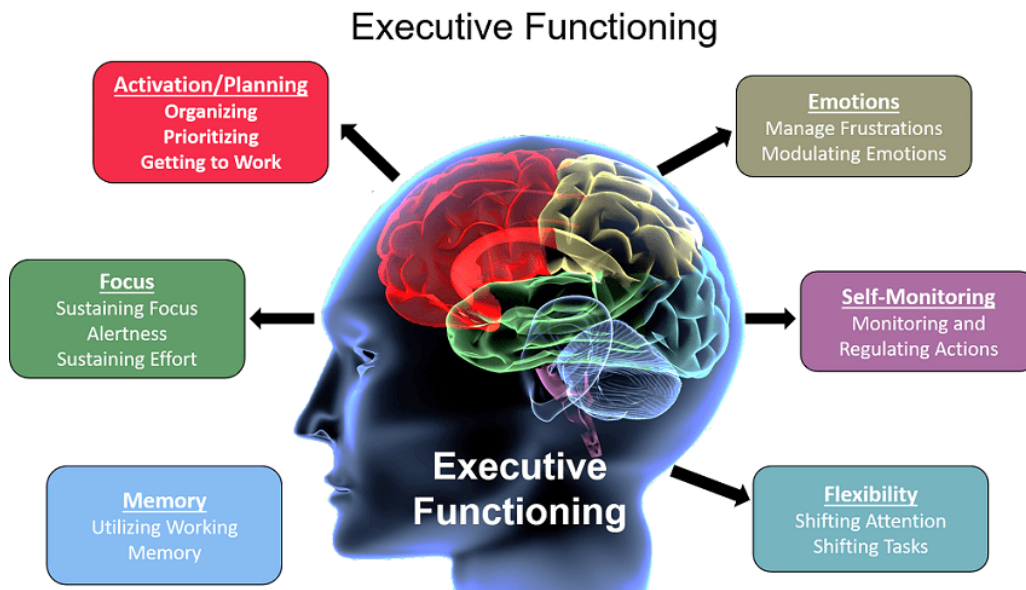
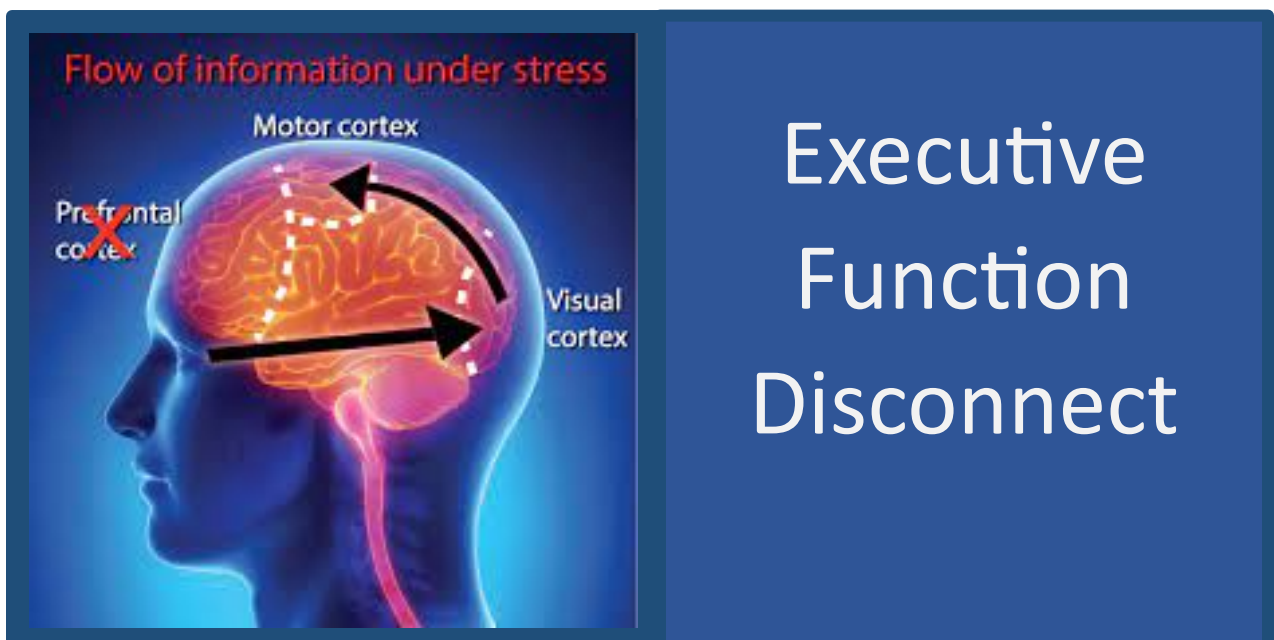


# Executive Function Disconnection & Reconnection



How the upper brain region (executive function/prefrontal cortex) becomes **disconnected** from the lower brain region (nucleus accumbens, VTA):



Video @ <https://vimeo.com/540403125> (less than 2 minutes)

By Neuroscientist, Marc Lewis (adapted)

There is naturally a balance between the dopamine activation system and prefrontal cortex activation system, because you need to control these impulses. There's some kind of balance between impulse and control, self-regulation, and modifying behavior in favor of better consequences in the long run.

In addiction what happens is that there is a reduction in communication between the dopamine activation region (VTA, nucleus accumbens) and the Executive function region (prefrontal cortex). You can even think of them as being somewhat disconnected from each other when in the presence of drugs or cues or other stimuli associated.

It doesn't mean that this disconnection is always there, because you can live a very normal life and do very normal and well-planned things that require logic and judgement. But when those cues are around, when you're walking by the pub or the liquor store or your dealer calls, that's when this disconnection occurs. We all agree that it's a big problem.

The following phrases in 1 Corinthians 9:24-27 imply how remembering our spiritual purpose will help us to have discipline and self control: "runs in such a way," "do it to obtain," "I run thus," "not with uncertainty."

Do you not know that in a race all the runners run  
but only one receives the prize?

<sup>24</sup> Do you not know that those who run in a race all run, but one receives the prize? Run in such a way that you may obtain *it*. <sup>25</sup> And everyone who competes *for the prize* is temperate in all things. Now they *do it* to obtain a perishable crown, but we *for* an imperishable crown. <sup>26</sup> Therefore I run thus: not with uncertainty. Thus I fight: not as *one who* beats the air. <sup>27</sup> But I discipline my body and bring *it* into subjection, lest, when I have preached to others, I myself should become disqualified.” 1 Corinthians 9:24-27

**How the upper brain region (executive function/prefrontal cortex) becomes reconnected with the lower brain region (nucleus accumbens, VTA):**



Video @ <https://vimeo.com/540406505> (1:05 minutes)

First, how do we help addicts feel empowered rather than disempowered?

A potent antidote to executive function fatigue is to feel empowered with an “I can do it” attitude! I think that we need to help them own other goals. It's really important to replace the addictive goals with something else.

We must say to the addict, You can't just spend all your time, not doing something, you have to do something. You have to develop attractions that are not destructive, but constructive. For me (neuroscientist, Marc Lewis), when I quit, around the age of 30, I was doing meditation and Tai Chi. I went to do Tai Chi in the park every night for hours. So, I had something else to do, which really helped me.

Generally, we need to help the addict own other goals. When I say own, I mean they have to be his/her goals. The individual has to formulate those goals. They can't be handed to him by a group or by a physician, or by a sponsor.

With this approach and process, what the addict is doing, basically, is reconnecting his lower brain region (VTA & nucleus accumbens), with the upper brain region (prefrontal cortex). That's empowerment! It is about reconnecting the motivational engine with the bridge of the ship. And that's happening in the brain, and it has to happen in the mind.

# Philippians 3:12-15 is a neurospiritual Scripture:

Not that I have already attained, or am already perfected; but I press on, that I may lay hold of that for which Christ Jesus has also laid hold of me.

Brethren, I do not count myself to have apprehended; but one thing I do, forgetting those things which are behind and reaching forward to those things which are ahead,  
Philippians 3:12-13 NKJV

**Philippians 3:12-15** tells us.....

1. That we are to “Lay hold of that for which Christ Jesus has also laid hold of me”
2. That we are to be “Forgetting those things which are behind and reaching forward to those things which are ahead”
3. That we are to “press on,” be “reaching forward to those things which are ahead” and “press toward the goal.”
4. “Let us, as many as are mature, have this mind” implies neurospiritual growth!



**Philippians 4:13** reveals what and Who empowers us to make new neurospiritual growth goals possible for us attain!



# Executive Function Disconnection & Reconnection

## Test and Answers

What is it that makes the balance between the dopamine activation system and prefrontal cortex activation system important?

Because you need to control your impulses.

What causes the reduction in communication between the executive function region and the dopamine activation region?

The presence of drugs or other triggers associated with pleasure.

Regarding 1 Corinthians 9:24-27, what helps us to have discipline and self control?

Remember our spiritual purpose ("runs in such a way." "do it to obtain," "I run thus," "not with uncertainty")

What is a potent antidote to executive function fatigue?

To feel empowered rather than disempowered with an “I can do it!” attitude.

Explain the mental & emotional changes that the addict must make to reconnect his/her lower brain region (dopamine pump and motor) with his upper brain region (main deck):

The recovering addict needs to own other goals. It's really important to replace the addictive goal with something else. You can't just spend all your time, not doing something, you have to do something. You have to develop attractions that are not destructive, but constructive.

Why is it important for the recovering addict to “own” or choose his new goals?

The new goals MUST be things that the recovering addict wants and likes!

Regarding the process of owning (liking, wanting, doing) new, positive and empowering goals, what is the purpose?

With this approach and process, what the addict is doing, basically, he is reconnecting his lower brain region (VTA & nucleus accumbens), with the upper brain region (prefrontal cortex).

Please answer these 4 questions about Philippians 3:12-15:

1. What are we to “lay hold of” ?

“That for which Christ Jesus has also laid hold of me”

2. What are we to do about our negative past life?

“Forgetting those things which are behind and reaching forward to those things which are ahead”

3. What are the three phrases that imply owning positive, new motivations?

“I press on”

“reaching forward to those things which are ahead”

“I press toward the goal”

4. What phrase implies neurospiritual growth?

“Let us, as many as are mature, have this mind”

What Scripture in Philippians reveals what and Who empowers us to make new neurospiritual growth goals possible for us attain!

“I can do all things through Christ who strengthens me.” Philippians 4:13