

## **Proposal for ETT™ Research using Picture-Induced Neural Signatures**

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When a patient is suffering from a brain tumor the physician will require that patient to have scans the tumor throughout their treatment. This is so the physician can physically see if the treatment has a positive or negative affect in shrinking of the tumor. If a negative result is found, then a different treatment is then prescribed. This is not true for mentally distressed patients. Statistics by the Nebraska Department of Veterans Affairs estimate that PTSD effects 7.8 percent of all American at some point in their lives, and 30 percent of veterans who spent time in war zones will develop PTSD (Nebraska, 2007). However, mental health professionals have no way to gage the success or failure of treatment for a client with PTSD. I propose that a Picture-Induced Negative Affect Signature (PINES) found in a research study of the brain can be used to monitor treatment of PTSD patients. Furthermore, I propose that PINES can be used to document the effectiveness of Emotional Transformation Therapy (ETT™), invented by Steven Vazquez, in PTSD patients.

There is a need for precise brain imaging to be used to assess the effectiveness of treatment in patients suffering from PTSD. Luke Chang and his associates at the University of Colorado have done just that. Using fMRI with machine-learning algorithms, Chang and his collaborators found a specific neural signature that can predict the negative emotion felt by individuals with a 94% accuracy (Chang, 2015). They accomplished this by measuring 183 individual's brain activity while viewing a series of negative and neutral photos from the International Affective Picture System (IAPS). Fifteen photos depicted human violence, human waste, traffic accidents, members of hate groups, and bodily injuries or illness, while fifteen neutral photos depicted scenes that would invoke no emotion. Individuals would rate their negative emotion on a five-point scale and the fMRI would capture an image of their brain (Chang,

2015). A Picture-Induced Negative Affect Signature (PINES) was produced with a machine-learning algorithm that locates three brain regions associated with negative emotion the amygdala, anterior insula, and anterior cingulate cortex. Any region alone was not sufficient to accurately predict the intensity negative emotion, but when all three were examined together PINES could accurately predict the level in which negative emotion was felt with 90% accuracy (Chang, 2015). Although Chang and his collaborators have made tremendous progress, Pines has not been proven to show all types of negative emotion or to show accurate results in picture-induced recall of negative emotion. I believe; however, PINES will prove to be remarkably accurate with recalled images as it does with the IAPS images.

ETT™ uses several treatment modalities such as visual light stimulation, photic driving, color sensitivity, peripheral eye stimulation, and eye movement techniques. Together these techniques can transform the patients negative and distressed mental state into positive with a decrease or eradication of unwanted symptoms (Vazquez, 2014). Dr. Vasquez, the inventor of ETT™, defines transformation as “the experience of rapid progression through emotions at such depth and speed that the person often feels changed to a magnitude beyond mere emotional relief (Vazquez, 2014).” In patients diagnosed with PTSD it is known that perception of the patients’ visual environment reflects their state of mind (Vazquez, 2014). This gives evidence that the way people feel about something they see, or perceive, will be reflected in the brain. ETT™ is a well-integrated process giving instantaneous relief that has shown to be long lasting and has not been achieved by other forms of therapy or medication (Vazquez, 2014). ETT™ is a treatment healing the patient to the extent that they no longer need psychiatric medication. Dr. Vazquez describes this concept as the following:

“If therapy can access and quickly process unresolved affect to resolution, the need for psychiatric medication might be drastically reduced or eliminated. ETT™ provides alternative strategy for relieving unresolved emotion, the symptoms for which most psychiatric medications

are targeted often no longer exist after ETT™ treatment which renders medication to be unnecessary (Vazquez, 2014).”

Dr. Vazquez has case studies where he used Single Photon Emission Computed Tomography (SPECT) scans to show brain function before and after ETT™ treatment. The images show dramatic results. Even after one year of treatment patients showed continued brain transformation. But, SPECT images are not specified to show improvements in PTSD.

If ETT™ is the answer for treating PTSD more inclusive scientific research must be done to document the effectiveness of the treatment. I believe PINES can be the medium that allows for visualized reduction of picture-induced negative effect in war veterans with PTSD when using ETT™. By exposing veterans to Images that are associated with their trauma, such as war time photos, and having PINES rate the severity of the negative emotion felt, progress can be documented over time to show a reduction in negative emotion felt in veterans by trauma invoking images. Since ETT™ is thought to lessen negative emotion associated with trauma I propose that PINES will accurately show reductions in the intensity of picture-induced recall of negative emotion. This research, if successful, will provide millions of Americans that suffer from PTSD access to the relief they are unable to achieve with conventional therapy or psychiatric medications.

### References

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