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The Prefrontal Cortex (PFC)

Overall, the pfc is the part of the brain that watches, supervises, guides, directs, and focuses your behavior. It contains “executive functions”: time management, judgment, impulse control, planning, organization, and critical thinking. Our ability as a species to think, plan ahead, use time wisely, and communicate with others is heavily influenced by this part of the brain. The pfc is responsible for behaviors that are necessary for you to act appropriately, focus on goals, maintain social responsibility, and be effective.

The pfc is also involved with sustaining attention span. It trains your mind to focus on important information while filtering out less significant thoughts and sensations. Attention span is required for short-term memory and learning. The pfc, through its many connections within the brain, keeps you on task and allows you to stay with a project until it is finished. The pfc accomplishes this by sending quieting signals to the limbic and sensory parts of the brain. In the face of a need to focus, the pfc decreases the distracting input from other brain areas, inhibiting rivals for our attention. However, when the pfc is underactive, less of a filtering mechanism is available and distractibility becomes common.

The pfc enables you to feel and express emotions: to feel happiness, sadness, joy, and love. Under activity or damage in the pfc often leads to a decreased ability to express thoughts and feelings.

Thoughtfulness and impulse control are also heavily influenced by the pfc. The ability to think through the consequences of behavior is essential to every aspect of human life. Forethought, consistent, thoughtful action, and inhibition of impulse behavior hold the keys to success.

Within the pfc as a whole, problems in the dorsal lateral prefrontal cortex often lead to decreased attention span, distractibility, impaired short-term memory, decreased mental speed, apathy, and decreased verbal expression. Problems build with poor impulse control, mood control problems, decreased social skills, and impaired control over behavior.

Test anxiety, along with social anxiety, also may be hallmarks of problems in the pfc. Situations that require concentration, impulse control, and quick reactions are often hampered by pfc problems. Pfc deactivation often causes a person’s mind to “go blank” in conversations, which leads to being uncomfortable in social situations.