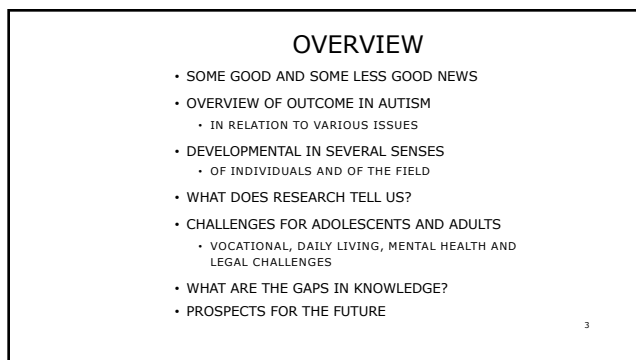


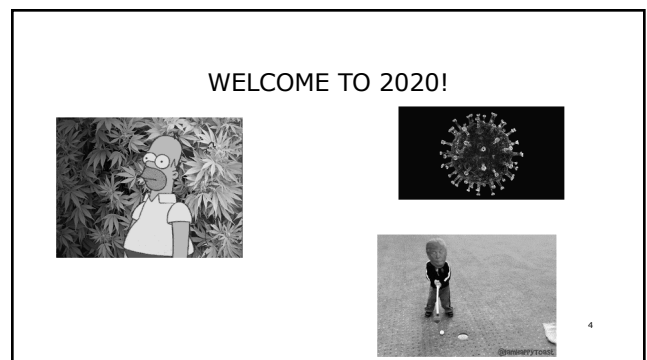
1



2



3



4

GENERAL PRINCIPLES:

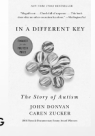
- THE INTERACTION OF RESEARCH WITH CLINICAL WORK:
 - FEB. BUZZARD
 - MY PATIENT'S TEXT



5

ORIGINS OF INTEREST

- CASE REPORTS IN 1800'S
 - ITARD, US REPORTS, EUROPEAN REPORTS
- MAJOR LANDMARKS
 - KANNER (1943) "EARLY INFANTILE AUTISM"
 - ASPERGER (1944) "AUTISTIC PERSONALITY DISORDER"
 - COMMONALITY WAS THE AUTISM (DIFFICULTIES UNDERSTANDING SOCIAL INTERACTION)
 - FEATURES: AUTISM (SOCIAL), COMMUNICATION, UNUSUAL BEHAVIORS
- OFFICIAL RECOGNITION (1980)
 - → EXPLOSION OF RESEARCH



6

WHAT IS IN A NAME?

- ΑΥΤΟΣ
 - THE INTENDED SENSE OF ΑΥΤΟΣ IS GENERALLY DEFINED BY ITS GRAMMATICAL CONTEXT. WHEN USED AS A LONE NOMINAL WITHOUT AN ARTICLE, IT IS GENERALLY THE THIRD PERSON PERSONAL PRONOUN. WHEN APPENDED TO A NOMINAL AND NOT POSSESSING THE DEFINITE ARTICLE IT IS "SELF". WHEN COMBINED WITH THE DEFINITE ARTICLE, EITHER APPENDED TO A NOMINAL OR ON ITS OWN, IT IS "SAME".

7

7

WHAT'S IN A NAME? PART 2



8

8

DEVELOPMENT OF THE FIELD I

IMPORTANT EARLY ADVANCES

- AUTISM WAS BRAIN BASED
 - HIGH RATES OF EPILEPSY,
 - NEURODIVERSITY ISSUES
- AUTISM WAS STRONGLY GENETIC
 - FIRST TWIN STUDIES AND EARLY FAMILY STUDIES SHOWED STRONG GENETIC BASIS
 - GENETICS ARE COMPLEX → BROADER RANGE THAN WE ONCE THOUGHT
- STRUCTURED EDUCATIONAL INTERVENTIONS BETTER THAN PSYCHOTHERAPY

9

DEVELOPMENT OF THE FIELD II

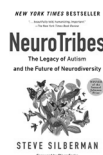
- EARLY MISTAKES
 - FALSE IMPRESSION OF NORMAL IQ
 - IN FACT MUCH SCATTER
 - MOST (900%) SCORED <70 OVERALL
 - FALSE IMPRESSION OF HIGH PARENT SES
 - → BLAME PARENTS (REFRIGERATOR MOTHERS)
 - FALSE IMPRESSION NO ASSOCIATED MEDICAL CONDITIONS
 - IN FACT HIGH RATES OF SEIZURES, GENETICS
 - FALSE CONNECTION TO CHILDHOOD SCHIZOPHRENIA

10

DIAGNOSIS AND EPIDEMIOLOGY

EVOLUTION OF THE CONCEPT

- KANNER (1943)
 - AUTISM AND INSISTENCE ON SAMENESS
 - CONFUSION WITH SCHIZOPHRENIA, ETIOLOGY
- ASPERGER (1944) PERSONALITY DISORDER
 - I SAP – BROADER AUTISM PHENOTYPE
- DSM-III (1980) – FIRST INCLUSION!
 - INFANTILE AUTISM / RESIDUAL AUTISM
 - ATYPICAL CATEGORY
- DSM-III-R (1987)
- DSM-IV / ICD-10
 - 12 CRITERIA GROUPED IN 3 AREAS: SOCIAL/COMMUNICATION-PLAY/BEHAVIOR
 - POLYTHETIC (TOTAL OF 6 AT LEAST 2 SOCIAL) > 2200 COMBINATIONS
 - INCLUDED ASPERGER'S AND ATYPICAL AUTISM AS CATEGORIES
- DSM-5
 - 12 CRITERIA SOCIAL-COMMUNICATION & BEHAVIOR 12 POSSIBLE COMBINATIONS
 - NO ASPERGER'S, NO ATYPICAL AUTISM
 - NEW SCD – SOCIAL COMMUNICATION DISORDER – COMMUNICATION DISORDER



11

- ASD + SCD
- NO SUBTYPES/SUBTHRESHOLD
- FOR ASD SEVERITY DIMENSIONS

- CRITERIA
 - TWO RATHER THAN THREE CATEGORIES
 - MONOTECTIC IN PART
 - VASTLY REDUCED CRITERIA SET
 - MOVE FROM >2000 TO 12 COMBINATIONS
- SOME NEW CRITERIA
 - SENSORY ISSUES



12

12

GOOD AND BAD NEWS!

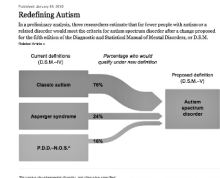
- GOOD NEWS!
 - RECOGNITION OF SPECTRUM CONCEPT
- BAD NEWS
 - NARROWER CONCEPT (DESPITE SPECTRUM LABEL)



13

MCPARTLAND ET AL 2012 JAACAP 2012 APR;51(4):368-83.

- REANALYSIS DATA FROM 933 CASES IN DSM-IV FIELD TRIAL
- 657 CLINICIAN DX'D ASD, 276 NON ASD
- CROSS WALKED CRITERIA FROM FIELD TRIAL TO DSM-5
- 60.6% ASD RETAINED DSM-5 DIAGNOSIS
- SPECIFICITY HIGH (94.9%)
- SE VARIED IN SEVERAL WAYS
 - BY DX: AUTISM ~74%, ASP ~ 25, PDD-NOS ~ 28
 - AND BY IQ: <70 SE ~70, >70 ~46



14

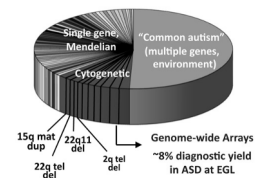
CURRENT STATUS OF NOSOLOGY

- GOOD NEWS
 - GOOD DIAGNOSTIC ASSESSMENT INSTRUMENTS
 - BETTER AWARENESS
 - BETTER SERVICES
 - INCREASED GLOBAL INTEREST
- BAD NEWS
 - OUR SCREENERS DO NOT WORK SO WELL FOR YOUNG CHILDREN
 - DSM-5 DOESN'T WORK WELL FOR MORE COGNITIVELY ABLE
 - ASPERGER'S DISORDER LEFT HANGING
 - BROADER SPECTRUM LEFT HANGING

15

RESEARCH PROGRESS: GENETICS

- FIRST TWIN STUDY IN LATE 1970S
- VAST INCREASE IN WORK
- MANY GENES INVOLVED
- BROADER SPECTRUM NOTION SUPPORTED
- MANY OF THE 50+ GENES FOUND INVOLVE NERVE-NERVE CONNECTIONS IN THE BRAIN



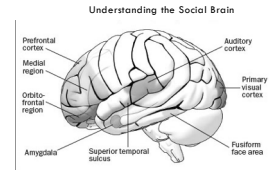
16

RESEARCH PROGRESS: EDUCATION

- INFLUENTIAL NRC REPORT 2001
 - REVIEWS 10 PROGRAMS WITH SOME EVIDENCE BOTH
 - MANY COMMONALITIES AND SOME DIFFERENCES
 - STRUCTURED TEACHING IMPORTANT
 - AT LEAST 25 HOURS A WEEK!
 - MUCH MORE WORK ON TREATMENT
- EVIDENCE BASED RESEARCH
 - TYPES AND QUALITY OF EVIDENCE
 - MODEL PROGRAMS
 - BEHAVIORAL
 - DEVELOPMENTAL
 - HYBRID
 - ECLECTIC
 - SPECIFIC INTERVENTIONS
 - ABA, SOCIAL SKILLS, PECS, ETC...

17

RESEARCH PROGRESS: NEUROSCIENCE

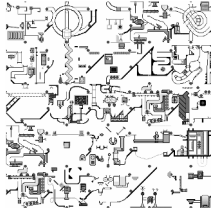


- A RANGE OF METHODS USED
 - IMPORTANCE OF UNDERSTANDING THE SOCIAL BRAIN – AUTISM IS A MODEL!
 - VARIOUS METHODS – PROS & CONS
 - EEG, FMRI, EYE TRACKING
 - FINDINGS HELP US UNDERSTAND THE CONTRIBUTION OF BRAIN FUNCTIONS TO AUTISM

18

ONE EXAMPLE: LOOKING AT RACES WHICH IS MORE INTERESTING?

THIS?



OR THIS?



19

19

TENDENCY TO SEEK FACES IS PART OF THE TYPICAL HUMAN EXPERIENCE!



20

20



PUT ANOTHER WAY!

- IF YOU COME INTO THE WORLD (LIKE MOST OF US) WITH A SOCIAL 'FRAME' TO VIEW IT MANY THINGS HAPPEN!
 - PEOPLE ARE THE CENTER!
 - JOINT ATTENTION
 - AFFECTIVE DEVELOPMENT
 - DESIRE TO COMMUNICATE
 - PEOPLE BECOME THE MOST IMPORTANT THINGS IN THE WORLD (STARTING WITH PARENTS)!
- WHY MIGHT THIS BE DIFFERENT IN AUTISM

21

21

INTEGRATING RESEARCH ON SOCIAL DEVELOPMENT WITH AUTISM TREATMENT

- GROWING BODY OF WORK ON SOCIAL BRAIN
 - OVER PAST DECADE AND A HALF
 - USING DIFFERENT METHODS
 - EEG, EYE TRACKING, FMRI
 - APPRECIATION OF DEVELOPMENTAL FACTORS
- DEVELOPMENT OF MODELS FOR UNDERSTANDING HOW EARLY SOCIAL DIFFICULTIES LEAD TO THE HOST OF DIFFICULTIES SEEN IN AUTISM

22

22

EVENT-RELATED POTENTIALS (ERPS)

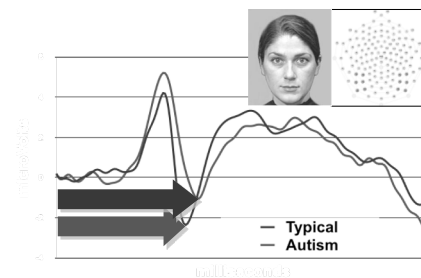
ELECTRIC NEURAL ACTIVITY (EEG) RECORDED AT SCALP, TIME-LOCKED TO PERCEPTUAL EVENTS TO REVEAL EVOKED BRAIN RESPONSE

- APPROPRIATE FOR RANGE OF COGNITIVE AND DEVELOPMENTAL LEVELS
- MILLISECOND TEMPORAL RESOLUTION
 - EFFICIENCY
 - STAGES OF PROCESSING
- ECONOMICAL
- SCALABLE
- YIELDS INDICES OF SOCIAL PERCEPTION ACROSS LIFESPAN



23

ERPs and faces: Autism



McPartland, Dawson, Webb, Panagiotides & Carver, 2004

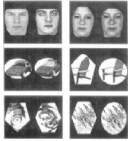
24

Face Discrimination

Schultz, et al. Archives of Gen. Psych., 57, 331-340

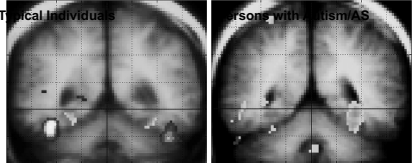
fMRI study

- comparison to normal controls
- task: same or different:
 - people
 - objects
 - patterns
- regions of interest:
 - fusiform gyrus (face)
 - inferior temporal gyrus (objects)
- Both groups equally accurate
 - (tasks set up that way!)
- Finding now replicated >20 times



25




Face Recognition: Fusiform Gyrus Group Differences



26

DIFFERENCES IN OBJECT "SALIENCY" – FALLING IN LOVE WITH DIGIMON

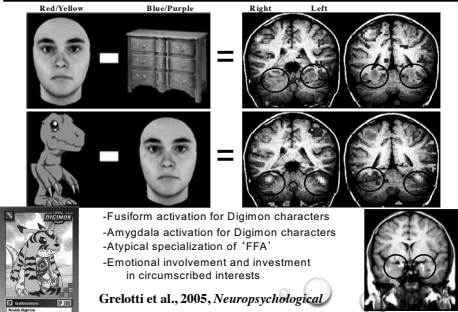
"Digimon" (Digital Monsters)

Courtesy of Robert T. Schultz, Ph.D. and David Grelotti, MD

27

Greater Interest/Attention to Digimon than People



- Fusiform activation for Digimon characters
- Amygdala activation for Digimon characters
- Atypical specialization of 'FFA'
- Emotional involvement and investment in circumscribed interests

Grelotti et al., 2005, *Neuropsychological*

28

META- ANALYSES

- CLEMENTS ET AL. EVALUATION OF THE SOCIAL MOTIVATION HYPOTHESIS OF AUTISM
 - JAMA PSYCHIATRY, 2018;75(8):797-808. DOI:10.1001/JAMAPSYCHIATRY.2018.1100
- "IN THIS META-ANALYSIS OF 13 FUNCTIONAL MAGNETIC RESONANCE IMAGING STUDIES, 259 PARTICIPANTS WITH AUTISM SPECTRUM DISORDER SHOWED ABERRANT REWARD CIRCUITRY ACTIVATION TO BOTH SOCIAL AND NONSOCIAL REWARDS AND INCREASED ACTIVATION TO STIMULI ASSOCIATED WITH THEIR RESTRICTED INTEREST. MEANING AUTISM SPECTRUM DISORDER MAY ARISE FROM AN EARLY NEUROBIOLOGICAL DIFFERENCE IN RESPONSE TO REWARDING SOCIAL INPUT, WHICH IN TURN MAY LEAD TO DIMINISHED SOCIAL MOTIVATION; ABERRANT PROCESSING OF REWARDS EXTENDS TO NONSOCIAL STIMULI AND MIGHT UNDERLIE INCREASED MOTIVATION FOR RESTRICTED INTERESTS."

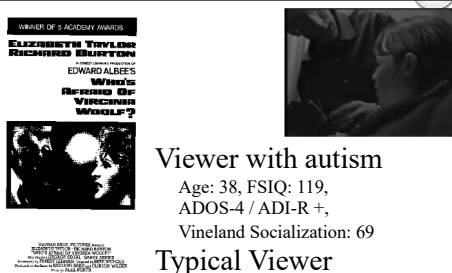
29

EYE TRACKING RESEARCH

- ECOLOGICAL VALIDITY
 - MOVE PAST USE OF STILL PHOTOS!
 - VIEWING THE WORLD WITH NEW EYES
- CHOICE OF SUBJECT – CONCERNS AND CHOICES
 - INTENSELY SOCIAL (SMALL NUMBER OF PEOPLE)
 - MINIMIZE ACTION/OBJECTS (AKA NO TERMINATOR 2)
 - BLACK AND WHITE INITIALLY
 - SHOW SHORT SEGMENTS (NOT ENTIRE FILM)
 - CHOSE MOVIE ABOUT A PLEASANT DINNER PARTY AT A SMALL NEW ENGLAND COLLEGE WITH 2 FACULTY MEMBERS AND THEIR WIVES

30

30



Viewer with autism

Age: 38, FSIQ: 119,
ADOS-4 / ADI-R +,
Vineland Socialization: 69

Typical Viewer

Age: 27, FSIQ: 110

31

Klin et al. (2002). *American Journal of Psychiatry*, 159, 895-908.

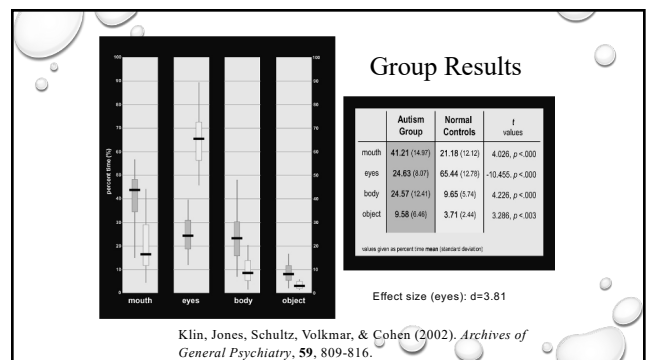
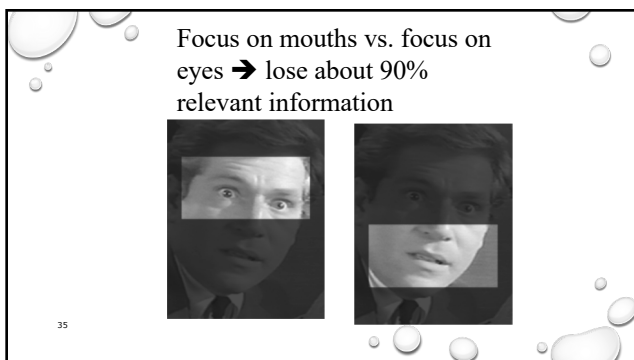
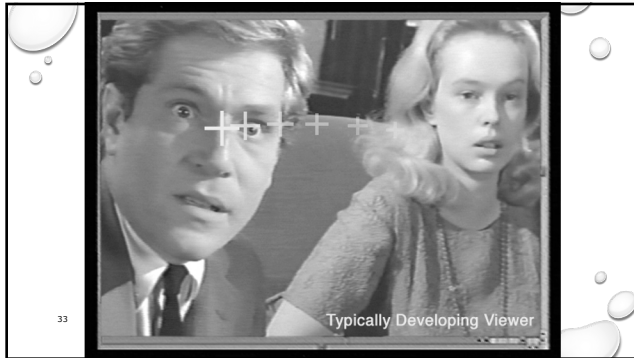
31



32

Viewer with Autism
Typically Developing Viewer

32



META-ANALYSES EYE TRACKING

- CHETA-TEJARK M. 2016 : (RES. DEV.DIS. 48:79-93)
 - INDIVIDUALS WITH ASD SPEND LESS TIME ATTENDING TO SOCIAL STIMULI THAN TD CONTROLS ($D = 0.55$).
 - *SOCIAL ATTENTION IN ASD WAS MOST IMPACTED WHEN STIMULI HAD A HIGH SOCIAL CONTENT
 - [HTTPS://DOI.ORG/10.1016/J.RIDD.2015.10.011](https://doi.org/10.1016/j.ridd.2015.10.011)
- PAPAGIANNOPOULOU ET AL. J. SOC. NEUROSC. 9: 610-632, 14 STUDIES
 - SIGNIFICANT ATTENTION EYE, MOUTH MORE VARIABLE
 - [HTTP://DX.DOI.ORG/10.1080/17470919.2014.934966](http://dx.doi.org/10.1080/17470919.2014.934966)
- HAO ET (2018) AADV. PSYCHOL. SCIENCE. 26:24-34, 43 STUDIES >13100 SS
 - VERY STRONG DIFFERENCES EYE FIXATION, ($D = -0.75$).
 - [HTTP://JOURNAL.PSYCH.AC.CN/XLKXJZ/BN/Y2018/V26/I1/26](http://journal.psych.ac.cn/xlkxjz/bn/y2018/v26/i1/26)

37

PUTTING IT ALL TOGETHER – PSYCHOLOGICAL MODELS OF AUTISM

- THEORY OF MIND
- CENTRAL COHERENCE
- EXECUTIVE FUNCTIONING
- ENACTIVE MIND



38

WHAT DOES ALL THIS MEAN FOR OUTCOME?!

- DEVELOPMENT OF EFFECTIVE EVIDENCE BASED TREATMENTS
 - A RANGE OF KINDS, PROGRAMS, & METHODS
- INCREASED AWARENESS → EARLIER DIAGNOSIS → BETTER OUTCOMES (MOSTLY)
- INTEGRATION OF CLINICAL WORK AND RESEARCH, E.G., WE ARE NOW SEEING BRAIN CHANGES (EEG, MRI) IN RESPONSE TO TREATMENT!

39

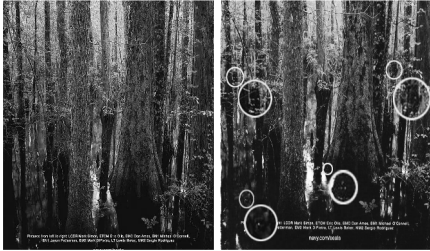
WHAT IS THE SITUATION IN AUTISM? – IT IS AS IF
PEOPLE ARE HIDDEN! CAN U FIND AND COUNT THE
NAVY SEALS?



40

40

WHAT IS THE SITUATION IN AUTISM? – IT IS AS IF
PEOPLE ARE HIDDEN! CAN U FIND AND COUNT THE
NAVY SEALS?



41

AS WE IMPLEMENT BETTER INTERVENTIONS WE SEE
BETTER OUTCOME!

ISSUES

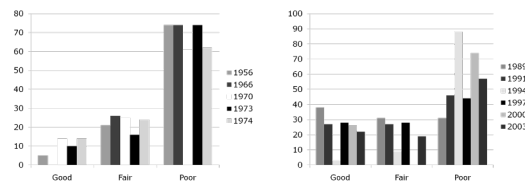
- PUBLIC LAW 94-142
- EVIDENCE BASED TEACHING INFORMED BY RESEARCH
- OUTCOME RESEARCH
 - GOOD
 - FAIR
 - PAIR

UNDERSTANDING OUTCOME

- OPTIMAL OUTCOME
 - WHAT IS THIS?
 - HOW OFTEN DO YOU SEE IT AND WHEN?
- CHALLENGES FOR PREDICTION
- NOTE VERY LITTLE ON NEEDS OF OLDER ADULTS (PAST YOUNG ADULTHOOD)
- ALSO NEED TO TAKE INTO ACCOUNT THE WISHES OF THOSE WITH ASD

42

OUTCOME STUDIES TWO SNAPSHOTS




43

GOOD NEWS!

- OVERALL OUTCOME IS IMPROVING
- 1980
 - ABOUT 90% OF ADULTS IN 24/7 CARE
 - ABOUT 75% NEVER TALKED
 - FEW WENT TO COLLEGE OR WERE EMPLOYED
- NOW (CAVEAT!!)
 - ABOUT 25% LIVING INDEPENDENTLY,
 - <20% REMAIN MUTE
 - MANY GOING TO COLLEGE
 - MANY SEEKING EMPLOYMENT
- WHY IS OUTCOME BETTER
 - WE THINK
 - EARLY DIAGNOSIS
 - EARLIER INTERVENTION
 - A RANGE OF EVIDENCE BASED PROGRAMS AND INTERVENTIONS
 - MORE INCLUSION AND FOCUS ON SOCIAL SKILLS
 - WHERE IS THE BEST PLACE TO LIVE?

44

UTAH !!!!!!!



- 41 INDIVIDUALS WITH AUTISM (MEAN AGE 31 YEARS)
- OUTCOME DATA
 - MEAN IQ 89
 - INDEPENDENT: 48%,
 - SEMI-INDEPENDENT: 33%
 - EMPLOYED: 66%
 - LONG TERM RELATIONSHIP: 20%
 - NOTE GEOGRAPHIC LOCATION
 - ALSO LIMITATIONS OF EARLY PREDICTORS

45

ECONOMIC ISSUES!

- COST OF AUTISM FOR ADULTS CAN BE HIGH
- GANZ (2006)
 - IN US CAN BE \$3.2 MILLION (LIFE TIME)
 - ABOUT \$35 BILLION (MIN) ANNUALLY
- KNAPP E AL. (2009)
 - IN UK TOTAL FOR ADULTS £25 BILLION/YEAR
- INCREASING FUNCTIONAL OUTCOME HAS IMPORTANT ECONOMIC AS WELL AS SOCIAL POLICY/ETHICAL IMPLICATIONS

46

CHALLENGES: ADOLESCENTS AND YOUNG ADULTS

- ADOLESCENCE AS A CHALLENGE!
- MEDICAL CARE ISSUES
- BEHAVIORAL/PsYCHIATRIC INTERVENTIONS
- NEED FOR ADDITIONAL SUPPORTS
 - ADAPTIVE SKILLS
 - SOCIAL SKILLS
 - COMMUNICATION
- CHALLENGES REGARDING
 - TRANSITION INTO PUBERTY, THEN ADULTHOOD
 - INSURANCE, MEDICAL CARE, SOCIAL AND VOCATIONAL SUPPORTS
- ADAPTIVE SKILLS. REAL LIFE" SKILLS
 - CENTRAL TO ADULT INDEPENDENCE AND SELF-SUFFICIENCY AND OUTCOME
 - GOOD MEASURES AVAILABLE (E.G., VINELAND ADAPTIVE BEHAVIOR SCALE)
 - ISSUES OF SKILL GENERALIZATION
 - COMMUNICATION, DAILY LIVING, SOCIAL SKILLS
 - VOCATIONAL/TRANSPORT SKILLS
 - DRIVING
 - CASE EXAMPLES

47

MORE CHALLENGES!

- SOCIAL-COMMUNICATION SKILLS
- VARIOUS APPROACHES USED
 - PEER, HYBRID, ADULT INSTRUCTION
 - MOST OF RESEARCH HAS BEEN DONE WITH YOUNGER CHILDREN
 - VERY LIMITED RESEARCH WITH OLDER INDIVIDUALS
 - WHO OFTEN NEED IT THE MOST!
- HOW SIGNIFICANT IS THE SOCIAL SKILLS GAP?
 - EFFECT SIZE SOCIAL SKILLS ABOUT .4
 - EYE TRACKING DIFFERENCES 3.8!
- SEXUALITY
- CHANGES IN BODY AND INCREASED SEXUAL INTEREST BUT LIMITED WAYS OF LEARNING
- IMPORTANCE FOR BOTH SEXES OF
 - BASIC EDUCATION (ADAPT TO UNDERSTANDING)
 - AWARENESS OF PRIVACY ISSUES/VULNERABILITY
 - FOR MORE ABLE STUDENTS
 - WHAT CAN AND CAN'T BE DISCUSSED
 - WHAT CAN AND CAN'T BE DONE AND WHERE
 - RANGE OF RESOURCES AVAILABLE

48

OTHER ISSUES

- MENTAL HEALTH PROBLEMS
- COMORBIDITIES
 - ADOLESCENTS – ANXIETY, DEPRESSION
 - HIGH RATES OF SUICIDAL THINKING
 - SUBSTANCE ABUSE PROBLEMS
 - MAY SELF-MEDICATE ANXIETY, DEPRESSION
 - GENDER IDENTITY ISSUES
 - GIVEN THAT FUNDAMENTAL SOCIAL PROBLEMS THIS IS NOT SURPRISING
- LEGAL ISSUES – 7X INCREASED RISK
 - FOR MORE ABLE STUDENTS
 - IN ASPERGER'S SOME REPORTS OF TROUBLES WITH LAW
 - OUR EXPERIENCE IS THAT OVERRELIANCE ON RULES → TROUBLE (OFTEN TOO MORALISTIC!)
 - FOR LESS ABLE STUDENTS
 - MELTDOWNS AND AGGRESSION COMBINED WITH COMMUNICATION PROBLEMS → DIFFICULTIES (PARTICULARLY IN PUBLIC SETTINGS)

49

EMPLOYMENT

- MORE STUDENTS WITH ASD GOING TO WORK
- CHALLENGES
 - SOCIAL AND COMMUNICATION PROBLEMS
 - EXECUTIVE FUNCTION DIFFICULTIES
 - GREAT COSTS FOR REHABILITATION SERVICES
 - ALTHOUGH MUCH INTEREST IN SUPPORTED EMPLOYMENT PROGRAMS 16 PAPERS FROM 2000-2010 RELATED TO WORK
 - JOBS OBTAINED TEND TO BE UNSKILLED, POORLY PAID AND SOMETIMES STRESSFUL
- NEED TRANSITION PLANNING!!!!
- EVEN IN ADULTS WITH NORMAL IQ THERE ARE HIGHER RATES OF ECONOMIC AND SOCIAL DISADVANTAGE (BRUGHIA, ET AL. 2011)
- LIMITED DATA
 - HOWLIN & MOSS(2012) ONLY 33% IN SCHOOL OR WORK
 - ISSUES RE: USE OF SERVICES DESIGNED FOR ID
 - JOB ISSUES: STRESS AND FIT
 - SMALL NUMBER OF PAPERS AVAILABLE

50

EMPLOYMENT CONTINUED

- ABOUT HALF OF ADULTS UNEMPLOYED
- UP TO 1/3rd WITH COLLEGE DEGREES MAY BE UNEMPLOYED OR UNDER EMPLOYED
- COMPLEXITIES FOR THE LESS COGNITIVELY ABLE
 - LIMITED OPPORTUNITIES, EARN BELOW MINIMUM WAGE
- GOOD NEWS
 - EMPLOYERS OFTEN REPORT – STRENGTHS FOR MEMORY IN DETAIL, ABILITY TO FOCUS EVEN WE WORK IS REPETITIVE
 - FOLLOW RULES AND PROCEDURES
 - INCREASE NUMBER OF PROGRAMS AVAILABLE


51

CHALLENGES FOR ADOLESCENTS AND YOUNG ADULTS


- ADOLESCENCE AS A CHALLENGE!
- MEDICAL CARE ISSUES
- BEHAVIORAL/PsYCHIATRIC INTERVENTIONS
- NEED FOR ADDITIONAL SUPPORTS
 - ADAPTIVE SKILLS
 - SOCIAL SKILLS
 - COMMUNICATION
- CHALLENGES REGARDING
 - TRANSITION INTO PUBERTY, THEN ADULTHOOD
 - INSURANCE, MEDICAL CARE, SOCIAL AND VOCATIONAL SUPPORTS

52

52



COLLEGE AND VOCATIONAL TRAINING



- **GOOD NEWS:**
 - COLLEGES GREW OUT OF NONSTANDARD
 - OPEN KITCHEN, STRUCTURE
 - MANY THINGS NOW AVAILABLE
 - FOOD, LIBRARY, ENTERTAINMENT, STRUCTURE
 - CAN (SOMETIMES) MINIMIZE SOCIAL INTERACTION
- GREAT PROBLEMS ARE:
 - BIG TRANSITION FROM HIGH SCHOOL
 - ADAPTIVE SKILLS
 - ORGANIZATIONAL SKILLS
 - NEED FOR PERSONAL INDEPENDENCE
- USE ROUTINES
- MANY THINGS AVAILABLE
 - FOOD, BOARD, ENTERTAINMENT
- YOU CAN MINIMIZE SOCIAL INTERACTION!

- **MORE AND MORE STUDENTS**
 - NEW CHALLENGES FOR SUPPORTS
 - COLLEGE IS NOT A RIGHT IN US
 - ADA AND SUPPORTS, SELF-IDENTIFICATION
 - USE OF PEERS/THERAPISTS
 - ACADEMIC VS. NONACADEMIC CHALLENGES
 - ADAPTIVE SKILLS CAN LOOM LARGE
 - PROS/CONS OF VARIOUS ALTERNATIVES
 - A RANGE OF TRANSITIONAL PROGRAMS NOW AVAILABLE

53

CHALLENGES FOR COLLEGE

- THEIR USUAL ACCOMMODATIONS (ADA)
 - EXTRA TIME, TUTORS, ALL OK BUT
- NEED FOR HELP WITH A HOST OF AREAS
 - EXECUTIVE FUNCTION
 - SOCIAL INTERACTION! – PEERS
 - BULLYING
 - SELF CARE- ADAPTIVE SKILLS
- GROWING PROBLEM AROUND THE COUNTRY

- TRANSITION PROGRAMS
 - >70 AROUND U.S – LIMITED DATA
 - VARY IN FORMAT AND ORGANIZATION
 - S. WHITE PROGRAM U ALABAMA
 - TEACCH PROGRAM
 - SCSU DEVELOPING PROGRAM
 - INTERFACE WITH CHAPEL HAVEN

54

LIVING ARRANGEMENTS & RELATIONSHIPS

- **LIVING - RANGE OF POSSIBILITIES**
 - GROUP HOME → SUPPORTED LIVING → INDEPENDENT LIVING
 - PROS/CONS OF RESIDENTIAL PROGRAMS
 - INTEGRATION OF DAY AND RESIDENTIAL SETTINGS
 - TRANSITIONAL PROGRAMS AVAILABLE
- **RELATIONSHIPS**
 - SOME FRIENDSHIPS (10-20%)
 - SOME MARRY (3-20%)(LIMITED INFO)
 - NO INFO ON CHILDREN EXCEPT ANECDOTAL

55

CASE EXAMPLE

- PLEASE TAKE A GUESS AS TO WHAT THE NEXT PAGE OF EQUATIONS IS ABOUT!

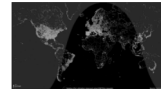
56

Handwritten mathematical derivations for the quadratic formula, showing the steps from a general quadratic equation to the final formula.

57

NEEDS IN RESEARCH AND SERVICE

- EMPHASIS ON EVIDENCE BASED TREATMENTS
- TRANSLATING RESULTS FROM RESEARCH STUDIES INTO PRACTICAL APPLICATIONS
- RESEARCH NEEDS
 - PARTICULARLY IN INTERVENTION
 - PROGRAM EVALUATION – WHAT WORKS?
- SERVICE
 - EVALUATION OF MODELS OF CARE
- PUBLIC POLICY
 - DISSEMINATION OF INFORMATION TO PARENTS, SCHOOLS, PUBLIC, AND STUDENTS



58

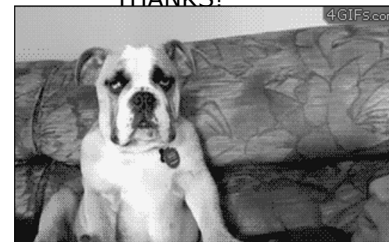
A QUICK STORY TO (NEARLY) END!

- UNDERGRAD CLASS
 - 30 YEARS (ABOUT 1000 STUDENTS)
 - VARIOUS CO-TEACHERS
- FORMAT
 - LECTURE
 - EXPERIENCE
- LECTURES NOW ON WEB
 - FEATURED ON ITUNES
 - >200,000S VIEW ON LINE!
- QUICK STORY (TESTAMENT TO PROGRESS IN THE FIELD!)



59

THANKS!



60

59

60

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62