Angelman Syndrome

How can the Built Environment offer Inclusion?

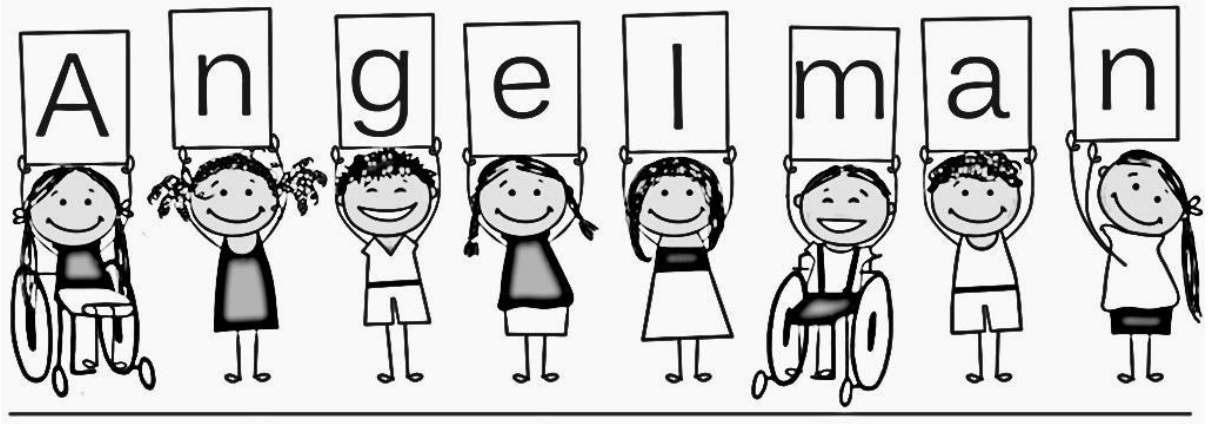

Figure 01

prepared by Lindsay Perry

Introduction

This paper aims to highlight the needs of individuals with Angelman Syndrome within the built environment. The following will be discussed:

- History of Angelman Syndrome
- Characteristics of Angelman Syndrome
- Inclusion Issues in the Built Environment
- Strategies for promoting inclusion in the Built Environment

History

- First described in 1965 by Dr Harry Angelman.
- “Happy puppet syndrome”.
- Caused by genetic mechanism involving Chromosome 15.
- Sporadic rather than genetic.
- Incidence estimated at 1 in 10,000 to 1 in 25,000 births.

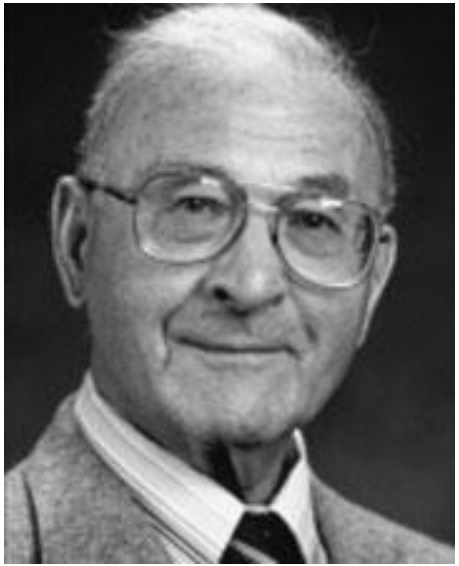

Figure 02 – Dr Harry Angelman

Characteristics

- Easily provoked laughter / smiling, happy demeanour.
- Severe developmental delay.
- Minimal or no use of speech.
- Ataxia / mobility impairments.
- Seizures.

Figure 03 – Smiling, happy demeanour.

Positive / Negative Attributes

Summary of Attributes:

- Require constant supervision – no sense of danger.
- Not able to live independently.
- Generally can achieve a good quality of life with assistance.

Figure 06 – Good quality of life with assistance.

Inclusion Issues – Built Environment:

- Mobility
- Severe developmental delay
- Limited self-help skills
- Seizure activity

Figure 07 – Mobility Impairment

Universal Design:

"Universal design seeks to encourage attractive, marketable products that are more usable by everyone. It is design for the built environment and consumer products for a very broad definition of user."

- Ron Mace, 1985

Inclusion Issues – Built Environment:

- Accessibility refers to the ease with which one can reach their destination.
- Three broad disability groups to consider – sensory distortions; motor impairments; cognitive impairments.
- All three need to be considered in relation to Angelman Syndrome.

Figure 08 – Broad Disability Groups

Inclusion Issues – Built Environment:

Mobility

Specific Design Features:

- Handrails
- Automatic Doors
- Open stair risers

Figure 10 – Automatic Doors

Figure 09 – Handrails

Figure 11 – Open Stair Risers

Inclusion Issues – Built Environment:

Mobility

- Access in the form of ramp and stairs.
- Handrails to both sides of all stars and ramps.
- Wider doorways to allow for wheelchair access.
- Larger circulation areas to allow for mobility devices such as walking frames or wheelchairs.
- Easy to operate doorways.
- Closed risers to all stairs.

Inclusion Issues – Built Environment:

Severe Intellectual Disability

Figure 12 – Graphics and Symbols

Specific Design Features:

- Graphics and symbols
- Easily identifiable entrances
- Easily identifiable circulation routes

Figure 13 – Entrances

Figure 14 – Circulation Routes

Inclusion Issues – Built Environment:

Severe Intellectual Disability

- Easily identifiable building entrances.
- Clear articulation of circulation zones.
- The use of landmarks as reference .
- The use of simple signage strategies with graphics that are consistent in design and systematically located.
- Elimination of visual clutter along circulation routes – unneeded cognitive processing.

Inclusion Issues – Built Environment:

Self-help Skills

Approximately fifty percent of adults with Angelman Syndrome are capable of performing simple tasks independently.

Limited self-help skills impact on inclusion and quality of life.

Specific Design Features:

- Provision of changing places

Figure 15 – Changing Places

Inclusion Issues – Built Environment:

Seizures

Specific Design Features:

- The use of closed risers in stair design.
- The use of soft, indirect lighting.
- The use of non-reflective building materials.

Figure 16 – Closed Stair Risers

Figure 17 – Soft lighting

Figure 18 – Reflective Building Materials

Inclusion Issues – Built Environment:

Seizures

- The use of closed risers in stair design.
- The use of soft, indirect lighting.
- The use of non-reflective building materials.
- Calm background music.

The Principles of Universal Design

Universal Design Principle	Measurables
Equitable Use	Where stairs and a ramp are provided, ensure they start and arrive in a similar location.
	Provide a changing place and quiet area.
	Provide accessible reception / service counters.

The Principles of Universal Design

Universal Design Principle	Measurables
Flexibility in Use	Provide audio and visual warning systems for emergency evacuation.
	Provide large-print signage
	Provide additional handrails at a lower height for children / people of short stature.

The Principles of Universal Design

Universal Design Principle	Measurables
Simple and Intuitive Use	Signage must include the use of pictograms.
	Paths of travel must be identified through the use of luminance contrast.
	Entrance must be clearly identified.

The Principles of Universal Design

Universal Design Principle	Measurables
Perceptible Information	All signage / information must be provided in written, tactile/Braille and audio formats.
	Provide a minimum 30% luminance contrast between operable components and the background colour –buttons, door handles, etc
	Provide a direct line of site between the carparking and the entrance.

The Principles of Universal Design

Universal Design Principle	Measurables
Tolerance for Error	Provide non-slip floor / surface finishes.
	Building lines must be kept clear of obstructions.
	Provide sensor lights for safe travel in darker areas.

The Principles of Universal Design

Universal Design Principle	Measurables
Low Physical Effort	Provide accessible carparking as close to the entrance as possible.
	Provide resting places and seating within the building.
	Provide automatic doors at the entrance to the building.

The Principles of Universal Design

Universal Design Principle	Measurables
Size and Space for Approach and Use	All pathways and ramps to be a minimum of 1800mm wide to allow people to pass.
	Provide designated pathways through table / seating areas – restaurants, food courts, etc
	Provide accessible fitting rooms.

Conclusion:

With respect to the built environment, a design that is sympathetic to the inherent needs of individuals with Angelman Syndrome can improve quality of life and participation in the community through simple features that address the multiple disabilities

angelman
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give them a reason to smile.

Figure 19

Acknowledgements

Figures retrieved 4 October 2015 from the following websites:

Figure 01
https://www.google.com.au/search?q=angelman+syndrome&biw=1570&bih=937&source=lnms&tbm=isch&sa=X&ved=0CAYQ_AUoAWoVChMI59O9oO-pyAIVx92mCh37wwuR#imgrc=Ckq9_LBxkIGWRM%3A

Figure 02
https://en.wikipedia.org/wiki/Harry_Angelman

Figure 03
http://kc.vanderbilt.edu/kennedy_files/AngelmanSyndromeTipsandResourcesOct2010.pdf

Figure 06
http://www.stuff.co.nz/auckland/local-news/north-shore-times/8449004/Push-for-Angelmans-research

Figure 07
http://angelmansyndromebiology.weebly.com/

Figure 08
http://thecontentwrangler.com/2010/05/24/why-you-should-adopt-an-accessible-content-strategy/

Figure 09
http://www.ausiron.com/handrails.php

Figure 10
http://www.directindustry.com/prod/puertas-angel-mir/product-50019-1096455.html

Acknowledgements

Figures retrieved 4 October 2015 from the following websites:

Figure 11
http://www.mafi.com.au/stairs/

Figure 12
http://ianarthurspaeth.blogspot.com.au/2009/12/daily-post-10-helvetica-man.html

Figure 13
http://www.123rf.com/photo_19688907_door-of-a-new-contemporary-office-building.html

Figure 14
http://www.marvelbuilding.com/unusual-office-building-in-wavy-form-gt-tower-east.html/entrance-of-unusual-office-building-in-wavy-form

Figure 15
http://www.functionalaccess.com.au/blog/changing-places-transforming-lives

Figure 16
http://www.houzz.com.au/photos/622639/white-oak-staircase-modern-staircase-toronto

Figure 17
http://www.trendecoration.com/soft-spacious-living-room-lighting-design.html

Figure 18
https://www.pinterest.com/pin/214413632235548209/

Figure 19
http://pnwasf.org/about_us.html