LIMBIC SUPPRESSION: A MODALITY FOR ELIMINATION OR REDUCTION OF GLOSSOPHOBIA AND OTHER ANXIETY DISORDERS

By

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I. BACKGROUND

According to 2012 statistics from the National Institute of Mental Health, glossophobia, the fear of public speaking affects 74 percent of the adult population.\textsuperscript{1} Treatment methods have historically focused on deconditioning by repetition of public speaking performances over extended periods of time, which is often years, or, involvement in cognitive behavioral therapy. Among those with glossophobia are the majority of individuals who also suffer from social anxiety disorder. This is becoming more prevalent due to the proliferation of electronic devices which decreases face–to-face interaction among people.

II. LIMBIC SYSTEM AND GLOSSOPHOBIA

The limbic system is a combination of structures in the brain that support emotions, behavior, motivation and memory and other functions. Four of these structures contribute significantly to the etiology of glossophobia, the amygdala, hippocampus hypothalamus and thalamus. The amygdala is responsible for fear conditioning in pavlovian-associated learning situations.\textsuperscript{2} It receives conscious and sub-conscious information regarding the stimuli from the thalamus.\textsuperscript{3} The hippocampus receives information from the amygdale and process it to make it meaningful based upon its stored memories. It also reinforces memories via repetition and training which in turn stimulates neurogenesis. It can also contribute to the extinction of previous fear conditioning.\textsuperscript{4} It provides contextually based information back to the amygdala which defines the appropriate response and signals the hypothalamus.\textsuperscript{5} A sympathetic, autonomic response from the hypothalamus is then delivered to various parts of the body resulting in the symptomatology normally associated with glossophobia.\textsuperscript{6}
III. HISTORY OF LIMBIC SUPPRESSION

This research and development of this methodology was conducted by the author at the University of South Florida, National and Competitive Intelligence Program in Tampa, Florida. This program is funded by the Office of the Director of National Intelligence and administered by the Defense Intelligence Agency. Observations were made of students giving intelligence briefings over nearly two years. It was concluded that fear and anxiety in public speaking, glossophobia, was impeding almost every student to some degree in their briefing performances. The disorder frequently inhibits open discourse and briefing in large and small groups due to the fear of being judged. This elevated nervous and anxious state contributes to poor cognition in terms of memory, language, problem solving and learning which are all critical to the performance of an intelligence officer. Time was requested to develop a means by which students could be deconditioned to their glossophobia.
While traditional methods of treating glossophobia focus on desensitization through months and years of repetition or therapy, a regimen was developed which would interfere with the cerebral functioning that was creating the problem. The first target was to alter the context of the message from the hippocampus to the amygdala. Doing so would provide for a different and more positive response when the amygdala then began to transmit to the hypothalamus. To further strengthen the second signal, signal from the amygdala to the hypothalamus, a means was prepared to disrupt the final remnants of the original negative stimuli in the amygdala by introducing new emotional input to overload and suppress the previous limbic response. Now communication between the hippocampus, hypothalamus and the amygdala would be significantly different and positive. Furthermore, the protocol would make it difficult to deviate from because the limbic system was suppressed and controlled. After two months of full-time research it was determined that the limbic system of the brain could be successfully suppressed during briefing which would prevent it from emitting its previously conditioned fear and anxiety response. It was believed that with the limbic system suppressed the sub-conscious mind could be reconditioned to recognize positive public speaking experiences. A five-phase re-conditioning process was developed that would gradually and progressively soften previous belief systems and result in significantly lower anxiety in public speaking and briefing.

It is important to note that Limbic Suppression is related to counter-conditioning in one respect, but Limbic Suppression is significantly more effective. In counter-conditioning, the individual is provided with a substitute stimulus to recondition the sub-conscious mind, but the original stimulus is still present and continues to reinforce the old response to some extent. In Limbic Suppression, while the original stimulus is still present, it is suppressed so that a stronger undiluted new and healthy response is instilled. Both methodologies utilize principles of cognitive behavioral conditioning.

IV. SPEECH CONDITIONING USING LIMBIC SUPPRESSION

This course begins with a one hour lecture which defines glossophobia, its origins, the functions of the conscious and sub-conscious minds and a description of the training to follow. Training consists of a three to four hour, participatory, five-phase accelerated anxiety reduction program. The audience should consist of at least twenty people. Each phase progressively alters the subconscious beliefs that trigger anxiety and fear while instilling the sense of confidence that the experience will be positive. Fear of being stared at, looking foolish, failure and being judged are exposed and eliminated or reduced. This program is best suited for those who experience some level of fear or anxiety in public speaking as well as those who suffer from social anxiety disorder.
V. STATISTICAL FINDINGS: USF – AUGUST 2013

- Subjective Stats:
- Observations by Walter Andrusyszyn, Program Director, and Patrick Guarnieri
- Basis of Evaluation – manner of presentation, organization, content, structure, grammar, poise
- Before fear/anxiety deconditioning: two workshops with 60 Students - 1 near perfect presentation = 1.6%
- After fear/anxiety deconditioning: 1 class with 27 Students - 6 near perfect presentations = 22.2%

Objective Statistics:
- Basis of Evaluation – Anonymous written responses by class of 27 students requiring before and after estimate of fear and anxiety level using a scale of 0 – 10.
- Least improved - one student - 10% reduction in fear/anxiety
- Most improved - two students - 100% reduction in fear/anxiety
- Reduction in fear/anxiety after Phase 3 (only 10 from this group completed Phase 4 due to time constraints) = 49.73% (standard deviation = 21.3)

VI. STATISTICAL FINDINGS: HOPE CHRISTIAN SCHOOL, TAMPA – FEBRUARY 2014

Subjective Observations:
- Observations by Patrick Guarnieri. Students appeared to reduce levels of fear and anxiety quickly compared to USF students.
- Only four of the five phases were completed due to time constraints.
- David Riffe, School Principal, and Patrick Guarnieri conducted follow-up interviews and reviewed questionnaires for accuracy one week after the training. Both concluded that the training was highly effective.

Objective Statistics:
- Anonymous questionnaires providing before and after levels of fear and anxiety were submitted by 11 high school students.
- Results: 62% average reduction in fear and anxiety
- Least improved: 37.5%
- Most improved: 100%
VII. CONCLUSIONS

While a greater sample size will be required before it can be stated that these findings are statistically significant, it can be inferred by the existing data and comments by the participants and observers, that recognizable positive results were achieved. This statement is further reinforced by the fact that none of the participants completed all of the five phases of the training. One could hypothesize that the disparity between USF and Hope students is due to the fact that glossophobia generally begins in the mid-teens and therefore the negative conditioned response would not have hardened over as much time. To date there have been no negative or even neutral results exhibited by trainees and therefore, based upon the foregoing, it can be inferred that Limbic Suppression as a treatment modality for glossophobia is effective. One could also hypothesize that overall social functioning of members of the IT or cyber communities could benefit from this conditioning due significant interface with electronic devices and the limited frequency of engagement with people. Within other vocations, the reduction in one of the primary sources of stress i.e., glossophobia, would provide benefit from the corresponding reduction in referred anxiety which can impact other areas of individual functioning. The foregoing data and observations are highly encouraging and reinforce the importance of additional application and research of this methodology as a tool in dealing with glossophobia and other anxiety disorders.

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1 According to the National Institute of Mental Health, 74% of the U.S. population suffers from glossophobia, fear of public speaking. NIMH, August 28, 2012.


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