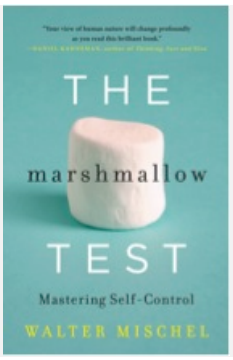

The Marshmallow Test

Mastering Self-Control

by Walter Mischel

Those of you familiar with the CIMBA Leadership Development System know that it places The marshmallow test_book cover considerable emphasis on developing and building an individual's self-awareness and self-regulatory ability. You also know that our original interest in self-regulation was sparked by interactions with Prof. Matt Lieberman at UCLA. To briefly relate the history of those interactions, it began with a very interesting experiment that Matt and fellow scientist, Prof. Naomi Eisenberger (who is also Matt's wife) conducted, in which participants were subjected to social rejection while being observed through the use of brain imaging technology (fMRI). Prior to engaging in the cyberball videogame (which provided the basis for the social rejection), the participant was subjected to a thermal heat device so that researchers could get a sense of where participants' brains manifested physical pain. Upon being excluded from the cyberball game, the fMRI then allowed for a measure of social, or mental, pain to provide a basis of comparison. The study stands for the proposition that the brain does not distinguish between physical and social pain. As participants exited the fMRI, they could be categorized into three reasonably distinct groups: those that very quickly expressed their dissatisfaction with having been excluded ("expressers"); those who did not express their dissatisfaction but who were willing to do so with just a little prodding ("suppressors"), and those who exited the fMRI and stated something like "Your videogame must have malfunctioned. If you get it fixed, I would be more than willing to come back and participate" ("reappraisers"). Prof. Jeffrey Schwartz directed us to look more closely at the reappraisers, explaining that that particular group, while having the same initial social pain reaction as the others, utilized a more rational part of their brain to reappraise the situation in order to give it a more positive, more distant, perspective. Later, Prof. Lieberman would write an article entitled "Your Brain's Breaking System," in which he discussed the notion of the brain's self-regulatory circuitry. Discussions with Prof. Lieberman about that article introduced us to the work of Prof. Walter Mischel. After some initial investigation, and using both our data at CIMBA and our observations of students within our Leadership Development system, we saw that the social pain experience was a very interesting reflection of Prof. Mischel's famous

marshmallow test. It is Prof. Mischel's new book, The Marshmallow Test: Mastering Self-Control, that is the subject of this ABC.

In taking a look at this very interesting book, I would like to begin by briefly describing the "Marshmallow Test" that Prof. Mischel undertook some 50 years ago at Stanford's Bing Nursery School. I would like to then discuss how we came to adopt Mischel's thinking with regard to an individual's self-regulatory ability, how we integrated it into our 6-Column personal development assistant, and then move on to a topic regarding self-regulatory ability which Prof. Mischel does not address in his book. Our observations at CIMBA, along with important discoveries in the research, strongly suggest that an influential group of employees with low self-regulation ability within an organizations may significantly inhibit the ability for such organizations to change relative to other organizations. It also may influence what kinds of training and development that may be necessary in such organizations to bring about change.

Prof. Mischel's book provides a powerful narrative for taking the various aspects of his research over the years and showing us his thought processes as he worked to ferret out the various aspects of this important human characteristic called self-regulation. It begins in 1960, when Prof. Mischel and his students presented preschoolers at Stanford University's Bing Nursery School with a challenge. The preschoolers were given the choice of receiving one marshmallow now or two marshmallows if they were able to wait for Prof. Mischel to return, a wait of 15 minutes in most cases but as long as 20 minutes in others. He found that about one third of the preschoolers ate the marshmallow immediately; a second third were able to wait but not for the full 15 minutes; and, a third that waited the full 15 minutes and received the second marshmallow. By itself, Mischel's study was a brilliant study in delay of gratification, but it became much more than that. Mischel had two daughters in the school and on occasion he would ask them about how those original preschoolers were doing as they progressed through school. He saw an interesting pattern, and gathered as many of the original group together as he could to examine their development. He found that the length of time a preschooler was able to delay gratification was a very good predictor of their future lives. For example, the more seconds they waited at the age of four or five, the higher their SAT scores (an important college entrance examination in the U.S.) and the better their rated social and cognitive functioning as adolescents. As they aged further, those who waited longer during the test had lower body mass index, pursued their goals more effectively, and coped more adaptively with frustration and stress. Additional studies on other subjects found similar results, showing significant differences between those that delayed gratification and those who did not in rates of divorce, life satisfaction, ability to master their environment, and other variables consistent with a healthy, productive life.

After combining studies by Lieberman and others, we began to refer to the three groups as being an A, B, or C, with the designation indicating low, medium, or high self-regulatory ability respectively. We began to map in other studies, some of which were not intended to elicit information on self-regulation, and began to see consistent patterns. [Those patterns, in turn, often led to the puzzling question: "If we can measure self-regulation, shouldn't neuroscientists be controlling for it in much the same way they control for gender or right or left handedness?"] Our large database allowed us to see many of the same kind of patterns to which Mischel refers in his book. For example, and using his illustration, we very quickly pushed away from the traditional paradigm that said if a person measured psychometrically as being "conscientious" they should be conscientious in all situations. We saw that an individual could be very conscientious in those situations to which they preferred to be conscientious, and that they could "shut off" their self-regulatory ability in other situations. In fact, those situations could be the same situations but occurring at different times, with different people. In this sense, we began to see self-regulatory ability as just that - an ability, an ability that could be turned on or turned off depending upon the motivation of the individual. As many of you who read this ABC column on a regular basis will recall, we view Prof. Ray Baumeister's work on self-regulation with great favor. However, we were not able to embrace his notion of ego depletion (which states each additional demand on our self-regulation, leaves less and less energy to implement it the next time it is needed) as we saw in our observations that in many cases individuals were simply becoming bored with the experiment and lost focus; the reported results in such experiments had initially tied observed behavior to depletion of resources reserved for self-regulation.

Those who read Mischel's book will see that he uses the designation "hot" and "cool" brain systems instead of our System 1 and System 2. He provides several interesting illustrations of how important it is to learn about the situational behavioral triggers that activate our System 1 reactions, and then to use our System 2 self-regulatory ability to choose a more productive, constructive, healthy alternative. He saw the consequences of what we refer to in our development system as V-Codes (the cumulative effects of sleep, stress, exercise, diet, among others) on our ability to use self-regulation, showing that those with high self-regulatory ability tended to manage deficiencies in those V-Codes (as well as other issues) much better than those with low self-regulatory ability. We were particularly pleased to see that he also saw the consequences of what he refers to as "control," and what we refer to as power, in leadership positions. As he indicates, our observations suggest that the acquisition of a power position can have the effect of lowering an individual's baseline self-regulatory ability.

Those of you familiar with our 6-Column Personal Development Assistant, recall that Column 1 deals with your goals. Even after developing self-awareness of the kinds of situations that activate your behavioral triggers, it is your basic beliefs, values, and goals that are most likely to provide

you with the motivation to activate your self-regulatory ability. In our Column 2, we ask you what behaviors are you undertaking that are inconsistent with your Column 1 goal? It is in defining more precisely the situations in which a person is likely to encounter such a behavioral trigger that we particularly liked Mischel's development. Coaches, and particularly coaches using our system, are highly recommended to pay particular attention to chapter 15, entitled "If-Then Signatures of Personality," which provides an interesting overview of the research on how to view those situations with more precision. For example, using our process language, it basically elicits "Is"/"Is Not" thinking. We often see that an individual will undertake an action they will later regret in a particular situation but not have the same reaction in a very similar situation at another time. Mischel and his colleagues would ask you to consider the differences between the two situations in terms of who was present, what was said, what was said by whom, and other questions to assist you in eliciting the triggers in that specific situation that brought about the unproductive behavior.

In moving to Column 6, you will see in several places in the book where he refers to the benefits of reappraisal and refocus (although he does not use this term expressly, by our definition you will see several uses of it: fixing an alternative course of action in mind prior to encountering a situation likely to elicit a behavioral trigger). Both are integral parts of our coaching system and used to assist individuals in rewiring their brains with more productive and healthy habits. In addition, Mischel understands and appreciates the contribution that brain exercises and mindfulness practice can bring to bear in assisting an individual in increasing their self-regulatory ability. In all cases, his arguments and explanations are well documented, so those interested in understanding a particular concept in more detail will find the research sites readily available and on point. In addition, in contrast to several other authors I have read recently, I was very much appreciative of the manner in which Prof. Mischel handled his politics. Although he brought up politicians as illustrations of self-regulatory failure (using them craftily in showing us that self-regulation is in fact an ability that can be turned off and turned on depending upon the situations, and thus smart people can make remarkably foolish choices), I honestly could not tell you what Prof. Mischel's political leanings are.

Let's now turn to the relationship between self-regulation and organizational change, a topic not addressed by Prof. Mischel but an important extension of his work nonetheless. To our knowledge, a large study controlling for self-regulatory ability in group or organizational settings had not been performed prior to this year - and certainly not one involving an experiment outside the laboratory. In what we believe is a first, a very recent study by Xu et al. (2014) found that individual differences in self-regulation can predict employees' safety behaviors in the workplace. That is, instead of developing an experiment to test worker responses to a defined worker place stimulus, the research team first controlled for individual self-regulatory ability using recognized

psychometric assessment instruments. The study found that employees with low self-regulatory ability were more influenced by System 1 cognitive processes, while employees with high self-regulatory ability were guided more by System 2 cognitive processes. Clearly, both System 1 and System 2 cognitive processes influence worker behavior, but through different pathways. System 1 cognitive processes affect behavior through an impulsive and spontaneous process, largely driven by habit (good or bad). System 2 cognitive processes drive behavior through a deliberative and reflective process, in which automatic, habitual impulses are inhibited, and the employee's behavior is guided by conscious thought and analysis. The study strongly suggests that it is the relative mix of workers with low and high self-regulatory ability and not the type of safety intervention strategy implemented that most influences safety behaviors in the workplace.

The results are further generalized in Table 1. With specific regard to the efficient allocation of development and learning resources, given the measurable impact of individual differences in self-regulation behavior, this study strongly suggests that intervention strategies may be more effective in differentiated for subgroups of employees based on self-regulatory ability. Those employees with higher self-regulatory abilities may benefit more from traditional interventions focused on information-based techniques and courses. Employees with lower self-regulatory ability may benefit from interventions that attempt to strengthen self-regulation, whether through coaching, a mindfulness program, or targeted computer-based brain exercises. The same reasoning would seem to apply whether you are working to overcome behavioral barriers or to build leadership competencies.

Table 1.
Intervention Strategy Success based on Individual Self-Regulatory Ability

	Technical Solutions (Courses, Workshops, Seminars, Reading Materials, etc.)	**Adaptive Solutions** (Coaching, Mindfulness, Quantified-Self Experiments, Experiential Learning, etc.)
High Self-Regulatory Ability	Likely to be effective	Likely to be effective (Greater returns if focus is on specific competency
Low Self-Regulatory Ability	Not likely to be effective	Likely to be effective

Looking at it from a research perspective may serve to further clarify the importance and application of this study to organizational change efforts. Suppose our intent is to impose a particular learning intervention on a large participant pool and to test its effectiveness. If the intervention is technical in nature, the results will be significantly different if the relative mix of participants is low versus high in self-regulatory ability. Interestingly, a question we are frequently asked is how large does the low self-regulatory group have to be in order to have such

influence? A very interesting study done at Rensselaer in 2011 showed that the subgroup need only comprise 10 percent of the workforce if they are adamant in their position. Those 10 percent of committed opinion holders will have the ability to shift majority opinion and if that opinion is contra to the dictates of the change intervention, the change intervention is not likely to succeed.

Should we base employee selection on self-regulatory ability? We think most good HR directors already do - largely unconsciously. Still, there are some tasks, particularly those requiring a measurable degree of independence, where a low regulatory person may be most productive. Our concern is that the issue needs to be taken into account in both research and in learning interventions. We also believe that it can be effectively addressed through targeted interventions intent on building self-regulatory ability.