

UNIVERSITY OF TENNESSEE
COLLEGE OF SOCIAL WORK

SW 593 Neurophysiologic Development in Social Work
(1 credit hour)

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Distance Education

Classes Meet Monday Evenings: 6:30-7:30p Central Time

Office Hours: You may reach me by phone an hour prior to class or you may email at any time to set up a phone appointment.

Code of Conduct

It is the student's responsibility to have read the College of Social Work Ethical Academic and Professional Conduct Code that is in the College of Social Work MSSW Handbook (www.utk.csw.edu).

The Honor Statement

An essential feature of The University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity. (*Hilltopics*, 2007).

Disability

If you need course adaptations or accommodations because of a documented disability or if you have emergency information to share, please contact The University of Tennessee Office of Disability Services at 191 Hoskins Library (865-974-6087). This will ensure that you are properly registered for services.

Course Description

This course will examine neurophysiologic development. Neurophysiologic development provides a foundation for understanding the processes of human development and how these processes are influenced by culture and the environment. The course examines the effects of risk and protective factors at various ecological levels, such as attachment, poverty, and culture. This course also covers genetics and how genes express themselves as well as genetic potentials. Typical development will be covered as well as atypical developmental patterns that are consistent with neurodevelopmental disorders. Processes critical to human behavior and risk and resilience for vulnerable populations are emphasized to understand individual or family behavior.

Content in this course will be illustrated and centered around a case study approach in which students read case studies that are paired with theoretical and research material. Class discussion about the theoretical and research material will be linked to case studies, and students will use theory and research to construct hypotheses about individual or family

adaptation to the environment. In addition, students will practice forming research questions and going to the literature to assess what is known about their questions

Course Rationale

To practice accountably and effectively, social workers must be able to understand their clients and their presenting issues within their clients' developmental contexts. In supportive environments, individuals flourish as they progress through developmental stages and stage-salient tasks. Other environments, because of risk factors associated with them, are less supportive of wellbeing. Even so, brain plasticity provides humans with an amazing capacity to adapt to these less supportive and sometimes frankly maladaptive environments, although sometimes at great cost to

themselves. Especially for young children, the costs to the developing brain of less adaptive environments are profound because their brains actually become organized around repeated experiences within these less adaptive environments. Also, genetics play a role in terms of gene expression and potential in regards to these less adaptive environments. Neurophysiological changes and behaviors resulting from these earlier less adaptive environments are often conceptualized by clinicians as psychopathology or presenting problems of clients. Understanding human development as a series of processes mediated by the brain within an environment-dependent context profoundly reframes not only our understanding of our clients and their presenting problems, but also how to intervene appropriately with clients and their environments. This different understanding of human development also suggests the critical importance of effective prevention programs and social policies that promote wellbeing, as well as interventions directed at changing the larger environments of individuals. Thus, knowledge gained in this course will allow social workers not only to better understand, contextualize, and assess clients and their presenting problems, but also to develop more appropriate interventions, prevention programs, or policies for working with or for the benefit of clients and for the necessary environments to support human wellbeing.

Course Competencies

1. Explain the roles of neurophysiology, adaptive and maladaptive environments, and experiences, including the effects of trauma and chronic stress, on brain development and the role of genetics and epigenesis in development during the sensitive period of the first three years of life and across the life span. (*content: basic introduction to Mendelian genetics and the Human Genome Project; epigenesis and gene expression; effects of stress and trauma on hormones, brain development, and gene expression; effects of early deprivation and parenting on brain development and gene expression; Hobfoll's conservation of resources theory; major developmental disabilities across the life span*).

Course Sessions:

Class Attendance: This course meets weekly as a group for four sessions via Centra. For those of you who have speakers, all you will need to participate is a microphone. This will require you to have a microphone. If your computer does not have speakers it would be best to purchase a headset/microphone. Those of you who choose to present a power point as your class project will have the opportunity to do so using this technology. A Microphone or headset can be purchased from local stores like Radio Shack:

1. microphone – get a “stick mike that doesn't requires a battery; get one that plugs into sound card – i.e., has two little plugs at end not one big fat one; plug into color coded slots on computer (cost – \$5-10)
2. Speakers/headsets (only needed if your computer doesn't have speakers) - kind that has 2 plugs at the end; headset w/ microphone built in, (cost - \$10-20).

There is no mandatory attendance for these sessions as they are recorded and can be played back through Centra. With that said please know that when you miss class you miss opportunities to ask important questions that you may have. Also, you will be responsible for the information that you miss so it is advised to set aside that hour for class.

July 14, 2008 6:30-7:30 Central Time

Unit I: Frameworks & Paradigms

Note that readings should be completed before the first class.

Freud, S. (1999). The social construction of normality. *Families in Society*, 80(4), 333-339.

Hobfoll, S.E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, 6(4), 307-324.

Value Added:

García Coll et al. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, 67(5), 1891-1914.

July 21, 2008 6:30-7:30 p Central Time

Unit II: Genetics and human development/behavior.

Harper, L.V. (2005). Epigenetic inheritance and the intergenerational transfer of experience. *Psychological Bulletin*, 131, 340-360.

NASW Code of Ethics. (Use NASW web link.)

Sandhu, J.S. (2006). Nature vs. nurture: A case report. *Delaware Medical Journal*, 78(11), 413-417. [case study]

Viding, E. (2004). On the nature and nurture of antisocial behavior and violence. *Annals of the New York Academy of Science*, 1036, 267-277.

Value Added:

Scarr, S. (1996). How people make their own environments: Implications for parents and policy makers. *Psychology, Public Policy, and Law*, 2, 204-228.

Strohman, R.C. (2003). Genetic determinism as a failing paradigm in biology and medicine: Implications for health and wellness. *Journal of Social Work Education*, 39(2), 169-191.

July 28, 2008: 6:30- 7:30p Central Time

Unit III: Brain and Behavior

Cicchetti, D. & Cannon, T.D. (1999). Neurodevelopmental processes in the ontogenesis and epigenesis of psychopathology. *Development and Psychopathology*, 11, 375-393.

Davies, M. (2002). A few thoughts about the mind, the brain, and a child with early deprivation. *Journal of Analytical Psychology* 47, 421-435.

Waller, R.J. (2003). Application of the kindling hypothesis to the long-term effects of racism. *Social Work in Mental Health*, 3(3), 81-89.

Value Added:

DiPietro, J.A. (2000). Baby and the brain: Advances in child development. *Annual Review Public Health*, 21, 455-471.

Schore, A.N. (2000). Attachment and the regulation of the right brain. *Attachment & Human Development*, 2(1), 23-47.

Siegel, D.L. (2006). An interpersonal neurobiology approach to psychotherapy: Awareness, mirror neurons, and neural plasticity in the development of well-being. *Psychiatric Annals*, 38(4), 248-256.

August 4, 2008 6:30-7:30p Central Time

Unit IV: Stress, trauma, and hormones

Champagne, F.A. & Curley, J.P. (2005). How social experiences influence the brain. *Current Opinion in Neurobiology* 15, 704–709

National Scientific Council on the Developing Child. EXCESSIVE STRESS DISRUPTS THE ARCHITECTURE OF THE DEVELOPING BRAIN. Working paper. developingchild.net. 1-16.

Talge, N.M. Neal, C., Glover, V. & the Early Stress, Translational Research and Prevention Science Network: Fetal and Neonatal Experience on Child and Adolescent Mental Health (2007). Antenatal maternal stress and long-term effects on child neurodevelopment: how and why? *Journal of Child Psychology and Psychiatry* 48(3/4), 245–261.

Taylor, S.E. et al. (2000). Biobehavioral responses to stress in females: Tend-and- befriend, not fight-or-flight. *Psychological Review* 107(3), 411-429.

Value Added:

Carroll, G. (1998). Mundane extreme environmental stress and African American families: A case for recognizing different realities. *Journal of Comparative Family Studies*, 29(2), 271-284.

McEwen BS. (1998) Protective and damaging effects of stress mediators. *New England Journal of Medicine*, 338,171–9.

Grades and Assignments:

This course provides information that is crucial to the rest of your MSSW studies. You can expect to devote about four hours per week to this class, including in class time, readings, preparation of papers, and communication with professor and your fellow students. Lecture and participation via Blackboard is essential for learning this material, which is foundation for the rest of your studies.

Your grade will be based on:

Quizzes (30%)

Active Participation on Blackboard (40%)

Final Project: (30%)

Grading Scale:

A= 95-100

B+ = 90-94

B= 85-89

C+ =80-84

C= 73-79

D= 66-72

F = < 66