RESEARCH FOUNDATION OF:

Residential Environments for Adults on the Spectrum: From Research to Built Form

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In locating, selecting and examining the research that would inform our design recommendations, we crafted what we call a research-informed approach (RIA) that assessed and documented reliable sources of information and research at this point in time. We recognized early on that science's "gold standard" of double-blind, randomized experiments published in peer-reviewed journals was simply not available in environmental design research. We used two general sources of research documentation:
1. empirical research (see box)
2. statements and accounts of lived experiences and reflective practice of experts

Assessing Source Information:

For the empirical source materials, we used Cochran-style search procedures for searching through eight electronic databases. We considered and incorporated material when a study met the characteristics listed in the Sidebar. *Empirical research* that did not meet methodological integrity appropriate to its research design/type (e.g. ethnographic, retrospective) was discarded; however, a small sample size was not considered a deficiency of sound methodology.

For those falling into the *reflective practice category*, we selected those insights and experiences when it was expressed by more than one expert or by a committee or commission. Further, we acknowledged *two types of experts*. Practitioners included professionals or support providers in autism-related service, education, or care with years of experience, particularly in residential living. But experts were also those individuals on the spectrum who were able to express their experiences about their living environments; these we call self-advocates.

Lacking metrics to establish the strength of evidence of this diverse range of relevant research, we knew it necessary to provide credible, straight-forward and clear documentation of how and what we gathered and used to craft our design goals and guidelines. Extended matrices that document each research source and its contribution to development of specific design goals and guidelines were developed (see next page for examples).

Selection Criteria for Source Information

1. empirically derived, and with at least partial focus and measure of the residential environment, with sound methodology appropriate to the research domain (e.g. survey, ethnographic) and including a sample of adults with autism spectrum condition (ASC)

2. same as #1 but instead of residential environment, another environment (e.g. school) was examined

3. same as #1 but instead of adults with ASC, adults with other relevant neurobiological or neurocognitive conditions, or youth with ASC

4. same as #1 but instead of adults with ASC, sample is typical or general population; used only for salient design issues and no research reflecting #1, 2, or 3 above is available

5. building systems, materials or landscape performance research in which occupant information is unnecessary

Example of Matrix Developed to Identify and Characterize Contribution of Empirical Studies
(also includes literature reviews of empirical research, and demographic/statistical profiles)

Source	Population	Goals (✓) and Guidelines (+)									
		Safety-Security	Clarity-Familiarity	Sensory Balance	Privacy-Social	Choice-Indp	Health, Wellness	Dignity	Durability	Affordable	Ngh Access
Ahrentzen, 2002	G		✓								
Algase et al., 2009	R	✓									
Altman and Chermers, 1980	G				✓						
Anderson et al., 2012	AA	✓									
Archea, 1977	G				+						
Armitage, 2013	G	+									
Bagatell, 2010	AA				✓						
Baron-Cohen and Wheelwright, 2004	AA/AC				✓						
Baron-Cohen et al., 2009	AA/AC		✓								
Baum et al., 1982	G						✓				
Baumers and Heylighen, 2010	AA	✓	✓								

Example of Matrix Developed to Identify and Characterize Contributions of Experts' Reflective Practices

Source	Population	Goals (✓) and Guidelines (+)									
		Safety-Security	Clarity-Familiarity	Sensory Balance	Privacy-Social	Choice-Indp	Health, Wellness	Dignity	Durability	Affordable	Ngh Access
Autism Society of Delaware, 2006?	AA							✓ +			
Birch, 2003	AA		✓								
Brereton and Broadbent, 2007	AA								✓		
Donvan and Zucker, 2010	AA		✓			✓					✓
Fleishmann	AC		✓								
Grandin, 1995	AA		✓	✓							

Population
AC: Autistic Children and/or Teens
AA: Autistic Adults (also includes mixed sample, e.g. those with autism and other developmental disabilities)
R: Non-ASC but similar behaviors/symptoms (e.g. elopement among seniors with dementia)
G: Standards/practices for general population
V: Manufacturer or vendor literature

Basis for
✓:   Quality of Life Goals
+:   Design Guidelines

Since we include both empirical research and reflective practice as source material, we call this a "research informed" approach instead of an evidence-based one. Doing so implies that research is also needed to systematically analyze and understand the particular clients' needs, aspirations, and situations.

A more detailed description of the research process is provided in *At Home with Autism*: *Designing for the Spectrum* (K. Steele & S Ahrentzen, Policy Press, summer 2015). CONTACT: Sherry Ahrentzen (ahrentzen@ufl.edu) or Kim Steele (kim@kssteele.com).