Neurosystems

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Neuropsychology is the study of brain-behavior relations. Initially, this area of study followed the medical model and viewed the individual in isolation. More recently, an ecological neuropsychological approach has been argued to be most appropriate (Power and D'Amato [in press](#)). These authors have called for an integrative, positive-focused, collaborative approach which integrates the individual brain-behavior relationship within a contextual system. It has become clear that understanding the brain, out of context from the world in which an individual lives, is an unwise and uninformed practice.

Systems psychology is a branch of applied psychology that studies human behavior within complex systems both inter- and intra-systemic complexities are the focus of study. This is related to systems theory and systemic thinking that in living systems, the whole is always more than the mere sum of the parts (Bateson [1972](#)). Thus, neurosystems is the study of the neuropsychological relationship between an individual and the world in which they live.

Early on, it was thought that precise areas of the brain related to specific behavior. More recently, research has shown through neuroimaging that the brain processes information more globally (D'Amato et al. [2005](#)). It has become apparent that the brain is a more complex system which allows higher order processing. In sum, the brain is a functional system or neurosystem.

Cross-References

- [Neuroeducation](#)
- [Neuroleadership](#)
- [Neuropsychologically-Driven Interventions](#)
- [Neurotechnology](#)
- [Neurotherapy](#)

References

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- D'Amato, R. C., Fletcher-Janzen, E., & Reynolds, C. R. (Eds.). (2005). *Handbook of school neuropsychology*. New York: Wiley.
- Power, E., & D'Amato, R. C. (in press). Should our future include the integration of evidence-based neuropsychological services into school settings. In D. P. Flanagan's (Ed.), *Contemporary intellectual assessment: Theories, tests, and issues* (4th ed.). New York: Guilford.