

# Reference: The Big 4 Navy Seals Brain Training Techniques

## INTRODUCTION

The Big 4 refers to four simple thought processes based on emotional intelligence and neuroscience used by the U.S. Military to improve pass or fail rates. As it pertains to human performance, these valuable training techniques will help individuals learn to regulate distracting thoughts and disruptive emotions.

This innovative brain training centers around four common performance indicators. Practicing and developing these mental processes daily improves an individual's emotional quotient and abilities to manage self and relationships consistently at peak performance.



*Innovative brain training techniques developed by the U.S. Department of Defense are driving new levels of human performance.*

The Navy wanted to help borderline candidates who had the potential to pass crucial stages in training. After consulting with experts, they came up with a groundbreaking mental toughness program—a set of techniques that boost the trainee's ability to control emotions, even in the most extreme situations.

The techniques are called *The Big 4*:

- Goal setting
- Mental rehearsal or visualization
- Self-talk
- Arousal control

## Goal Setting

Scientists believe goal setting works by assisting the frontal lobes, the source of thinking and chatter. As the brain's supervisor, the frontal lobes are responsible for reasoning and planning. Concentrating on specific sub-tasks or individual steps lets the brain bring structure to chaos and keep the amygdala in check for the current task.



*Focusing on the immediate task or sub-task helps regulate all the distractions coming from random thoughts and distracting emotions.*

This mental competency requires awareness of the necessary mindset for the task, and as the mind drifts the goal is to keep one's mind on the immediate task at hand. As the mind wanders, the mental skills and chatter regulation keep the frontal lobes and emotional centers in line for the task.

For example, a team may gather in the morning and discuss goals and objectives to be completed by the end of the day. In the process of performing tasks and sub-tasks to achieve the goals, a competent individual may focus more frequently on achieving the end goal versus focusing on the current task at hand.

A traditional definition of goal setting involves the development of an action plan designed to motivate and guide a person or group toward an end or objective. Goal setting is a major component of personal development and management, and can be guided by a goal-setting technique or other valid models using a step-by-step approach. As it pertains to the new science on the brain and human performance, the introduction of mental and emotional skills redefines the goal-setting agenda, focusing on each sub-task for optimal performance (physical, mental, and emotional states).

## Mental Rehearsal or Visualization

The second technique, mental rehearsal or visualization, requires rehearsing an activity in the mind so that when the individual actually executes the task, it happens more naturally with less of an emotional reaction. If an individual mentally practices how they might perform in stressful situations, there will be less of a stressful reaction the next time the individual is faced with the situation.

Visualization can be implemented into every task-based competency. Regardless of the physical steps an individual must perform, training should now include self-awareness skills to mental and emotional states for optimal performance.



*Navy Seals are taught to visualize the desired thoughts and emotions for a task prior to engaging in the task; self-awareness and self-regulation skills are required.*

Visualizing the activity in advance can be practiced by thought processes like self-talk or chatter regulation—specific words and mental pictures repeated frequently and with intensity. These activities increase the likelihood of optimal performance while actively developing mental and emotional skills.

A traditional definition of visualization is any technique for creating images, diagrams, or animations to communicate a message. Visualization through visual imagery has been an effective way to communicate both abstract and concrete ideas since the dawn of humanity. The new critical insights take into consideration the desired mental and emotional states while visualizing the future actions.

### Self-Talk

The third technique is self-talk, which helps focus on the individual's thoughts or chatter. The average person speaks to themselves at a rate of 300 to 1,000 words a minute. If these words are positive as opposed to negative, they help override the negative emotions coming from the brain's emotional centers.

The frontal lobes are always on, always thinking, and always flashing words and mental pictures. It is very easy to think about something difficult or negative, like *"I am going to fail," "what am I doing here,"* or *"I didn't practice enough."* The mental skill with self-talk is to change the bad thoughts hindering performance to good thoughts that support the task.

Practicing chatter-checks throughout the day for self-checking and personal performance strengthens the individual's mental abilities. Doing chatter-checks when engaged in personal performance activities improves effectiveness and is an effective error reduction

strategy for peer-to-peer evaluations within social interactions and relationships.

A traditional definition of self-talk is something an individual does naturally throughout the waking hours. The refined approach defines "wandering chatter" as natural thought throughout the day and "self-talk" as the active engagement of mental skills and abilities.



*Self-talk is when an individual is self-aware and self-regulates thought patterns for the immediate task.*

Self-talk is an internal monologue, also called inner speech. It is a person's inner voice that provides a running verbal monologue of thoughts while they are conscious. It is usually tied to a person's sense of self and greatly impacts human performance. People are becoming more aware that positive self-talk is a powerful tool for increasing self-confidence and curbing negative emotions.

### Arousal Control

The final technique is arousal control, a technique centered on deliberate deep breathing to combat some of the effects of distracting emotions. Specifically, long exhales mimic the body's relaxation response, so the lungs can get more oxygen to the brain, allowing the brain to perform better in critical decision-making.

Breathing is a great performance-enhancing strategy because it brings focus and structure to the frontal lobes, the rational thinking sections of the brain. Automatically the relaxation response kicks in, although it may take some time and continued long exhales to bring clarity of thought and clear judgment.

Experts say an individual can only breathe so much. In response to the emotional centers of the brain automatically releasing chemical hormones into the individual's system, the brain will get "jacked-up" on stress hormones. This can cause distractions in critical thinking and decision-making. As the relaxation response begins, mental and emotional skills improve the individual's ability to recover although the body is still flooded with stress hormones that can impact human performance.

A traditional definition of arousal is a state of being awoken or to a point of perception. It involves the brain, which mediates wakefulness, the autonomic nervous system, and stress hormones released into the body's blood system, leading to increased heart rate and blood pressure and a condition of sensory alertness, mobility, and readiness to respond.



*Breathing techniques help mimic the brain's relaxation response, enabling an individual to calm down. Breathing properly requires self-awareness and self-regulation skills.*

Arousal control is important in regulating consciousness, attention, alertness, and information processing. It is crucial for motivating certain behaviors, such as mobility and the fight-or-flight response. It is also important in emotional regulation or lack thereof; varying levels of arousal lead people to be extraverts or introverts.

In most recent studies experts believe that an optimal level of arousal for performance exists, and too little or too much arousal can adversely affect task performance. Each individual must learn to engage arousal control techniques by developing mental and emotional skill sets.

## CONCLUSION

The amygdala sends out such an automatic and powerful response of stress hormones, arousal control and breathing techniques can only do so much. Nonetheless, teaching these self-disciplined brain-training techniques and combining the four made a big difference in the Navy's pass rate. This serves as positive evidence that the brain can be trained for improved performance when in stressful situations.

All of these discoveries in medical technology are unleashing new insights on the brain and human performance. The Department of Defense and other human-performance-based organizations are continuing to push new boundaries with mental and emotional skills training. Many of our older best practices and models for understanding human behavior have changed, requiring a refined approach given the new findings in the field of neuroscience.

As experts continue to build on past findings and explore new uncharted regions of the brain we will continue to strive for new and innovative methods to improve human performance and reduce critical errors in decision-making.