Biofeedback
Volume 42, Issue 2, pp. 82–87
DOI: 10.5298/1081-5937-42.2.06

FEATURE ARTICLE

Increase Productivity, Decrease Procrastination, and Increase Energy

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Keywords: procrastination, self-blame, mental rehearsal, self-acceptance, visualization

Procrastination, self-blame, and unproductive behavior are widespread problems in student populations and in human beings generally. The authors present a framework, called Transforming Failure into Success, *which is utilized in undergraduate classes and based on self-observation, self-acceptance, and mental rehearsal of positive changes. They provide instructions and guidelines for positive mental rehearsal. They present a study comparing matched groups of undergraduate students, an intervention group that learned the* Transforming Failure into Success *approach, and a control group that did not. Both groups completed Likert-type scales assessing procrastination, productivity, and energy level. The students in the intervention group showed significant improvements in reducing procrastination, improving productivity, and increasing energy.*

All of a sudden I no longer procrastinated

I felt more motivated to get things done

After practicing this exercise for a week, my productivity significantly increased

I felt more in control of my life in a fun way that made me feel successful

Every time it increased my mood, confidence and energy levels

—Responses by students who practice the weekly exercise

Introduction: Procrastination and Unproductive Behavior

Everyone procrastinates sometimes; yet, putting off something we set out to do can leave us feeling unproductive, drained of energy, and often guilty. These feelings can also contribute to dysphoria, depression, and self-recrimination. When human beings reflect on their own activity, they often using blaming language such as "I should not have done that," "That was stupid," or "What was I thinking?" and so forth. The challenge is how to change this blaming language—through which the person continues to rehearse how they have failed—to instead focus on how to change and succeed.

Over the last thirty years we have developed numerous strategies to transform the self-blaming approach into positive problem-solving solutions (Ratkovich, Fletcher, Peper, & Harvey, 2012). One of these practices, *Transforming Failure into Success*, appears to be very useful for students. When practiced daily, students often report a decrease in procrastination and an increase in productivity and energy.

The purpose of this paper is to describe the concepts underlying the practice of transforming failure into success. We also report on a study comparing matched groups of students, an intervention group that practiced the *Transforming Failure into Success* approach, and a control group that did not. A Likert-type rating scale was completed by participants in both groups to assess how much this approach changed students' self-ratings of procrastination, productivity, and energy level.

Background: The Psychology of Procrastination

Procrastination is familiar to most people. Human beings often delay doing their homework or other important tasks, and repeatedly declare they will start their exercise program or diets "tomorrow" (Ariely & Wertenbroch, 2002; Schraw, Wadkins, & Olafson, 2007; Solomon & Rothblum, 1984). Studies have found that people who procrastinate have significantly lower GPAs and lower self-efficacy for self-regulation than non-procrastinators (Klassen, Krawchuk, & Rajani, 2008). Procrastination is also related to greater disorganization and less use of cognitive and metacognitive strategies (Howell & Watson, 2007).

Our ongoing thoughts and framing of past experiences become the template for our future behavior. If we

procrastinate often and label ourselves a "procrastinator," we increase our chances of repeating that behavior. It is easy to look back and blame or criticize yourself for not having done something you feel you should have done, or having done something you later regret doing. We often try to analyze and ask why we acted a certain way. People often use the image of failure to beat themselves up, repeatedly chastising themselves: "I shouldn't have done . . ." or "I can never seem to . . ." We may even believe that this process of repeatedly reminding ourselves of what we did wrong is a good strategy to *make sure it won't happen again*. Unfortunately, this strategy only strengthens the memory of the mistake. The more times you mentally rehearse an action, the more likely it is that you will you repeat it. Our clinical model emphasizes changing one's thoughts and images through cognitive behavior therapy to significantly improve clinical outcome. This approach has been shown to be effective for depression, panic disorder with or without agoraphobia, social phobia, posttraumatic stress disorder, somatoform disorders, eating disorders, insomnia, and personality disorders (Butler, Chapman, Forman, & Beck, 2006; Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012).

What is Mental Rehearsal?

Mental rehearsal is role-playing in your imagination. The more you imagine yourself performing the desired (or undesired!) behavior, the more likely it is that you will actually perform that behavior. Mental imagery is a process in which a behavior or a performance is rehearsed mentally, as if the person is actually performing it (Liu, Chan, Lee, & Hui-Chan, 2004; Wilson, Peper, & Schmid, 2005). Every thought we think is a form of mental rehearsal that strengthens the neural connections in our brains. Even when you say, *I should not have done that*, in your brain you rehearse what you did *not* want to do, which increases the probability that you *will* do the same thing again! By acknowledging what we did and using that as a trigger to imagine a new way of acting, we interrupt the rehearsal and use the experience as an opportunity for improvement and growth.

Mental rehearsal gives us an opportunity to take charge and change situations in which we have made mistakes. It is a process of accepting what is and what happened without blaming, judging, or criticizing ourselves. It helps reframe mistakes and personal failures as valuable lessons that provide feedback essential for learning and growth. We accept that—given our history, maturity, and circumstances—what we actually did was the only thing we could have done. The past memory of the personal failure or poor coping behavior becomes an opportunity and trigger to imagine ourselves acting more wisely, compassionately, or in whatever manner we would prefer. Thus, we rehearse and strengthen the desirable behavior.

Even the language by which we describe our potential goals will affect the outcome. For example, a person who desires to stop smoking can describe himself as a "nonsmoker" or as a "smoker trying to stop." Generally, the concept of the nonsmoker leads to more success than that of a smoker trying to stop. In the latter case, the person continuously evokes the image of smoking and attempts to stop.

Almost all athletes and artists mentally rehearse their performance as the major tool in enhancing their optimal performance. This is illustrated by a golfer who hits a ball into the pond: Instead of cursing himself and constantly repeating, "I should not have hit the ball into the pond," the wise golfer acknowledges the error and then asks himself, "What was the problem?" He then considers that he might not have hit the ball hard enough or that he might not have accounted for the cross winds—or that he did not know and needed to ask a consultant for suggestions. He decides that he did not account for the cross winds and then asks, "How could I have done it differently to get the outcome I wanted?" He then imagines exactly how hard and in what direction to hit the ball. He mentally rehearses the appropriate swing a number of times, each time seeing the ball landing on the green just a short putt away from the fifth hole. As he images this perfect swing, he feels it in his body. When his golfing partner asks him what happened when his ball went into the pond, he answers, "It went into the pond, and let me now tell you how I would hit it now." Thus, the past error becomes the cue to rehearse the desired behavior.

To make the mental rehearsal even more useful, this same golfer could continue this mental practice after every swing. In addition, he might imagine a slightly different situation coming up in the future and imagine himself performing perfectly also in that situation. For example, he might imagine that he will be confronted by a large sand trap. Again, he calculates the force necessary to clear the obstacle, feels himself doing it perfectly, and visualizes watching the ball sail across to the green on the other side.

Mental rehearsal has also been used as a rehabilitation program to promote the relearning of daily tasks and improve the planning and execution for both trained and untrained tasks for people after an acute stroke (Liu et al., 2004). In addition, mental rehearsal is a training strategy to enhance body movement for athletes (Callow & Hardy, 2001) and may be a convenient and low-cost technique to

promote physical activity among inactive individuals (Chan & Cameron, 2012).

Instructions and Guidelines for Positive Mental Rehearsal

Mental rehearsal can be done immediately after a mistake or misstep has been made, or it can be done regularly with time and space set aside for visualization. We can all play Monday morning quarterback, since hindsight has "20/20 vision," but to change and not repeat our mistakes requires observation and persistence. This means that when you notice yourself thinking, "I wish I'd done that differently"—Stop! Give yourself credit that you did the only thing you could have done and that you could NOT have done it any differently given your history, skills, and environmental factors at that moment. Accept what happened and recognize that you are now ready to explore new options. Next, breathe and relax, then ask yourself, "If I could do this over, how would I do it now given the new wisdom I have gained?" Then imagine yourself doing it in the new way.

For a more structured mental rehearsal practice, begin by thinking of a past behavior you would like to change. Take time to observe the problem and identify new solutions. During the visualization, you might elaborate upon and change your pattern. Finally, each day observe an action you experience as an error (however small) and at that moment mentally rewrite how you would like to have behaved. Use the following five-step process:

1. Think of a past conflict or area of behavior with which you are dissatisfied.
2. Accept that it was the only way you could have done it under the circumstances.
3. Ask, "Given the wisdom I have now, how could I have done this differently?"
4. See yourself in that same situation but behaving differently, using the wisdom you now have (rehearse this step a number of times). When rehearsing, it is important to see and feel yourself completely immersed in the situation. Be very specific, and engage as many of the senses as you can.
5. Smile and congratulate yourself for taking charge of programming your own future.

Again, remember that the more senses you invoke in your imagination and visualization, the more real the experience will feel and the more it will ingrain into a new action. Imagine every small step, sensation, and thought—everything that would occur when you actually do the task. How you image the task is not important. Some people see it in living color while others only have a sense of it. Just take yourself through the new activity. Rewriting the past takes practice. During the mental rehearsal the old pattern often reasserts itself. Just let it go and practice again. If it continues to recur, ask yourself, "What do I need to learn from this; what is my lesson?"

The following shows a possible "rewrite" of coming home at night overindulging in beer and pizza:

I walked to the door, inserted the key into the upper lock and turned the handle. I pushed the door open, flung my coat over the chair and kicked off my shoes. I walked into the kitchen and as I started to go to the fridge, I stopped, took a gentle breath, and exhaled. I checked inside; what was I feeling? I paused. Then I turned to the sink, got a glass, filled it with water and drank it. I took another breath, pulled up the chair and reached for the phone. I felt lonely. I called Frank and we talked for a few minutes. Then, I hung up the phone, walked to the bathroom, squeezed peppermint toothpaste on my toothbrush, brushed my teeth and went to bed.

Only you can change yourself, and you can only change *yourself*. Remember that others have the freedom and the right to react in their own way. In your imagery, see yourself changing. Others may also change in their response to your change; however, they have the right NOT to change.

Finally, there are many settings in which we have no control and, regardless of our behaviors, nothing would be different (e.g., being abused as a young child). In such cases, the adaptive response is to acknowledge what happened, reaffirm that you are no longer the same person as when the experience occurred, then take a deep breath and relax, and let go while knowing that this personal experience has taught you a set of coping skills that have nurtured your growth and development.

Research Study

Thousands of students in our undergraduate classes over the last 30 years have reported that the practice of mental rehearsal significantly reduced their procrastination, and increased productivity and energy. However, until now, we did not objectively measure the impact of this cognitive practice exercise (Peper, Gibney, & Holt, 2002). This study explores the effect of practicing *Transforming Failure into Success* as a class homework assignment for one week and compares the data to a similar group of students who did not practice.

Participants

The cross-section of two groups of upper division college students completed questionnaires for the study. Seventy-one participants (22 males and 49 females, mean age 23.2 years) were sampled from a Holistic Health class in which they practiced self-care/stress management techniques throughout the semester. Seventy-one respondents (19 males and 52 females, mean age 22.8 years) were sampled from comparable Health Education classes in which they did not practice self-care/stress management techniques.

Procedure

Participants in the Holistic Health intervention group were assigned a daily practice focused on recording self-observations of specific cognitions in a daily log, which was turned in each week. The observed cognitions revolved around self-acceptance as well as "transforming failure into success," as described in detail in the book *Make Health Happen* (Practice 10; Peper et al., 2002). After several weeks of practice, the impact of this exercise was assessed by an anonymous questionnaire. The questionnaire assessed behavioral change on a 11-point Likert-type scale, from –5 to +5, with a neutral midpoint of 0, with sample items asking how often they did their practice, as well as how their procrastination, productivity, and energy level had changed. The Health Education comparison group completed the same questionnaire at the same time point in the semester.

Results

The response rate of the questionnaire in the Holistic Health intervention group was 50% (71 out of 141 email addresses in the class). The response rate of the questionnaire in the Health Education group was 70% (71 out of 102 in the class). The Holistic Health intervention group reported practicing the cognitive exercise almost daily ($M = 6.7$ times per week, $SD = 2.2$). There were no differences between the groups based on age or sex. The intervention group as compared to the comparison group reported a significant decrease in procrastination ($p < 0.01$), and significant increases in productivity ($p < 0.01$) and in energy ($p < 0.01$), as analyzed by t test (Figure).

There was no significant correlation between (a) age, gender, and frequency of practice, and (b) procrastination, productivity, and energy. There were significant correlations between energy and productivity ($r = 0.7$, $p < 0.05$), energy and procrastination ($r = 0.4$, $p < 0.05$), and productivity and procrastination ($r = 0.4$, $p < 0.05$) as shown in the Table.

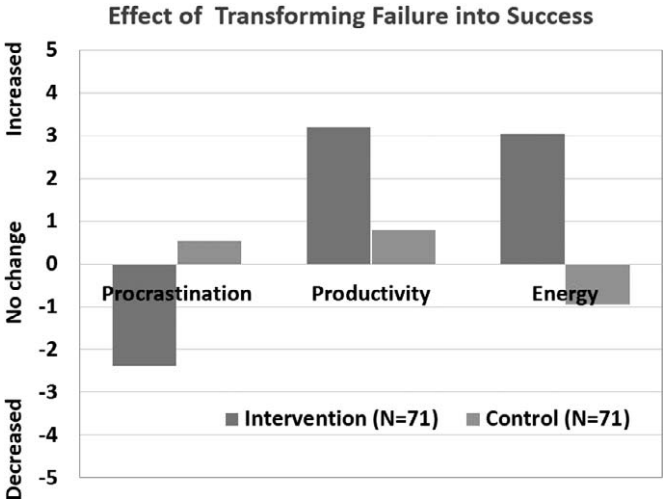

Figure. Change in self-report of procrastination, productivity, and energy level.

For the Holistic Health intervention group, the questionnaire responses were cross-validated with the students written logs, which were submitted by all students for class, and there were no differences between the students who responded to the email survey and those who did not. Nearly all of the Holistic Health intervention group students reported that their productivity and energy had increased while their procrastination had decreased. They cited numerous examples such as:

The more I "revised" the failure into success, the more I make that scenario productive and that made me more productive.

I felt more empowered and that it gave me more energy.

I felt more motivated to get things done.

After practicing this exercise for a week, my productivity significantly increased.

The more I imagined changing my habits, the more likely I was to follow through getting things done.

Discussion

The cognitive practice of self-observations focused on *Transforming Failure into Success* appears to have a beneficial effect of reducing procrastination, increasing productivity, and increasing energy level. One plausible mechanism relates to helping a person accept their behavior as the only thing they could have done under the circumstances, followed by problem solving to develop new strategies which can be implemented to achieve a desired outcome or behavior. The exercise steers away from negative self-talk and self-blame, and steers toward

Table. Correlation matrix showing no significant correlations between frequency of practice and other measures and significant correlations among procrastination, productivity, and energy.

	Frequency	Procrastination	Productivity	Energy	Age	Gender
Frequency	1.0					
Procrastination	0.0	1.0				
Productivity	0.1	0.4	1.0			
Energy	0.2	0.4	0.7	1.0		
Age	0.1	−0.2	−0.1	−0.2	1.0	
Gender	0.0	0.1	−0.1	0.0	0.0	1.0

visualizing new strategies for achieving positive movement in pursuit of goals. A typical example of negative self-talk is: "Somehow, I was so busy that I forgot to do the daily breathing interrupt practice." Part of the practice asks students to consider the question: "Given the wisdom you have now, how would you have done it differently?" A typical example of a student response is: "I would put an alarm in my smart phone to remind me every three hours and I would tell my partner about the exercise so that she would help remind me."

We recommend that educators and therapists employ a set of cognitive practices that transform failure into success. In particular, as biofeedback professionals, it is important to remember the large physiological effect of psychological processes that affect physiological learning. In the case of this study, the effects of the cognitive practices *Transforming Failure into Success* resulted in measureable positive outcomes of decreased procrastination, increased energy, and increased productivity, all worthy goals for students as well as clients and patients.

Acknowledgment

We thank Dr. Donald Moss for critical feedback and improvement of the manuscript.

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