

Denise Jackson, Ph.D.
Associate Professor
125 Nightingale Hall
(617) 373-3860 Office
(617) 373-8714 Fax
D.Jackson@neu.edu

- Research Interests

Primary

Dr. Jackson's current research focus lies on examining the effects of prenatal exposure to psychomotor stimulants (egs cocaine, amphetamine, methamphetamine) on neurotransmission of neurons that modulate extrapyramidal movement. This work addresses current hypotheses proposing that motor hyperactivity emanates from chronic *in utero* exposure to stimulants. One category of neurons in the basal ganglia system, dopaminergic neurons, is affected by stimulant exposure and these neurons are critical in regulating movement. Dysfunction of the basal ganglia has been implicated in a variety of motor aberrations including hyperactivity, Huntington's Chorea, and Parkinson's Disease. Dr. Jackson utilizes *in vitro* techniques to examine the effects of chronic prenatal stimulant exposure on basal ganglia transmission in rodents to elucidate neurochemical bases for motor abnormalities. She is also interested in investigating the effects of drugs that have been used in clinical treatments for movement disorders in animal models and in examining the efficacy of potential novel treatments.

Secondary

Neurochemical interactions in extrapyramidal movement disorders
Anatomy of basal ganglia

- Teaching

Undergraduate Courses

Biological Basis of Mental Illness
Psychopharmacology
Psychobiology Seminar

Graduate Courses

Proseminar in Clinical Neuroscience

- Education

B.S. Biology and Psychology, 1984, University of Massachusetts at Boston
Ph.D. Neuroscience, 1990, University of Pittsburgh

- Academic and Professional Experience

1991-1994 - Postdoctoral Fellow, University of California at San Diego,
1994-2000 - Assistant Professor, Northeastern University
2000 – to the present, Associate Professor, Northeastern University

- Representative Publications

Jackson, D., Burns, R., Trksak, G.H., Simeone, B., Deleon, K.R., Harrison, R.J., and Melloni, R.H. Jr. (2005) Anterior hypothalamic vasopressin modulates the aggression stimulating effects of adolescent cocaine exposure in Syrian hamsters, *Neuroscience*, **133**, 635-646.

Glatt, S.J., Trksak, G.H., Cohen, O.S., Simeone, B.P., and Jackson, D. (2004) Prenatal cocaine exposure decreases nigrostriatal dopamine release *in vitro* by increasing presynaptic dopamine reuptake: effects of age and sex, *Synapse*, **53**, 74-89.

Glatt, S.J., Bolanos, C.A., Trksak, G.H., and Jackson, D. Developmental effects of prenatal cocaine on dopamine neurons: a meta-analysis (2000) *Neurotoxicology and Teratology*, **22**, 617-629.

Groves, P.M., Jackson, D., Linder, J.C., Manley, M.S., Ryan, L.J., and Young, S.J. Neuroanatomical consequences of psychostimulant drugs: Effects after adult and prenatal exposure (1994) *Strategies for Studying Brain Disorders*, Editorial Complutense, Madrid, Spain, 167-188.

Mura, A., Jackson, D., Manley, M.S., Young, S.J., and Groves, P.M. AADC-immunoreactive cells as a possible site for the conversion of exogenous L-DOPA to dopamine (1995) *Brain Research*, **704**, 51-60.