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This therapy works!

Using EEG to reveal how the brain responds to Solution Focused Hypnotherapy

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Structure of the talk

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- What is solution focused hypnotherapy?
- Problem solving and creativity
- The problem solving brain
- What is the ‘Eureka!’ moment?
- The EEG study
- Findings
- Interpretations

What is solution focused hypnotherapy?

- Solution Focused Hypnotherapy (SFH) combines solution-focused conversation (SFC) with trance to help clients move towards their preferred future.
- SFH follows the same process as SFC: ‘best hopes’, preferred future (Miracle Question), instances and exceptions, coping and scaling.
- It then augments the therapy through the use of trance
  - three main elements: relaxation, deepener and metaphor.
- Rooted in the work of Milton Erickson, Insoo Kim Berg, Steve de Shazer and now Evan George, Chris Iveson and Harvey Ratner

What is trance and why do we use it?

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- Trance is a state of wakefulness where you are aware of everything going on around you but are deeply relaxed and your mind is more flexible and open to suggestion.
- You are in control during the trance that we use.
- You will not do anything you do not want to do.
- You can bring yourself easily out of trance when you want to.
- It is experienced as a pleasant, day-dreamy state of mind.

Problem solving and creativity

- As solution focused therapists, we are looking to the client to think creatively about their problems.
- Creativity: the ability to generate ideas that are novel and useful with an undefined set of possible ideas.
- What is important here is the notion of ‘useful’. A novel idea is not creative until it proves itself *useful*.
- Creativity then is a process that involves both idea generation and idea evaluation.
- Divergent Thinking tests are designed to measure a person’s ability to be creative.
- **What connects the words ‘pine’, ‘crab’ and ‘sauce’?**

What happens in the brain when we solve problems?[1]

- First we have to generate an idea and then we have to evaluate it to see if it is any good.
- We can generate ideas through the application of logic or through daydreaming and mind wandering.
- During our daydreaming phase, the brain is actually very busy trying out multiple solutions to a problem:
  - we need to take our focus away from the events happening outside of us, the daily distractions, and
  - turn our attention inwards so that we can process the information available to us.
- Ideas can be generated to solve problems relating to us or they can be about something else entirely.

Self-obsessed? Moi?[2]

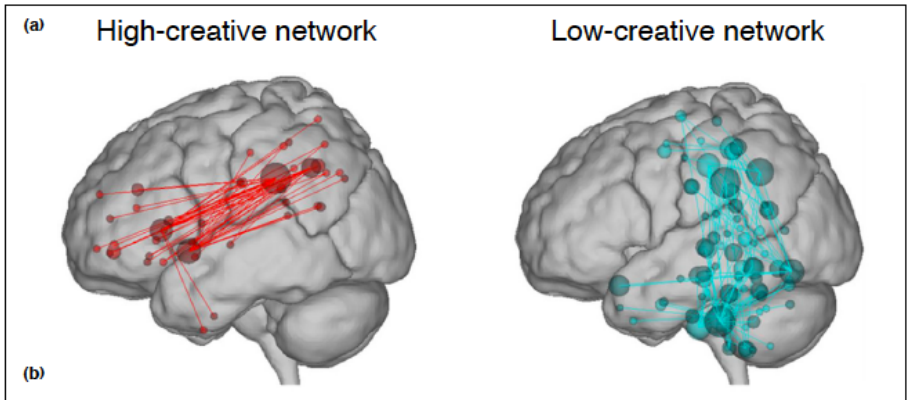
- The average person produces 4000 thoughts in a day
- 2000 of those thoughts are about us!
- We have about 70 years of highly active thought generation so we will have about 50,000,000 thoughts about ourselves!
- (and these calculations do not include thoughts generated during sleep!).
- So, half the time we are thinking about ourselves
- Self-preservation? Survival?
- Vanity?

The creative brain[3]

- Creative people show greater alpha wave activity
- Alpha waves are associated with a reduction in outward facing attention and an increase in internally focused attention
- Close your eyes – you have experienced a boost in alpha waves
- Creativity tasks produce an increase in theta wave activity
- Theta waves increase in the frontal and occipital area of the brain.
- Frontal areas associated with increased cognitive control
- Occipital areas associated with visual imagery

The creative brain[4]

- Has plenty of connectivity between the idea generation and idea evaluation parts of the brain
- Highly creative people have more activity on RHS of brain
- Has a greater wealth of general knowledge and experiences to draw upon
- Can be enhanced through exposure to different experiences, cultures, places, art, drama etc.



What is the ‘Eureka!’ moment?

- We make our daily decisions by drawing on the closest and easiest to access information in our pool of knowledge
- When we are asked to think creatively, the alpha and theta activity increases in the left frontal lobe encouraging the brain to look harder and further for information in that pool of knowledge to solve the problem

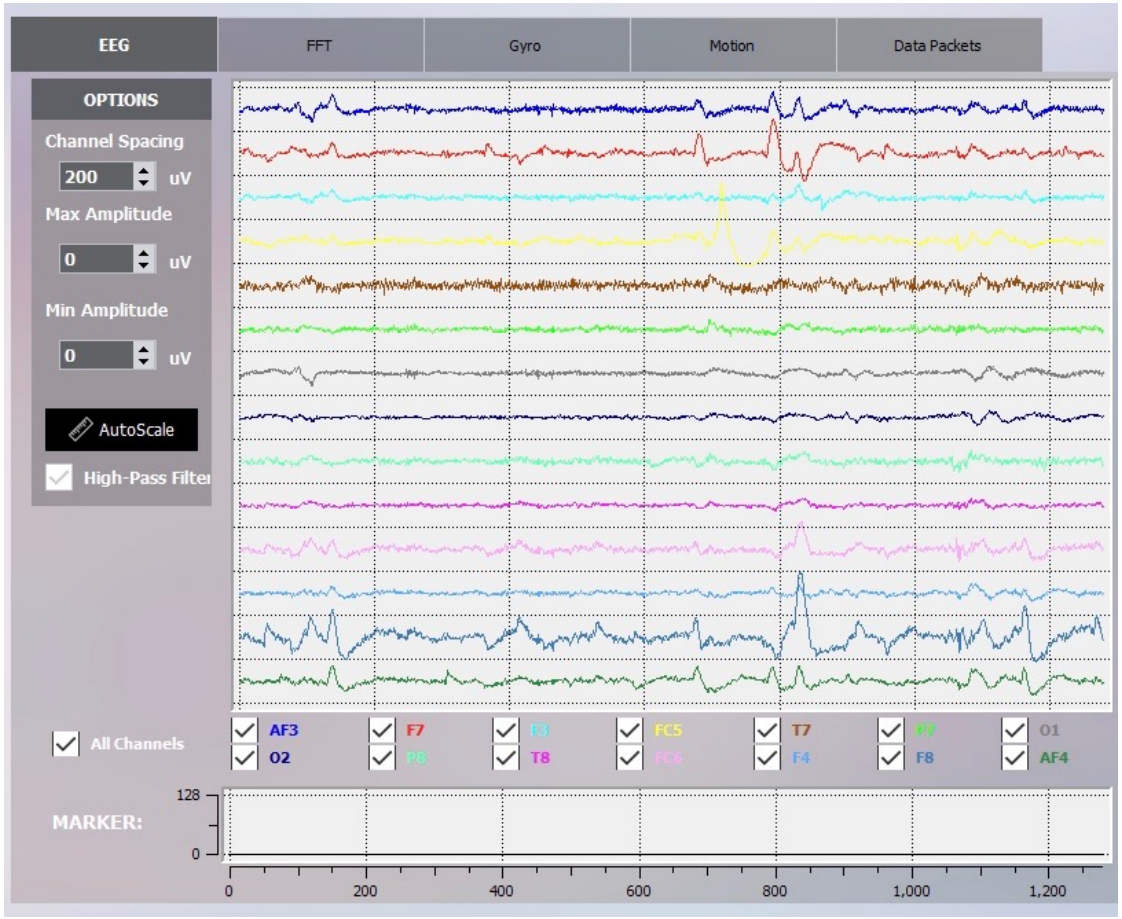
This brings us a spike of theta energy on the EEG in the right frontal lobe

Theta waves encode new information, forming new associations between previously unconnected concepts, or seeing the information in the problem in a new light where the ‘Eureka’ moment occurs.

The EEG study

- 9 participants, 2 male, 18-65 years of age
- 4 sessions of solution focused hypnotherapy
- EEG recordings taken in last two sessions during trance
- All participants received same, recorded language pattern for the trance
- Data analysed by person not associated with the delivery of therapy and who had no personal interest/gain in delivering analysis of EEG data
- Data synthesis and interpretation has been scrutinized by further researcher with no involvement in data collection or analysis

Findings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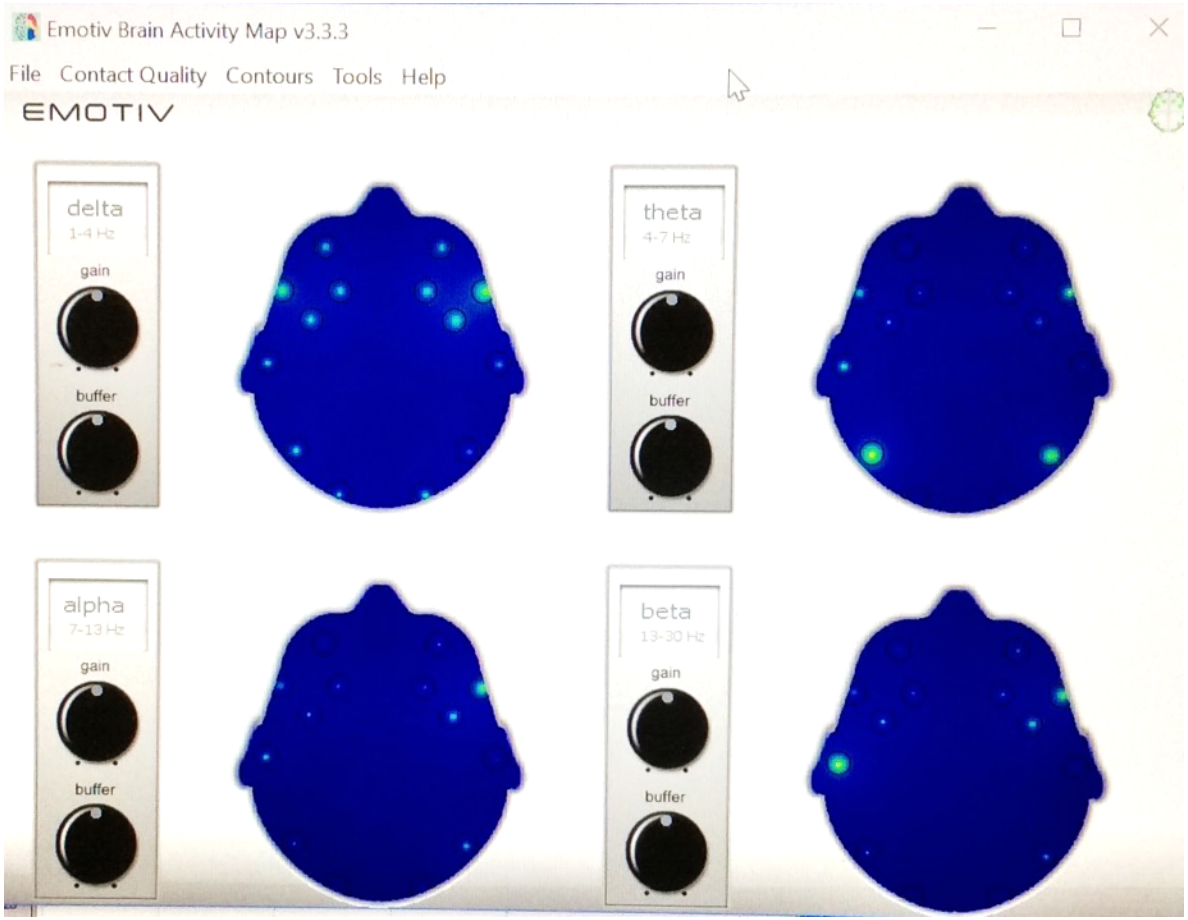
Relaxation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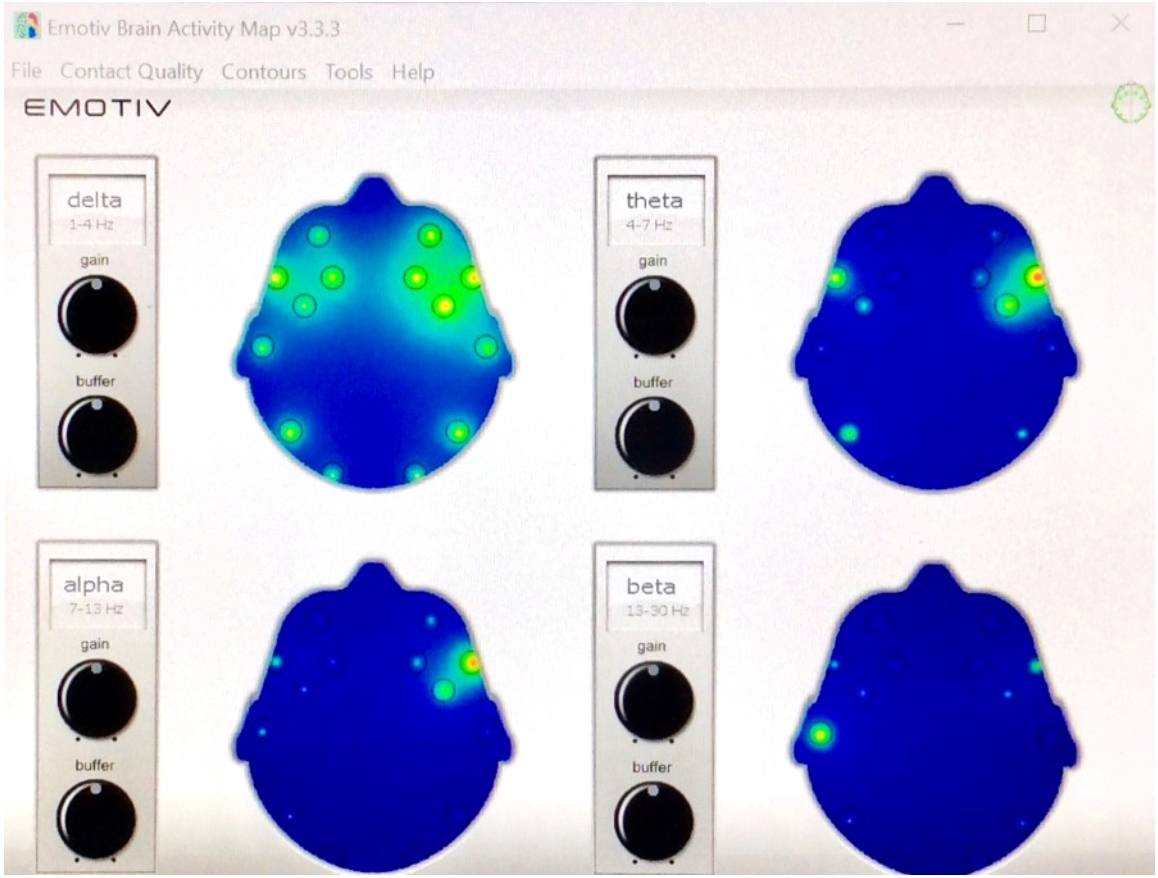
Deepener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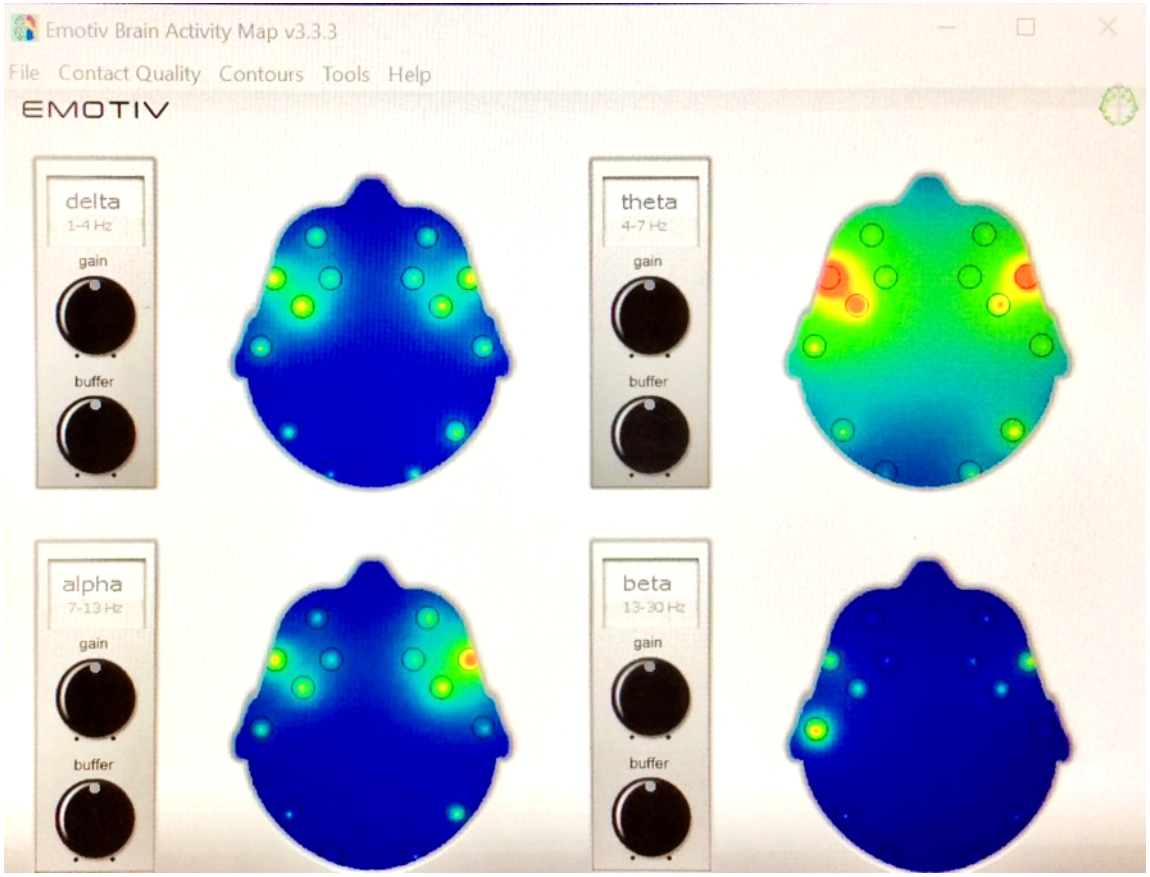
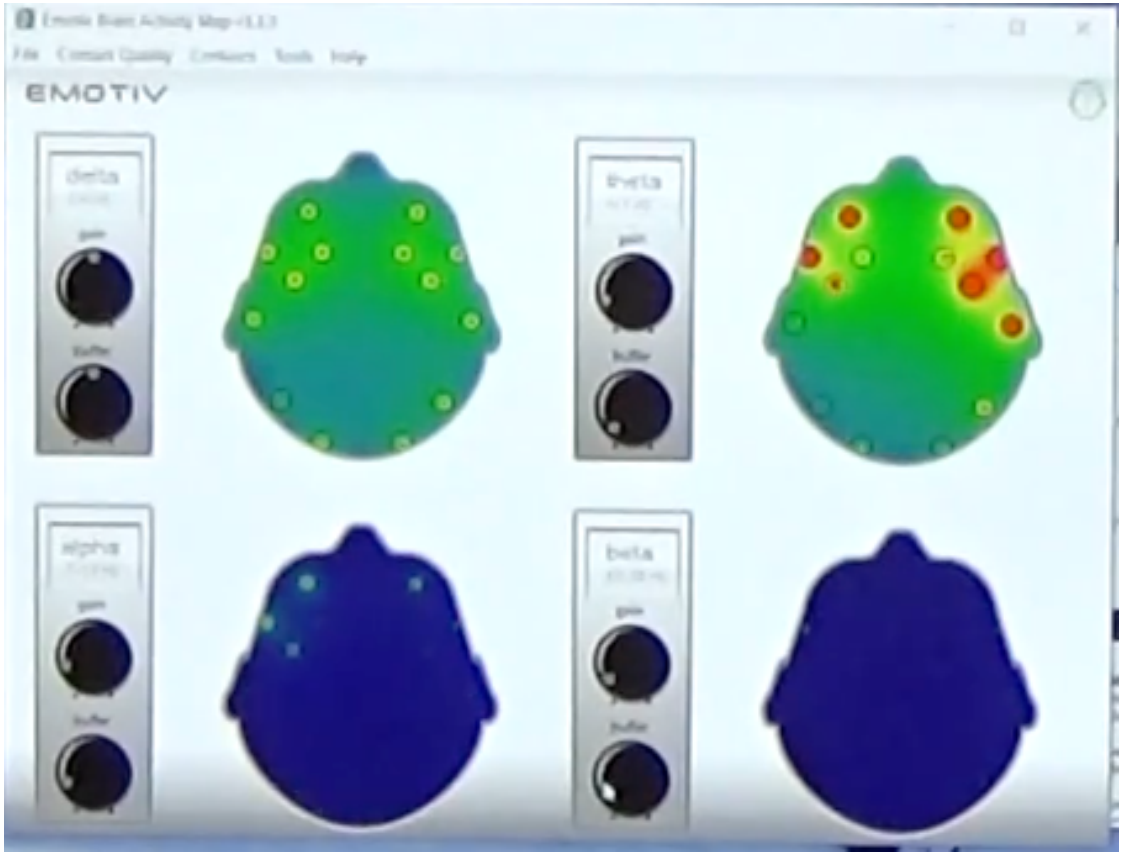
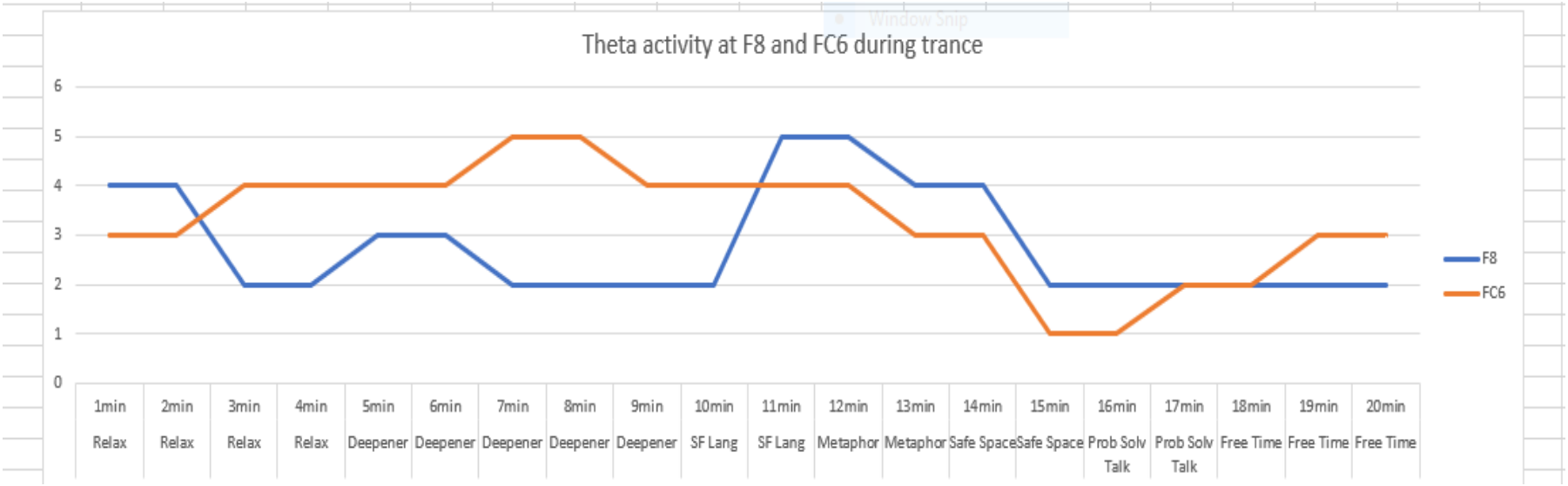
Solution focused language



Metaphor



Theta change at F8 and FC6 during trance



Interpretation

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During trance there is an increase in alpha waves activity

- *Creative people show greater alpha wave activity*
- *Alpha waves are associated with a reduction in outward facing attention and an increase in internally focused attention*

Idea generation

There is an increase in theta wave activity

- *Creativity tasks produce an increase in theta wave activity*
- *Theta waves increase in the frontal area of the brain.*
- *Frontal areas associated with increased cognitive control*

Idea evaluation

Interpretation

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We see an increase in theta in both left but especially right frontal cortex

- *When we are asked to think creatively, the alpha and theta activity increases in the left frontal lobe encouraging the brain to look harder and further for information in that pool of knowledge to solve the problem*
- *This brings us a spike of theta energy on the EEG in the right frontal lobe*[5]
- *Theta waves encode new information, forming new associations between previously unconnected concepts, or seeing the information in the problem in a new light where the 'Eureka' moment occurs.*

EUREKA!

Differences, limitations and future research

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Differences

- **No increase in theta wave activity in the occipital areas**
- *Occipital areas associated with visual imagery*
- Odd as we are using visual imagery in trance

Limitations

- What is the brain's response to solution focused conversation without trance?

Future research

- Replication

Summary

- Trance creates the ideal conditions for problem solving and creative thinking
- The EEG study has provided us with evidence that trance encourages idea generation and idea evaluation
- The use of metaphor stimulates the solving of problems via the ‘Eureka!’ response
- Hypnosis is a perfect addition to a solution focused conversation
- Hypnosis might be considered a way of ‘turbo-charging’ solution focused therapy through its action on the brain

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Thank you!

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Do get in touch!

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