

Advanced Seminar: Autism Spectrum Disorders

*Course number: V05.0201; 4 points credit.

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*This course will be first offered in fall of 2008 and each fall thereafter.

*Prerequisite: V05.0101 (Child and Adolescent Psychopathology) or consent of the instructor.

Course Description:

This course provides students with an in depth study of Autism Spectrum Disorders (ASDs) and encourages them to develop observational skills and a sense of scientific inquiry into current representations of autism and other developmental and psychiatric disorders. By incorporating a supervised clinical practicum into the investigation of autism, the prototypical developmental disorder, students learn to integrate their personal observations and experience with current research studies.

The course has particular relevance for those interested in psychology and medicine but is open to all interested and qualified students. Brief lectures and readings introduce major areas of research in ASDs, including diagnosis, assessment, theories of brain-behavior function, and treatments. Students are required to attend a lab practicum for three hours each week at the NYU Asperger's Institute or an affiliated school program for children and adolescents with ASDs. Students must also keep a journal of their observations and experiences, as well as their reactions to the readings, which are handed in weekly for review by the instructors.

Students regularly present their observations and ideas in class based upon their practicum placements, the readings, and the presentation of ASDs in the media and on specified websites. Each week students are taught one clinical or educational technique used in the assessment or treatment of individuals with ASDs. In class we examine the current major areas of autism research, including epidemiological studies of the prevalence (and reasons for the rising numbers of children identified), methods of diagnosis, current treatment techniques and contexts (e.g., educational, Relationship Development Insights, social skills training, and peer modeling). The focus of the class is on integrating information from the reading and brief lectures with personal hands-on experience based upon work with affected children and adolescents.

Although the focus of the course is on the specific developmental disorders within the autistic spectrum, through the lectures, demonstrations, discussions, and the experiences in placements, the course provides students with a broad introduction to developmental changes over time, the relationship between brain function and basic human behaviors, individual differences, ethics of clinical practice, health and public policy issues, and treatment approaches.

Course Aims:

Knowledge

Students will learn key aspects of:

1. Theories that link biology and brain function to account for the symptoms of autism and other developmental and psychiatric disorders; and
2. How these theories lead to the development of treatments and the clarification of prognostic indicators.

Skills

Students will be able to:

1. Apply child development and behavioral theory to their work with children and adolescents with ASDs; and
2. Develop an understanding of the relationship between scientific research and public policy.

Perspectives

Students will develop:

1. An understanding of the complexity of individual differences even amongst individuals diagnosed with the same developmental disorder, recognizing that each person with an ASD is an individual and that his/her strengths and particular difficulties must be considered in developing appropriate interventions and treatments; and
2. An appreciation of the fact that no single theory can explain all behavior and no single treatment approach is effective for all individuals.

Course Syllabus:

Session

Topic

1

Introduction to Autism: History and current controversies in a disorder that helped define child psychiatry

This session provides a description of how autism is defined and the major issues in Autism Spectrum Disorders (ASDs) in clinical practice and research. The history of autism as one of the first disorders that helped define the field of child psychiatry and changes in the understanding of autism (from childhood psychosis to poor parenting to recognition as a neurobiological disorder) are discussed, as are current controversies (e.g., appropriate treatments and core features). A film (Everyday Autism) and videos of individuals with ASDs (from toddlers to adults) with a range of severity are shown and discussed. Information regarding the structure of the class, the volunteer opportunities, and requirements are reviewed.

2 Epidemiology and Prevalence of Autism Spectrum Disorders: Is there an autism epidemic? How would we know if there were? What would it mean?

For many years, epidemiological studies indicated that autism was a very rare disorder, occurring in about 1 in 2000 births. Many scientists argued that further studies would offer little new information. Yet new diagnostic techniques and the use of a wider range of techniques of case identification have radically changed our understanding of the frequency and variability of autism spectrum disorders, with rates of occurrence now estimated at 1 in 160. This session discusses research methodology and results from historic and current epidemiological studies regarding the prevalence of ASDs.

3 Epidemiology and Etiology: What does counting the number of cases of autism have to do with determining its causes?

In this session we continue to discuss the epidemiology of ASDs with a focus on how understanding the frequency of a disorder and its variability across geographic locations and across time, and its associations with different aspects of society (e.g., social class, gender, parental age, exposures, etc.), can provide clues to its causes. The link is then made between these hypotheses about etiology and intervention techniques that are based on the assumption that many of the social deficits in autism are due to lack of experience (and hence, that improving peer interactions can help allay the deficits seen in ASDs). Students also have the opportunity to talk about their first experiences in their lab practicum and begin to set individual goals for learning in the placements.

4 Regression: One of the mysteries of autism

Many, but not all, children with autism “lose” social skills and sometimes language in their second year of life. Often language and communication skills are regained over the next year, but social skills are not. While there are other disorders that are characterized by the loss of skills or onset of abnormal behavior, autism is unique in the particular pattern of changes associated with regression in the toddler years. There are a number of theories in developmental neuroscience to account for these changes, and there is growing evidence that these behavioral changes may be associated with changes in brain growth. These theories and implications for understanding normal brain development are discussed. How information about regression and development is obtained from parents is also a focus in our discussion of interviewing techniques. Students also have the opportunity to talk about how their lab placements are progressing and to identify ways in which they may use what they have learned about interviewing in their conversations with students with ASDs in their placements.

5 **Diagnosis of ASDs: How is it done? How is it different at different ages and for children at different stages of development?**

Because ASDs are disorders that change in symptomatology with growth and development and which directly affect development, diagnostic procedures must vary according to the age and functional level of the person being diagnosed. Diagnosis is made more complicated by the fact that ASDs are sometimes, but not always, accompanied by significant language delays and/or intellectual disabilities. Although most middle class children with ASDs are diagnosed during early preschool years, we know that many children from underserved minorities and/or with less well-educated parents are diagnosed later, as are children with milder difficulties such as Asperger’s Syndrome. There are also an increasing number of children and adults referred for diagnosis of high functioning autism or Asperger’s Syndrome in later school years and early adulthood. This session focuses on interviewing and observational and cognitive-experimental assessment techniques used in ASDs by different disciplines. Students also discuss their lab placements and how these techniques might relate to the students with whom they are working.

6 **Language and Communication Development in ASDs**

Unusual language, such as delayed echolalia, pronoun reversals, monologues and neologisms, is one of the hallmarks of autism. For many years, in fact, researchers questioned whether autism was a primary language disorder. Children with autism are more likely to have relatives with language disorders, and children with language disorders are more likely to have relatives with autism. Language delay in autism has been one of the most important aspects of the disorder in genetics research. Accounts of these language difficulties, explanations in terms of a mismatch between normal development in some areas and delays in others, and ways of assessing and treating them are discussed. Students also discuss how these difficulties in communication affect the students they work with in their placements.

7 **Social Behavior in ASDs**

Social deficits are considered the core feature of autism. One of the greatest mysteries in developmental psychopathology is how children can be relatively intact in so many ways yet fail to acquire the most essential behaviors that link human beings. A number of different theoretical perspectives have been offered to account for these deficits, and there is growing research on how they may be related to brain function. These issues are our topics for discussion, and students are asked to reflect on how their placements affect the social behavior of the students with whom they are working.

- 8 Cognitive Development and ASDs**
There are many hypotheses about the nature of cognitive deficits and differences that distinguish individuals with ASDs from individuals with other disorders or typical development. These notions include Theory of Mind, central coherence, cognitive inflexibility, and deficits in abstract thinking and higher order cognition. In this session we discuss experimental paradigms that have been used to test these hypotheses, as well as attempts to link specific cognitive deficits with brain function. These approaches are linked with intervention techniques. Students in the class are asked to discuss how these frameworks may help them understand the students with ASDs with whom they are working.
- 9 Restricted, Repetitive and Sensory Behaviors I**
Most individuals with ASDs have one or more unusual repetitive or sensory behaviors. These behaviors are quite different from each other. Number and severity of repetitive behaviors are more closely associated with parental stress and patient aggression in ASDs than other features of autism. Recent studies have suggested that simple repetitive behaviors, restricted interests and unusual sensory responses may differ in trajectory and impact from behaviors associated with insistence on sameness, compulsions and rituals. This week we focus on responses to sensations, motor mannerisms and the kinds of repetitive behaviors seen in young children or individuals with significant intellectual disabilities. Students discuss how these behaviors are apparent in the students in their placements and how the behaviors impact upon learning and social behavior.
- 10 Restricted, Repetitive and Sensory Behaviors II: Associations with problem behaviors**
The focus of this week is higher order repetitive behaviors, particularly insistence on sameness, compulsions, rituals and preoccupations. In addition, links between common behavior problems in ASDs and these repetitive behaviors are discussed. The overlap between obsessive compulsive disorder and autism is also considered. The use of these behaviors in diagnosis and different treatment strategies is presented, and students are asked to refer to *Rainman* and their observations in their placements.
- 11 Stigma, Parent Support, Teaching, and Roles**
Ultimately, parents are the most important “therapists” and advocates that children with ASDs have. There has been a history of blaming parents for the development of autism in their child, which fits with social psychological theories of scapegoating. However, other approaches have included families of children with autism as therapists or as active agents of change. This method can be incredibly powerful, but other difficulties are created when parents are considered the primary providers of

education and treatment. Parents of children with ADSs visit during this session and students learn their perspectives on these issues.

12 Behavioral Treatment and Functional Analysis

Behavioral methods are the best documented approach to the treatment of ASDs. The most basic principles of behavioral treatment rest upon operant learning, which is reviewed during this session. In recent years, a number of novel treatments have been developed building on basic discrete trial teaching. Research concerning the application of these treatment methods is discussed. Functional analysis, the primary method of assessment used in designing behavioral programs, is described and discussed in relation to the students' lab experiences.

13 Other Treatment Techniques

Besides behavioral treatments, there are a number of other well-known approaches to ASDs, including Stanley Greenspan's floortime (DIR), Carol Gray's social stories, visual and independence based strategies from the TEACCH program, and Steven Guttman's RDI approach. Medical treatments for ASDs and for the comorbidities often associated with ASDs (such as hyperactivity, depression, and anxiety) are discussed. In addition, there is a broad pool of data concerning the effectiveness of individual treatment techniques in teaching or changing specific behaviors. Research evidence for these approaches is reviewed, and how these approaches fit with the different theories about the nature of autism is also considered.

14 From Neuroscience to Public Policy

Autism is a prototype for many things –developmental disorders, child onset psychiatric disorders, chronic health issues, brain-behavior links, and the neuroscience of human development. Recent models of autism have been developed with the idea that many of the deficits seen in ASDs may be a product of social isolation and lack of positive social experiences; if the social isolation can be modified early on, researchers hope that many of the severe deficits seen in older children and adults can be prevented. Students are asked to reflect on their experiences in their placements and how they fit with these ideas. Questions about future services needed for individuals with autism and how public policy in education, health and science should be changed are discussed.

Required Texts:

- (1) *Unstrange Minds: Remapping the World of Autism* by Roy Richard Grinker (New York: Basic Books, 2007).
- (2) *Educating Children with Autism*, written by the National Academy of Sciences and National Research Council (Washington D.C.: National Academies Press, 2001).
- (3) *The Siege: A Family's Journey Into the World of an Autistic Child* by Clara Claiborne Park (New York: Back Bay Books, 1982).
- (4) *The Curious Incident of the Dog in the Night-Time* by Mark Haddon (New York: Vintage, 2006).
- (5) *Let Me Hear Your Voice: A Family's Triumph over Autism* by Katherine Maurice (New York: Ballantine Books, 1984).
- (6) *Eye Contact* by Cammie McGovern (New York: Penguin Books, 2006).
- (7) *Thinking In Pictures: and Other Reports from My Life with Autism* by Temple Grandin (New York: Vintage, 1996)
- (8) *Speed the Dark* by Elizabeth Moon (New York: Ballantine Books, 2002).

Recommended, but not required, books include:

- (9) *Exiting Nirvana: A Daughter's Life with Autism* by Clara Claiborne Park (New York: Back Bay Books, 2002)
- (10) *Martian in the Playground: Understanding the Schoolchild with Asperger's Syndrome* by Claire Sainsbury (New York: Paul Chapman Educational Publishing, 2000)
- (11) *The Complete Guide to Asperger's Syndrome* by Tony Attwood (Philadelphia: Jessica Kingsley Press, 2007).
- (12) *Autism Heroes* by Barbara Firestone (Philadelphia: Jessica Kingsley Press, 2008)
- (13) *A Real Person: Life on the Outside* by Gunilla Gerland (London: Souvenir Press, 1997).

In addition, students will read from primary academic sources:

1. Baron-Cohen, S. The cognitive neuroscience of autism. *J Neurol Neurosci Psychiat*, 2004, 7, 945-948.
2. Fombonne, E. Epi demiology of autistic disorder and other developmental disorders. *J Clin Psychiat*, 2005, 66, 3-8.
3. Ganz, M. The costs of autism. In S. Moldin and J. Rubin (Eds) *Understanding autism: From basic neuroscience to treatment*. New York: CRC Press, 2006. (pp 475 -492)
4. Ise, J., et al. Social skills training for adolescents with Asperger syndrome and high functioning autism, *J Autism & Devel Disorders*, 2007, 32, 1960-1968.
5. Klin, A. et al. Autism in a 15-month old child. *Am J Psychiat*, 2004, 11:3, 1981-1988.
6. Marcus, Lee, TEACCH Services for Preschool Children, in J.S. Handleman & S. L. Harris (Eds), *Preschool education programs for children with autism* (2nd ed). Austin Texas: Pro-Ed.

7. Luyster, et al., Early regression in social and communication in autism spectrum disorders: A CPEA Study, *Devel Neuropsych*, 2005, 27, 311-336.
8. McGee, G.G., Morrier, M.J., & Daly, T (2001). The Walden early childhood programs, in J.S. Handleman & S. L. Harris (Eds), *Preschool education programs for children with autism* (2nd ed). Pp. 157-190. Austin Texas: Pro-Ed.
9. Rice, C., et al. A public health collaboration for the surveillance of ASDs. *Paediatr. Perinat Epidemiol.* 2007, 21:2, 179-190.
10. Richler, J., et al., Is there a 'regressive phenotype' of autism spectrum disorder associated with the measles-mumps-rubella vaccine? A CPEA Study, *Journal of Autism and Developmental Disorders*, 2006, 36, 299-36.
11. Sacks, O., An anthropologist on Mars. *New Yorker*, December 27, 1993. 106-125.
12. Schopler, E (1971). Parents of psychotic children as scapegoats. *Journal of Contemporary Psychotherapy*, 4(1), 17-22.
13. Schreibman, K, Psychoeducational treatments for autism research needs and future directions, *J Autism and Develop Disorders*, 2000, 373-378.
14. Shevell, M. & Fombonne, E., Autism and MMR vaccination or thimerosal exposure an urban legend? *Can J. Neurol. Sci.*, 2006, 33, 339-40.

Examinations and Grades

Grades will be calculated based upon weekly participation in class, journaling, and two presentations, as follows:

- 1) Journal Entries (40%): 10 of 12 assigned entries are required, each of which should be approximately 2 double-spaced typed pages; if all 10 reports are submitted, students can drop the two with the lowest score.
- 2) Class Participation (30%): Students are graded upon their participation in class, specifically their demonstrated familiarity with the academic material and research.
- 3) Current Event Presentation (15%): Students are required to make a 10 minute presentation on a current event which illuminates some aspect of how we as a society deal with ASDs.
- 4) Website Presentation (15%): Students are required to make a 10 minute presentation based upon their analysis of an assigned website. Selected websites will describe various ASD diagnostic and treatment strategies and different aspects of medical and neuroscience research in the field.
- 5) Finally, students are required to complete a 30 hour minimum lab practicum at either the NYU Asperger's Institute or an affiliated school for children and adolescents with ASDs. This commitment is non-negotiable and a requirement for passing the course.