



---

---

---

---

---

---

---

---



Professional Background







---

---

---

---

---

---

---

---



Defining Autism

Developmental Disability





Range of Severity

Severe Autistic Disorder

Pervasive Developmental Disorder Not

Otherwise Specified (PDD-NOS)

Asperger's Syndrome

---

---

---

---

---

---

---

---



## Defining Autism (cont'd)

DSM-IV Diagnostic Criteria

Three core symptoms:

- Qualitative impairments in social interactions
- Qualitative impairments in communications
- Repetitive & stereotyped patterns of behaviour,



---

---

---

---

---

---

---



## #1 Current Research Example Causes of Autism

Research into the root causes has included:

- Electroencephalographic studies (EEG)
- Autopsy of brain tissue studies
- Neurochemical studies
- Magnetic Resonance Imaging (MRI)
- Genetic studies



---

---

---

---

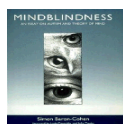
---

---

---



## Genetic Family Research



---

---

---

---

---

---

---



## Chromosomal Genetics



Autism Genome Project - Global 5 yr collaboration

**Canada**

\*130 scientists in 50 institutions in 19 countries, \$20 million

\*DNA samples from 1,600 families

\*Estimates 100 genes could be involved

The analysis also uncovered a link between autism and the deletion in part of a gene known as neurexin 1, one of a family of genes important in communication between neurons in the brain.

---

---

---

---

---

---

---



## PRACTICAL APPLICATIONS?



\*Genetic Counseling

\*Genetic Screening???

---

---

---

---

---

---

---



## Genetic Screening ???

Genetic finding paves way for controversial autism testing

CAROLYN ABRAMSON  
Toronto— From Thursday's Globe and Mail  
Published Wednesday, Jun. 09, 2010 1:08PM



---

---

---

---

---

---

---



## Neurological Impact



FMRI

<https://www.youtube.com/watch?v=Cwda7YWK0WQ>

---

---

---

---

---

---

---



VIDEO

<https://www.youtube.com/watch?v=Cwda7YWK0WQ>

---

---

---

---

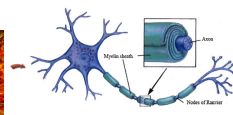
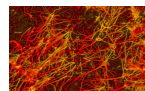
---

---

---



## Neurological Impact



Plasticity & Myelinization

---

---

---

---

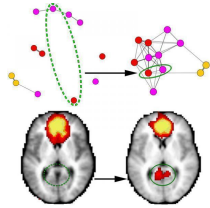
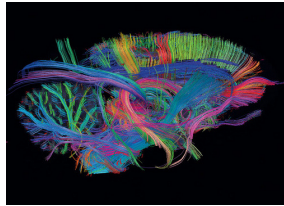
---

---

---



## Neurological Impact



Neurological Connections

---

---

---

---

---

---

---

---



## Neurology & Symptoms of Aspergers

- \*Difficulty processing social information
- \*Difficulty understanding emotions
- \*Difficulty with non-verbal information
  - Facial Expressions, tone of voice, body language

---

---

---

---

---

---

---

---



## PRACTICAL APPLICATIONS?



- \*Importance of EARLY Intervention
- \*Advocacy

---

---

---

---

---

---

---

---



## Triggers

Genetics put one at "risk" but often further triggers needed:  
Environmental  
Metabolic  
Viral Infections  
In Utero Complications



---

---

---

---

---

---

---



## PRACTICAL APPLICATIONS?



- \*Prevention
  - Prenatal
  - Perinatal
  - Early Childhood

---

---

---

---

---

---

---



## The Great Immunization Debate

Several Large European Studies  
Population Study

United States Center For Disease Control  
Sibling Study

Information Sources:

[www.cdc.gov/ncbddd/autism/documents/yes-dies.pdf](http://www.cdc.gov/ncbddd/autism/documents/yes-dies.pdf)

[www.nimh.nih.gov/.../publications/autism/into-causes-and-treatment-of-autism-spectrum-disorders.shtml](http://www.nimh.nih.gov/.../publications/autism/into-causes-and-treatment-of-autism-spectrum-disorders.shtml)



---

---

---

---

---

---

---



## Autism Research is Rapidly Growing

- Thousands of studies done each year
- Hundreds of Publications
- Thousands of Websites
- Many many Conferences
- Hundreds of Books

-HOW DOES A PARENT OR SERVICE PROVIDER SORT THROUGH IT ALL?????

---

---

---

---

---

---

---



## 1<sup>st</sup> How do you FIND the research?

- # 1 Reputable Research Websites
- #2 Research Journals
- #3 Conferences & Workshops



---

---

---

---

---

---

---



## 1<sup>st</sup> How do you FIND the research?

### # 1 Reputable Research Websites

- [www.autism.com](http://www.autism.com)
  - Conducts research, and disseminates the results of research
- [www.sciencedaily.com/news/mind\\_brain/autism/](http://www.sciencedaily.com/news/mind_brain/autism/)
  - Read current research on autism
- [www.researchautism.net](http://www.researchautism.net)
  - Sign up for Newsletters on latest research
- [www.autismresearch.ca/](http://www.autismresearch.ca/)
  - Join the Research registry



---

---

---

---

---

---

---



## 1<sup>st</sup> How do you FIND the research?



#2 Research Journals - Direct

- Journal of Autism and Developmental Disorders
  - <http://www.springer.com/psychology/child+%26+school+psychology/journal/10803>
- Research in Autism Spectrum Disorders
  - <http://www.journals.elsevier.com/research-in-autism-spectrum-disorders/>
- Autism
  - [aut.sagepub.com](http://aut.sagepub.com)

---

---

---

---

---

---

---

---



## 1<sup>st</sup> How do you FIND the research?



#2 Research Journals – Search Engines  
-PsychInfo

\*<http://www.apa.org/pubs/databases/psycinfo/index.aspx>

-EXAMPLE – Video Self Modeling

---

---

---

---

---

---

---

---



## 1<sup>st</sup> How do you FIND the research?



#3 Conferences & Workshops

- Kerry's Place
  - [www.kerrysplace.org/](http://www.kerrysplace.org/)
- Geneva Centre
  - <http://www.autism.net/>
- Autism Ontario
  - [www.autismontario.com/](http://www.autismontario.com/)
- Association for Behavior Analysis International
  - [www.abainternational.org/](http://www.abainternational.org/)

---

---

---

---

---

---

---

---





## Is the Research Trustworthy?

#1 Independently Peer Reviewed

#2 Replicated

#3 Transparent / Detailed

#4 Proven measures used and good data gathering techniques



---

---

---

---

---

---

---



## Is the Research Trustworthy?

#1 Independently Peer Reviewed

- Put under scrutiny by other experts in the field of autism before it is published

- Examples – CPA/APA CMA/AMA Peer Reviewed Journals



---

---

---

---

---

---

---



## Is the Research Trustworthy?

#2 Replicated

- Gold Standard = Results have been reproduced by other independent researchers apart from original research team

- Examples – IBI/ABA



---

---

---

---

---

---

---



## Is the Research Trustworthy?

### #3 Transparent / Detailed

- Researchers are willing to publish and share the details of the procedures they used and how they gathered the data.

- Example - RDI



---

---

---

---

---

---

---



## Is the Research Trustworthy?

### #4 Proven measures used and good data gathering techniques

- Researchers used proven unbiased measures
- Researchers gather data following accepted protocol

- Note: Gold Standard = double Blind

- Examples - Greenspan



---

---

---

---

---

---

---



## EARLY INTERVENTION PROGRAMS Review of Research Support for Each:



Stanley Greenspan, MD



---

---

---

---

---

---

---



EARLY INTERVENTION PROGRAMS  
Review of Research Support for Each:



[http://researchautism.net/autism\\_treatments\\_therapies\\_intervention.ikml?ra=13&infolevel=4&info=researchstudiesincluded](http://researchautism.net/autism_treatments_therapies_intervention.ikml?ra=13&infolevel=4&info=researchstudiesincluded)

---

---

---

---

---

---

---



EARLY INTERVENTION PROGRAMS  
Review of Research Support for Each:



<http://www.rdiconnect.com/pages/Publications-by-Steven-E-Gutstein.aspx>

---

---

---

---

---

---

---



EARLY INTERVENTION PROGRAMS  
Review of Research Support for Each:



Stanley Greenberg, MD

<http://www.icdl.com/dirFloortime/research/index.shtml>

---

---

---

---

---

---

---



## EARLY INTERVENTION PROGRAMS

Review of Research Support for Each:



[http://scholar.google.ca/scholar?q=Autism+TEACCH+research&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholar&sa=X&esq=1UMeUaSaOaGo2wXO\\_oD4Aw&ved=0CC0QgQMwAA](http://scholar.google.ca/scholar?q=Autism+TEACCH+research&hl=en&as_sdt=0&as_vis=1&oi=scholar&sa=X&esq=1UMeUaSaOaGo2wXO_oD4Aw&ved=0CC0QgQMwAA)

---

---

---

---

---

---

---

---



## Intensive Behavioural Interventions



- \* The most researched approach to early intervention
- \* Based upon behavioral principles of learning first derived from research in operant conditioning
- \* Skills that need to be taught are broken down into small units and taught in a step-by-step systematic fashion and then chained together to form the complete response.

---

---

---

---

---

---

---

---



## When Bad Research Can HURT



- \* Vaccine-Autism Doctor Guilty of 'Dishonesty and Misleading Conduct'
- Andrew Wakefield, the doctor whose research sparked international concern over whether or not childhood vaccines cause autism, was found guilty by a British panel of acting unethically in his research on autism.
- Wakefield was the lead author a small-scale 1998 case report involving 12 children that suggested a link between vaccines and the onset of childhood autism. The study has since been revealed as flawed (if not outright faked); the paper was retracted, and ten of Wakefield's co-authors have repudiated the work.
- <http://news.discovery.com/human/vaccine-autism-doctor-guilty-of-dishonesty-and-misleading-conduct.html>

---

---

---

---

---

---

---

---

## Determining if the Research is Practical for Immediate Use

#1 Is it from a trustworthy Source?

#2 Has it been replicated?

#3 Have the researchers published the specific intervention materials and are they practically available?

#4 Do you have the needed skill set?

#5 Is it a good match for this specific child with ASD?



---

---

---

---

---

---

---

## Recent Examples of Practical & Interesting Research



---

---

---

---

---

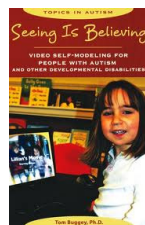
---

---

## #2 Example Video SELF Modeling

\*Recent Research in Video Self Modeling has found it to be even more effective than social stories or traditional video or live modeling.

\*It can be used to increase skills in many areas including: Language, Social, Self-Monitoring, Imitation, ect.



---

---

---

---

---

---

---



## Videos

<https://www.youtube.com/watch?v=nZv9sBtQbHE>

<https://www.youtube.com/watch?v=u1Tnh3NUjPU>

---

---

---

---

---

---

---



## PRACTICAL APPLICATIONS?



\*School

\*Home

\*Community

---

---

---

---

---

---

---



## Group Discussion



Could this Research be of use to you?

How?

What might be the implementation challenges?

Advantages?

Disadvantages?

---

---

---

---

---

---

---

### Example #3 School Age & Beyond – GPS Devices



---

---

---

---

---

---

---

---

### #3 GPS Technology



\*GPS Devices can now be used for:

- Safety
- Skill Building
- Independence



---

---

---

---

---

---

---

---

### #3 GPS Technology



\*GPS Devices Examples:

- Wearable, tamper-resistant GPS locator with 2-way talk, listen-in and family conferencing capabilities.

<http://www.revolutionarytracker.com>



---

---

---

---

---

---

---

---



## VIDEO

<https://www.youtube.com/watch?v=gxFOuKHHikQ>

---

---

---

---

---

---

---



## PRACTICAL APPLICATIONS?



\*School

\*Home

\*Community

---

---

---

---

---

---

---



## Group Discussion



Could this Research be of use to you?

How?

What might be the implementation challenges?

Advantages?

Disadvantages?

---

---

---


---

---

---

---






## #4 Example Age of Diagnosis

Diagnosis occurring earlier  
-M-CHAT & Other screening tools

First Birthday Video Research

Sib-Studies  
-Susan Bryson @ Dalhousie

Autism Treatment Network  
-Sick Kids



---

---

---


---

---

---

---

---



## #4 Age of Diagnosis


What is MISSING?

-JOINT ATTENTION

- Eye Gaze Tracking
- Shared Experience
- Social Anticipation

-Play Skills

-Imitation Skills



---

---

---


---

---

---

---

---



## #4 Age of Diagnosis

What is Joint Attention?

-<https://www.youtube.com/watch?v=tif4U3OJT2M>

---

---

---

---

---

---

---

---



## Practical Applications?

- Early Identification = Earlier Intervention
  - \*Easier to catch up and prevent delays
- Identifying KEY early skills that are missing
- Siblings can be closely monitored
- UCLA IBI with 6-9 month olds



---

---

---

---

---

---

---



## VIDEOS

Rough Start:

<https://www.youtube.com/watch?v=ATSNW-TX7Oo>

Progress:

[https://www.youtube.com/watch?v=Emi1OIft3TI&list=UUmegizVsF\\_z5cQ\\_rVvi0QCw&index=19](https://www.youtube.com/watch?v=Emi1OIft3TI&list=UUmegizVsF_z5cQ_rVvi0QCw&index=19)

---

---

---

---

---

---

---



## Group Discussion



Could this Research be of use to you?

How?

What might be the implementation challenges?

Advantages?

Disadvantages?

---

---

---


---

---

---

---

#5 Research  
Theory of Mind



---

---

---

---

---



---

---

---

Underlying Cognitive Deficits

Theory of mind  
Sally-Anne task  
Faux pas test  
Weak central coherence  
Executive dysfunction



[https://www.youtube.com/  
watch?v=TJkB6nrk1CA](https://www.youtube.com/watch?v=TJkB6nrk1CA)

Copyright 2009 Pearson Education, Inc., Upper Saddle River, NJ 07458. All rights reserved.

---

---

---

---

---

---

---

---

VIDEO

[https://www.youtube.com/ watch?v=TJkB6nrk1CA](https://www.youtube.com/watch?v=TJkB6nrk1CA)

---

---

---

---

---

---

---

---



## Mind Blind

**Mind-blindness** can be described as an inability to develop an awareness of what is in the mind of another.

Poor *theory of mind*, which normally allows people to put themselves "into someone else's shoes, to imagine their thoughts and feelings."

- "God Syndrome" - their opinion is always right!

Individuals on the Autism Spectrum often cannot conceptualize, understand, or predict emotional states in other people

-Example – The crayon study

---

---

---

---

---

---

---



## VIDEO

[https://www.youtube.com/watch?v=8hLubgpY2\\_w](https://www.youtube.com/watch?v=8hLubgpY2_w)

---

---

---

---

---

---

---



## #5 Theory of Mind

What is Theory of Mind?

-**Theory of mind** is the ability to attribute mental states—beliefs, intents, desires, pretending, lying, knowledge, etc.—to oneself and others and to understand that others have beliefs, desires, and intentions that are different from one's own

---

---

---

---

---

---

---



## VIDEO

<https://www.youtube.com/watch?v=YiT7HFj2gv4>

---

---

---

---

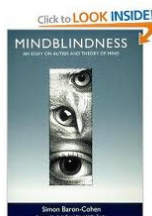
---

---

---



## #5 Mindblindness & Autism



---

---

---

---

---

---

---



## #5 Mindblindness & Therapy

-Researchers are now developing intervention programs based upon targeting this core deficit.

\*Example = RDI

\*Example = Play Therapy & Imagination

\*Example = Components of IBI & PRT

---

---

---

---

---

---

---



## Group Discussion



Could this Research be of use to you?

How?

---

---

---

---

---

---

---



## #6 Research Social Skills Curriculum Social Skills Videos

#1 Model Me Kids

#2 Fitting in and Having Fun

- Theory of Mind & Perspective Taking



---

---

---

---

---

---

---



## VIDEOS

<https://www.youtube.com/watch?v=3RjRZ9jMfs0>

[https://www.youtube.com/watch?v=DvSk5T\\_0UfU](https://www.youtube.com/watch?v=DvSk5T_0UfU)

---

---

---

---

---

---

---



## PRACTICAL APPLICATIONS?



- \*School
- \*Home
- \*Community

---

---

---

---

---

---

---



## Group Discussion



- Could this Research be of use to you?
- How?
- What might be the implementation challenges?
- Advantages?
- Disadvantages?

---

---

---

---

---

---

---



## #6 Research School Age & Beyond – ipads

- Visual Schedules
- PECS & Text-to-talk
- Emotion Games
- Social Stories

NOTE: 'Autism Apps'



<http://www.gadgetsdna.com/10-revolutionary-ipad-apps-to-help-autistic-children/5522/>

---

---

---

---

---

---

---



## PRACTICAL APPLICATIONS?



- \*School
- \*Home
- \*Community

---

---

---

---

---

---

---



## Group Discussion



- Could this Research be of use to you?
- How?
- What might be the implementation challenges?
- Advantages?
- Disadvantages?

---

---

---

---

---

---

---



## Planning to Implement Something New

- #1 Do the Research
- #2 Determine level of training needed
- #3 Search for local capacity
- #4 Gather the Materials and Resources
- #5 Assemble a team/group if needed
- #6 Create specific protocols and plans



---

---

---


---

---


---

---





# Tyndale CAMP & RESEARCH




- \*Social Skills Camps
- 1:1 Staff
- March Break & Summer Camps

- \*Parent Workshops

- \*Research – Peer Training

\*www.tyndale.ca/TRACE



---

---

---

---

---

---

---

---



# kids Solutions

## Finding Every Child's Potential

- \*Social Skills Groups
- Preschool, School Age, Teen
- Autism & Aspergers

- \*Assessments & Treatment Planning

- \*IBI program Supervision & Agency

- \*Behavioral, School, & Parenting Consults

\*www.kids-solutions.com

---

---

---


---

---


---


---

---




# ODDS 'N ENDS





Questions are guaranteed in life; Answers aren't.



---

---

---

---

---

---

---

---