



## INTROVERSION AND EXTROVERSION

Contrary to what many 'personality tests' claim, no one is either extroverted or introverted - some individuals tend to respond to situations in a more extroverted way, others in a more introverted way, but people can and do use both responses. People fall within the continuum. Extreme extroverts are not the norm, and neither are extreme introverts, the two groups either gain their energy or pleasure to varying degrees from the outside world, or from within.

Studies of the human brain have revealed significant neurological differences between those with a strong introverted behaviour preference and those with a strong extroverted behaviour preference. In general, the blood flow in introverted brains is more pronounced in areas that are focused on 'internal' activities such as remembering, solving problems and planning. On the other hand, the blood flow in extroverted brains is more pronounced in those parts that are used for the processing of sensory experiences, what's happening externally.

Introverted and extroverted brains also have different chemical balances. The activities of our brains are catalyzed by neurotransmitters - chemical substances transmitted between neurons. Extroverts appear to require greater amounts of dopamine, a central neurotransmitter in the sympathetic nervous system linked with feelings of novelty and reward. They seem to have a higher tolerance to this, and so they need higher amounts in order to feel good, or energized. Dopamine takes a short pathway through the brain and in stressful situations, produces a quick response. It is thought to account for extroverts' ability to think and speak quickly and to thrive under pressure. It also helps them access their short-term memory more rapidly, so their data-processing circuit is shorter and faster. Extroverts tend to feel good when they have places to go, new activities to experience or new people to meet.

Introverts, on the other hand, have a lower tolerance to dopamine - it can escalate and make them become anxious and overwhelmed. Introverts prefer the neurotransmitter acetylcholine, which produces a pleasurable sensation of calm and wellbeing. Acetylcholine, however, takes a slower pathway through the brain, which may explain why introverts may have difficulty accessing words or memories quickly and why they may be slower to react in stressful situation. Introverts often prefer writing to speaking, because writing uses a different neurological pathway in the brain than speaking does. Acetylcholine's slower pathways may cause them to move more slowly than extroverts, which may explain why they are often less expressive with their body language

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