Mental Retardation and Giftedness

PSY 560: Intellectual Assessment
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Mental Retardation

Why are we interested in mental retardation?
Brief history of treatment for mental retardation
- Institutionalization
- Compulsory schooling
- Current schooling

Mental Retardation

Clinical Features (Diagnostic Criteria)
- Significant subaverage general intellectual functioning that is accompanied by significant limitations in at least two of the following skill areas:
  - Communication
  - Self-care
  - Home living
  - Social/interpersonal
Mental Retardation

- Use of community resources
- Self-direction
- Functional academic skills
- Work
- Leisure
- Health
- Safety
- Onset before age 18

Mental Retardation

- General intellectual functioning
  - Measured by IQ tests
    - > 2 SD below mean
    - SEM of 5 points
- Adaptive Behavior
  - Measured by an Adaptive Behavior Scale
    - Must indicate impairment in at least two areas

Mild Mental Retardation

- 50-55 to 70-75
- Old terms:
  - Educable Mentally Retarded
  - Moron/feeblemind
- 85% of those with MR fall in this range
- Develop social and communication skills during preschool
- Minimal impairment in motor skills
**Mild Mental Retardation**
- Often not distinguished from those without MR until later years
- Can achieve at approximately the 6th grade level
- Can achieve social and vocational skills adequate for self-support
  - May need assistance when under stress
  - Supervision
  - Guidance
  - Therapy

**Moderate Mental Retardation**
- 35-40 to 50-55
- Old terms:
  - Trainable Mentally Retarded
  - imbecile
- 10% of those with MR fall in this range
- Develop communication skills during early childhood
- Profit from vocational training

**Moderate Mental Retardation**
- With assistance can attend to personal care
- Rarely move beyond the 2nd grade achievement level
  - Can benefit from social skills training
- May have problems with adolescent peer relationships
  - Problems with recognizing social conventions
Moderate Mental Retardation
- Can work under supervision
  - Sheltered workshops
  - General work force
- Adapt well to life in the community in sheltered settings

Severe Mental Retardation
- 20-25 to 35-40
- Old terms:
  - Custodial Mentally Retarded
  - Idiot
- 3-4% of those with MR fall in this range
- Acquire little or no speech
- May learn to say some words and may be trained in elementary self-care skills
  - Feeding, bathing, clothing

Severe Mental Retardation
- Can recognize a few survival words
  - STOP on the red sign
- As adults, may be able to perform simple tasks in closely supervised settings
- Most adapt well to life in the community, a group home, or with their families
Profound Mental Retardation
- <20-25
- 1-2% of those with MR fall in this range
- Most have identifiable neurological condition that accounts for MR
- Considerable impairments in sensorimotor functioning
- Optimal development may occur in a highly structured environment with constant aid and supervision with individual caregiver

Profound Mental Retardation
- Motor development, self-care, and communication may improve if appropriate training is provided
- Some may be able to perform very simple tasks in closely supervised and sheltered settings

Mental Retardation
- Associated Features
  - No specific personality or behavioral features
    - Some are passive, placid, and dependant
    - Others are aggressive and impulsive
  - Lack of communication skills may predispose aggressive and disruptive behaviors
  - Also makes getting a history difficult
Mental Retardation

- Comorbid disorders
  - 3-4 times more likely than in general population
    - May be due to shared etiology common to MR and associated mental condition
  - All types of mental disorders are seen
    - ADHD, Mood Disorders, Pervasive Developmental Disorders, Stereotypic Movement Disorder, Mental Disorders due to a General Medical Condition, Schizophrenia
  - No difference in quality of the associated mental disorder
  - Diagnosis can be complicated

Mental Retardation

- Individuals with MR due to Down Syndrome may be more at risk for developing Dementia of the Alzheimer's Type later in life

- Predisposing factors
  - 30-40% of the individuals seen in a clinical setting have no clear etiology
  - Heredity (5%)
    - Inborn errors of metabolism inherited through recessive processes

Mental Retardation

- Other single-gene abnormalities
  - Chromosomal aberrations
- Early alterations of embryonic development (30%)
  - Chromosomal changes
  - Damage due to toxins
- Pregnancy and perinatal problems (10%)
  - Fetal malnutrition
  - Hypoxia
  - Infections
  - Trauma
Mental Retardation

- General medical conditions acquired in infancy and childhood (5%)
  - Infections
  - Trauma
  - Poisoning
- Environmental influences and other mental disorders (15-20%)
  - Deprivation of nurturance
  - Deprivation of social, linguistic or other stimulation,
  - Severe mental disorders

Mental Retardation

- Physical exam findings
  - If MR is part of a specific syndrome, the clinical features of that syndrome will be present
  - More severe the MR, the more likely there will be physical complications
- Cultural, Age, and Gender
  - Prevalence of MR due to biological factors is equally distributed across SES

Mental Retardation

- MR due to conditions such as lead poisoning and premature births is more prevalent in lower SES
- No specific etiology is also more prevalent in lower SES
- Developmental considerations need to be taken into account
- MR is more common in males
  - 1.5:1
Mental Retardation

Prevalence
- 1%, though it could be higher.
- Poor academic functioning = 3%
- 14% of exceptional students have MR

Course
- Onset must be before age 18
- Age and mode of onset depend on etiology and severity of MR
- More severe is more likely to be diagnosed earlier

Mental Retardation

- MR of unknown origin is usually detected later
- MR from an acquired cause has a sudden onset
- Course of MR influenced by general medical conditions and environmental factors
- Not necessarily a life-long condition

Mental Retardation

Differential Diagnoses
- LD
- Communication Disorders
- Pervasive Developmental Disorders
- Dementia
- Borderline Intellectual Functioning
Treatment for Mental Retardation

- Previous treatment:
  - Home living with relatives
  - Institutionalization
  - Special schools
- Group homes
  - Offer 24/7 supervision
  - Work toward as independent living as possible

Treatment for Mental Retardation

- School
  - Develop programs that are designed to assist children with MR
  - Idiosyncratic
  - Not much information on the effectiveness of these programs
  - Montgomery County?

Giftedness

- Not as much coverage as MR
- Democratic ideal
  - Each person fulfills his/her potential
  - Done well with special education
  - Done poor with gifted
  - Spend a lot of time trying to bring up those at the bottom that we have forgotten about those at the top
  - Perceived difference between excellence and equity
    - Can't have both
Giftedness
- Confused meaning of equity
- Age of anti-intellectualism
- Martin Seligman
  - His argument
  - Government reply
  - Such attitudes are mistaken and dangerous
  - Neglect is not benign
  - For the betterment of the country, we need elitism

Giftedness
- Improving education for the gifted does not mean large expenditures by schools
  - Largest requirement is administrative flexibility
  - Yet it is not being done

Giftedness
- What is giftedness?
  - No firm cutoff
  - Does not simply entail high IQ
    - IQ
    - Creativity
    - Focused motivation
  - Depends on conceptualization of IQ
    - See Gardner
Giftedness

Gifted students excel in three areas:
- Higher order thinking processes
- Analogical thinking
- Transferring skills to new problems
  - Insight
Differ from students with average intelligence in cognitive style
- More likely to think independently
- Take an active approach to learning

Giftedness

- Persist at tasks
- Less likely to need structure and adult scaffolding
- Higher on self-efficacy
- Internal locus of control
Difference between moderately and profoundly gifted students
- Multipotential

Giftedness

Levels of Giftedness
- Moderate
  - 130-150
- Severe (?)
  - 150-180
- Profound
  - 180+
Giftedness

- **Etiology**
  - Inborn native ability
  - Goal-directed hard work
  - Deliberate practice
  - Interactions between the two

- **Lab Findings**
  - Indirect evidence that gifted children have atypical brain organization
  - Superior in visual-spatial activities
  - Left handed (non-right handed)

Indications of Giftedness

- **Infancy**
  - Long attention spans
  - Good recognition memories
  - Preference for novelty

- **Childhood**
  - Intense curiosity
  - Persistence/drive
  - Metacognitive awareness of problem-solving strategies

Indications of Giftedness

- **Early school years**
  - May read 1 or more years before peers
  - Demonstrate a fascination with numbers and number patterns
  - Excel at abstract and logical thinking

- **Social and affective differences**
  - Solitary and introverted
  - Fiercely independent
  - Intrinsically motivated
**Indications of Giftedness**
- Visual/Performing Arts
- Creative Thinking
- Academic Ability
- General Intellectual Ability
- Leadership

**Adjustment of Gifted Children**
- Many problems in classroom
  - Ostracized
  - May have problems connecting with other students
  - Boredom
  - Only gifted child in the class
  - Lack of appropriate instruction
  - May feel extreme pressure
    - Comes from themselves many times

- May try to hide giftedness
  - More so for girls than boys
- Some have found a higher rate of emotional problems
- Others indicate that gifted children are better adjusted
- While they like being alone, many want like-minded peers with whom to associate
**Adjustment of Gifted Children**
- Perfectionistic and overly sensitive to criticism
- Problems acknowledging weaknesses
- If disillusioned with school, may develop a pattern of low achievement
- Vocational problems due to multipotentiality

**Lifetime Course of Giftedness**
- High level of intellectual or artistic stimulation in family environments
- Families are child-centered
- Parents have high expectations and model hard work and high achievement
- Parents grant children high levels of independence

**Lifetime Course of Giftedness**
- Tempting to argue that gifted children will be eminent people in our culture
  - Terman study
    - Tracked 1500 gifted students from school through careers
    - No correlation between IQ and eminence
    - Most were successful, but not major creators
    - Why?
Opportunities for Gifted Children

1st part of 20th century, very few options
- Special schools
- Acceleration

Even today, spend more time focusing on exceptional academic abilities and less on other areas of giftedness

Opportunities for Gifted Children

Policies for education are determined by each individual state
- Vary considerably
- 1972 statistics
- 1990 statistics

Number of children participating in gifted programs is about half of the number of students participating in special education programs

Opportunities for Gifted Children

Monetary disparity
- $.02 out of every $100 spent in education goes to gifted programs

Two Types of Programs
- Those that supplement regular education
- Those that make fundamental alterations to the classroom
**Programs that Supplement Education in the Regular Classroom**

- **Pullout Programs**
  - Children selected from regular ed classes
  - Spend several hours per week in Pullout Programs
  - Identified by global IQ
    - Moderately, not profoundly gifted

- **Three kinds**
  - **Process-oriented programs**
    - Teach creative problem-solving and critical thinking
    - Not much in the way of content
  - **Content-oriented programs**
    - Minicourses or mentorship in specific areas
  - **Product-oriented programs**
    - Involve students in projects that culminate in reports or presentations

- **Criticisms**
  - Not leading to development of systematic knowledge base
  - Not grounded in a particular subject area
  - Not tailored to the students’ individualized interests
  - May not be effective

- **Positive effects:**
  - Higher achievement scores for those who participate vs. those who do not participate
Programs that Supplement Education in the Regular Classroom

Positive effects:
- Gains greatest when pullout program extended what was being done in the regular education classroom
- Improved attitudes toward learning
- Helped underachievers reach potential
- Students more likely to remain interested in the same area of study through college

Programs that Supplement Education in the Regular Classroom

Talent Searches for Summer and Weekend Programs
- Began in 1972
- Students selected based on domain-specific achievement test rather than global IQ
- Typical example of such a program:
  - Condensing 1 year of math into a 3-week intensive program

Programs that Supplement Education in the Regular Classroom

Four regional centers:
- Center for Talented Youth (Johns Hopkins University)
- Talent Identification Program (Duke University)
- Center for Talent Development (Northwestern University)
- Rocky Mountain Talent Search (University of Denver)
- Mainly summer programs
Programs that Supplement Education in the Regular Classroom

- Students who participate have maintained a positive self-concept
- 85% of the 1st Johns Hopkins cohort graduated from college with excellent academic records
  - Compared to a matched sample on gender and SAT scores:
    - Took college placement exams earlier
    - Took more college courses in high school
    - Attended more selective colleges

Programs That Make Fundamental Alterations

- Ability Grouping in the classroom
  - Can take a number of forms:
    - Placing students in self-contained classrooms
    - Grouping high-ability students together in a classroom
    - Grouping high-ability students for certain subjects
      - Maybe not the same students all the time
    - Placing students in specially-designed schools

Programs That Make Fundamental Alterations

- Not tracking
- Ability grouping is used in 90% of elementary schools
- Caution:
  - Ability grouping by itself, without appropriate curriculum changes, leads to minimal gains
  - However, when curriculum is appropriately strengthened, effects are positive
    - Gains equal about 1 year
Programs That Make Fundamental Alterations

- Meta-analyses show gains of 2-3 months over students who were not grouped
- Some argue that cooperative learning is better
  - Li & Adamson (1992)
    - Gifted students did not like cooperative learning; they were frustrated by having to explain concepts to uninterested students while they did all of the work

Programs That Make Fundamental Alterations

Special Schools for Gifted Students
- Always been around
- Recently, state-funded high schools have been established
  - Teachers are experts in their area
    - Some even hold Ph.D.s
  - Classes are longer
  - Students engage in research
  - Have a number of high achieving students

Programs That Make Fundamental Alterations

Magnet schools
- No controlled studies examining the effectiveness of these schools

Acceleration
- Misnomer
- Can mean different things
  - Taking a fast-paced course
  - Early entrance into school
  - Advanced placement within a subject area
  - College course enrollment while in high school
Programs That Make Fundamental Alterations

- Grade skipping
- Completing 2 years in 1 year
- Compressing curricula
- Individual tutoring
- Usually pitted against enrichment, but courses can be accelerated and enriched
- Acceleration can be seen as an equitable solution for gifted students
- Not elitist

Programs That Make Fundamental Alterations

- Students in Terman study who skipped grades went on to successful careers
- Accelerated students have higher achievement scores than those who are not accelerated
  - About 1 year better
  - Accelerated students do as well as unaccelerated students in college
  - These differences are noted even up to 5 years after the acceleration

Programs That Make Fundamental Alterations

Problems:

- Educators and administrators oppose acceleration due to preconceived notions
- Educational reasons
  - Students may burn out
    - Opposing argument: there is a higher risk of boredom if students are kept in classes that are not challenging
  - May lead to gaps in knowledge
  - Careful evaluation and monitoring of students’ progress will indicate whether or not this is a problem
Programs That Make Fundamental Alterations

- Psychosocial reasons
  - Gifted students have deficient psychosocial development and will not fit in with more mature classmates.
    - Research has failed to support this
  - Gifted students enrolled in special classes will lose the ability to interact with those of average abilities.
    - Research has failed to support this
  - Accelerative programs emphasize differences between people; therefore, gifted students won’t be socially accepted.
    - Research has failed to support this

- Gifted students will become conceited and self-centered.
  - Research has failed to support this
- Self-esteem of gifted students may suffer if they are set apart from their age-peers.
  - Some support: self-esteem does drop upon enrollment in accelerated programs
  - However, it may be due to a more realistic evaluation of abilities rather than an indication of disastrous decline
- Gifted students have strong personal resources and are unlikely to suffer educational or psychosocial harm from acceleration.