

# Effects of housing morphology on user satisfaction

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## Abstract

Spatial organisations of dwellings may be quite different in different periods, regions, cultures and societies. Societies establish an order on spaces and reflect their characters to these spaces. There is a relation between the space and human relations. The differences in social systems show morphological variety in dwelling layouts. The user satisfaction of the dwellings affects the physical and the psychological health of the users. User satisfaction plays an important role in the structure of the society and also in the future of that society.

The purpose of this paper is, firstly, to investigate the parameters which have a role in the user satisfaction and what has to come to mind when speaking of 'housing quality', and secondly, to investigate the relationship between housing morphology and user satisfaction. After some housing layouts have been analysed morphologically, data has been searched to determine which factors affect user satisfaction and to which degree. It is thought that the findings will be useful in the design process of future housing layouts.

In the first part of the paper, needs and the parameters that affect the user satisfaction are discussed. The effects of the environment on users are explained briefly. Then, the concept of quality is discussed and the housing quality is explained.

In the case study, the dwelling layouts of some housing settlements are analysed in terms of their morphological characteristics by applying the Hillier and Hanson's (Hillier and Hanson 1984) syntactic analysis method, called Gamma Analysis.

In this paper, morphology is meant to deal with relations and accesses between spaces. Dwelling layouts may cause difficulties in perceiving the morphology at first sight. When the dwelling layouts which seem similar to each other are examined, it can be seen that in fact they are very different from each other or vice versa. Therefore morphology must be revealed in a more simplified way.

Through morphological analysis, the configurational characteristics of each plan layout is analysed and some measurements have been made. These are; the number of spaces, the depth of the deepest space, the mean depth, relative asymmetry,

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real relative asymmetry, relative distributedness, etc. These measurements are made to analyse the symmetry/asymmetry and distributedness/non-distributedness of the plan layouts, which are related with the permeability and the depth of the system.

In the questionnaire stage of the study (Sungur, 2001), to be applied to the residents who live in flats, a questionnaire, aiming to define the user satisfaction level is prepared. The questionnaire was organised in four sections; the first section consisted of personal information, the second was about the changes that had been made in the dwelling by the user, the third covered the quality of facilities and the fourth was about the satisfaction level with the dwelling. The answers consisted of five choices, which represented different user satisfaction levels.

In the following step of the study, the relation between the numerical results obtained in the morphological analysis and satisfaction of the residents are examined. The results are evaluated via a statistical program (SPSS).

As a result of the morphological analyses and the post occupancy evaluation, it is found that, like the other parameters that affect user satisfaction (parameters related with the environment, dwelling and user), the morphological characteristics of a dwelling also have a strong and clear relationship with user satisfaction.

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