



Adaptive Aging-in-Place

A user-oriented design-protocol

RESEARCH SCHOOL INTEGRAL DESIGN OF STRUCTURES

Subject

This research focuses on Aging-in-Place facilities for the 55-75 year age groups in regard to their architectural layout, and infrastructure for ICT and other building services that should also be suitable for the 4th life phase when frailty sets in. It studies the consequences for constructing Aging-in-Place facilities for dynamic aspirations, abilities and needs of aging individuals as a result of physical, social and mental changes and preferred lifestyle.

The scientific objective is to link residential needs for aging-in-place to the characteristics of the dwelling, using the P-E fit (Person-Environment Fit) theory (Figure 1). This research project investigates (i) user-oriented design, (ii) flexible and adaptive dwellings in relation to (iii) the dynamics of aging in the 3rd and 4th phase. The project draws on knowledge from architecture regarding the process of designing and constructing state-of-the-art Aging-in-Place facilities and on knowledge on aging individual from the discipline of gerontology.

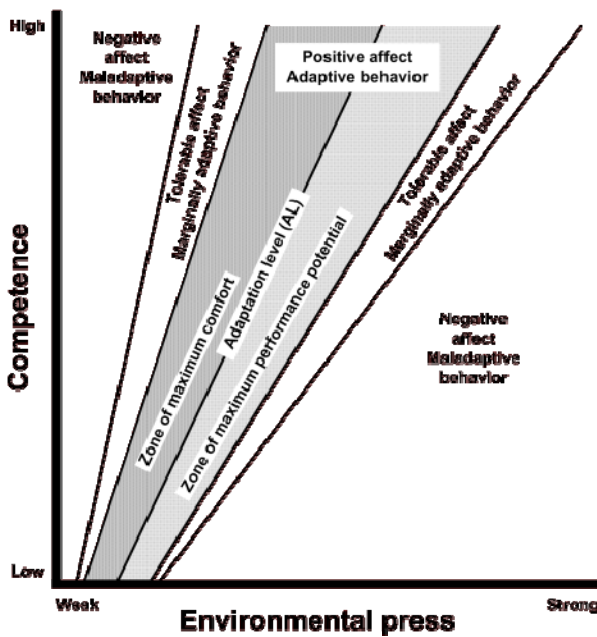


Figure 1: Person- Environmental Fit [1]

[1] Nahemow L & Lawton P (1970). Towards an Ecological Theory of adaptation and aging. In: HM Proshansky, WH Ittelson, LG Rivlin (Eds.), Environmental Psychology (2nd edition): People and their physical settings. New York: Holt, Rinehart and Winston.

Goal

This research aims to improve the quality of residential life for persons wanting to stay in their own home until a very high age. The main goal is to come to a user-oriented design protocol for adaptive Aging-in-Place facilities that can easily follow the dynamics of physical, social and mental needs of the user. The sub-goals are:

- To identify the dynamic physical, social and mental needs of aging individuals;
- To translate these dynamic needs into residential requirements;
- To develop a design-protocol for user-oriented Aging-in-Place that is suitable for mass production.

Expected Results

Expected results are an adapted P-E fit model, and a design protocol for adaptive Aging-in- Place facilities that can be easily adapted to the dynamic physical, social and mental needs of the user, with the objective to support dwellings of older persons who want to remain independent.

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Subject

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Goals

The objective of this research is to improve the quality of residential life for persons wanting to stay in their own home until a very high age. The main goal is to come to a user-oriented design protocol for adaptive Aging-in-Place facilities that can easily follow the dynamics of physical, social and mental needs of the user. The scientific objective is to link residential needs for Aging-in-Place to the characteristics of the dwelling, using the P-E fit (Person-Environment Fit) theory.

Research Question

Real user-oriented design for Aging-in-Place not only includes current needs and aspirations, but is also prepared to adapt to future needs and aspirations, as well as changes in capabilities. This brings us to the following research questions:

- How do the physical, social and mental needs of aging individuals change during the 3rd and 4th phase of life?
- How can these needs and their dynamics be translated into residential requirements?
- Which design protocol incorporates the dynamic requirements of a more user-oriented Aging-in-Place design?

Strategy

This research project investigates (i) user-oriented design, (ii) flexible and adaptive dwellings in relation to (iii) the dynamics of aging in the 3rd and 4th phase. The project draws on knowledge from architecture regarding the process of designing and constructing state-of-the-art Aging-in-Place facilities and on knowledge on aging individual from the discipline of gerontology.

The approach to be used is to design and test scenarios for living. These scenarios are based on estimations of the current and future population. It also incorporates the transformations of physical, social and mental insights of individuals in the 3rd and 4th age into criteria for true Aging-in-Place that is adaptive to the dynamic needs of the user.

Expected Results

Expected results are an adapted P-E fit model, and a design protocol for adaptive Aging-in-Place facilities that can be easily adapted to the dynamic physical, social and mental needs of the user, with the objective to support dwellings of older persons who want to remain independent.

Sponsors

The research is funded by PIT Foundation (Stichting Promotie Installatietechniek) and the BAM.

Prime Publication / Prototyping

Defence has been planned in 2012.

Research Period

2008-2012