RETHINKING THE HOME SPACE AND AUTISM SPECTRUM DISORDER (ASD) IN ITALY:
ARCHITECTURAL DESIGN GUIDELINES TOWARDS DISCOMFORT REDUCTION

prof.ssa arch. Francesca Giofrè
Sapienza University of Rome, Faculty of Architecture, Department DATA
**AIM**

Understanding ASD individuals’ problems within confined spaces – in particular the home - in order to provide project inputs

**RESEARCH METHOD**

**QUESTIONNAIRES**

- 50 CARERS
- 32 ASD’s PARENTS

- Features
- Cognitive and sensorial shortcomings
- Problems within a confined space

- Movement within the home
- Sensorial issues
- Home: structure and furniture

**MONITORING A CASE STUDY**

direct observation
All interviewees claim that behaviour is affected by the environment.

Most frequent reactions as a result of inadequate environment:
- Behavioural disorganisation
- Anxiety crisis
- Isolation
- Confusion between reality and imagination

Main features of the therapy environment:
- Organisation of single activities
- Absence of stimuli
- Precise arrangement of the furniture
CARERS - KEY FINDINGS, QUESTIONNAIRES

- Features of the therapy environment:
  - Steady furniture and structures
  - Object selection depending on ASD individuals’ perception abilities
  - Use of image as alternative communication strategy
Main sources of danger within the home environment:

- Exit ways
- Windows
- Kitchen
- Staircases
- Furniture
- Others
✓ Need of a basic environment with few sensorial stimuli
✓ Importance of action’s consequentiality
✓ Importance of signposts, in particular for younger children
✓ Reducing risk linked to objects and materials such as glass, or features such as furniture height, sharp worktops and edges

Importance of environments which allow single activities and foster autonomy within the home.
MOVING INSIDE THE HOUSE

- 94% child with autonomous mobility
- 91% child moving around the home without problems
- 94% child easily recognizing the routes inside the home
- 91% child identify exit ways within the home
PARENTS- KEY FINDINGS, QUESTIONNAIRES

SENSORIAL PROBLEMS

VISUAL PROBLEMS
✓ Sensitive to sunlight, annoyed by the lights in the house
✓ Annoyed by the lights in the house and does not like strong colours

EARING PROBLEMS
✓ Those who are upsed by noise, are also annoyed by the rain
✓ Those who are annoyed by the rain are also upsed by domestic appliances’ noise and by any loud noise
SENSORIAL PROBLEMS

✓ All ASD individuals are upset by heat and cold

✓ All have an efficient heating system during the winter

✓ All have air conditioning and/or fans
PARENTS- KEY FINDINGS, QUESTIONNAIRES

CHANGES TO THE HOME ENVIRONMENT

- Elimination of all furniture with sharp edges
- Elimination of all superfluous and dangerous objects
- Easily accessible kitchen
- Living room used as therapy room
- Elimination of book shelves, tall furniture or any furniture which can be climbed on

“the home becomes almost a prison”
BASIC NEEDS VOICED BY FAMILIES WITH ASD MEMBERS

- Organising the home according to different spaces for each single activity
- Utilisation of bedroom also as playroom
- Attention to the temperature within the home
- Attention to internal and external staircases
- Functional furniture
For each activity the focus was on:

- Space where activity is carried out
- Senses affected by ASD involved in the activity
- Time span of activity
- Relation with surrounding environment
- Lighting arrangement
- Furniture used
CASE STUDY: KEY FINDINGS

- Difficulty of moving between the different spaces inside the home
- Need for an intimate space for therapy
- Need to keep dangerous spaces such as the kitchen under control

Organisational and spacial analysis of the home, negative points:
- The home space has plenty of stimuli
- No signposts pointing to the different activities to be carried out within the home
- Lighting pointing to the floor
- Absence of a sound-proof system
- Radiators as heating system
CASE STUDY: IMPUT DESIGN

- Clarity in space’s geometry and organisation
- Preference for curvilinear design
- Basic spatial organisation, few stimuli, sequence-based organisation
- Intimate space used also for therapy (es.sensoryroom)
- Signposts for spatial boundaries within the home
- Materials and finish with neutral and mat colours
- Steady furniture, also specially coloured to signal specific activities
- Book shelves firmly to walls
- Need to signal the depth of space
- Control of micro-climate factors
- Lighting control
- Noise control
RESULTS
PROJECT GUIDELINES FOR BUILDING LIVING ENVIRONMENTS SUITED TO ASD INDIVIDUALS

“PROJECTING SPACE FOR DISCOMFORT REDUCTION AND STIMULATION OF RESIDUAL ABILITIES”

THANKS FOR YOUR ATTENTION
prof.ssa Francesca Giofrè
fragiofre@gmail.com