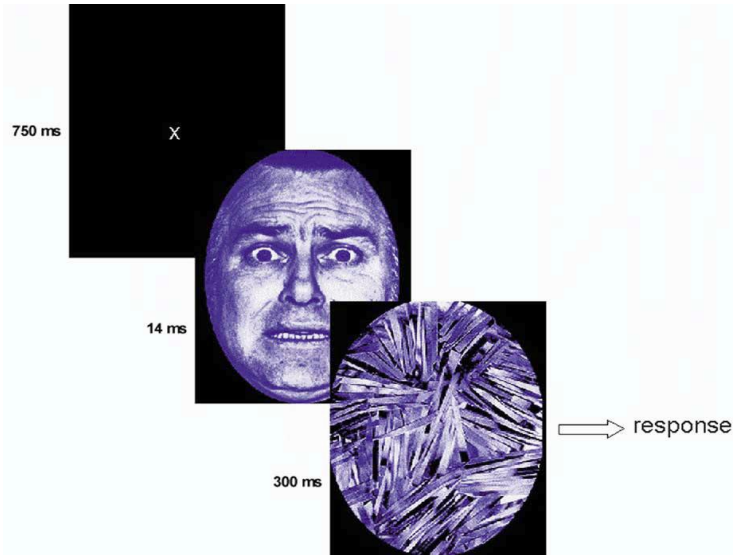
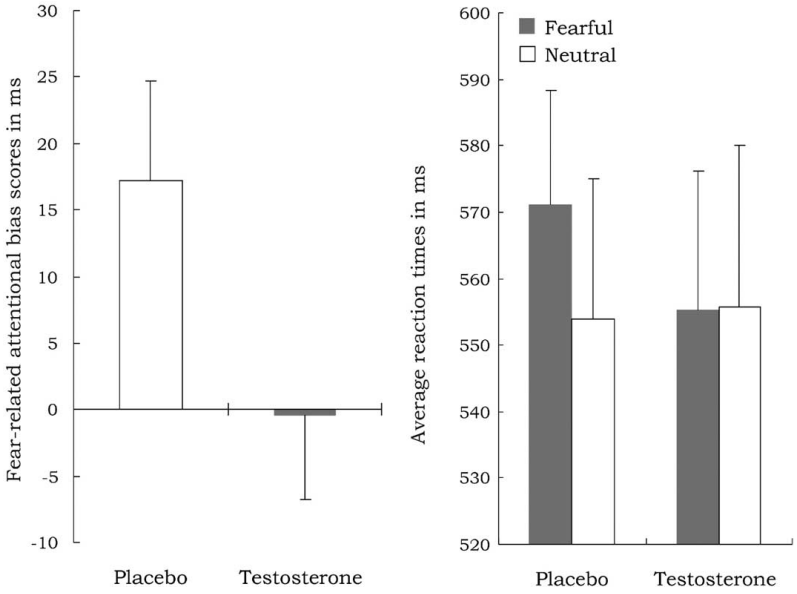


Figure 1. The sequence of a stimulus presentation in the Stroop test:

(1) Fixation point (750 ms);
(2) Target Stimulus (14 ms);
(3) Masking Stimulus (300 ms).

more Forty neutral, 40 happy, and 40 fearful faces were randomly presented in the target stimulus; the masking stimulus never repeated the same color more than twice consecutively. The interval between each new presentation varied between 1,500 and 2,500 milliseconds. The purpose of the test was to measure the time differential in the subjects' speed in naming the color displayed in the masking stimuli. If the subjects exhibited a delay in naming the color shown in the masking stimulus following an emotional face, this would demonstrate an "attention bias," which would signify the subjects' emotional response to the antecedently shown emotional face. In advance, to ascertain whether the subjects could consciously recognize the target stimuli, which appeared for only 14 milliseconds, the subjects were explicitly told that the set contained 20 neutral, 20 happy, and 20 fearful faces, and were instructed to indicate which of the three faces was presented. The T and the placebo subjects equally demonstrated no conscious recognition of the faces. Next, the subjects' color-naming response time was measured. The results were compelling. The T group showed no time differential in naming the colors shown in the masking stimuli whether preceded by a neutral, happy, or fearful face. However, the placebo group showed a significant time differential in their color-naming of the masking stimulus when preceded by the fearful face. Refer to Figure 2 below for an illustration of the attention bias and reaction times for both groups (Mehta, 684-692):

Figure 2: Attention Bias and Reaction Times for the Masking Stimulus



No attention bias was shown in the masking stimulus when preceded by happy faces for either the T or placebo group.

The attention bias relating to the fearful face for the placebo group disappeared after T administration, which indicates T's ability to abate unconscious fear. As demonstrated above, the subjects held no conscious recognition of the faces; therefore, any attention biases could occur only unconsciously. The T subjects showed no difference in their color-naming ability of the masking stimulus whether the preceding target stimulus was a neutral, happy, or fearful face. Conversely, the placebo subjects exhibited a significant attention bias greater than 17

milliseconds, only when the preceding target stimulus was a fearful face. This demonstrates that the T group perceived no unconscious threat by the fearful face, and thus no time differential occurred. Conversely, the placebo unconsciously perceived the fearful face as a threat and hence dilatorily responded. Further support showing that T abates the fear paradigm of punishment sensitivity can be found in related studies (Arnett, 903-936; Boissy A, 66-83; Van Honk, 937-943).

To further analyze T's role in fear abatement, we need to distinguish between conscious and unconscious fear. The placebo subjects' fear of the fearful face was unconsciously held as evidenced by the subjects' failure to recognize the faces consciously. Conscious fear differs from unconscious fear to the extent that we are aware of the presence of conscious fear, and hence we, as beings of volitional control, may nevertheless choose to pursue a particular behavior in spite of our fear. However, unconscious fear is different insofar as if we are not aware of our fear, how could we volitionally act in spite of it? Therefore, an unconscious fear could manifest only as an aversion from engaging in a behavior, without a conscious explanation. It follows then that if a behavior can be unconsciously directed, then by reducing our unconscious fear, we are more inclined to engage in a behavior, not avoid it. Although the man in Lightman's quote (109-110) is conscious of his fear, it is his unconscious fear that spurs an aversion from, or attenuates his propensity to persist in, further relationships with the woman. Thus, if the increase of T levels attenuates unconscious fear; and this fear abatement reduces the aversion from engaging, or conversely augments predilection to engage in, a behavior, then, entrepreneurs are more inclined to approach a behavior through T augmentation.

Accordingly, unconscious fear abatement is one of the most salient entrepreneurial ingredients for prosperity, as unconscious fear is a crippling emotion that can ultimately spawn aversion from all rewarding aspects of the business environment such as unchartered expansion; untested, novel ideas; alternate marketing; and unorthodox, unfamiliar products, all of which could evoke entrepreneurial innovation, eschew commonality and thus entrench the road for exponential growth, security, and sustenance in a highly-competitive environment. Furthermore, since 50% of small businesses fail the first five years (SBA.gov), this daunting fact, although not at the forefront of every entrepreneur's consciousness, could be unconsciously held, and given its high likelihood, could capitalize on and dominate entrepreneurs' ambitions, thus paralyzing them from taking any propitious action that could advance their aim—as demonstrated by the man in Lightman's quote above (Lightman, pp. 109-110) Therefore, unconscious fear should be abated.

Antithetically, Dick Barlowe of the *Orlando Sentinel*, an Orlando, Florida periodical, disagrees with the foregoing claim. He asserts that as necessity is the mother of invention, fear is the father of entrepreneurism (Barlowe, 1990). He further contends that fear is a cardinal motivator, and no catalyst motivates people greater than the fear of bankrupting or losing a job, and therefore people need to experience this fear to prompt action toward favorable change and economic furtherance. However, in his assertion, Barlowe commits the fallacy of hasty generalization, as not all individuals are motivated by the fear of failure; many are crippled by it, as shown in Lightman's quote above. Absent of any evidence that conscious fear motivates most or all people, his assertions are fallacious. Nevertheless, T augmentation abates unconscious, not

conscious, fear, which is the type of fear that cannot prompt action as it is unconsciously held and thus not of volitional control. Therefore, the manner in which individuals respond to conscious fear holds no relevance in our study, analysis, and claim in T's ability to abate unconscious fear or the significance of this important entrepreneurial attribute.

While the foregoing study (Jack van Honk, 2005) examined T, it would be unfair to posit that T is the only hormone responsible for approach and anti-aversion, as cortisol (C) also plays a contributing role. C is a hormone or glucocorticoid, produced by the adrenal gland. It is released in response to stress and a low level of blood glucocorticoids. C, like T, holds a variety of "primary bodily functions": regulates blood pressure and the immune system, balances insulin levels, and assists the body to respond to stress. However, unlike T, too much C within the normal physiological range can increase the risk of infection, high blood pressure, peptic ulcers, diabetes mellitus, osteoporosis, and depression, as well as incite cognitive impairment (Sahelian, 2011). Conversely, eliminating C entirely may cause deleterious effects on the body including the disturbance of electrolyte balance, lethargy, diarrhea, vomiting, and significant loss of weight, and may jeopardize primary bodily functions. The normal physiological range of C concentrations in adults is 2-28 ug/dl (Fang and Zhou, 2008). Our aim is to minimize levels within the physiological range, not entirely inhibit it.

Before we examine the methods in which T and C work conjunctively, and in some cases conversely, we will, again, look to a Lightman quote to analyze the concept of threat:

> [W]hen two people pass on the street, each perceives the other in motion, just as a man in a train perceives the trees to fly by his window. Consequently, when two people pass on the street, each sees the others' time flow more slowly. Each sees the other gaining time. The reciprocity is maddening. More maddening still, the faster one travels past a neighbor the faster the neighbor appears to be traveling.
>
> Frustrated and despondent, some people have stopped looking out their windows. With the shades drawn, they never know how fast they are moving, how fast their neighbors and competitors are moving. They rise in the morning, take baths, eat plaited bread and ham, work at their desks, listen to music, talk to their children, lead lives of satisfaction. (Lightman, 1994, pp. 71-72)

Competition is stressful. As Lightman illustrates above, some people in the face of adversity experience frustration and despondency, as they lack the tenacity to compete, to confront the rivalry, and in an impetuous attempt to prevent their feelings of inadequacy from surfacing, they avert their attention away from the threat of competition by pulling the shades down. They find comfort in this parochial view. What need is so transcendent that they should work themselves into a frenzy, when the simple alternate act of disengagement ensures their safety? However, such a parochial view by virtue of its confined scope deprives these individuals of freedom: the freedom to view the world undauntedly, the freedom to act without pernicious inhibition, the freedom to own their volition unfettered by fear, the freedom to act on the unfaltering principles and ethics which define their humanity, even if those principles are to be fought for. They cannot be truly emancipated while concomitantly confined to their

circumscribed view; a view under the veil of comfort which is really just a trap—a life sentence of reclusion, fear, uncertainty, and psychological imprisonment, and deprived of prosperity, benediction, palpable felicity of the mind, body, and spirit, and most of all, devoid of the freedom to act designfully on their divine will; when, where, and how they choose. Who could pragmatically and consciously choose such an unprepossessing existence? What could open their insular view to expose the greater truth; the truth that their comfort is simply an unconsciously employed contrivance to rationalize their decision to withdraw from this *threatening* competition? Could their decision to hold steadfast to this comfort be of their own volition, or could physiological mechanisms be a cardinal contributing cause to this threat avoidance? In the following two studies, we will analyze and conclude our discussion on Stroop tests, and their role in understanding the relation between optimal T and C levels and behavioral approach to threatening stimuli in the environment, which is an indispensible entrepreneurial attribute that could significantly enhance profitability.

C and T work conjunctively to govern behavioral approach to and avoidance from threatening stimuli in the environment. First, we will examine a study to analyze C's role in threat avoidance followed by a study that demonstrates T's role in threat approach. In a Stroop study performed in the University of Leiden in the Netherlands (Roelofs, 2007), twenty volunteers, comprising 18 females and 2 males, were recruited. The Stroop test was organized in the same manner as conducted in the Helmholtz Research Institute in the Netherlands (Jack van Honk, 2005), except this test composed of angry faces, not fearful faces. First, a fixation point was presented for 750 milliseconds; followed by a "target stimulus," comprising a happy, neutral, or angry face presented for 14 milliseconds (below the threshold of explicit visual awareness); before being replaced by a "masking stimulus," diffused with colors of red, green, or blue shown for 300 milliseconds. The subjects were then asked to name the color displayed in the masking stimuli. Next, the subjects' C levels were measured before being apprised that they would be taking on the role of job applicants and had five minutes to prepare a 5-minute long free speech to an audience of three individuals who were waiting to interview them. They were further instructed that following the interview, they would need to complete an oral arithmetic challenge that would be judged on speed and accuracy. The speech and arithmetic challenge were utilized to stimulate the subjects' C production, as C is a hormone secreted by the adrenalin gland in response to stress. The subjects' C levels were measured subsequently. The subjects' C levels were measured before and after these stress tests to establish two groups, the "high C responders" and the "low C responders."

The target stimuli composed of 30 neutral, 30 happy, and 30 angry faces, which were presented in random order with the restriction that the same color was never repeated more than twice consecutively. The purpose of the test was to measure the time that elapsed between the masking stimulus and each subject's response to it. The mean color-naming latency of the masking stimulus following the angry face subtracted from the mean color-naming latency of the masking stimuli following the neutral face stimuli constitutes the "attentional bias." A positive attentional bias indicates slower color-naming responses to the masking stimulus when followed by an angry face compared to the neutral face, which would signify an attentional bias or an increased attention toward the angry face. Conversely, a negative attentional bias indicates a faster color-naming response to the masking stimulus when followed by an angry face compared

to the neutral face, which would signify an attentional bias or decreased attention away from the angry face. The results in this test, too, were compelling. The high C responders showed a negative attention bias, responding 35 milliseconds faster to the masking stimulus followed by the angry face than the neutral face. Conversely, there were no material latencies for the low C responders. No material latencies were shown in either group in response to the masking stimulus followed by the happy face. This negative attentional bias demonstrates that the high C responders averted their attention away from the angry face by responding faster to the subsequently shown masking stimulus. This aversion of attention away from the angry face can be interpreted as avoidance behavior to threat (Putman, 2004; Van Honk J. , 1998; Van Honk J., 2000; Mathews and MacLeod, 1994). Conversely, if the subjects showed a slower response time, this would indicate an increased focus to the antecedently shown angry face. Notably, the C was not synthetically administered in the high C responders; rather, the C increase is solely attributed to the 5-minute interview and arithmetic challenge, which induced stress for these responders. Therefore, we can conclude that individuals with high stress or high C responsiveness to demanding tasks will engage in avoidance behavior in response to threat.

Having surveyed the medium through which high C responsiveness can influence individual behavior to threat, we will now analyze the identical Stoop test performed to measure T latencies. In the University of Michigan, 26 men and 24 women were recruited to participate in a Stroop test (Wirth, 496-505). All subjects attended two sessions, first session at 9 a.m. and the second at 3 p.m. on the same day. In each session, saliva samples were collected and assayed for T levels. Similarly, after a fixation point was presented, a yellow, blue, red, or green face was presented mid-screen for 22 milliseconds, followed by a masking stimulus of the same color. Faces were presented as neutral, angry, or happy. A total of 128 trials were performed with the faces presented for 22 milliseconds, below conscious threshold. The mean T in women measured 12.3 pg/ml in the morning and 8.4 pg/ml in the afternoon, a 31% drop. The mean T in the men measured 72.1 pg/ml in the morning and 52.5 pg/ml in the afternoon, a 27% drop. The test results were prodigious. Two positive relationships were found: (1) the greater the measure of the subject's morning T level, the greater his or her attentional bias was to the angry faces in the morning; and (2) all the subjects who experienced T level reductions in the afternoon showed less attentional biases to the angry faces. Contrary to high C responders, the higher T subjects demonstrated a positive attentional bias, indicating delayed color-naming responses to the angry faces. A positive attentional bias signifies that the subjects directed their attention to the angry faces. Contrary to the previous study, the subjects, here, attended toward, as opposed to away from, the angry faces, and thus demonstrated an increased vigilance and approach to threat. Therefore, we can interpret T as a hormone that evokes vigilance and approach to threat. Further support of T enhancing vigilance and approach can be found in the study above at the University of Texas at Austin study (Mehta, 2006), whereas the high T subjects in low status positions felt disconcerted by their status displacement, and therefore invested greater focus to status-related words while in these mismatched low-status positions. This increased status-related focus supports the premise that the angry faces shown in this Stroop test introduced a threat, and therefore high T individuals were more likely to exhibit vigilance toward it, as it presented a potential threat of status displacement.

These two studies illustrate that T evokes vigilance and approach to threat, and conversely high C responsiveness evokes decreased attention and avoidance to threat. Relating these premises to entrepreneurism holds significant consequences insofar as for an entrepreneur to maximize profitability, he or she needs to cultivate an obstinate willingness to focus toward all tasks whether arduous, stressful, or threatening. If by virtue of the stressful environment, C responsiveness is too high, the entrepreneur might evade rewarding aspects and opportunities of the environment (Roelofs, 2007), or if T levels are too low, the entrepreneur might fail to focus on or approach profitable opportunities positioned under the guise of ostensibly threatening tasks (Wirth, 2007). Entrepreneurs need to be willing to venture into unknown, novel, ostensibly threatening projects, notwithstanding the stressful environment, all of which are governed by increased T and decreased C responsiveness.

Outlined above, we learn that increased approach and decreased aversion are two indispensible attributes for entrepreneurs, as they enable entrepreneurs to be physiologically "wired" to engage in all rewarding aspects of the environment. Notice that the approach and aversion mechanisms of T and C are unconsciously directed. Therefore, although entrepreneurs might not be conscious of their behavior, they nevertheless could be unconsciously averting profitable aspects of the environment if T and C levels are within inauspicious ranges. In contraposition to this claim, we could argue that C's mechanisms to evoke avoidance behavior away from threat are advantageous, as entrepreneurs are best to identify threat and mitigate the risk by eradicating threat before it actualizes. Moreover, less pragmatic decisions would be made while entrepreneurs are immersed in threat, as they would be preoccupied in their survival, rather than in composed rational thought, and therefore high C levels would be beneficial to avoid this threatening stimuli. Furthermore, if C levels are abated, and thus entrepreneurs hold little stress to all stimuli, then they may fail to distinguish between threatening and neutral stimuli, and therefore lose the ability to eradicate threat, as all stimuli would appear equal. At first glance, this multi-faceted argument appears strong. However, delving deeper, its premises are founded in the idea of conscious threat. The studies shown above demonstrate unconscious threat avoidance, as the subjects were not aware of the threatening faces (Roelofs, 2007; Wirth, 2007). Hence, how could an entrepreneur mitigate threat of which he or she is not aware? The distinction between conscious threat and unconscious threat is paramount, as unconsciously held threat cannot be mitigated, as it falls outside the realm of consciousness. Second, the counterargument of avoiding even conscious threat is invalid, as the very act of mitigating even conscious threat requires approach toward it, as by avoiding it, how could an entrepreneur eradicate it? Moreover, is not innovation by virtue of its novelty unconventional, and thus threatening? Yet, these threatening novel ventures also provide the most rewarding aspects of the environment, entrenching entrepreneurs legions ahead of their competitors. Entrepreneurs, therefore, optimize their potential by augmenting T and abating C levels, thereby furthering their approach to threatening stimuli of the environment.

Having thoroughly analyzed the roles of T and C in approach and avoidance behavior to threatening stimuli and the significance of this entrepreneurial characteristic, we will now direct our attention to perseverance, another indispensible entrepreneurial attribute. Considering that perseverance precludes the surrender to failure, which is a pivotal component of successful entrepreneurism, in the following two studies, we will explore whether these hormones could

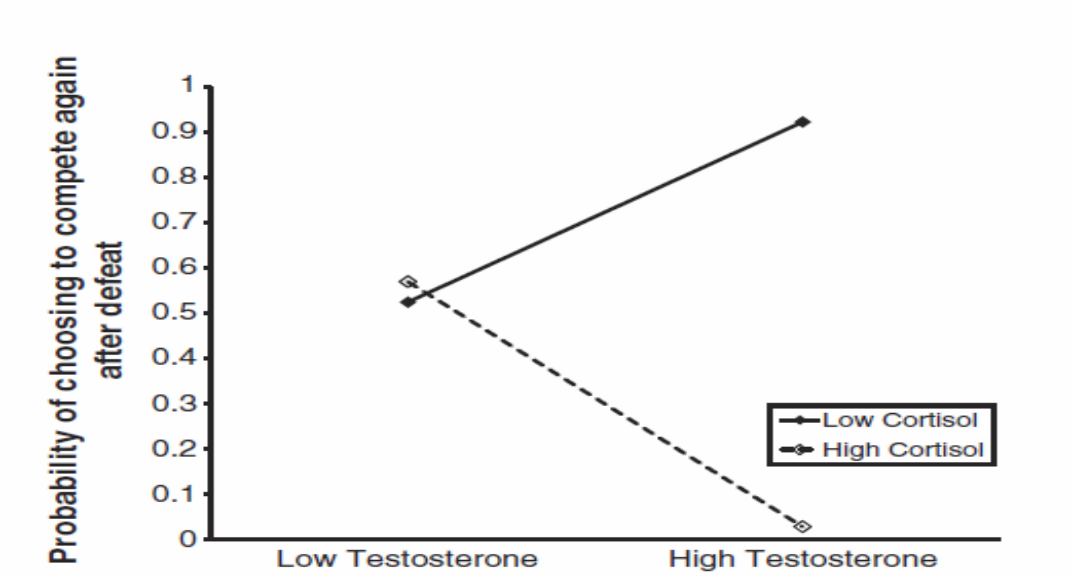
contribute to an increased voluntariness to perseverate in a task notwithstanding failure. In the University of Texas at Austin, a study was conducted to measure the subjects' voluntariness to perseverate in a task based on augmented T levels (Mehta and Josephs, 2006). Fifty-seven subjects participated in this study. The subjects were seated at two desks in a room facing opposite walls. The experimenter announced that they would be competing against each other on an intelligence test called "spatial processing speed." The test comprised a series of puzzles containing a grid of numbers, and subjects were to trace through the numbers until a highlighted number is reached. Although, the subjects thought they were competing in identical puzzles, the tests were manipulated to vary in difficulty. After six puzzles, their time was recorded and the subjects were apprised of their scores. Following, the subjects were asked to choose between two options: (a) compete again against the same opponent in six puzzles; or (b) complete a questionnaire on food, music, and entertainment preferences. To eliminate prejudice, they were further instructed that either choice would take an equal amount of time to complete. Saliva samples of T were taken prior to and 15 minutes subsequent to the test results to measure T level increases or decreases. The results were significant. Eight of the 11 losers whose T levels increased chose to compete again. Conversely, seven of the nine losers whose T levels decreased chose not to compete again. The winners did not statistically differ in their choices whether their T levels increased or decreased.

The subjects with increased T levels were 72% more likely to compete again. Conversely, the subjects with decreased T levels were 77% more likely not to compete again. This demonstrates that the rise or fall in T levels reasonably dictates our unconscious predilection to or aversion from further engaging in an activity. Notice the winners demonstrated no statistical difference in whether to compete again. Therefore, if high T and low C increase our predilection toward an action, and if we were to act and subsequently fail in this action, we would then most likely continue to pursue this action until success is attained if our T levels were material enough. In other words, higher T levels increase the capacity to tenaciously persist in a chosen task. The value of tenacious persistence is a concept adopted by myriads of entrepreneurial moguls. Attached is an appendix. This appendix shows entrepreneurial moguls who attained success only as a result of their tenacious perseveration. For example, Henry Ford failed and bankrupted five times before creating Ford Motor Company; R. H. Macy failed seven times before his store in New York City was recognized; Thomas Edison had over 1,000 failed attempts prior to his creation of the light bulb. Twenty-five other entrepreneurial success stories resulting from the moguls' tenacious persistence can be found in the appendix. Notice, if any of these moguls had failed to persevere in spite of their repeated failures, they would have attained no results. This shows there is a diminutive distinction between a complete failure and a gargantuan success, differentiated by one's willingness to persist despite the ostensible odds. It follows then that if augmenting T and abating C levels attenuate our aversion to a task, and aggrandized T levels increase tenacious perseverance which yields the most significant entrepreneurial results, then should entrepreneurs not be fervently exploring methodical ways to naturally augment T and abate C levels?

Not so fast! It would be committing a single-cause fallacy if we did account for C's contributing role in perseverance. We just examined a study that illustrated the manner in which T positively correlates with the subjects' decisions to compete again following defeat. However,

following this study (Mehta and Josephs, 2006), several inconsistent studies have emerged that show an unrelated correlation between circulating T and the subjects' probability of choosing to compete following defeat (Van, 2006; Carre andMcCormick, 2008; Johnson, 2007). These inconsistencies may explained by the hypothalamic pituitary-gonadal (HPG) axis, the neuroendocrine system responsible for regulating T, working concertedly with other endocrine systems to govern behavior (Mehta and Joseph, 2010). Accordingly, the conflict of other hormones working along with T may reveal associations of behavior not previously observed. Having established that C evokes avoidance behavior (Roelofs, 2007), in the following study conducted at the University of Texas at Austin (Mehta and Joseph, 2010), we will now examine the influence of both hormones, T and C, on the subjects' willingness to compete following defeat. Fifty-seven male subjects were recruited for this study. All subjects were saliva tested for T and C levels before being escorted into the same room, divided into pairs, and each pair was seated at two desks facing opposite walls. This test was conducted in the same manner as in the previous study (Mehta and Josephs, 2006). The experimenter announced that the subjects would be competing against each other on an intelligence test called "spatial processing speed," which comprised a series of puzzles. Although the subjects thought they were competing in identical puzzles, the tests were manipulated to vary in difficulty, and thus each subject was randomly assigned to win or lose. After six puzzles, their time was recorded and the subjects were apprised of their scores. Following, the subjects were asked to choose between two options: (a) compete again against the same opponent in six puzzles; or (b) complete a questionnaire on food, music, and entertainment preferences. To eliminate prejudice, they were further instructed that either choice would take an equal amount of time to complete. The results are shown in Figure 3 below (Mehta and Joseph, 2010).

Figure 3: The Effect of Cortisol and Testosterone in Choosing to Compete Again



The high C, high T subjects were least likely to compete again following defeat; conversely, the low C, high T subjects were most likely to compete again following defeat. No material differences were found in the low T subjects, irrespective of their C levels. Unlike the

previous study in which T was the only hormone assessed for probability of further competition (Mehta and Josephs, 2006), here, C mitigated the effects of T to incite further competition. From a binary perspective, this study demonstrated that low C levels held greater significance than high T levels in competition insofar as if C levels were low, the subjects had a 50-95% probability to compete; whereas if C levels were high, they had a 1-55% probability to compete; and the subjects' T levels governed the position within these ranges. Accordingly, if C and T levels were both high, the subjects held close to no probability to compete again; in contrast, if C levels were low and T levels were high, the subjects held a 95% probability to compete. This study unequivocally evidences the significant influence C has on the behavior of T, thereby resolving any inconsistent studies that failed to account for C in their analyses. Our aim can be entirely undermined if we fail to seek methods to mitigate C. Therefore, our interest in suppressing C levels is equally as important as in augmenting T levels.

The understanding of T's and C's role in augmenting perseverance is a cardinal consideration, especially given that entrepreneurial success demands perseverance as its prerequisite (See Appendix). In counter to this claim, Tom Morris, PhD, author of the highly acclaimed and bestselling leadership classic *If Aristotle Ran General Motors,* asserts the following:

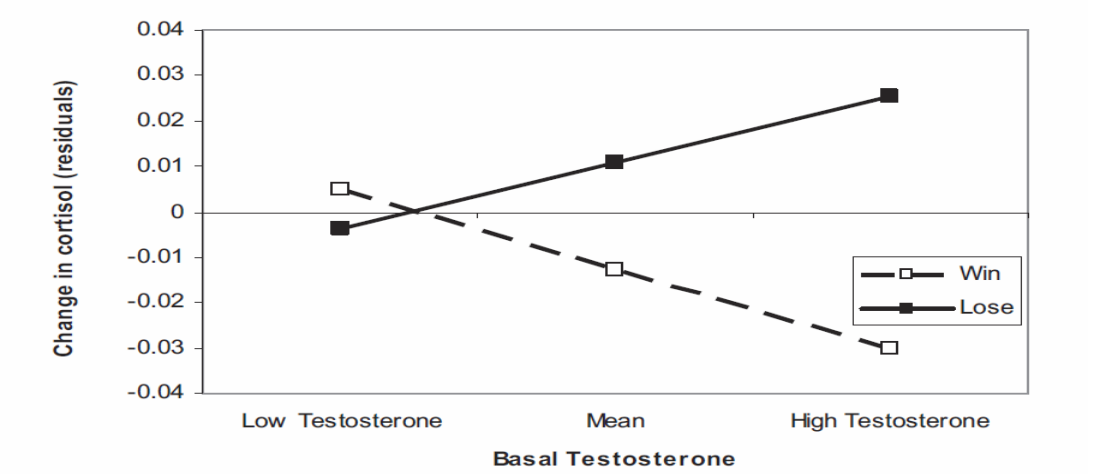
> Sometimes doing the same thing a second time when it hasn't worked the first is indeed just foolish. But sometimes it's shrewd. Wisdom consists, in part, in knowing the difference. (Morris, 2008)

While wisdom, too, is a vital attribute of entrepreneurism, how could enduring wisdom be gained without the prerequisite of failure, and is not entrepreneurial wisdom, then, the understanding of a specific action that does not work, and therefore requiring a subsequent attempt with a slightly alternate approach? Morris' assertion that a second attempt is *sometimes* foolish, if followed by failure, is erroneous, as it is grounded in the premise that the first and second attempt, as well as the stimuli upon which is being acted, are identical. While this contention may hold true for most faunal species of less intellect that fail to learn, metamorphose, and perspicaciously evolve through trial and error; in successful entrepreneurs—beings of intelligence and ambition—this premise is fallacious, as a second attempt is simply the repetition of the first with less error, more precision, greater wisdom, and often a different angle. The ostensible absolute argument to always persevere with subsequent attempts in the context of entrepreneurism is not a premise invalidated by the fallacy of absolutes, as every attempt, albeit seemly similar, is different, as subsequent attempts are simply alternate ways not to repeat the first. Thus, we have redefined perseverance and demonstrated the manner in which it serves to be ubiquitously advantageous.

The two foregoing studies demonstrate the manner in which T and C can enhance or impede perseverance, which is inarguably one of the most salient attributes in the entrepreneurial armory. However, one final contrariety needs to be reconciled: If high C levels inhibit further competition, and perseverance is an inviolable value for entrepreneurs, could not our aim be undermined if an entrepreneur's failure in a pursuit engendered increased C levels, thereby evoking an aversion from continuing in the pursuit? To assess this question, we will now examine a study conducted at the University of Texas at Austin (Mehta and Jones, 2008), which

illustrates the impact that defeat imposes on C levels in high T subjects. Sixty-one women were recruited to compete against each other in an ostensible test of intelligence. The test was conducted in the same capacity as the one outlined above (Mehta and Joseph, 2010). This competition, too, was manipulated to designate random wins and losses directed by test difficulty. Saliva samples were collected before and after the competition to measure T and C changes. Following the competition, like the study above, the subjects were given two choices: to compete again in the same task against the same opponent, or to complete a questionnaire. The results were significant. A positive relationship between basal T and C change was shown in the losing subjects; conversely, a negative relationship between basal T and C change was shown in the winning subjects. Refer to Figure 4 below for the results (Mehta & Jones, 2008).

Figure 4: Cortisol Change Relative to Basal Testosterone Levels



The C changes were measured in ug/dl. Following competition, the high T winners dropped in C; conversely, the high T losers rose in C. The C increase in high T losers may be explained by the premise that following a loss, high T subjects were subjugated to a lower status position; a stressful position they were neither comfortable nor willing to settle in (Mehta P. H., 2006). Hence, their C levels increased in response to the stress imposed by this enervating subjugation. Notice in the previous study (Mehta & Joseph, 2010), 95% of high C, high T subjects chose not to compete again following defeat. Evoked by the increased C, those subjects may have chosen not to compete again to avoid further status loss. In contrast, here, following a victory, the high T subjects had no further status threat, and therefore their C levels subsided.

This study introduces an impediment to our aim in that how could a high T entrepreneur persevere if by virtue of a defeat, C levels in high T subjects surge, thereby evoking an increased probability that the entrepreneur will not continue to compete again? Ostensibly, success is enigmatic. In response to this conundrum, we will examine a final Lightman quote, followed by an interview I conducted with a lucrative entrepreneur.

> Every Tuesday, a middle-aged man brings stones from the quarry east of Berne to the masonry on Hodlerstrasse. He has a wife, two children grown and gone, a tubercular brother who lives in Berlin. He wears a gray wool coat in all seasons, works in the quarry

> until after dark, has dinner with this wife and goes to bed, tends his garden on Sundays. And on Tuesday mornings, he loads his truck with stones and comes to town.
>
> When he comes, he stops at Marktgasse to purchase flour and sugar. He spends a half hour sitting quietly in the back pew of St. Vincent's. He stops at the Post Bureau to send a letter to Berlin. And as he passes people on the street, his eyes are on the ground. Some people know him, try to catch his eye or say hello. He mumbles and walks on. Even when he delivers his stones to Hodlerstrasse, he cannot look the mason in the eye. Instead, he looks inside, he talks to the wall in answer to the mason's friendly chatter; he stands in a corner while his stones are weighed.
>
> Forty years ago, one afternoon in March, he urinated in class. He could not hold it in. Afterwards, he tried to stay in his chair, but the other boys saw the puddle and made him walk around the room, round and round. They pointed at the wet spot on his pants and howled. That day the sunlight looked like streams of milk as it poured whitely through the windows and spilled onto the floorboards of the room. . . . The boys hooted at him, hooted at him as they chased him around the room, with the wet spot on his pants. They hooted and called him "bladder baby, bladder baby, bladder baby."
>
> That memory has become his life. When he wakes up in the morning, he is the boy who urinated in his pants. When he passes people on the street, he knows they see the wet spot on his pants. He glances at his pants and looks away. When his children visit, he stays within his room and talks to them through the door. He is the boy who could not hold it in. (Lightman, 1994, pp.131-133)

Above, Lightman describes a man who unintentionally fails to conform to adolescent social expectations, and is therefore forced to carry the humiliation, shame, and guilt of this aberration into adulthood, subjugating himself to a life devoid of normalcy, felicity, and companionship. However, what sin does he commit that merits such humiliation—murder, rape, treason? Such a steep price he pays for this social aberration that this humiliation, shame, and guilt should culminate to such a detrimental extent, and quell his capacity to function normally. The ascendancy of these social conventions are indeed powerful that they compel individuals to conform to the status quo, these implicitly understood and expected standards of humankind, and condemn whomever should dare to deviate. However, these *righteous* standards that compel individuals to conform by virtue of this conformity also enslave them to a life of mediocrity at best. But, for those who wish to be extraordinary, for those who wish to transcend these expected rules and impress their indelible marks in history, should they conform to these limiting standards or else be shamed till death? What if instead of feeling shamed, this man rises above this unintended urination event by exhibiting an unfaltering dignity towards it? What if his inadvertent failure to conform could be perceived as a necessary antecedent step to or symbol of liberation: an act to be unfettered by the social conventions that confine him, enfranchised of the guilt and humiliation that direct his deleterious thinking and behavior, free of psychological imprisonment of conformity? Then, this ostensible failure would no longer be construed as defeat, but instead a victory! In the following interview, we will explore an alternate form of consciousness. Contrary to conventional thinking, by readjusting entrepreneurs' expectations to

embrace failure, as opposed to averting it, entrepreneurs could attenuate C responsiveness following defeat and therefore augment perseverance in the pursuit, thus increasing the likelihood to succeed (See Appendix).

To demonstrate this claim, I interviewed the chief executive officer of a multi-million dollar sports drink and supplement company. Initially, the purpose of the interview was to gain insight on the most effectual supplements to augment T and attenuate C levels. The interview, however, took an interesting twist:

> Q: I have used all of your products, and they are great! How were you able to succeed in creating such effective products so quickly; diligent research?
>
> A: Actually, it was not very quick at all. It took fifteen years to get my products recognized, in demand, and on the shelves. I had several dozen products that private investors and I had invested into that obtained little public interest.
>
> Q: Interesting. What infused you with the motivation to continue?
>
> A: Well, in my industry, it is well accepted that most products will fail, and it could take time to create an effective product, and obtain recognizable public interest. I advertised in every health and fitness magazine, marketed the products in WNBF, North American, NGA Pro, IFPA Pro contests, and went door-to-door to most nutritional and health food stores for over ten years before my first real contract.
>
> Q: In other words, you knew what kind of commitment you were making from the beginning, and were prepared to fail?
>
> A: I was prepared to fail short-term because this was a long-term plan. (Anonymous, 2011)

This entrepreneur (we will call him Frank for purposes of anonymity), provided brilliant insight into the inner workings of the mind; more specifically, how expectations could shape future actions. Notice, Frank stated, "[I]n my industry, it is well accepted that most products will fail. . . . I was prepared to fail short-term." In contrast to the conventional thinking that failure is shameful, Frank understood that most products fail according to industry standards, and thus failure was a natural, expected step of the process. When he failed, he did not stress; he did not secrete hoards of C, as his failure was expected—at least in the interim. He understood failure as the necessary prelude to his eventual success, and therefore as he failed, his C levels remained low. Similar to the entrepreneurial moguls in the appendix, Frank could not have succeeded had he not continued, nor could he have continued without appropriate expectations.

Therefore, we must incorporate a dual-approach system to maximize propitious levels of T and C for entrepreneurs: (1) a psychological approach; and (2) a physical approach, discussed later (p. 22). To psychologically impede C levels, entrepreneurs must adopt a dichotomous approach to their chosen pursuit: Develop an insatiable thirst for success, but anticipate and

embrace failure. But, how do we commence such a labyrinthine, unconventional task? Societal conventions will have us believe that failure is dreadful; failure is unprepossessing; failure is regressive: the shame of an "F" grade in academia, the humiliation of bankruptcy, the stigma of a failing business. In the face of failure, we are socially programmed to experience shame, guilt, and humiliation. However, do not these deleterious feelings further hamper our progress, as opposed to liberating us by strengthening our will to persevere? The man in Lightman's quote lives a stultifying, oppressive existence as a result of his failing to comply with his adolescent social duty. If he could alter his programmed perception and understand this ostensible social failure as a necessary, expected stepping stone to a future replete with success, then, maybe, he could overcome his psychological imprisonment. The social perception of failure, therefore, is erroneous insofar as very few individuals succeed greatly without initially failing multiple times, and for some, failing greatly. Furthermore, if failure were so dreadful, so unprepossessing, so regressive, then entrepreneurs should naturally avoid it; but, if they were to avoid it, how could they reasonably attain the success that demands multiple antecedent failures (See Appendix). It follows then that entrepreneurs should embrace failure for three reasons: (1) To prepare for failure, which will most likely occur multitudinously antecedent to success; (2) To maintain low C levels in response to failure, or to stressful stimuli in the environment that threaten failure and subjugation to a lower status position, thereby leading them to further approach to the task; and (3) To relinquish any debilitating feelings of subjugation, guilt, or shame spurred as the social consequence to the perceived failure. This does not suggest failing deliberately. Entrepreneurs must incorporate the position of working assiduously, passionately, indefatigably, and earnestly with an obstinate perseverance, while concomitantly prepared and willing to embrace failure. In summary, by embracing failure, but employing all resources toward the procurement of success, entrepreneurs position themselves to prosper; and should they fail, they will no longer be subjugated to a perceived lower status, as by virtue of the awareness that success is acquired following multiple antecedent failures, they minimize C levels and therefore continue to persist in their pursuit—and so the propitious cycle continues—until, of course . . . they prevail.

Contrary to this position, Michael J. Losier, the author of *Law of Attraction* states that people attract into their lives whatever they give their attention, energy, and focus to, whether positive or negative (Losier, 2004). By definition, would this not suggest that if entrepreneurs embraced failure, they would also attract failure? Losier's argument is founded in the principle that we, beings of volition, are magnets and that our thoughts and feelings attract from the universe the equivalent of those thoughts or feelings, and therefore if we contemplate failure, failure shall actualize. While this marchen may appeal to a large audience, as no feat is easier than "thinking" it into fruition, reality dictates that results cannot actualize without action, notwithstanding the thinking behind it. Positive thinking, although convincing in theory, fails to ensure ensuing action. Our thesis is grounded in evidence showing that behavior, and thus action, is governed by T and C; ergo, explaining the rational for our thesis. To embrace only success as Losier suggests, would cause a C spike following failure, predisposing aversion from pursuing further action in that pursuit, and hence not conducive to our aim. Positive thinking, here, fails to evidence further approach or perseverance following a C increase, and absent any evidence evincing otherwise, well, Losier will just have to continue selling this gospel to indolent neophytes.

Physiological Policy Claims of Hypertrophy Exercise, BCAA Administration, Periodization, C-Abatement Vehicles, and Diet

Now that we recognize the exigency for propitious levels of T and C for entrepreneurs, and a psychological method to impede C levels, let us examine the physiological policy claims that evoke these hormones into advantageous levels. In this section, we will first discuss the most effectual type of physical exercise, followed by the recommendations of branch chain amino acid administration, periodization techniques, C-abatement vehicles, and then conclude with a diet protocol. Each of these components is equally important and therefore should be collaboratively engaged by entrepreneurs.

Hypertrophy Exercises

Physical exercise could be performed in multifarious ways. In the following study, we will examine three different exercises to compare the ensuing T and C change, and thus ascertain the most effectual type of exercise to engender favorable levels of T and C. In a study supported by the Health Research Council of New Zealand, 11 men were recruited (Crewther and Cronin, 250-55). The mean age, height, and weight of the subjects were 26.6 years, 179.6 cm, and 79 kg respectively. The subjects were recreational weight trainers, training an average of twice per week for more than two years. They participated in three workout sessions separated by a two to three day recovery period conducted between 2 p.m. to 5 p.m. In each session, the subjects randomly completed three different exercises: (1) a "power" exercise, which comprised eight sets of six reps, 45% of the one repetition maximum (1RM), with three minute rests between sets; (2) a "hypertrophy" exercise, which comprised ten sets of ten reps, 75% 1RM, and two minute rests; and (3) a "maximal strength" exercise, which comprised six sets of four reps, 88% 1RM, and four minute rests. Controlled lifting movements were performed, 1.5 seconds up and 1.5 seconds down. Saliva samples of T and C were collected before, during, and after exercise up to one hour post-exercise. Subjects were instructed to avoid eating food, drinking hot fluids, and brushing their teeth to eliminate any T or C bias. The results were significant. No changes in T occurred across the power and maximal strength groups. However, T concentrations increased significantly in the hypertrophy group, 26% mid-exercise and 89% post-exercise. Similar to T, little change occurred in C concentrations in the power and maximal strength group. Although in the hypertrophy group, C concentrations increased by 290%, one hour post-exercise. This demonstrates the manner in which entrepreneurs work out could have a profound influence on their hormones. Notice the hypertrophy exercise was the only one of the three that significantly influenced testosterone. This signifies that the body responds to weight training which incorporates the maximum weight that can be lifted with 10 reps, combined with short rest periods between sets. Unfortunately, the gargantuan T increase for these subjects came with a deleterious price: a surge in undesirable C levels. This is a result of the skeletal muscle damage induced by vigorous weight training. Hence, any exercise that creates muscle damage will concomitantly produce C augmentation. Having established a methodical way to increase T, we must investigate ways to attenuate the subsequent C rise and responsiveness during high-volume weight training to maximize hormonal optimization.

BCAA Administration

In exploring methods to abate C levels, the following study will illustrate the effect branch chain amino acids (BCAA) hold on C levels. In a study conducted at Ball State University (Sharp and Pearson, 1125-30), BCAA administration has shown to decrease C levels significantly. Eight subjects were recruited, all of which had a minimum of one year previous resistance training experience, but had not participated in resistance training in the six months prior to the study. Subjects were given branched chain amino acids (BCAA) or placebo. The amino acid composition per 12 BCAA capsules composed of 2,000 mgs of L-Glutamine, 1,800 mgs of L-leucine, 750 mgs of L-isoleucine, and 750 mgs of L-valine. The BCAA group consumed 12 capsules per day, six capsules in the morning and six capsules in the evening with meals. The BCAA group consumed this treatment for three weeks, followed by concurrent supplementation and resistance exercise on the fourth week. The other group consumed placebo treatment for three weeks, followed by concurrent placebo supplementation and resistance exercise on the fourth week. Between days 22 and 28, the training included four sessions; each comprising three sets of six to eight repetitions at 80% of their 1RM for the following exercises: leg press, leg curl, leg extension, chest press, military press, latissimus pulldown, dumbbell curl, and triceps pushdown. Sixty-second rests were taken between sets. Blood samples for T and C concentrations were taken two days prior to and three weeks after supplementation, and again within an hour after two and four days of training. The final blood sample was taken 36 hours after the last training session.

The results, here, were conclusive. C concentrations as a percentage of the baseline for the BCAA group were 18-30% lower during training and 36 hours post-exercise, as compared to a 20-37% C increase for the placebo group. T concentrations as a percentage of the baseline for the BCAA group were 50% higher during training and 36 hours post-exercise, as opposed to a 30% decrease for the placebo group. The BCAA supplementation had such an elephantine effect on C levels to the extent that while post-exercise C levels decreased for the BCAA group, the C levels analogously increased for the placebo group. This C decrease may be explained by BCAA's role in facilitating the repair of muscle tissue damaged by vigorous exercise. By attenuating physical stress through an agent that facilitates muscle repair, we alleviate the body's exigency for ancillary C production. Surprisingly, in addition to the C reduction, BCAA supplementation concurrently augmented T levels for the BCAA group; while, conversely, the placebo group experienced a T decrease. This decrease may be explained by their overtraining; more specifically, performing 24 sets (3 sets by 8 exercises) without BCAA supplementation may not be conducive to T stimulation. In the previous study, no subjects demonstrated a T reduction by performing 10 sets or fewer, and so entrepreneurs should therefore conduct the exercise in the manner as described in the hypertrophy group (Crewther and Cronin, 2008).

Notice the hypertrophy exercise alone would not be entirely auspicious given our aim, as it carries with it a pernicious rise in C. Therefore, BCAA supplementation must be employed contemporaneously with the hypertrophy exercise to maximize salubrious levels of both hormones and to decrease C responsiveness. Before we move further, it would we unbefitting to eschew the trite subject of "roid rage," the counter to our physiological policy claim. Confusion

of the nature of T often spokes the headlines, and is extemporaneously entwined with steroids, which may lead to a fallacious interpretation of T given our aim. For example, the headline, "Roid rage questions surround Benoit murder-suicide," precedes the article which described the story of Chris Benoit, professional wrestler, who in a fit of "rage" strangled his "wife, Nancy Benoit, and suffocated his 7-year-old son Daniel . . . before hanging himself on a portable weight machine. . . A lot of prescription medication was found in his home including anabolic steroids" (CNN, 2007). Quite a stigma this story imbues upon the subject of T or toward any T advocate for that matter. However, the media *inadvertently* failed to state the following:

> The wife's feet and hands were bound and she was asphyxiated, not beaten to death . . . By the account of the authorities, there were substantial periods of time between the death of the wife and the death of the son, again suggesting deliberate thought, not rage. Investigators found the bodies of Nancy and Daniel Benoit with Bibles placed next to them, authorities have said. "The presence of a Bible by each is also not an act of rage," said the WWE. (Montgomery, 2007)

Moreover, the toxicology report also revealed that Benoit had excessive, pernicious levels of other drugs in his body such as Xanax and the painkiller hydrocodone, in addition to T levels that were 10 times the normal physiological range, prompted by steroid usage (Press, 2007). Although roid rage is an observed behavior among steroid users, and such behavior could be counterproductive in a professional office atmosphere and thus not conducive to our aim, we are neither advocating steroid use nor methods to augment T levels beyond the physiological normal range. However, the media in its pecuniary efforts as in the Benoit story paints T with such broad strokes, designating it to the same tainted classification as steroids. Within the high-normal physiological range of T, no roid rage can be observed.

The Periodization Approach

Having established a methodical approach to augment T and abate C levels, we will not peruse the subject of "periodization," as the body habituates to repetitive exercise rendering it ineffectual. First we will analyze a Robert Frost poem, followed by a personal narrative, two studies that examine the periodization approach, a case study of a professional bodybuilder, and conclude with effectual methods to periodize hypertrophy training sessions. The following Frost poem introduces the conundrum of pacing opportunities, as not all opportunities can be concurrently engaged:

> TWO roads diverged in a yellow wood,
> And sorry I could not travel both
> And be one traveler, long I stood
> And looked down one as far as I could
> To where it bent in the undergrowth;
>
> Then took the other, as just as fair,
> And having perhaps the better claim,
> Because it was grassy and wanted wear;

Though as for that the passing there
Had worn them really about the same,

And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference. (Frost, 1920)

How often are our thoughts immersed in the road not taken? We who are of entrepreneurial thinking are inclined to pursue the most advantageous decision. However, should opportunities occur concomitantly, we wish to capitalize on both; as we direct our action to one, we vehemently think of the other. Above, Robert Frost demonstrates this paradox as he takes the road "less traveled," but nevertheless engrossed in the thought of what lies in the alternate road. Notice the emphasis placed on line 13, "Oh, I kept the first for another day!" Although, Frost "doubted if [he] should ever come back," this imperative understanding of taking the alternate road at another time; more specifically, pacing our direction as not all opportunities or roads can be concurrently engaged is a fundamental, yet essential entrepreneurial concept. Below, I share a personal story of the road less traveled, but meticulously prepared for, as although each road cannot be concurrently traveled, marking the distinction between each road, while concomitantly preparing, pacing, and optimizing performance for each road in accordance with its precedential value, can result in prodigious success for an entrepreneur.

As I stared dauntlessly into the examining eyes of the investor, I did not blink, nor did I speak—I just waited with an aura of insouciance. My ostensibly stoic countenance was not a reflection of my lack of concern; I cared, but I was unafraid. Although I gravely needed this investor to buy into my proposal; although my business was in financial jeopardy bereft of cash reserves; although SBA declined two loan applications; and although the previous five stock brokerages declined to take my company public for a cash infusion; I remained undaunted and visually obstinate in my convictions of the proposal I had just laid before him. Sixty seconds of silence ensued following this proposal as we played this game of silence. However, in this game of wits, I must confess; I held a slight advantage. I meticulously prepared four weeks prior with periodized hypertrophy weight training, BCAA supplementation, and revitalizing rest periods between training sessions; all these physiologically-motivated arduous preparations to optimize T and C levels for this one cardinal entrepreneurial moment. Similar to the fearful man in

Lightman's story (pp. 109-110), the investor gazed deep into the abysmal dimensions in my eyes, as he seemed to reach for my unconscious thoughts, as if to ask, "Can I trust you; Can I trust this to work?" He searched for doubt; he searched for the unconscious fear and insecurity of my presentation; he searched for my tenacity to persevere notwithstanding the sacrifice I must endure in this project; he searched for the unfaltering convictions to own this proposal and my earnest willingness to spawn it into fruition. Was this yet another sycophantic pitch like the dozens he antecedently rejected or did I secure the confidence of this proverbial golden goose? The proposal preceding this minute of silence was executed with such precision, such tact, a sharp delivery with long, uncontrived pauses—no anxiety or stress, and encompassed by an aura of unfaltering confidence and galant conviction despite the threat of my impending shutdown—a state of mind that could only be engendered by high T and low C levels (Wirth, 2007; Roelofs, 2007). Even such an effectual sales presentation could be undermined if the prospect sensed any uncertainty or fear in my thoughts. However, unconscious fear cannot thrive in an optimal physiological environment (Jack van Honk, 2005), even in the stressful, threatening circumstances in which I was positioned; and thus my mien was natural and undisturbed, as I sat there intrepid, prepared to persevere and approach the next investor should he be doltish enough to decline my offer. After sixty seconds, he succumbed, "O.K. You have my confidence."

Could I have attained the identical result with inauspicious levels of T and C? Doubtfully, as when engaged in moments of threat and significance, high T and low C through its fear abatement properties permit dauntless approach and a natural predilection toward the task (Jack van Honk, 2005; Roelofs, 2007), and fashion an intransigent will devoid of aversion, (Mehta & Joseph, 2010), which together engender a confident presentation, thereby appeasing the concerns and alleviating the apprehension of, and extinguishing the uncertainty in, the prospect. There is a diminutive distinction between gargantuan success and failure, mediated by the few pivotal moments, the imperative roads, in which an entrepreneur needs to be in optimal physiological order. In my story, preparing my physiology for that road in advance by designating it to the upmost precedential significance in a hierarchy of profitable opportunities was the method which facilitated this victory. Ergo, the solution is simple: augment T and abate C. However, to optimize such a physiological makeup is no facile task, as high T and low C are rarely static; they are volatile, and although we must schedule and pace these hormones in accordance with need, our bodies adapt to repeated methods. In the following study, we introduce this paradox; more specifically, if we were to engage solely in hypertrophy exercise to augment T levels, the body could eventually be immunized to this repetitive exercise, and therefore, inevitably, T levels would subside in due time. Accordingly, in this subsection, we will outline a plan to introduce a diversity of exercises to abate this immunity, and prepare the entrepreneur to manipulate T and C on days of appraised need, and optimize downtime between training sessions, to enable the superlative environment for these propitious hormones to thrive.

To illustrate an example of the manner in which the body adapts to exercise, we will examine a study conducted at the University of Nebraska Medical Center (Buresh, Robert, 2009). Twelve healthy males between the ages of 19 and 27 with prior weight training experience were recruited. Subjects were apprised to consume a minimum of 1.7 grams of protein per kilogram of body mass per day containing the sufficient daily value of BCAA for the course of a 10-week training period. Subjects were randomly assigned to two exercise groups: the "short-rest group" who took 1 minute rests between sets, and the "long-rest group" who took 2.5 minute rests between sets. The exercise protocol comprised two sessions: session one consisted of exercises for the lower extremities, shoulders, and abdominal muscles; session two consisted of exercises for the chest, back, and upper extremities. In each of the sessions, major muscle groups were trained using multiple-joint exercises, followed by single-joint movements. Subjects performed sessions one and two on consecutive days, followed by one day of rest; then repeated sessions one and two, and completed the cycle with two successive days of rest. This cycle was repeated for the duration of 10 weeks. The subjects were saliva tested for T after weeks 1, 5, and 10. The results are shown in Figure 5 below (Buresh, Robert, 2009):

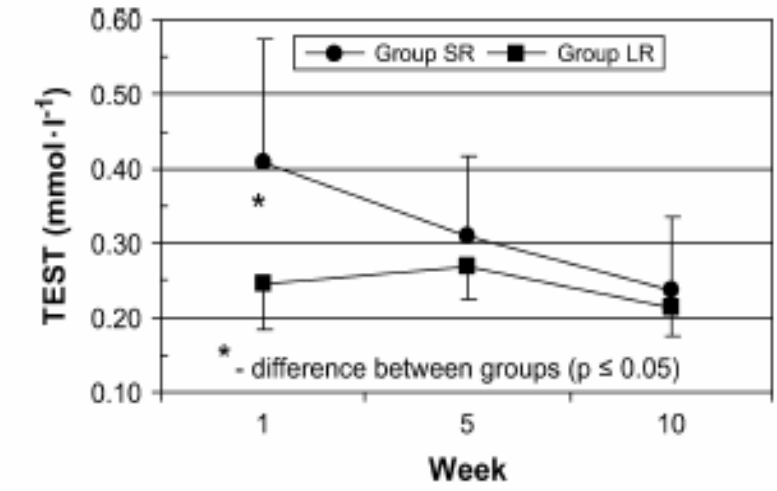


Figure 5. Testosterone response to repetitive hypertrophy exercise.

Group SR: Short-Rest Group
Group LR: Long-Rest Group

In week one, the short-rest group exhibited a greater overall hormone response to weight training than the long-rest group (short-rest group +.41 mmol/L vs. the long-rest group +.24 mmol/L). However, these differences in T response gradually diminished in the subsequent weeks. In week 10, no material T differences were found between the groups. This study illustrates the body's desensitizing response to repetitive exercise, irrespective of the type or intensity of exercise or interpolated rest periods. Therefore, T augmentation should be employed by shocking the body in multifarious ways and never permitting it to habituate to the training protocol. Once the body acclimates to the exercise stimuli, the body's adaptation renders the exercise ineffectual.

Here, the same road of hypertrophy exercise was repetitively engaged, and therefore, the subjects' failure to periodize and alternate workouts rendered their efforts moot. Now, we look to another study which demonstrates the value of alternating roads; namely, the difference between repetitive training versus periodized exercises. In Ball State University in Indiana, 34 active, but untrained, young women were recruited for a 24-week training study (Marx, 2001). T levels were tested at the conclusion of weeks 1, 12, and 24. Group one, the "single-set group" trained on three alternate days per week, performing a single set of 10 different exercises, in a slow-controlled manner with one to two minute rests between sets. Each set consisted of 8-12 reps performed to muscular failure. The subjects alternated between two different training circuits using the same exercise order. Group two, the "multiple-set group" trained four days per week to allow greater variation in the exercise protocol. On Monday and Thursday, the intensity randomly varied among heavy (3-5 reps), moderate (8-10 reps), or light (12-15 reps). The velocities of movement were dependent on the intensity of the exercise; more explosive movement speeds were employed when the weight permitted. The rest periods on light to moderate days were 1-2 minutes, and on heavy days 3-4 minutes. Both groups completed 100% of the workouts over the 6-month period.

The results were impressive. T levels increased significantly for both groups at week 12 compared with week 1. However, the multiple-set group showed a further T increase at week 24 compared with week 1 and week 12; whereas, the single-set group showed no T increase between week 12 and week 24. Overall, over 24 weeks the subjects in the multiple-set group showed a considerably greater T response than the single-set group. The multiple-set group engaged in a random heterogeneity of intensity and repetition in two of the four weekly workouts, thereby abating the body's inclination to adapt to the exercise protocol, which allowed T levels to increase consistently over 24 weeks. The subjects in the single-set group alternated between two training circuits permitting their T levels to increase for a longer period than the subjects in the previous study (Buresh, Robert, 2009), but nevertheless plateaued at week 12, due to exercise consistency and lack of periodization. So, periodized training—the training of diversity—impedes our body's ability to adapt as the intensity and repetitions of the exercise, or in some cases the exercises themselves, intermittently change. Have we then just outlined a methodical solution to maintain high T levels consistently? Just one bantam conundrum with this presupposition: If the body habituates to stimuli, would it be unreasonable to presume that if we did create a condition to which we were able to elicit high T levels continually through periodized training, could not our bodies also adapt and thus desensitize to these high T levels? To lend empirical erudition to the merits of this question, we will look to the case study of a professional bodybuilder; we will call him Sam for the purpose of anonymity. Sam has been bodybuilding for 12 years, and commenced his career at the young age of 19. Unfortunately, most national bodybuilding competitions are replete with bodybuilders who abuse synthetic testosterone a.k.a. steroids. Twelve years ago, Sam trained naturally. Today he injects 2,000 mgs of testosterone cypionate, 1,000 mgs of trenbolone enanthate, and 500 mgs of nandrolone

decanoate weekly—anabolic steroids—to maintain his lean 260 pound physique. Sam did not begin abusing steroids to the deleterious tune of 3,500 mgs weekly; he began with 200 mgs weekly. However, as his body acclimatized to the mammoth T levels, his dosages complementarily increased. Sam contends these elephantine injections of testosterone fail to add additional muscle mass, as this is only his maintenance dose. Sam further affirms the following:

> My body stopped responding to testosterone. Testosterone binds to receptor sites and as levels get too high, receptor sites desensitize. All the gear I use now is equivalent to the effect of one tenth the dose I used ten years ago. Unfortunately, my T receptor sites no longer respond to less than 3,500 mgs of gear. (Anonymous, Unnatural Bodybuilder, 2011)

Sam's body necessitates 3,500 mgs of synthetic testosterone, equivalent to nearly 30 times the amount of T in a natural high T male, to maintain homeostatis. Sam demonstrates an invaluable concept. We cannot plan for consistently high T levels, as our body will eventually adapt and desensitize to the superfluity of any mineral, hormone, or substance. Hence, in contrast to Sam's methods, an entrepreneur should prepare to sensitize the body's T receptor sites by having periods of less T, when feasible, so when the imperative moments or roads of increased T are required, the entrepreneur can then optimize T's propitious effects. The entrepreneur, therefore, must pace T levels in accordance with need. This, of course, translates into T downtime, with longer periods of downtime prior to T augmentation being the desired goal. In my story above, I pitched the investor following a three-week respite from weight training, succeeded by two high-intensity hypertrophy workouts within the three days prior to the meeting. I prepared my physiology for this meeting, as it held the highest precedence among the myriads of profitable opportunities. As such, all ancillary opportunities needed to be engaged with lower than optimal T levels—the sacrificial downtime—to maximize my uptime; and it worked not because I was a talented salesman, but simply because I was physiologically prepared for the road which mattered most.

Differentiating between, and setting precedence of, the roads is a labyrinthine task for an entrepreneur. Profitable roads vary and therefore below, we outline a methodical approach to weight-training to maximize T's effects:

According to the protocol below, compound, multiple-joint exercises such as squat, dead lift, and bench press must be included in the day prior to the profitable day, as acute T levels have been shown to be affected by the amount of muscle mass involved in training (Kraemer, 1998). Most entrepreneurs will fall within the three categories below, differentiated by the entrepreneurs' required frequency of profitable days. Profitable roads are defined as the non-negotiable critical days in the entrepreneurial environment which render the most profitability, and therefore constitute the greatest precedential need for high T levels.

1. **Entrepreneurs Who Require Profitable Roads Each Day**: Training sessions should comprise two weeks on, one week off; four training sessions per week. On Monday and Thursday, vary the intensity between heavy (3-5), moderate (8-10RM), or light (12-15) RM, "periodized training." Rest periods are one minute on light, two minutes on moderate, and three minutes on high. Tuesday and Friday, execute the hypertrophy exercise (8-10 reps) with one minute rest periods between sets. All training days should include 10 sets; randomize training routines to include both compound-body movements with major muscle groups and single-joint movements.

2. **Entrepreneurs Who Require Profitable Roads Every Other Day**: Training sessions should comprise two weeks on, one week off; three training sessions per week scheduled on the days prior to the profitable days. Two workouts of periodized training, followed by two workouts of hypertrophy exercise. Randomize training routines to include both compound-body movements with major muscle groups and single-joint movements.

3. **Entrepreneurs Who Require Profitable Roads Once or Less Per Week**: Training sessions should comprise three weeks on, one week off; two training sessions per week scheduled one and three days prior to the profitable day. The workout session furthest from the profitable day should include periodized training of randomly selected single-joint exercises; the workout session immediately preceding the profitable day should include hypertrophy exercises using randomly selected compound-body movements.

We vary days, rest periods, exercises, and intensity levels to invite high T levels and maximize T receptor site sensitivity. If feasible, the entrepreneur should try to pace business activities to allow for a three to four week respite from weight training once per year to further augment T receptor site sensitivity. BCAA supplementation in the following dosage must be employed every day to mitigate C levels: 2,000 mgs of L-Glutamine, 1,800 mgs of L-leucine, 750 mgs of L-isoleucine, and 750 mgs of L-valine (Sharp and Pearson, 2010). Three exercise protocols are outlined; however, the benefit is in maximizing prioritization; namely, scrutinizing the precedence of profitable days in accordance with significance. The entrepreneur should strive to separate profitable days few and far between as outlined in protocol number 3, as this routine augments T receptor site sensitivity and thus maximizes profitability. This program varies tremendously from conventional bodybuilding methods, as our aim is not to augment or maintain muscle mass, but rather to sensitize T receptor sites, and maximize T principally when the opportunity is most favorable. Therefore, the strategic positioning of non-training days is the focus and cardinal objective in our aim.

Of course, there are no shortage of "steroid" doctors who attempt to undermine the methodical principles explicated above by soliciting androgel, other testosterone creams and injections to normalize T levels—without all the strenuous work—for the "hypogonadal

underprivileged," which, to many of these doctors, constitute 90% of the populace (Werner, 2007). The following is an advertisement promoting testosterone therapy:

> Biochemically, testosterone replacement should aim not only to reach normal levels of serum testosterone, but also to normalize levels of those secondary hormones that are affected by testosterone levels such as DHT and estradiol.
>
> Current treatment options include oral tablets or capsules, injections, plantable long-acting slow release pellets, and transdermal (through the skin) patches and gels. At this point, the vast majority of testosterone replacement is done through the skin. This method has a number of advantages:
>
> - It is easy to apply.
> - It is relatively safe with a low incidence of side effects.
> - It more closely mimics the natural daily rhythm of testosterone production, with higher levels of testosterone delivered in the morning and decreasing levels delivered as the day progresses. (Werner, 2007)

Quite a cogent advertisement and no more stress or concern about the befitting management of high T level optimization within the physiological range, right? However, while enveloped in the more facile method so eloquently pitched by these "steroid" doctors, it may be important to note that aside from the risk of augmenting T levels too high while using these synthetic substitutes, the body ceases normal function of its own T production once it senses extraneous support. Moreover, with a consistent copious supply of T not exhausted or utilized in weight training, much of it will convert to estrogen, not as we planned, and dihydrotestosterone, which perniciously enlarges the prostate and causes hair loss. Furthermore, as in Sam's case, once T receptor sites are overindulged on a quotidian basis, they desensitize, and therefore T's propitious effects are mitigated. There are no advantages to T therapy as opposed to creating your own intermittently, other than its effortless. However, just as in any endeavor, what comes facilely usually comes with a deleterious price; a price that an entrepreneur cannot afford to gamble with, especially given the multitudinous demands imposed on the entrepreneur.

We who are of entrepreneurial thinking wish not to sacrifice gain; we wish to travel both roads simultaneously if we can. However, not all roads are of equivalent value. Accordingly, for those who understand the value of prioritization: the short-term sacrifice of physiological optimization for the less important roads "for the interests of long-term success" (Keefer, 2011), the methodology outlined above will serve as an invaluable asset. But for those who must capitalize on every opportunity and demand to travel both roads concomitantly despite their unequal value, well, like Sam demonstrates above, short-term success at the expense of long-term complications is rarely worth it.

Cortisol-Abatement Vehicles

Having perused hypertrophy exercise, BCAA administration, and periodization techniques, we will not examine C-abatement methods. First, we will introduce a Shakespearean quote to analyze C in greater detail, followed by the art of mock practice and then conclude with a C-abatement chart to bring circulating C levels into a propitious range.

Macbeth: Canst thou not minister to a
mind diseased,
Pluck from the memory a
rooted sorrow,
Raze out the written troubles
of the brain,
And with some sweet
oblivious antidote
Cleanse the stuffed bosom
of that perilous stuff
Which weighs upon the
heart?

Physician: Therein the patient
Must minister to himself.

(*Macbeth,* Shakespeare)

Above, Shakespeare illustrates how Lady Macbeth is fettered by post-traumatic stress elicited by her egregious murderous deeds. She cannot eat, rest, or sleep to such a prejudicial extreme that Macbeth sends for a doctor in a forlorn attempt to cure her deleterious condition. After a thorough medical examination, the doctor delivers the prognosis: "Therein the patient must minister to himself." Macbeth's efforts to attain medical succor for his wife are futile, as the enigmatic illness borne "of the brain" is really engendered by physiological processes, which, as the doctor suggests, must be self-regulated. If only Lady Macbeth were cognizant of the multifarious methods to eradicate this unprepossessing C incursion, then maybe she could thwart her pernicious state of mind and subdue its despotic dominance, and therefore emancipate herself from a life of physiological imprisonment. In this subsection, we will examine effectual methods to decrease C responsiveness and levels to optimize entrepreneurial performance and maximize profitability. First, we will discuss the art of mock practice to prepare the entrepreneur for the pivotal engagements, followed by diverse, random methods to attenuate C levels during rest periods between periodized training days.

Mock Practice. High C levels blunt the propitious effects of T (Mehta & Joseph, 2010), and therefore all the industrious work that entrepreneurs invest into periodization and the sensitization of T receptor sites (See Paper "Week 9") could be undermined entirely if they fail

to abate C levels efficaciously. As the doctor in Macbeth suggests, there are conditions of the body that we as entrepreneurs must minister to on our own; one of these conditions is C abatement. Of the multitudinous entrepreneurial methods to attenuate C levels, the most salient of these methods is mock practice. Although entrepreneurs should strive to abate C levels on a quotidian basis, they must prepare foremost for the few occasions that hold the highest precedence in a hierarchy of profitable opportunities (See previous subsection). However, by emphasizing the distinction between "important days" and "less important days," entrepreneurs may exceedingly pedestal the value of important days, and therefore when these days finally do arrive, hoards of C could be elicited in response to the "importance." For these pivotal moments, then, mock practice should be employed. We will examine a study conducted at the University of Trier in Germany to explore a method in which entrepreneurs could mitigate their C response elicited by these momentous days. Twenty male non-smokers (mean age 22.4 years) were recruited to measure the physiological responses to repeated stressful tasks. On five experimental days, subjects were exposed to the Trier Social Stress Test, comprising a public speaking task (5 min mock interview) and a mental arithmetic task in a role-playing approach in front of an audience. The subjects received a three-minute introduction to the impending tasks, a 10-minute anticipation period in the second room, followed by the 10-minute stress exposure in the test room. Following the stressful tasks, the subjects completed four personality questionnaires: Eysenck Personailty Inventory, Giessen Test, Competence and Control Orientations, and Symptoms Checklist, to identify and distinguish key personality traits among the subjects. The subjects were divided into two groups: the "low C responders" and "high C responders" differentiated by their C response to the stress tests. The results were consequential. On the first task, the high C responders reached levels 20.8 nmol/l above initial baseline levels; whereas the low C responders reached levels 7 nmol/l above initial baseline levels. As the subjects progressed through the five experimental days, the high-C responders showed a reduced C response to the stress stimuli, tapering off at 9.4nmol/l above baseline levels on Day 5. The low-C responders showed no C response above baseline levels subsequent to day one. This study demonstrates two significant concepts: (1) Mock practice increasingly desensitizes C-responsiveness with subsequent employments; (2) Entrepreneurs should strive to be low C-responders, as following the first mock practice, in sessions two through five, the low C-responders exhibited no increase in C levels.

As repetitive weight training desensitizes T responsiveness (Buresh, Robert, 2009), mock practice, the art of rehearsing multitudinously before employment, is an indispensible attribute in an entrepreneur's armory, as it desensitizes C responsiveness. Notice the low C-responders exhibited no C rise following their first practice session. According to the four personality tests which each subject completed, the sole distinction between high- and low- C responders was the high C-responders held lower self-esteem. The next question, then, is could the degree of self-esteem an individual holds be governed by his or her T levels? If we were to take a high-T male, as an example, and subjugate him to a low-status position, he would undergo a sharp cognitive decline derived from dissonance—a state in which his presumed worth is incongruent with his status (Mehta P. H., 2006). Hence, this high T male could not be of lower self-esteem, as such esteem would be inconsistent with his high-status inclination, presumption, and natural comfort threshold. Therefore, the high-T male must hold higher self-esteem. Similarly, one of the symptoms of hypogonadism, the condition of low T levels, is low self-esteem; and hypogonadal

patients who have undergone T therapy vehemently agree that their self-esteem has notably increased through T augmentation (Floter, 2002). Further studies support this premise that T engenders higher self-esteem (Bernhardt, 1998; Connor, 2002). It follows that when this study relates to high C-responders, it is concomitantly identifying subjects with lower T levels. Therefore, if high T levels are associated with lower C responsiveness, and if low C responders elicit no C response in their subsequent mock practices, high T entrepreneurs, too, would elicit no C response following their through initial mock practice session. Thus, entrepreneurs should incorporate mock practice into their entrepreneurial armory particularly given its potent capacity to abate C.

Other C-abatement vehicles. Above, we outlined the manner in which an entrepreneur should prepare for impending novel or momentous meetings through the art of mock practice. However, like Lady Macbeth demonstrates, stress is recurring, and once evoked in a stressful environment, it tends to embrace us intransigently and routinely with its presence. Thus, in Figure 6 below, we describe five effectual methods to decrease C levels for quotidian entrepreneurial activities:

Figure 6: Cortisol-Abatement Vehicles (Kamei, 2000; VanBruggen, 2010; Hernandez, 2005; Sudsuang, 1991; Khalfa, 2003; Leproult, 1997)

Type of Vehicle	**Percentage Reduction of C Levels**	**Minimum Time of Employment for Effective Results**
Yoga	56%	60-90 minutes
Aerobic	31.2%	30 minutes (intensity must be capped at 50-60% maximum capacity)
Massage Therapy	31%	20 minutes
Meditation	19%	60 minutes
Music	19.6%	30 minutes
Sleep	Homeostatis	7-8 hours per night

Massage therapy, yoga, meditation, and aerobic exercises should be employed arbitrarily by the entrepreneur on non-training days, as not to permit the body to habituate. For aerobic exercise, entrepreneurs should not surpass 50-60% maximum heart rate; otherwise, C levels will increase (VanBruggen, 2010). To calculate maximum heart rate, the entrepreneur should subtract his or her age from 220; 50-60% of the remaining difference is the heart rate that should not be exceeded. As noted in Figure 6, music has an attenuating effect on C levels, and can be concurrently employed with any of the foregoing C-abating vehicles. Sleep deprivation, additionally, has shown to increase C levels up to 24 percent, and thus 7-8 hours minimum of daily sleep is recommended to minimize C levels. The entrepreneur, therefore, should employ

mock practice prior to the important days, and the four vehicles outlined in Table 6 in conjunction with music and adequate sleep on non-training days.

Dietary Plan and Timing

Now, that we have identified effectual methods to abate C levels, we will conclude this section by introducing a Miyamoto Musashi quote, followed by a protein protocol to abate sex hormone-binding globulin levels, a fat intake recommendation, a carbohydrate and protein protocol to be combined with hypertrophy sessions, and let us not forget the imperative hydration technique.

> You win battles by knowing the enemy's timing, and using a timing which the enemy does not expect. (Musashi, 1645)

The Book of Five Rings was written in 1643 by the famed duelist and undefeated samurai Miyamoto Musashi, who triumphed endlessly with his opponents by understanding the value of timing. In the quote above, Musashi delineates that victory is secured by assessing the enemy's timing, and striking at unsuspecting times when the enemy is most vulnerable. Similarly, if we were to look at the manner in which the body responds to exercise that is not periodized, we notice that the body habituates to any discipline we apply, eventually rendering it ineffectual, and thus, within this context, the body could be construed as the metaphorical enemy. Therefore, within the context of diet, to maximize physiological benefit would require assiduous planning of timing methods to obviate the body's habituation of the diet protocol, and thus we would need to plan a stratagem in a manner, as Musashi suggests, that the body will continually fail to anticipate. In this final subsection, we will wrap up the physiological policy claim by examining the relationship between diet and T, and outline the modus operandi that entrepreneurs must employ to subdue the enemy's inhibition of this propitious hormone.

Before, we discuss dietary methods that work superlatively with hypertrophy exercise, we will analyze the sex hormone-binding globulin (SHBG), the steroid-binding protein that was briefly discussed in this paper's introduction (pg. 3). Ninety-eight percent of T binds to SHBG and albumin, the enemy's armament, leaving only 2% of T in unbound, active, available form known as free T (fT). Although, studies have shown that T levels increase in greater proportion to SHBG levels during hypertrophy exercise leaving greater levels of circulating fT (Zmuda, 1996, Kuoppasalmi, 1980), we nevertheless should explore a dietary method that could abate SHBG, thus introducing even greater circulating levels of fT. To differentiate between the binding proteins, albumin is a low-affinity steroid-binding protein, while SHBG is a high-affinity steroid-binding protein, and thus SHBG is the main T-binding culprit. Therefore, our focus will be placed in a dietary method to abate SHBG levels.

In exploring multifarious methods to abate the enemy's SHBG levels, many conflicted studies have emerged that show contradictory relationships between carbohydrates and fat intake and SHBG (Longcope, 2000). Therefore, absent of any evidence that can reconcile these inconsistencies, we will focus solely on the study of protein and its SHBG-abating properties. In a study conducted at the University of Massachusetts Medical School, 1709 male subjects, aged 40-70 years, were recruited to measure the relation of multiple genetic and life-choice variables to health and aging (Longcope, 2000). The subjects were tested for height, weight, waist and hip circumference, dietary intake, frequency of cigarette smoking and alcohol intake. Blood samples were also drawn in the morning to test for T, estradiol, and SHBG levels.

The results were interesting. SHBG levels were positively correlated with age and negatively correlated with protein intake: SHBG levels increased linearly in connection with age; and SHBG levels decreased linearly in connection with daily protein intake. Similar studies have shown that higher protein intake lowers SHBG levels (Franks S, 1991; Anderson & Rosner, 1987). This study demonstrates two concepts. First, entrepreneurs' adherence to a protein-enriched diet is of cardinal significance as they age, as basal SHBG levels increase with age. Second, sufficient protein intake is mandatory, as a diet devoid of protein elicits increased SHBG levels. Protein intake is negatively associated with SHBG levels, and therefore the dietary aim is to increase protein intake substantially enough to abate SHBG levels, and thus increase fT. However, there is a maximum threshold of protein the body could utilize in one serving dependent on lean body mass and quotidian physical activities. Excessive protein beyond this threshold would be alternatively utilized as body fat or waste. Therefore, an average of six servings of 20-40 grams of protein combined with other macronutrients each day is ideal. Time, though, is a valuable commodity, and thus the entrepreneur, given the quotidian demands of the business, may be bereft of time to prepare such frequent meals. Hence, extra preparatory steps should be undertaken such as hiring a part-time meal-preparing employee to ensure timely delivery of this valuable macronutrient. However, we must not discount the enemy; if the body produces SHBG, it does so with a calculated purpose. It follows then that if the enemy learns of our dietary plan, it, too, may habituate to the consistent protein intake as it does to unperiodized hypertrophy exercises, and thus continue to produce SHBG despite our protein discipline. Therefore, like periodized workouts, the entrepreneur should periodize protein intake around pivotal days, with six to eight daily servings of protein on weeks of pivotal meetings, and three to four daily servings of protein on less important weeks. This will, as Musashi explicates, utilize a "timing which the enemy does not expect," and thus minimize any habituation with which the body may retaliate.

Having examined protein, next, we will discuss fat and the optimal intake of this invaluable macronutrient. Of the macronutrients, fat, primarily, has been shown to augment total T level production. Two major studies demonstrate fat’s role in total T production. Sallinen et al. show that consuming a low-fat diet and replacing saturated fats with polyunsaturated fat decrease

basal T levels, and diets low in unsaturated or saturated fats compromise the anabolic hormonal profile (Sallinen & et al., 2004). Volek et al. show significant positive correlation between testosterone and total fat intake in young strength-trained men (Volek, 1997). Collectively, we could extrapolate that an 8-10% daily caloric intake of monounsaturated, 8-10% polyunsaturated, and 4-8% saturated fats would be optimal to maximize propitious T levels (Bird, 2010). These fats, too, should be periodized by amounts and type dependent on pivotal need to minimize the body's T habituation. Notably, though, while fats do not influence fT, they do augment total T levels, which, when combined with SHBG-abating methods, will increase the total amount of bioavailable fT the body could utilize, and thus ramp entrepreneurial performance.

Finally, we will outline the most auspicious combinations of carbohydrate and protein as well as our recommendation on water intake to fuel and recover from the arduous hypertrophy sessions. Timing as Musashi so masterfully perfected is the cardinal attribute of physiological enhancement that could materially impact the efficacy of diet. Hypertrophy exercise could be extremely taxing on the body, and thus optimal fuel is required before, during, and after exercise to evoke energy, muscle repair and recovery, and increased T levels. Antithetically, if the body fails to recover from a hypertrophy training session, T levels will plunge. Therefore, entrepreneurs should ingest a pre-exercise fast-acting whey protein, followed by a liquid carbohydrate during the exercise session for energy, and post-workout ingestion of whey and casein protein, which, collectively, will prompt muscle repair and augment T levels and sustenance for the exercise protocol. To further muscle recovery and repair, whole foods comprising a ratio of 1g/kg of carbohydrate and .5g/kg of protein should be ingested 30 minutes after exercise, followed by a high-carbohydrate meal two hours later (Rasmussen, 2008). Sufficiently timed protein and carbohydrate ingestion, albeit seemly inconvenient, is critical for muscle recovery and high T sustenance, permitting subsequent training sessions uninhibited by muscle lethargy and impairment. However, these vital macronutrients must be concomitantly combined with adequate hydration. Hypohydration during exercise decreases performance, and has shown to increase circulating C, attenuate T's response to exercise, and alter carbohydrate and lipid metabolism (Maresh, 2006; Judelson, 2008). Therefore, entrepreneurs should begin fluid intake 24 hours preceding the exercise event at a rate of 12-16 oz every two hours. They should continue by taking 16-24 oz of water 1-2 hours before exercise, followed by 12-16 oz of water 15 minutes before exercise, and 4-8 oz every 10-15 minutes during exercise (Kalman, 2010). This recommendation will keep entrepreneurs fully hydrated and in optimal condition to champion propitious levels of T and C during and following the exercise protocol.

In opposition to this diet protocol, Jonathan L Gelfand, MD, a practicing internist and pulmonologist in Pennsylvania, asserts that a high-protein intake could lead to kidney failure, high cholesterol, osteoporosis and kidney stones, cancer, and ketosis; therefore, Gelfand recommends avoiding diets replete with protein (Gelfand, 2010). Quite a vague assertion Gelfand renders, as these conditions he outlines are not a direct result of the high protein intake

alone, but rather the paucity of carbohydrate-containing foods that contain vitamins, minerals, fiber, and antioxidants; and the superfluous intake of animal fats which are linked with heart disease, stroke, and cancer. We are not recommending a ketogenic diet, which comprises high-protein, high-fat, and low-carbohydrate foods. We, instead, recommend a fat intake of 20-25% of the daily calories stemming from diverse protein-rich food groups, 4-8 servings of 20-40 grams of daily protein dependent on physical and physiological need, with the remaining calories derived from rich carbohydrate fuel. Moreover, with inadequate protein intake for hypertrophy exercise, the antithetical "protein deficiency" could quite facilely emerge which could lead to fatal diseases such as marasmus, the lack of essential nutrients; kwashiorkor, the abdomen retention of fluid; and cachexia, the depletion of skeletal muscle which is associated with cancer, chronic kidney failure, heart disease, chronic obstructive pulmonary disease, and rheumatoid arthritis (Traister, 2011). Furthermore, inadequate protein precludes recovery from the toilsome hypertrophy workouts, and therefore would increase C levels incited by the stress of malnutrition, and increase circulating levels of SHBG (Longcope, 2000), which, collectively, would ultimately lead to business failure.

The body is a complex and intelligent organism, making it a puissant and formidable opponent. However, by understanding its mechanisms, and employing timing which eschews its habituating tendency, we can subdue this enemy, and thus engender increased entrepreneurial performance.

Personal Studies Conducted to Test the Physiological Policy Claims

We have concluded our physiological policy claims. Now, let us put all the claims to the test to see if they hold merit. In this section, we will analyze three studies I conducted with five telemarketers of an insurance brokerage, in an effort to see if T augmentation and C abatement could increase their sales performance. In the first study, we examine the subjects' performance results, followed by the second study in which we analyze the inconsistent resolve to continue training exhibited by two of the subjects, and conclude with the last study in which we explore an effectual method to motivate subjects with non-kinesthetic domains to, nevertheless, continually adhere to the exercise protocol.

Study One

We will begin with a Shakespearean quote to analyze the power that we, who are of entrepreneurial substance, have over our unfolding fate, followed by the study I conducted, the ensuing performance results, and an analysis explicating why the physiological-enhancing protocol increased the subjects' performance.

Cassius:
Why, man, he doth bestride the narrow world
Like a Colossus, and we petty men
Walk under his huge legs and peep about

To find ourselves dishonourable graves.
Men at some time are masters of their fates:
The fault, dear Brutus, is not in our stars,
But in ourselves, that we are underlings.

Shakespeare's *Julius Caesar*, Act 1, Scene 2

Above, Cassius, a nobleman, speaks with Brutus in an effort to win his confidence by demonstrating that Julius Caesar, like they, is just a man, not a deity, and as their bodily equal, Caesar should be afforded no preferential treatment or divine deference. Fate, that enigmatic yet intangible celestial will that governs us, will convince us that its decisions are immutable, and final, and that we will never be of royal substance should we choose. However, this very submission of accepting fate's baneful lot presupposes that we are not the masters of our own volition; that there is a superior existence which supersedes our best thinking and subjugates us notwithstanding our best efforts. The problem with this specious conception is it leaves us doomed to accept our calamitous lot, should "fate" desire, and therefore precludes any propitious actions to be undertaken to reverse this misfortune, and thus, in a servile response, we reluctantly accept our undesired fortune. Some of us blame our ill fortune on poor genetics, others on the paucity of talent, but rarely do we take the approach that we, as volitional beings, are "the masters of [our] fates." Rarely do we rise above our failing lots and take the volitional reins to our objective; rarely do we repave and entrench our fateful roads based on our premeditated desires; rarely do reconfigure our genetic shortcomings into genetic anomalous advantages to engender perpetuating success. We are not the underlings to whom these fateful lies were sold; we are not slaves to oppressive circumstances; we are not the sails of a boat that follow the direction of the wind; we are the "masters of [our] fates," as Cassius describes, and should the time arise when we feel enslaved or overpowered by disheartening, enervating circumstances, we must vehemently oppose the tide, look "fate" brazenly in the eye and yell "You are no boss of me!" as we remain loyal and steadfast to *our* will's calling and design. In this subsection, we will examine a study I conducted that demonstrates the manner in which five telemarketers, who were formerly subjugated to low-status positions in a work hierarchy, quickly rose above their fated lots, and metamorphosed into the top producers of the firm within three business days through the manipulation of higher T and lower C levels.

In a blind study, five cold callers, comprising three men and two women between the ages of 18-27, were recruited from an insurance brokerage to participate in a study that I conducted. The five subjects worked among a staff of 25 other telemarketers whose quotidian duties consisted of cold calling 300 to 400 directors of multi-million corporations throughout the country to introduce the firm, gather the interest of the prospect through a sales pitch, and then schedule a telephone appointment for the prospect to speak with a senior broker. "The "low-tier callers," our subjects, generated 2-5 leads per day; the "high-tier callers" generated 9-11 leads per day. The objective of the study was to ascertain whether our subjects' low production was

elicited by their unfavorable physiology, and should their inauspicious levels of T and C be corrected, would their production thereupon increase? Through a walk-in appearance to the firm, I was introduced to all the telemarketers as the director of a non-profit organization researching the effect of short-term exercise on mood to eliminate any prejudices or placebo effects among the subjects. Although the subjects were screened for medical problems and hormonal contraceptives, two of the five subjects taking anti-depressants were nevertheless chosen. I hypothesized that through high T and low C manipulation, the low-tier callers' productivity would augment and be similarly matched to that of the high-tier callers'.

The study was conducted over three days, Monday, Tuesday, and Wednesday, with workout sessions performed on Monday and Wednesday mornings at 7 a.m. The subjects were given a choice to perform nine sets of either (1) squats, bench press, and military press; or (2) dead lifts, dumbbell rows, and dumbbell lunges, each of which would have to completed on either day, followed by a 30-minute treadmill fast walk at a 50% maximum heart rate threshold. The hypertrophy exercises were performed using 10 reps of their 65% 1RM with one-minute rest periods between sets. The subjects were also given the required BCAA administration each morning before their workouts followed by a Myoplex protein shake post-workout. The subjects were further apprised to eat a minimum of one gram of protein per kilogram of weight along with sufficient calories to sustain recovery, spread over 5 to 6 meals throughout the day.

The production of the 30 telemarketers collectively, "the floor production," was monitored by a manager over the three day period, and these results were provided to me Wednesday evening. The results were prodigious. First, the subjects' production increased within a range of 40 to 200 percent, with a mean increase of 136%. The floor production increased by 40%; while the high-tier callers' production increased by 25%. Refer to Figure 7 below for the results (M.G., 2011).

Figure 7: Subjects' Productivity Increase Subsequent to T and C Manipulation

Subject	Average Daily Production Prior to Hormone Manipulation	Average Daily Production with High T, Low C	Percentage Increase
A	2 Leads	6 Leads	200%
B	3 Leads	5 Leads	67%
C	4 Leads	11 Leads	175%
D	4 Leads	12 Leads	200%
E	5 Leads	7 Leads	40%

As hypothesized, the five subjects exhibited a colossal increase in lead generation: While subjects B and E increased their productivity by 67% and 40%, subjects A, C, and D increased their productivity by 200%, 175%, and 200% respectively. These large variances between the subjects may be the result of varying C levels, which inhibit the propitious effects of T. Remarkably, three of the subjects exceeded the high-tier callers' average production, which led to a status rivalry as subjects A, C, and D competed vigorously with the high-tier callers. As explicated in the study at the University of Texas at Austin (Mehta P. H., 2006), high T subjects presume, and feel comfortable solely in, high-status positions, and thus as the three subjects' productivity surpassed the high-tier callers', the high-tier callers in a determined attempt to eschew the status deracination pushed more fervently; some even working past their 5 p.m. work schedule to procure an additional few leads. The telemarketers who were not part of the study in the lower and mid-tier ranges also exhibited a production increase, but not to the colossal extent of the subjects'. Although, these low- to mid-tier non-subject callers had no status position to protect as the others' enhanced production posed no threat to their presumed lower status (Mehta P. H., 2006), the vivacious motivation emanating throughout the boardroom could have energized their T to augment production. Overall, the firm's production increased by 40%, ultimately engendered by the T augmentation and C abatement of five subjects.

On Wednesday morning, as I supervised the subjects' final hypertrophy workout session, in an effort to collect data as to the subjects' psychological standing to their augmented T and abated C, especially upon their "fresh" receptor sites, I asked the subjects to enlighten me on the thinking habits that have changed as a result of these exercises; whether these changes affected their productivity at work; and to describe the manner in which these changes had increased productivity. Each of their responses shared the same central idea, and therefore most of the responses below were avouched by multiple subjects. The subjects maintained the following:

Response 1: "I did not feel intimidated in speaking to these directors; my pitch flowed more naturally." (Subjects A, B, E)

Similar to the fear abatement concept demonstrated in the study conducted at Helmholtz Research Institute in the Netherlands (Jack van Honk, 2005), subjects A, B, and E asserted they were no longer intimidated by the prospects. These subjects' pitches were not contrived, but instead more natural, such as a conversation would be with a fellow co-worker. Their dauntless approach to the task permitted them to communicate freely with the prospects, as the prospects were no longer "out of their league," and thus the subjects' sales delivery flowed naturally, more comfortably. This natural flow, too, could be attributed to the subjects' higher status presumption, as they must have perceived the prospects within their hierarchical level or lower to speak naturally, unfettered by fear.

Response 2: "Overall, I felt more confident; I was not nervous." (Subjects A, C, D) Surely, this response serves as no surprise, as in an environment devoid of fear, nervous energy

cannot prevail, and abounding confidence is therefore enfranchised to effuse, unhampered by deleterious thoughts. In addition, the subjects would feel more confident and less nervous if they were to speak to an individual of the same or lower status, as opposed to feeling less confident or more nervous if speaking to a prominent figure. Thus, this response could also serve as an indication of the subjects' increased status presumption (Mehta P. H., 2006).

Response 3: "I felt an increase drive to dominate these prospects, as compared to their dominating me." (Subject E)

Is this not also an indication of a status-hierarchy consciousness? Certainly if the subject's high T levels designated his self-perception to a high-status in a social hierarchy, this subject would no longer be dominated by prospects, but rather would dominate to the extent of the relative height of status in the hierarchy upon which he had placed himself.

Response 4: "Usually I dreaded cold-calling, this time I fun with it. I was in a better mood, and it appeared as a result, the prospects were more receptive." (Subjects B, C, E)

We have also demonstrated in the study conducted at the University of Michigan (Wirth, 2007), that high T and low C levels increase one's predilection toward a task. These subjects no longer "dreaded" the task as they were not averted from, but rather exhibited an increased approach to, it. Therefore, as they willingly approached the cold-calling task, their prospects sensed an enthusiastic fervor and congenial tone, which most certainly could have increased the subjects' response rate.

Response 5: "I did not feel like a used-car salesman anymore or unimportant employee; my pitch radiated with a sophisticated authority." (Subjects A, D)

"Feeling like a used-car salesman or unimportant employee" indicates a feeling of subjugation or subordination to an undesired lower status. The subjects' T rise apparently elevated their perceived status position to the extent that their sales presentation radiated with authority.

Despite the study's unequivocal results, some, nevertheless, could induce that self-confidence was the principal cause of the subjects' augmented production, as it was evident in their responses and observable behavior. However, this premise confounds cause and effect, as although self-confidence was present in their sales delivery and demeanor, self-confidence could not occur in an environment devoid of higher T, as evidenced by the subjects' failure to reach this level of production prior to T augmentation. Therefore, self-confidence could not be the principal cause, but rather engendered as the by-product of high T. It may be further argued that the study was limited by my failure to measure the subjects' T and C levels before, during, and after their cold-calling sessions. While this premise is correct, and salivary testing of T and C levels would strengthen the study, we have clearly evidenced the effects of hypertrophy exercise and BCAA administration on T and C levels (Crewther & Cronin, 2008; Sharp & Pearson,

2010), and thus we could reasonably presume under consonant conditions and protocol, their T and C levels would respond identically. Finally, it could be reasoned that although T and C were manipulated through hypertrophy exercise and BCAA administration, other hormones may have contributed to the subjects' success, such as dopamine and serotonin that are also released during exercise. However, this presupposition overlooks the fact that two of the five subjects were taking anti-depressants that evoked higher serotonin and dopamine antecedent to the study, yet their productivity had remained low and stagnant up to the implementation of the hypertrophy exercise. Therefore, we can reasonably exclude dopamine and serotonin as the contributing impetuses, and deduce that high T and low C were the primary catalysts to the subjects' increased volume.

The subjects exuded a self-assured mien or aura subsequent to their T rise. Their changed demeanor was visually noticeable and apparently diffused through their communications with prospects over the telephone. They became better salesmen. Similarly, the foundation of entrepreneurism is also sales: Whether the entrepreneur is marketing new clients, soliciting investors to invest into the company, or striving to attain global recognition in a competitive marketplace; the central focus, and the only aspect that could guarantee revenue, is effectual selling. In this study, we have verifiably shown that high T and low C could elicit increased sales production. Notice, above, many of the subjects' responses focalize on their respective statuses and value within a hierarchy. Perhaps, Shakespeare's character, Cassius, is correct when he states, "The fault … is not in our stars, but in ourselves, that we are underlings." As many of the subjects "walked under the huge legs" of the top-tier callers in a marketing hierarchy for quite some time; these subjects now realize that their problems were never in their stars or fated lots, or in their genetics or talents, but rather in their physiology, to which any entrepreneur with this intelligence could fashion a revised fate paved around his or her volitionally planned entrepreneurial pursuits.

Study Two

This next study focuses on the lack of resolve two of the subjects exhibited to continue in the exercise protocol. We will begin with a final Shakespeare quote to examine the concept of resolve, followed by an analysis that elucidates the inherent differences between the subjects who continued and those who discontinued in the exercise protocol.

Lady Macbeth:
Why did you bring these daggers from the place?

They must lie there. Go carry them, and smear
The sleepy grooms with blood.

Macbeth:
I'll go no more.

I am afraid to think what I have done;
Look on't again I dare not.

Lady Macbeth:
Infirm of purpose!
Give me the daggers. The sleeping and the dead
Are but as pictures; 'tis the eye of childhood
That fears a painted devil.

Shakespeare's *Macbeth,* Act 2, Scene 2, pp. 45–52

Upon Macbeth's return from murdering King Duncan, Lady Macbeth censures Macbeth, contending that he must bring the incriminating evidence back to the crime scene and smear the unconscious grooms with the blood, thereby directing the suspicion of the murder onto the guards and away from them. Lady Macbeth, the ostensibly stronger of the two, demonstrates greater resolve in their plot of regicide, as self-doubt, regret, and fear settle in Macbeth, precluding any further approach to the task that he, though urged by his wife, fails to continue. Macbeth's will is debilitated. Although, he shows great resolve to commence the action as planned, he fails to perseverate in the task. Similarly, how often do we commence a task feeling motivated in the moment, only later to lose momentum, as the task proves to be too taxing? Naturally, why should we continually employ all our resources into an arduous endeavor, when the alternate act of disengagement is the more facile option? However, in the very nature of struggle, it is the onerous dedication and unfaltering tenacity we employ, notwithstanding the mental, emotional, and physical impediments, that distinguish greatness from mediocrity, and permit those of us who wish to achieve greatly with the tools to attain prodigiousness. It follows then that the resolution we employ in our convictions is a cardinal requirement of prosperity, and should we fail to perseverate in a commenced activity, we concomitantly fail to achieve the greatness of the road paved before us. In relation to our thesis and in consideration that periodization of hypertrophy sessions gives rise to downtime which could impede an entrepreneur's physiological perseverant standing (Mehta and Josephs, 2006), other than physiological processes, what psychological processes are involved that differentiate those who act transiently in their convictions from those who show resolve and perseverate? In this study, we will explore this concept as we continue to analyze the effects of hormonal manipulation on telemarketing productivity. However, we no longer have five telemarketers; only three remain, as two, despite their gargantuan increase in productivity in Study One, have elected not to continue in this study, as the hypertrophy exercises proved too demanding of their efforts.

In Study One, we illustrated the auspicious effects of augmented T and abated C on the productivity of five telemarketers. Despite this monumental increase in their productivity, two subjects elected not to continue in the hypertrophy training sessions, and consequently suffered a loss of sales this week, leaving them in a similar subordinate hierarchal position as before the study. The results of this study's telemarketing production are shown below (M.G., 2011):

Figure 8: Subjects' Relative Production in Study Two

Subject	Continuance	Production Prior to Hypertrophy	Average Production in Study One	Average Production in Study Two
A	No	2	6	3
B	Yes	3	5	7
C	No	4	11	6
D	Yes	4	12	14
E	Yes	5	7	8

The productivity of subjects B, D, and E continue to increase, as they take the reins to the high-tier hierarchal positions. Within the firm, they are recognized as the top producers, elicited solely as a consequence of their obstinacy in the path they have chosen. As trite as this concept may appear, this study categorically evidences that knowing the vehicles to achieve gargantuan success is not enough to prompt action, at least not for everyone, and therefore the most effectual vehicle for entrepreneurs to engender successful behavior is to develop an unfaltering resolve to the actions that they undertake. In an attempt to understand the psychological mechanisms that evoke such irresolute, evasive behavior, I approached subjects A and C, the non-participating subjects, Wednesday morning as they arrived to work and asked them to explain why they have chosen not to participate in this study.

Question: Why did you not join us this week?

Subject A: The workouts are good, but just too early in the morning.
Subject C: I have other engagements; it is a holiday week.

Question: Do you recognize the link between these training sessions and your increased production at work?

Subject A: Yes
Subject C: Yes

Question: Do you earnest believe that these hypertrophy sessions increased and could continue to increase your productivity significantly?

Subject A: Yes
Subject C: Yes

Question: What are your long-term financial plans; how much do you intend to earn annually once you graduate to a senior broker?
Subject A: 40-50 thousand
Subject C: 50-60 thousand

This paper intends not to vilify individuals who earn 40-60 thousand annually; but rather to examine the subjects' long-term plan as it relates to income motivation, and the manner in which this motivation affects their resolve. In this brokerage firm, senior brokers earn between 35 thousand and 1.2 million annually, and therefore the non-participating subjects striving to earn 40-60 thousand annually demonstrates that the self-estimation of their long-term earning potential falls within the lower echelon of the industry. All telemarketers in this firm—including our subjects—are required to cold call six months prior to their licensing and permittance to work as senior brokers, and thus these telemarketers are willing to work for menial wages temporarily with the intention to pave a successful career thereafter. Thus, considering the six months of arduous labor at abject pay, it was quite surprising that within an industry in which millions could be feasibly earned, these two subjects elected to earn within the lower echelon of the firm's income range. I proceeded to ask this identical income question to subjects B, D, and E, the participating subjects; however, they responded quite differently:

Question: What are your long-term financial plans; how much do you intend to earn annually once you graduate to a senior broker?

Subject B: 250 thousand
Subject D: 500 thousand
Subject E: 2 million

Remarkable! Accordingly, as evidenced by these subjects' resolve in continuing this program, we can induce that motivation must be inherently present to evoke resolution and perseverance. Motivation in the non-participating subjects was not present as their low productivity had already positioned them within their desired income ranges once they graduate to senior brokers, and thus no ancillary, especially laborious, work needed to be undertaken. Conversely, the participating subjects, who recognized the value of hypertrophy exercise as it relates to their production, prioritized their training sessions accordingly, as these sessions were categorically vital in optimizing productivity for and congruency with their long-term financial agenda. It follows then that our resolution in a pursuit is contingent on our motivation, which is fueled by the paradigmatic views we invest into the intended outcome. Should we, for example, aim higher in an income echelon, we thus unconsciously push ourselves to take all the required vehicles to arrive there, notwithstanding the toilsome sacrifices. This idea has profound value. If an entrepreneur were to set a goal, the entrepreneur would most likely adhere to this pursuit and thus succeed if his or her motivation were adjusted to include the apex of potential results within that pursuit. For example, if the goal were to develop a novel product to increase revenue, the best means to remain obstinate in this pursuit would require the entrepreneur to be genuinely motivated in turning this product into the next multi-million dollar revenue stream, as opposed to just a paltry source of additional income. Determination, resolve, and perseverance are built on elephantine goals; and therefore, as evidenced by subject A and C, in a psychological standing devoid of these larger goals, resolute action cannot thrive.

Antithetically, Robert Maurer, a psychologist on the staff at the UCLA medical school, in his book *One Small Step Can Change Your Life: The Kaizen Way*, preaches the practice rooted in the two thousand-year-old wisdom of the Tao Te Ching—"The journey of a thousand miles

begins with a single step." Kaizen is the art of making great and lasting change through small, steady increments, and therefore Maurer asserts to think small thoughts, take small actions, and solve small problems. He continues to aver that small rewards motivate more substantively than large rewards. While his assertion that all actions must be undertaken one step at a time is both logical and correct, Maurer fails to account for the long-term, transcendental motivation which empowers individuals to implement these smaller steps. As evidenced by the subjects, larger goals fuel the resolution and determination to encourage the best effort in each smaller step of quotidian activities. Maurer is accurate in his depiction that small steps are necessary; however, small steps, alone, cannot optimize its propitious purpose without a long-term supra-paradigmatic outlook of gargantuan goals within reasonable proportions. This is not to befuddle larger goals with unattainable ones. In other words, the participating subjects would be deceiving themselves to strive for an annual income of 200 million while the top producers of the industry earn not even one percent of that number. The goal must be set within reasonable limits to be genuinely held, but nevertheless within the higher echelon of attainability.

The value of appropriate goal setting is intended to prepare the entrepreneur to persevere in hypertrophy weight training sessions, without being averted by long arduous 12-15 hour work days, and to open a paradigmatic change in expectations to fuel further growth. Although T is established to increase perseverance and elevated hierarchal status (Mehta & Josephs, 2006; Mehta P. H., 2006), we must employ a psychological approach not only to accentuate T's propitious response, but principally to fuel perseverance in the periodized days of lower T. The art of hormone manipulation is undermined, if we fail to focus our resolve to its continual application. Therefore, entrepreneurs in an effort to effectuate enduring change should strive to increase their paradigmatic views of their business growth and direction, as engaging such a task will ensure increased resolve to hypertrophy training and direct their vision to transcendental opportunities, thus augmenting profitability. Perhaps Lady Macbeth desired greatness more than Macbeth, and therefore ostensibly appears stronger between the two. Resolution is often confused with strength. We see now that a simple augmentation of paradigmatic goals—as diminutive as this may appear—could ultimately decide “to which victor belongs the spoils.”

Study Three

So far, we have conducted and thoroughly analyzed two personal studies. We will conclude this section with an Aldous Huxley quote which analyzes the concept of conditioning, followed by the final study which explores an effectual method to motivate and condition the non-participating subjects from Study Two to, nevertheless, continue in the exercise protocol.

> Alpha children wear grey. They work much harder than we do, because they're so frightfully clever. I'm awfully glad I'm a Beta, because I don't work so hard. And then we are much better than the Gammas and Deltas. Gammas are stupid. They all wear green, and Delta children wear khaki. Oh no, I don't want to play with Delta children. And Epsilons are still worse. They're too stupid to be able to read or write. Besides they wear black, which is such a beastly color. I'm so glad I'm a Beta. (Huxley, 1932)

In Aldous Huxley's novel *Brave New World*, myriads of nearly identical human embryos are born and conditioned to belong to one of five castes: Alpha, Beta, Gamma, Delta, or Epsilon. The Alpha embryos are conditioned to become the leaders and thinkers of this society, while each of the succeeding castes is conditioned to be slightly less physically and intellectually impressive. The Epsilons, the underlings among the castes, are stunted and stupefied by oxygen deprivation and chemical treatments, and thus destined to perform menial labor. The quote above represents the message the Betas hear 48,750 times over 30 months through hypnopaedia (sleep-learning) before moving on to a more advanced lesson. The Betas are conditioned to habituate to their beta domains, and thus any attempts to alter their routine outside of their conditioned threshold would be met with cognitive dissonance; therefore, precluding their resolution in the alternative act. Conditioning is indeed the central motivating agent of our behavior, as the actions we repeatedly undertake metamorphose into habits, and, in time, these habits are incorporated to become the principal component attributes of our domains. It follows then that if the whole is the sum of its parts (Chodorov, 1959), and if the parts were representative of our actions and habits, the sum would be the collective collage of our habits and thus our domains. Therefore, if we were to alter and then persist in a specific action, we could then correspondingly alter our habit and thus our domain. In Study Two, two of the five subjects chose to no longer participate in the study as they held lower income goals, or perhaps they may have held weaker pecuniary or kinesthetic domains. As such, altering their domains to incorporate exercise might not be feasible, as they were conditioned alternately and thus not financially motivated to make the discommodious sacrifice to operate continually outside of their domains' threshold. These subjects, therefore, need ample motivation to participate, and if they were only to perform these exercises enough to habituate and internalize them, then perhaps we can alter their current domains to incorporate exercise. In this subsection and final study, we will introduce a monetary incentive to the subjects to motivate and condition them to continue in their training protocol, as resolution in any endeavor requires the motivation to act, and the continuous application of acts metamorphose into habits and thus reconditions their domains. This monetary incentive may just be the most pragmatic avenue to encourage entrepreneurs initially, especially those with non-physical domains, to stay focused in physiological enhancement for augmented performance.

In Study 2, two of the five subjects withdrew; spawn by their paucity of motivation in the exercise protocol despite its propitious effects evidenced within their sales performance. As Julia Keefer, a multidisciplinary literary and fitness guru, would say these subjects may have two left feet and hate to sweat or move their bodies at all, and thus not inclined to exercise. When combined with these subjects' lower income outlook, which eradicates the additional motivation required for a disciplined adherence to the performance-enhancing exercise protocol, they may just need stronger incentives to exercise. To test this monetary incentive to exercise concept, especially to those without kinesthetic domains, I offered all the subjects a monetary incentive to participate in this study. Remarkably, all five participants attended this study's hypertrophy sessions. Subjects A and C, who failed to participate in Study Two, increased their sales performance by 150% during the course of this week's study, similarly matched to their performance in Study One. In this study, all subjects demonstrated augmented sales performance between 80% and 185%, similar to their performance in Study One and Study Two. Although Subjects A and C held non-kinesthetic domains, they nevertheless participated with the financial

incentives, as a financial incentive trumps the burden of a half-hour hypertrophy workout, especially given an exercise that concomitantly enhances work production. Certainly, these incentives do not translate into permanent adherence, as incentive plans cannot be interminably funded and some subjects will nevertheless grow weary in time. However, the subjects who do persist and habituate the task, will eventually recondition their domains to incorporate exercise. Moreover, in application, entrepreneurs who do not persist in the physiological enhancement protocol would be just as necessary as the entrepreneurs who do, as if every entrepreneur participated, no competitive edge would remain, and thus each entrepreneur would be competing at an accelerated pace to a congruently matched competitor. This would be not conducive to the aim insofar as it would eliminate the Darwinian edge and fail to enhance profitability as each competitor would we capitalizing on a congruent market share.

The monetary incentive conditioned the two Beta underling subjects into Alphas in the domain of exercise, and this, cardinally, augmented their physiological standards, and with continual effort, could likely condition their non-physical domains to that of the Alphas'.

Policy Claim Proposal: The Exercise Tax Incentive Plan

Although we have illustrated a methodical physiological solution, as we can observe in Study 2, many entrepreneurs could nevertheless fail to continue in the exercise protocol, thus defeating the purpose of our objective. However, we have shown that financial incentives are effective, and prompt those who are most likely not to continue training to, nevertheless, continue. Ergo, in this section, we introduce the Exercise Tax Incentive plan, a government financial incentive plan that encourages entrepreneurs to adhere to the physiological policy plan outlined above.

Unquestionably, entrepreneurism is no facile task: mollycoddling and marketing for new clients; managing and motivating employees; seeking neoteric ventures; ensuring monthly expenditures are met; these requirements necessitate the entrepreneur to be in optimal physiological order. When compounded with 12-15 hour workdays, six to seven days per week, the entrepreneur needs greater incentive to incorporate the periodized weight training and C abating exercises, especially given the bustling, taxing environment in which the entrepreneur is positioned. As demonstrated in the foregoing Shakespearean quotes, in Lady Macbeth's time, government and medicine did not amalgamate to produce a solution. Today, as the current administration nearly consummates the passing of the Health Care Reform Bill—we can see that government and medicine can synergistically work together. Thus, while legislation is quite appetent in lending 1.2 trillion to bail out the gargantuan banks who are ultimately responsible for our faltering economy (Maag, 2011), maybe, legislation should strive, for once, to redress the lost confidence in the markets by directing their efforts into assisting the small-business entrepreneurs; the men and women who are categorically the breadth of the U.S. economy as they "represent 99.7% of all employer firms" (SBA.gov). Therefore, in consideration to provide the most befitting incentive to champion propitious physiological levels for these entrepreneurs, and to advance elephantine infusions of cash flow by means of profitability into the marketplace

to promote a robust economy, we urge legislation to pass the Exercise Tax Incentive ("ETI") plan.

This ETI plan will provide tax credits to incentivize all office buildings to construct health fitness centers within their facilities, and hire certified professionals proficient in anaerobic and aerobic exercise, massage therapy, yoga, and meditation. The entrepreneur, too, will obtain tax credits in the form of vouchers with each visit to the health fitness center. Each hypertrophy workout and C abating exercise will be designated a coded voucher to which the entrepreneur will compile and file with the quarterly corporate tax return for a tax credit. The entrepreneurs who are most assiduous with their training protocol and C abatement will receive the greatest tax benefit. Conversely, if the entrepreneur fails to meet the minimum threshold required by ETI plan, he or she will receive no tax credit. The ETI plan provides the necessary incentive to encourage the entrepreneur to work fervently on his or her physiology notwithstanding the burden of the arduous work day.

Of course, any alteration in government policy will be met with opposition. Just as the many who oppose the Health Care Reform Bill, there will no dearth of activists preaching the deleterious effects of additional government spending on the ETI plan, which will drive our nation's deficit further into the red. However, these activists fail to understand that an economy cannot thrive if its components—the entrepreneurs—operate inefficiently (Chodorov, 1959). Therefore, legislative efforts should be focalized toward the empowering of entrepreneurs and optimizing their efforts, not in implementing "band-aid" stimulus plans to promote transient economic improvements, only to retrograde back to a recession once the stimulus bubbles burst. While the short-term costs of the ETI plan appear exorbitant, the long-term gain of accelerated entrepreneurial performance will inflate the Gross National Product, introduce myriads of employment opportunities into the job markets derived from entrepreneurial business growth, and infuse capital into the stock markets derived from the herculean entrepreneurial balance sheets. Furthermore, aggrandized entrepreneurial production engenders increased tax revenue, which will recompense any deficit spending the government would incur in carrying out this proposal.

Despite, the ETI plan being a rudimentary, yet effectual solution, some may describe its implementation as a socialist movement which takes away the freedom of free enterprise, and any such movement that purports to stymie free enterprise would also violate the common law "restraint of trade" doctrine, which is against public policy and therefore illegal. However, what exactly restrains free trade here? An incentive provides a binary choice: act or do not act. The act of restraint would be more congruent to the antithetical alternative of providing an incentive not to engage in exercise, but even that could be unequivocally argued as there still remains a choice. Volition and restraint cannot exist concurrently, and therefore where volition exists, restraint is absent.

Nevertheless, whenever a proposal purports to alter the familiar, albeit ineffectual, conventions, myriads of activists will vehemently act within their capacities to eliminate this "threat" to their dogmatic ideals. Similarly, in November 1998, the city of Toledo entered into a development contract with the auto manufacturer DaimlerChrysler for it to construct a new Jeep

assembly plant near its facility in exchange for 280 million in tax incentives (DaimlerChrysler Corp. v. Cuno, 2006). In response, 18 taxpayers filed suit claiming the tax credit violated the Commerce Clause in Article One of the U.S. Constitution by granting preferential treatment to in-state investment and activity. The plaintiffs further claimed that their personal injury was incited by the tax breaks diminishing the funds available to the city and state, which imposed a "disproportionate burden" on the plaintiffs. The case was dismissed in the lower courts and then brought before an appellate court which ruled that the tax credit did violate the Commerce Clause and enjoined its enforcement because it coerced businesses to expand locally rather than out-of-state. The Supreme Court eventually overturned the appellate court's decision as the plaintiffs had no standing to dispute the proposal, as standing is established through the "personal injury fairly traceable to the defendants' allegedly unlawful conduct and likely to be redressed by the request relief" (DaimlerChrysler Corp v. Cuno). Here, no personal injury could be ascertained as no personal injury exists, and therefore no injunctive relief to the tax incentive could be sought. Notice, the appellate court, in spite of the choice entrepreneurs had to decide where to expand, nevertheless found the tax incentive coercive and against the Commerce Clause; a clause which protects interstate commerce. While it is true, that the incentive in question encouraged companies to do business solely in the state and thus violates the Commerce Clause which protects free interstate trade, our ETI plan does neither encourage commerce to be localized in any one state, nor encourage behavior or acts that are illegal or unconstitutional as in this case, and therefore this appellate court's decision has no relevance in our efforts. Moreover, as evidenced in this example, the ETI plan will not be stymied by dogmatic activists who oppose government spending, as devoid of personal injury, they have no standing to bring suit. This example is utilized solely to analyze the legal spectrum of the ETI plan, to clarify any potential litigious setbacks in its passing.

Now that we examined the financial, constitutional, and legal aspects of the plan, we will analyze other stimulus plans that were intended to restore the economy, but regrettably failed. In the broadest terms, an economic stimulus is an effort by the government to infuse a faltering economy with capital, whether through spending, tax cuts, or interest rate reductions. By replacing money not being spent by businesses or consumers, a stimulus is meant to put a floor under a recession and pave the way for a return to growth. In 2008 and 2009, two plans were introduced: the American Recovery and Reinvestment Act of 2009 ("ARRA") and the Troubled Asset Relief Program (TARP). The ARRA provided $224 billion for extended unemployment benefits, $275 billion for federal contracts and grants, $126 billion for infrastructure and science, $142 billion for the protecting of the vulnerable, $78 billion for education and training, and $65 billion for energy (The Recovery Act, 2009). The TARP provided $700 billion to purchase assets and equity from financial institutions to strengthen the financial sector and free up liquidity in the banks to encourage further lending (Troubled Asset Relief Program, 2008). To date, between both plans, the U.S economy has been injected with over one trillion dollars with the intention to spur economic recovery and growth, and to create new jobs. The results have been disappointing. While the unemployment rate remains at 9.1% and stagnant, house prices have fallen further, and banks continue not to lend; as our deficit has grown tremendously, limiting future policy options. These stimulus plans failed as they were grounded in the Keynesian theory—a theory which holds that the road to recovery rests in government participation and spending. However, this theory is flawed for one principal reason: it fails to

redress the stimuli which have engendered this recession and therefore provides only a transient band-aid to the wounds of deleterious emotions such as fear and uncertainty that are rampant among our consumers, businesses, and banks. Fear and uncertainty will thrive in an environment devoid of confidence, and confidence cannot exist in the absence of authentic economic growth. Thus, although the government infused over one trillion into the economy, the subsequent results were fleeting and not borne of authenticity, as they were engendered by government support, not bona fide productivity, and therefore fail to correct the heart of the issue: people's confidence in their economy. Moreover, what happens to this transient economic growth when the stimulus bubbles burst as the succor of stimulus money is exhausted, and the economy is left to fend for itself? The question remains, how do we instill confidence in an economy rife with uncertainty and fear? The solution lies not in the banks (Troubled Asset Relief Program, 2008); not in funding infrastructure, science, education, and energy or in furthering unemployment benefits, and federal grants and contracts that are inconspicuous to most of the economy (The Recovery Act, 2009). The solution lies is in the championing and buttressing of small-business entrepreneurs; the individuals who account for 99.7% of all employer firms; the individuals whose shoulders economic growth and development rides on (Sahu, 2011); the individuals who create multitudinous jobs and thus infuse the economy with capital for purchases of products, investments into private corporations, stocks, and bonds, and deposits into banks. Focalizing our efforts into assisting the small-business entrepreneur is the solution. The ETI plan focuses not on the tax relief incentive to infuse entrepreneurs with capital, as this would be no different than the ineffectual stimulus bills already in position. Rather the plan, collaterally, incentivizes entrepreneurs to enhance their physiology, thus augmenting veritable performance, productivity, and revenue by up to several hundred percent, which in return will increase market confidence and eradicate the prevalent uncertainty in our economic health. Once entrepreneurs entrench the economic road with increased performance and expansion—which would increase tax revenue, enable elephantine infusions of capital into the markets and banks, and decrease the unemployment rate through corporate growth inciting the need for myriads of employee positions—the economy will correct expeditiously. We tackle the issue of economic fear and uncertainty by instilling confidence in an economy that demands it, which could be facilely employed through augmented entrepreneurial performance and corporate exponential growth. Following a 36-month valuation of increased corporate and tax revenue, we then could decide whether to continue, lessen, or eliminate the incentive in accordance with need. At the very least, should we decide to eliminate this bill following the 36-month incentive period, we nevertheless would have conditioned many of our entrepreneurial Betas into Alphas in the domain of exercise, and this, cardinally, would sustain future economic growth through the augmented physiological standards of these novel Alpha entrepreneurs.

Conclusion

In conclusion, we have observed the unconscious processes of status presumption, fear, threat, and perseverance, all of which propitious levels of T and C govern, which, if regulated appropriately, ramp entrepreneurial performance into fruition. We have outlined a physiological solution to engender propitious levels of these hormones. We have performed studies to evidence the impact that physiological manipulation holds on sales productivity, and have shown

prodigious results. We have proposed the heretical ETI plan, as excellence, at times, demands an unorthodox approach, as what is conventional, by definition, is ordinary. The evidence is conclusive. But, does an evidenced solution translate into legislative action; namely, the fruition of the ETI plan? Perhaps, it may, if legislation is not steered by other bureaucratic "motivations." Nevertheless, we, who are the entrepreneurs of the nation, have a fiduciary responsibility to optimize our physiology to elicit augmented performance to serve the economy and ourselves, especially given the integrity of the economy rests on our Atlas shoulders.

Further Studies

This paper is grounded in the evidence that motivation and behavior are governed by physiology. Thus, this paper describes not only methodical methods to evoke successful entrepreneurism and an economic model to redress a faltering economy, but the application herein can extend to other areas such as medicine, law, psychology, and sociology. The perspicacious understanding that consciousness accounts for only one half of behavioral motivations, and the volitional control of the unconscious physiology consummates the other half, can direct many to areas that they have antecedently failed to reach by the callow, parochial focus only on tangible processes. Further research should explore this concept.

Abraham Maslow, a psychology theorist, explains that we are unconsciously directed by a behavioral hierarchy of needs in the following respective order: (1) physiological; (2) safety; (3) belongingness and love; (4) esteem; and (5) self-actualization (Maslow, 1943). However, by gaining volitional control of the physiology, the seemly uncontrollable, unconscious panacea of sorts, practitioners of all sectors could fashion their own behavioral hierarchy tailored around their volitionally planned, premeditated pursuits.

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APPENDIX

As a young man, **Abraham Lincoln** went to war as captain and returned a private. Later, he failed as a businessman. Subsequently, he failed as a lawyer for being too impractical and temperamental. He turned to politics and was defeated in his first legislative race, defeated in his first congressional race, defeated in his application to be commissioner of the General Land Office, defeated in the senatorial election of 1854, defeated in the 1856 vice-presidency election, and defeated in the senatorial election of 1858. Before his election to presidency, he wrote, "I am now the most miserable man living. If what I feel were equally distributed to the whole human family, there would not be one cheerful face on the earth."

Winston Churchill failed sixth grade. Later in his life, he was defeated in every election for public office until he became Prime Minister at the age of 62. He wrote, "Never give in, never give in, never, never, never, never - in nothing, great or small, large or petty - never give in except to convictions of honor and good sense. Never, Never, Never, Never give up."

Sigmund Freud was shunned from the podium when he first presented his ideas to the scientific community of Europe. He returned to his office and kept on writing.

Thomas Edison was terminated from his first two jobs for being unproductive. Edison failed 1,000 times before inventing the light bulb. With each failure, he exclaimed, "I didn't fail. I just learned another way not to do it."

Albert Einstein could not speak until he was four years old, and could not read until he was seven. One of his teachers described him as doltish, unsociable, and adrift forever in foolish dreams. He was expelled from school and was refused admittance to the Zurich Polytechnic School. He eventually learned to speak and write; even to do a little math.

Henry Ford failed and bankrupted five times before starting Ford Motor Company.

R. H. Macy failed seven times before his department store chains flourished.

"Only those who dare to fail greatly can achieve greatly."
~ Robert F. Kennedy

Babe Ruth is renowned for hitting 714 home runs. Many fail to realize that for decades he also held the record for 1,330 strikeouts.

Tom Landry, **Chuck Noll**, **Bill Walsh**, and **Jimmy Johnson** accounted for 11 of the 19 Super Bowl victories from 1974 to 1993. They also share the distinction of having the worst records of first-season head coaches in NFL history; they failed to win a single game.

Walt Disney was fired by a newspaper editor because he allegedly lacked imagination and creative ideas. He then went bankrupt several times before building Disneyland. Even the city of Anaheim rejected the proposed park on the grounds that it would only attract riffraff.

Every cartoon created by **Charles Schultz** was rejected by his high school yearbook staff. Walt Disney wouldn't even hire him.

When **Lucille Ball** began studying to be actress in 1927, the instructor of the John Murray Anderson Drama School urged her to try any other profession, just not acting.

On **Jerry Seinfeld's** first state performance, he looked out to the audience, froze, and was unable to speak. He was jeered offstage. He returned the following night and closed his set to wild applause.

In 1944, Emmeline Snively, director of the Blue Book Modeling Agency, told modeling hopeful **Marilyn Monroe** that she had better learn secretarial work or else get married.

Charlie Chaplin was initially rejected by Hollywood studio chiefs because his pantomime was considered absurdity.

In 1954, Jimmy Denny, manager of the Grand Ole Opry, fired **Elvis Presley** after one performance. He stated Pressley had no talent and recommended that Pressley "go back to truck driving."

"No matter how hard you work for success, if your thought is saturated with the fear of failure, it will kill your efforts, neutralize your endeavors and make success impossible."
~ Baudjuin

Fifteen publishers rejected a manuscript by **E. E. Cummings**. When he finally published his manuscript by his mother, the dedication, printed in uppercase letters, read "WITH NO THANKS TO . . . " followed by the list of publishers who had rejected his prized offering.

Eighteen publishers turned down **Richard Bach's** story about a soaring eagle. Macmillan finally published *Jonathan Livingston Seagull* in 1970. By 1975 it had sold over 7 million copies in the U.S. alone.

Twenty-one publishers rejected **Richard Hooker's** humorous war novel, *M*A*S*H*.

Twenty-two publishers rejected **James Joyce's** *The Dubliners*.

Twenty-seven publishers rejected **Dr. Seuss's** first book, *To Think That I Saw It on Mulberry Street*.

Jack London received six hundred rejection slips before selling his first story.

English crime novelist **John Creasey** received 753 rejection slips before he published 564 books.

William Saroyan accumulated more than a thousand rejections before publishing his first literary piece published.

Gertrude Stein submitted poems to editors for nearly 20 years before one was finally accepted; "A rose is a rose is a rose is a rose." (Self-Efficacy Site)