**Abstract**

Regular physical activity aids in human development, improves quality of life, increases attention, improves psychological health and leads to the development of basic living skills (Ayvazoglu, 2006). Regular physical activity and a stimulating, accommodating environment improve physical health as well as emotional and social health (NY State Technical Assistance Project). Physical activity is particularly important for dual sensory impaired individuals because daily life places a greater physical demand on them than it does on sighted, able-bodied individuals (Buell, 1983). Dual sensory impaired persons are disadvantaged in daily life because daily life places a greater physical demand on them than it does on sighted, able-bodied individuals (Buell, 1983). Thus, interior and exterior spaces of facilities for dual-blind individuals must encourage active and mobile lifestyles. For example, Nellist argues that access to the outdoors from every room should be encouraged (Nellist 1970). Mobility; the ability to successfully navigate the environment from one place to another, is an important aspect of an active life. The focus of this investigation is to answer the question how can a residential facility encourage mobility and active behavior for dual sensory impaired individuals? The purpose of the investigation is to develop new knowledge for the design of state-of-the-art residential facilities for severely dual-sensory impaired persons.

**Goals**

- Determine what types of built environments would increase physical activity in dual sensory impaired young adults.
- Determine the types of built environments that would improve mobility in dual-sensory impaired young adults.

**Process**

1. Glasgow visit
2. DEFINE user
3. research

**Summary**

The exploration began by studying research regarding physical activity in general and then proceeded to study physical activity and its relation to dual sensory impaired individuals. Many benefits and design guidelines were discovered. It is the task of the designer of any building for this user group to synthesize the information and incorporate it into any design for dual sensory impaired individuals. As much research has shown, quality of life improves with increased levels of physical activity. This is especially important for dual sensory impaired individuals, as they have fewer opportunities to be physically active. A home for dual sensory impaired individuals can improve their quality of life through designing to increase their physical activity, but also through designing the home to accommodate and improve all aspects of life. Physical activity is important, but there are many more factors involved in the creation of such a home. The opportunity is great, and the findings of this research endeavour can give guidance to the design of a supportive and challenging residence.

**References**

- Ayvazoglu, N. (2006). "Landmarks & Orientations: Designing for the Blind," which relates specific names to specific locations. The participation in those activities by individuals with sensory impairments can provide a greater understanding and comfort for their daily living, and can also provide a more enjoyable environment for those individuals.

**Designing for Physical Activity + Mobility in dual sensory impaired young adults**

Andrew Barnes and Susanne Siepl-Coates
Kansas State University Department of Architecture
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**Physical activity**

- **Exterior views/pleasant spaces**
  - Increase in spatial volume directly connects to the interior. In addition, a protected environment can be provided where one does not experience the elements, which is important for those with sensory impairments.
  - The sound quality in a large space is different from a small space. In a large space, the sound is more diffuse, which can assist individuals with partial hearing. Texture can also be an orientation device. A carpeted floor sounds different than a room with a concrete floor. This can assist individuals with partial hearing.

**Mobility**

- **Landmarks / shorelines**
  - A landmark is defined as an object in an environment where one can gain a particular position. A landmark is a critical element for orientation in space. A landmark at spatial transition is important for those with sensory impairments. It is important to use a landmark to help orient oneself in space.

- **Orientation devices**
  - Light: The use of lighting is important for orientation. The use of light to mark a path or a room is critical for those with sensory impairments.
  - Color: Individuals with low vision may have difficulty distinguishing colors. Color can be used to mark a path or a room, which is important for those with sensory impairments.

- **Materials (sound absorption)**
  - The use of materials that absorb sound is important. The use of materials that absorb sound is important for those with sensory impairments, as it can help to reduce noise levels.

**Design synthesis**

- **Designing for physical activity**
  - The design of the physical activity area should be accessible from the circulation space. The design of the physical activity area should be accessible from the circulation space. The design of the physical activity area should be accessible from the circulation space.

- **Designing for mobility**
  - The design of the mobility area should be accessible from the circulation space. The design of the mobility area should be accessible from the circulation space. The design of the mobility area should be accessible from the circulation space.