



Curtin University

AUTISM RESEARCH  
GROUP (CARG)

# Enabling Environments, Disabling Barriers

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# DisAbility

Medical  
Model

Social Model



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**BioEssays**

**IDEAS & SPECULATIONS**

Insights & Perspectives

# Reconciling the seemingly irreconcilable: The WHO's ICF system integrates biological and psychosocial environmental determinants of autism and ADHD

The International Classification of Functioning (ICF) allows to model opposed biomedical and neurodiverse views of autism and ADHD within one framework

Sven Bölte<sup>1,2,3</sup>  | Wenn B. Lawson<sup>3</sup> | Peter B. Marschik<sup>1,4,5</sup> | Sonya Girdler<sup>1,3,6</sup>

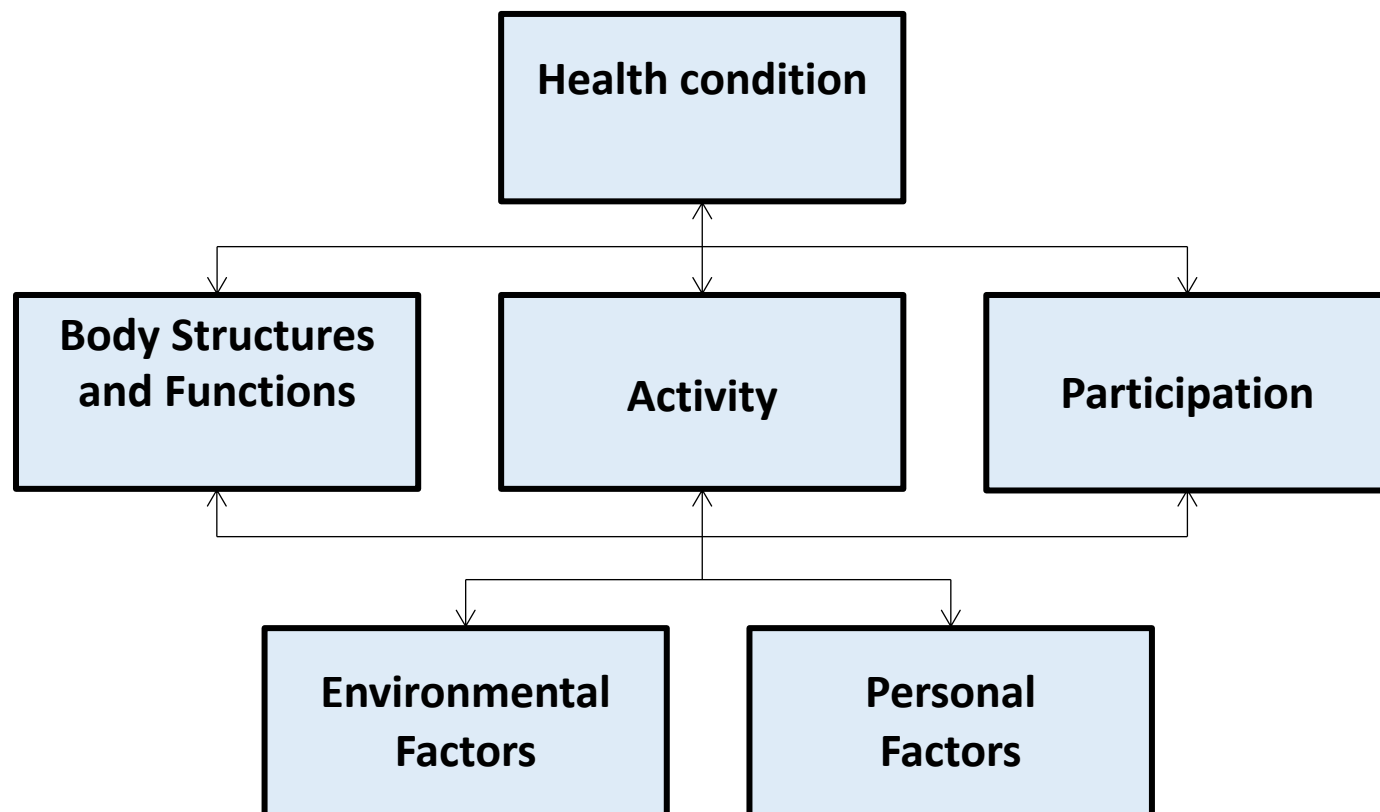
**ICF**

International  
Classification of  
Functioning,  
Disability  
and  
Health

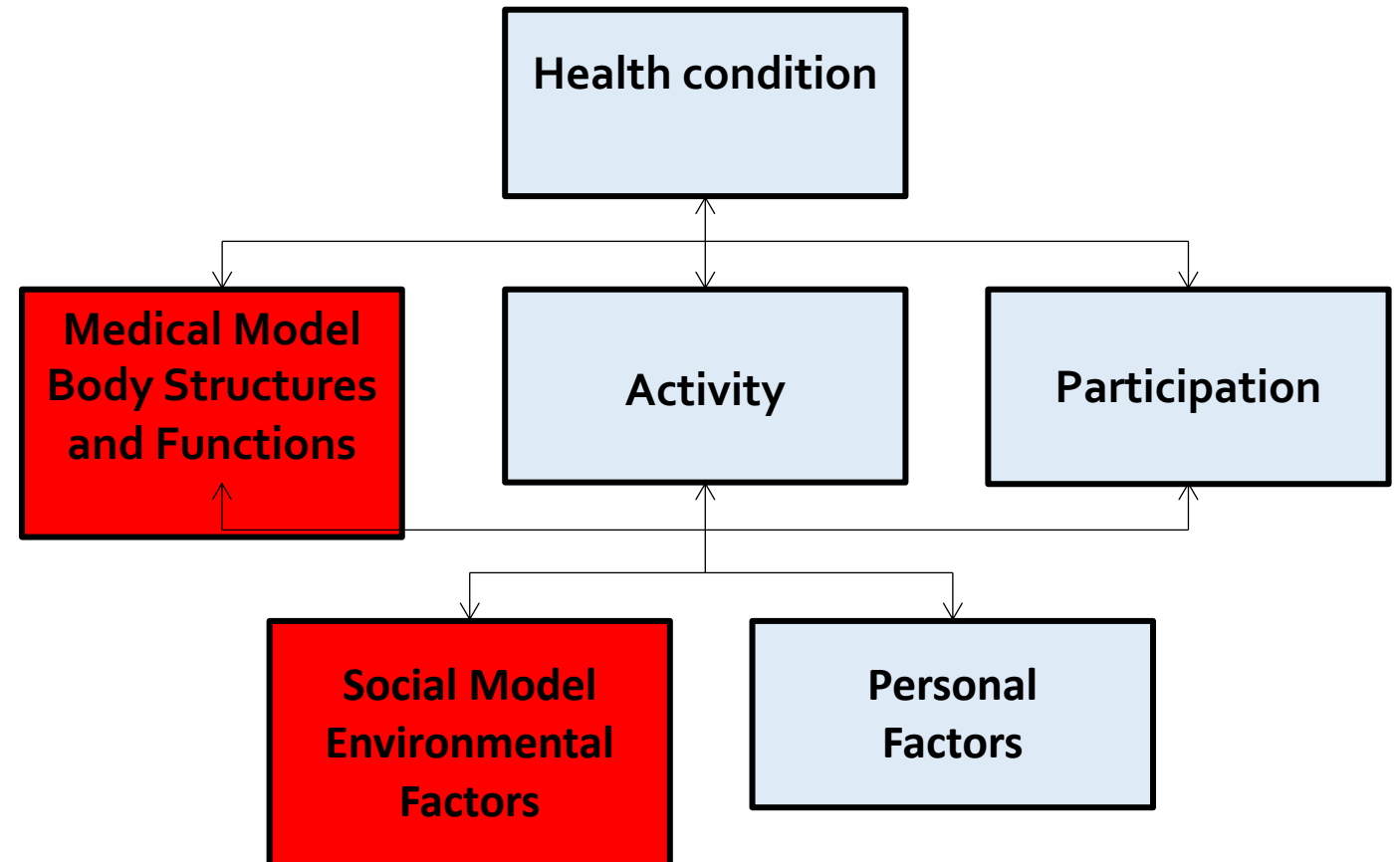
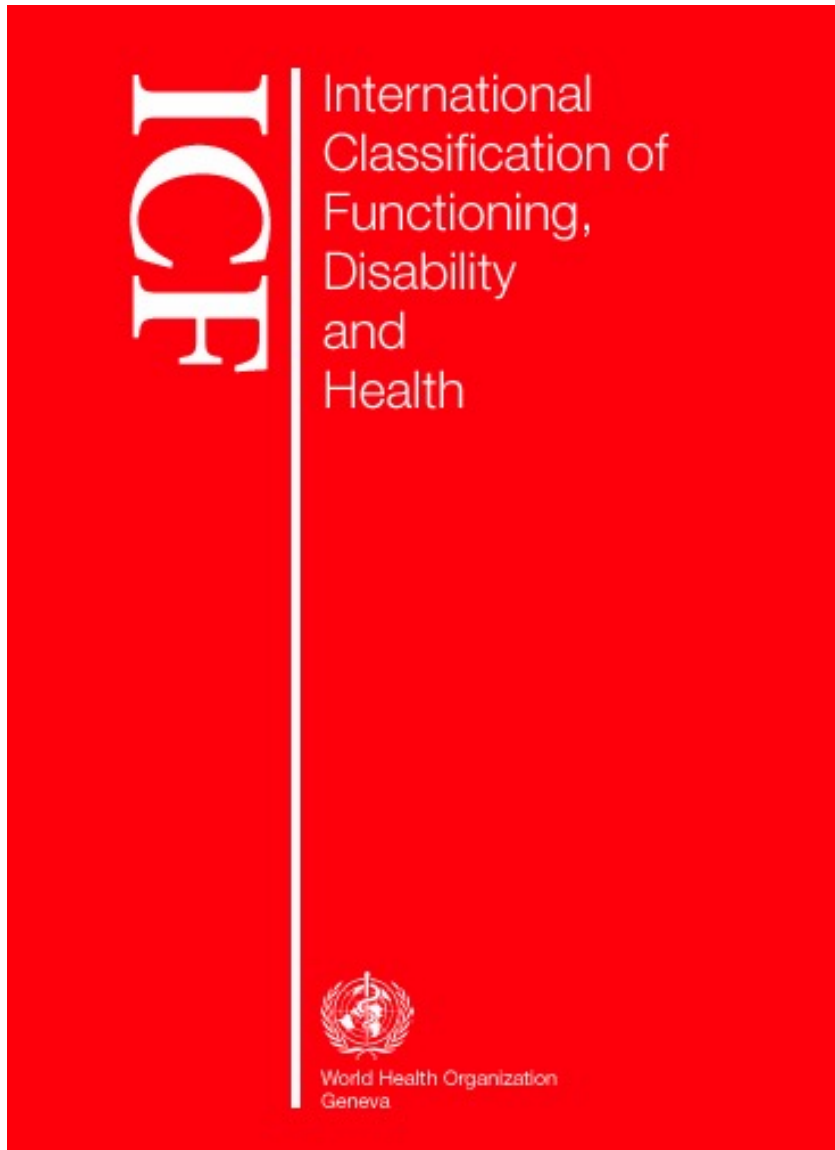


World Health Organization  
Geneva

# Dynamic Holistic view of Functioning



# Dynamic Holistic view of Functioning



# Content validation of common measures of functioning for young children against the International Classification of Functioning, Disability and Health and Code and Core Sets relevant to neurodevelopmental conditions

Emily D'Arcy<sup>1,2,3</sup> , Kerry Wallace<sup>2</sup>, Angela Chamberlain<sup>1,2,3</sup>,  
Kiah Evans<sup>1,2,3,6</sup> , Benjamin Milbourn<sup>1,2,3</sup>, Sven Bölte<sup>1,4,5</sup> ,  
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Autism

1–12

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# Environmental Factors described by the ICF

- Chapter 1 Products and technology
- Chapter 2 Natural environment and human-made changes to environment
- Chapter 3 Support and relationships
- Chapter 4 Attitudes
- Chapter 5 Services, systems and policies







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# Chapter 1 Products and Technology

## Coding and Math's clubs for Autistic Teenagers





## Autism-related Skills and Abilities

- Attention to detail
- Strong sense of morality
- A preference to work on repeated or monotonous tasks
- Expertise in a specific area
- Mathematical abilities
- Creative talents
- Artistic skills
- Visual perception
- Intellectual functions
- Technical abilities
- Trustworthiness

(de Schipper, et. al., 2016)

# Coder Dojo

A young man with short brown hair, wearing a blue t-shirt, is seated at a computer workstation. He is looking intently at a laptop screen. His right hand is holding a yellow controller, and his left hand is on the keyboard. In the background, another person is partially visible, wearing an orange t-shirt with a white logo. The setting appears to be a computer lab or a coding workshop.

- Model that combining a social environment with computer coding and technology activities
- Perfect for autistic teenagers
  - Saturday's during the school year
  - Facilitators are Curtin university staff members, students and parents
- Today we have around 300 autistic Ninja's in programs across Western Australia

# How it works ...

<b>Facilitators</b>	<b>Activities</b>	<b>Environment</b>
Shared interests	Activity incorporates interests	Acceptance
Consistency	Visual component	No pressure
Individual and collaborative approach	Activity choice	Everyone has autism
Expert facilitators	Skill development goals	Rules and boundaries
Authentic facilitators	Career goal	Opportunity for home learning
Flexible facilitators	Right level of challenge	Duration and frequency
Teaching skills	Expectations	Overcrowding and noise
Facilitator Ratio	Demonstrate skill	Hardware and software
	Peer mentoring	



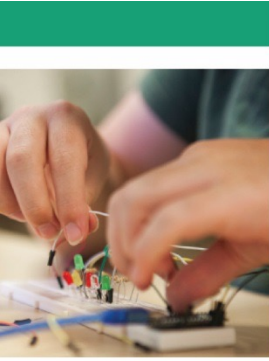
## “We Can See a Bright Future”: Parents’ Perceptions of the Outcomes of Participating in a Strengths-Based Program for Adolescents with Autism Spectrum Disorder

Elinda Ai Lim Lee<sup>1,2</sup>  · Melissa H. Black<sup>1,2</sup> · Marita Falkmer<sup>1,2,3</sup> · Tele Tan<sup>2,4</sup> · Louise Sheehy<sup>5</sup> · Sven Bölte<sup>1,2,6,7</sup> · Sonya Girdler<sup>1,2</sup>

- Surveyed 52 parents, representing 53 autistic youth attending our programs
- Explored the principal components and outcomes
- Program positively impacted participants’
  - sense of belonging
  - confidence and self-esteem
  - health and well-being
  - social relationships and interactions
  - activities and participation



<http://bcec.edu.au/publications/strength-based-programs-for-adolescents-with-autism/>



BANKWEST CURTIN ECONOMICS CENTRE

# A STRENGTH-BASED PROGRAM

for adolescents with autism

Matthew Jones, Marita Falkmer, Ben Milbourn, Tele Tan, Louise Sheehy, Sven Bölte and Sonya Girdler



# Chapter 2

## Natural environment and human-made changes to environment







## Disability and Rehabilitation

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/idre20>

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### **“Capturing the magic”: identifying the active ingredients of a physical activity participation intervention for children and youth with disabilities**

Claire Willis, Catherine Elliott, Siobhan Reid, Astrid Nyquist, Reidun Jahnsen, Sven Bölte, Michael Rosenberg & Sonya Girdler

# Key Active Ingredient of BHC is the Environment

The built and natural environment is accessible

Equipment (including adapted or specially designed equipment) is available

Characteristics of the human environment are centred on “creating a community”

Beautiful natural environment  
A special place



“BHC is a community they can come to and just relax. A lot of them say that their shoulders go down and they can just be themselves” – BHC staff member

Review



# Considerations of the built environment for autistic individuals: A review of the literature

Autism

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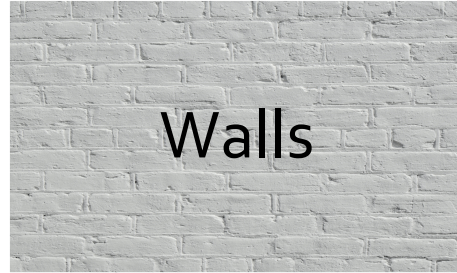
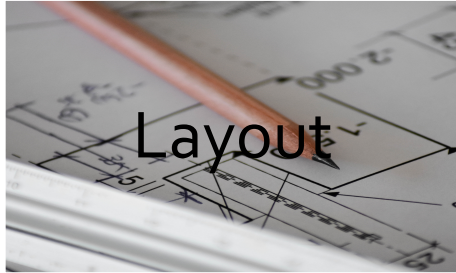
DOI: 10.1177/13623613221102753

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Melissa Heather Black<sup>1,2,3</sup> , Sarah McGarry<sup>1,2,3</sup>, Lynn Churchill<sup>4</sup>,  
Emily D'Arcy<sup>1,2</sup>, Julia Dalgleish<sup>1</sup>, Isabelle Nash<sup>1</sup>, Alisala Jones<sup>1</sup>,  
Tin Yan Tse<sup>1</sup>, Jane Gibson<sup>1</sup>, Sven Bölte<sup>1,5,6</sup>  and Sonya Girdler<sup>1,2,3,5,7</sup>

# All Impact the Functioning of Autistic Individuals



# Chapter 3

## Support and relationships



# Support and Relationships

- Important to us all
- Can enable functioning in important life areas including
  - **Higher Education**
    - University, Peer Mentoring Program for Autistic University students
  - **Employment**
    - Supportive workplace, working together to accommodate the needs of autistic workers

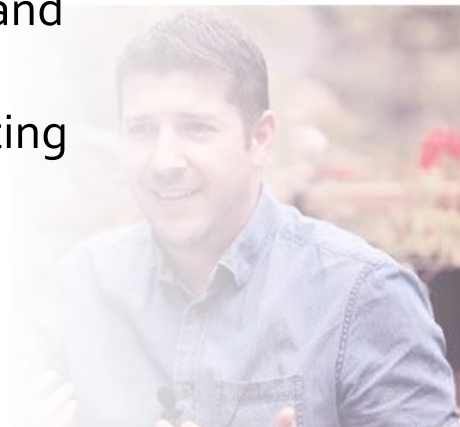
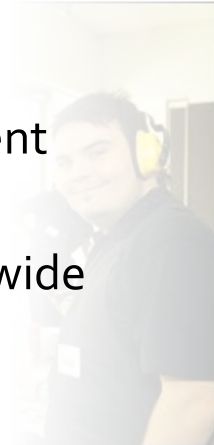




# The Integrated Employment Success Tool (IEST)



- An evidence-based guide for employers of autistic adults
- Aims to change the employment environment
- Over 100 employers Australia wide involved in its development
- Users demonstrated
  - Increased understanding and knowledge of autism
  - More confident in supporting their autistic employees







# Enabling Environments, Disabling Barriers

- Focus on potential
- BHC's vision is 'Activity and Participation through life'
- Attitudes of staff and peers
- Building knowledge and skills of individuals
- Delivering over 50 years of an enabling environment





**Tusen Takk!**

