

## Attitudes of elderly users towards design and functionality of furniture produced in Poland in the second half of the XX<sup>th</sup> century and nowadays

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**Abstract:** *Attitudes of elderly users towards design and functionality of furniture produced in Poland in the second half of the XX<sup>th</sup> century and nowadays.* The aim of the study was to collect information on preferences of users aged 65+ concerning design and functionality of domestic furniture. Based on the direct interviews, the most important features of case and upholstery furniture were identified indicating their advantages and disadvantages according to users long-lifetime experience. Comparative analysis of the obtained results was conducted in order to define furniture design guidelines on the basis of seniors' experience of using different types of furniture produced in Poland in the second half of the XX<sup>th</sup> century and nowadays.

*Keywords:* furniture design, design for elderly people, preferences, domestic furniture

### INTRODUCTION

In the recent years, one of the most discussed issues is the problem of an aging population. Due to increasingly higher standard of living as well as a result of improvement of the health care system the share of older people in the general population is rapidly growing (Hilderbrand 2002). More and more studies cover the subject of product design taking into consideration the needs and preferences of elderly people. Hrovatin *et al.* (2012) and Kłos *et al.* (2014) analysed the design features of kitchen furniture for seniors. Green *et al.* (2009) concentrated on futuristic bedroom environment for the aging population. However still there is not enough publications indicating design guidelines in the field of various types of furniture based on user experiences. This issue is of crucial importance not only because of the special needs elderly people have, that should be considered while the process of furniture design but also due to extremely valuable long-lasting experience they have in using different types of furniture. It is essential to incorporate this knowledge while creating new pieces of furniture. User experience consists the basis for finding relationship between elderly user requirements, their preferences and design specifications (Demirbilek, Demirkan 2004) enabling designers to create better and more comfortable products.

Taking the above into consideration the aim of the study was to collect information on preferences of users aged 65+ concerning design and functionality of domestic furniture and to perform comparative analysis of achieved data taking into consideration seniors' evaluation of selected features of furniture manufactured in Poland in the second half of the XX<sup>th</sup> century and nowadays.

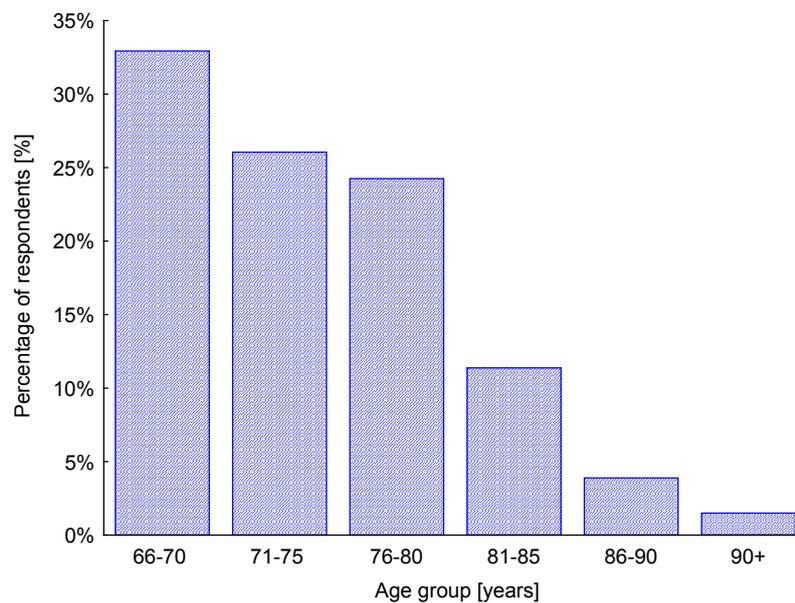
### MATERIAL AND METHODS

It was decided to collect data relating the described aim of the study with the method of direct interviews conducted among people over 65 years old. Estimated sample size was 100 people living in the area of Greater Poland voivodeship. Comparative analysis was performed on the basis of seniors' opinion according to their evaluation of usage of furniture produced in

the second half of the twentieth century and today. The information obtained was grouped and analysed relating to various types of furniture. In the next step the characteristics of design and functionality features of described objects was performed. As a result of the conducted research the guidelines for design of furniture for the elderly generation based on senior user experiences, needs and preferences were developed.

## RESULTS AND DISCUSSION

A number of studies and statistical data show that Poles buy furniture as a luxury goods, with the intention of its long usage. That is why in numerous of cases, seniors participating in the research still possess in their homes pieces of furniture manufactured in the second part of the XX<sup>th</sup> century together with some more contemporary models. Therefore, due to this situation, the evaluation of different furniture features conducted by users aged 65+ is even more valuable. The age structure of the analysed sample of respondents is presented in Figure 1. Females consisted 66% of the studied group of seniors.



**Figure 1.** The age structure of the analysed sample of respondents  
Source: Own elaboration based on performed empirical research

While performing analysis of design and functionality characteristics of furniture in the homes of senior users, it is also important to consider the economic and social changes that has occurred in Poland during the analysed period. The availability of goods, their range, quality and the whole process of purchase decision making has changed dramatically, influencing the state of furniture ownership in the Polish households. It also need to be highlighted that during the direct interviews, a very emotional attitude of respondents to each piece of furniture was observed. It demonstrates the huge attachment of elderly users to products owned for so many years. It shows also the high level of difficulty in their acquisition. Respondents paid attention to the fact that every piece of furniture was usually purchased separately, so there was no possibility of furnishing an apartment or a house with such an ease and a wide range of products to choose from as it is today.

The first group of furniture that was analysed was case type furniture. As a result of the performed study it was confirmed that a very popular piece of furniture in Polish homes at the turn of the century was a wall unit. In the living rooms of users aged 65+ the wall units of different types (including “Kowalski” wall unit) are still the main element of interior design. Seniors used to value this furniture for its functionality. Respondents emphasized that wall

units were very useful for storing a great amount of things, which was very practical especially in flats with small area, where the optimal use of space was of crucial importance.

Nevertheless respondents pointed out that currently they prefer cabinets with smaller depth in order to avoid straining the spine during bending while reaching for different items. It was also highlighted that cabinets should not be too high, so that the use of upper parts wouldn't require the user to adopt a forced posture or usage of ladders or steps that increase the danger of collapse. Similar results were achieved by Fabisiak and Kłos (2012) while performing research on kitchen adaptability for seniors needs. It turned out that 40% of respondents had serious problems with using wall cupboards while in most of the cases the hanging cabinets were mounted too high. Elderly people pointed out that easier access to the content of the cabinets would make a significant increase in the comfort of kitchen usage.

The comparative analysis of living room case type furniture manufactured in the second half of the XX<sup>th</sup> century and nowadays showed that for the majority (60%) of elderly women taking part in the research, high gloss in furniture design was a very preferable feature. In today's cabinet furniture design, as well as it of the second half of the twentieth century elderly people lack decorative elements – carvings and moldings. Simple shapes do not meet the aesthetic feelings and needs of senior users. Extremely significant issue while analysing design preferences is also the type of material that is liked the most. Over 80% of respondents highlighted and regretted that in the post-war period there was lack of solid wood furniture. Solid wood turned out to be the most preferable material in the analysed group of seniors. During the interviews older people often mentioned wooden furniture that was present in their childhood homes. Wardrobes and cupboards made of solid wood and decorated with ornaments and cornices were very common in that times and they are still remembered by the senior users. According to the respondents, those objects were admired since they constituted pieces of art, being an original and unique result of craftsman work.

Another type of furniture that was analysed was upholstered furniture. The comparison analysis of design and functionality of upholstered furniture produced in the second half of XX<sup>th</sup> century and nowadays, conducted on the basis of senior experiences is very reliable due to the high rate of changing this type of furniture. It is worth noting that the majority of interviewees have the couch, sofa or armchair not older than 3 years. The results of the study indicate that upholstery furniture is the most often changed type of furniture. As many as 89% of the respondents purchased at least one upholstered furniture in the last decade. This stems primarily from the high rate of usage and relatively low cost of purchase as compared to other types of furniture. Choosing this piece of furniture elderly focused primarily on its functionality: taking into account first of all the ease and convenience of unfolding, comfortable spring layer and multi-functionality of furniture. Some expressed the opinion that couch or sofa should not be completely covered with material, as it is in the case of many contemporary designs. According to the respondents the details made of solid wood give sofa charming and elegant look. Almost 40% of respondents while making the decision on purchase of upholstery furniture, pay attention also to the ease of cleaning of upholstery fabric.

Positive statements were noted about couches produced in the 80's. They were characterized by massive sides and very durable upholstery, which was, in the opinion of over 70% of respondents, much stronger in comparison to contemporary upholstered materials. Attention was paid not only to design of those pieces of furniture but also their functionality. Respondents pointed out that the sides mentioned above constituted important construction elements being helpful while getting up. However currently respondents have in their households sofas which are not equipped in armrests. Sometimes the function of armrests is fulfilled by the unfastened upholstery placed on both sides of sofa. Still none of

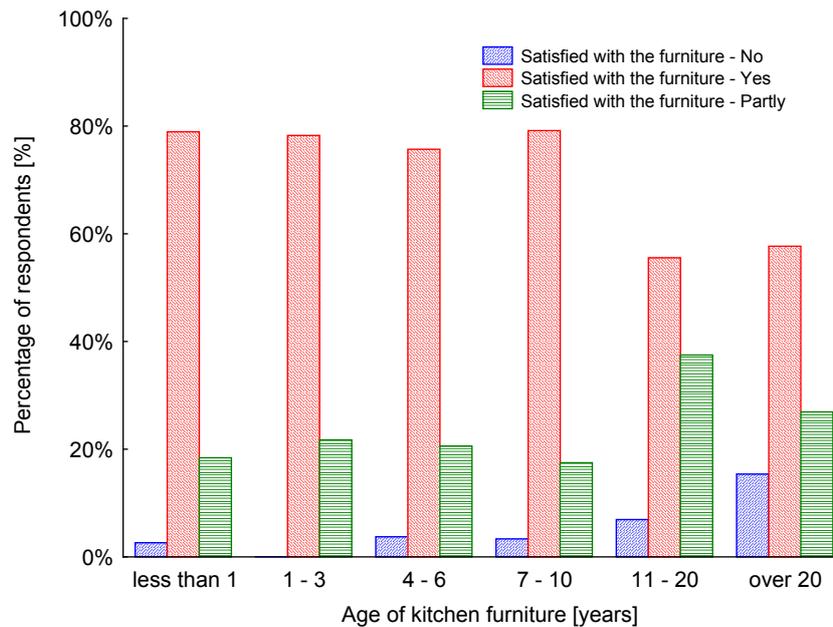
these solutions is preferable by seniors since it makes getting up from the sofa much more difficult especially for people having problems with the skeletal and muscular system.

While listing the most important features of modern furniture, respondents indicated the possibility of customization – that is the possibility to adapt it to the individual needs of the user. In the comparison with the situation from the second part of the XX<sup>th</sup> century a big change can be observed nowadays regarding this issue and senior respondents appreciate it and are satisfied with it. They are contented that currently they can make decision concerning colour and pattern of upholstery, choosing its design so that it's compatible with the style of their home interior. On the other hand it is important to highlight that as much as 60% of respondents questioned the comfort of the contemporary furniture and their adaptability to the seniors needs. After some time of usage of modern upholstery furniture they feel discomfort associated with back pain. Respondents indicated that the reasons for this are inadequate seat dimensions which are too deep and the lack of ergonomic support of back especially in the lumbar part of the spine. It's important to notice that more than 80% of senior respondents were using pillows to support the lumbar part of the spine and reduce discomfort while sitting. This is of crucial importance since the results of the performed research showed that as much as 70% of respondents is suffering from back pain.

In the case of other contemporary furniture for sitting, such as for example armchairs, elderly people drew attention to the very low height of the seat observed in the modern models, which also causes the difficulty in getting up. Another problem in design of these pieces of furniture is, according to the interviewed seniors, too small width of the seat. This dimension is not adapted to the changing width of the hips of older people. While discussing the functionality of modern upholstered armchairs, respondents mentioned they would like to have more space on a seat in order to put aside for example the TV remote. Dissatisfaction of respondents concerns also the contemporary trends in colours of upholstery materials, which are in the most cases too harsh and glaring in the opinion of senior users.

During the conduction of the research it was also decided to investigate what changes would elderly people made in their household interior design. A significant attention was paid to the shape of edges of home furniture. Elderly people participating in the interviews mentioned they would like to have the edges of their tables and kitchen worktops more rounded. Many interviewees also claimed that they have too many pieces of furniture in their home area. This causes the limitations in the freedom of movement in the living space. A large proportion of respondents would like to have less furniture located more spatially in order to facilitate the use of the furniture and to create a more logical and aesthetic unity of the whole interior design.

While analysing the attitudes of seniors toward design and functionality of modern furniture it is worth to highlight that many times during the interviews the delight of the elderly over the functionality of modern kitchen furniture, and the kitchen arrangement in accordance with ergonomic triangle was noticed. There was no enthusiasm, however, to renovate their own kitchen. The results of performed investigations show that kitchen furniture is the most rarely changed type of furniture in the households of seniors. Kitchen furniture is among the least likely changed furniture, primarily due to the replacement troubles associated with the process of kitchen renovation and the high costs of the kitchen renovation. Results of the study indicate that 34% of respondents have kitchen furniture older than 20 years. However again the emotions play a significant role in evaluation of the furniture. Almost 60% of respondents having kitchen furniture older than 20 year is still satisfied with it and evaluate their kitchen as comfortable one (Figure 2). Similar results were obtained by Hrovatin *et al.* (2012) who showed that 35 % of respondents had kitchen furniture older than 20 years, whilst 52 % older than 15 years. It is noteworthy however that as much as 72 % of them were satisfied with their kitchen.



**Figure 2.** The structure of opinion concerning satisfaction with comfort of kitchen regarding to the age of kitchen furniture

Source: Own elaboration based on performed empirical research

Often, especially those seniors representing the age cohorts of old-old (74-85 years old) and oldest-old (over 85 years old) questioned the purposefulness of making changes in the interior design in the old age. Therefore, a continuous increase of public awareness of the possibility of improving the quality of life through the use of modern, well-designed furniture seems to be a key issue. Furthermore the moment of introducing of changes in the housing environment is also of crucial importance, so as to make them before the period of the late old age.

## SUMMARY

The results obtained through direct interviews with seniors aged 65+ indicated that people of older age have in their home environment furniture from the turn of the XX and XXI century. They can therefore provide valuable information, essential to identify the characteristics of design and functionality of furniture used by them in the analysed period. Among the most important features of modern furniture which definitely differentiate it from the models of post-war times respondents listed the possibility of customization. They highlighted the possibility of colour selection for individual elements or pattern of upholstery fabrics as highly preferable. In the contemporary furniture design seniors were lacking primarily the structure of solid wood and the durability and functionality adapted to the needs of the elderly. In the case of modern upholstered furniture seniors lack profiled backrests that could support the spinal column and armrests to facilitate getting up. For many respondents, sentiment and emotional relationship with the objects consisted an important determinant in the process of assessment of individual pieces of furniture located in their households.

Taking into account the obtained results, in the process of creation of furniture meeting the aesthetic and functional needs of seniors the following preferences should be considered. In the furniture more solid wood elements should be included. The edges should be rounded to prevent from dangerous situations while hitting or bumping into the objects. The materials easy to clean both in the case of upholstery but also cabinet furniture should be applied. The importance of properly chosen colours, with particular emphasis on pastel range of colours instead of the intense colours and extravagant patterns of fabrics observed in the modern

design was additionally highlighted by the interviewers. The proper dimensions of furniture adapted to the changing anthropometric dimension cannot be forgotten as well.

In conclusion the need for systematic research among the elderly users should be noted. It provides the access to the knowledge base regarding the needs, preferences and expectations of this group of users and can contribute to creation of better and more comfortable furniture.

## REFERENCES

1. DEMIRBILEK O., DEMIRKAN H., 2004: Universal product design involving elderly users: a participatory design model, *Applied Ergonomics* 35(4); 361–370
2. FABISIAK B., KŁOS R., 2012: Comparative analysis of difficulty of activities performed in kitchen by people aged 40-60 and over 60 years with visual impairment in the context of furniture design, *Annals of Warsaw University of Life Sciences – SGGW, Forestry and Wood Technology* 1(77); 216–221
3. GREEN K.E., WALKER I.D., BROOKS J.O., MOHKOTAR T., SMOLENTZOV L., 2009: ComforTABLE: A robotic environment for aging in place (pp. 223–224). Presented at the Proceedings of the 4th ACM/IEEE international conference on Human robot interaction, ACM
4. HILDERBRAND H., 2002: Für Ältere und Behinderte, *BM* 57(3); 36
5. HROVATIN J., ŠIROK K., JEVŠNIK S., OBLAK L., BERGINC J., 2012: Adaptability of Kitchen Furniture for Elderly People in Terms of Safety, *Drvna Industrija* 63(2); 113–120
6. KŁOS R., FABISIAK B., KACZMAREK M., 2014: Analysis of human needs in kitchen design for people with visual impairment, *Drvna Industrija* 1(65); 43–50

**Streszczenie:** *Analiza porównawcza opinii osób starszych odnośnie wzornictwa i funkcjonalności mebli produkowanych w Polsce w drugiej połowie XX wieku i obecnie. Celem przeprowadzonych badań było zebranie informacji o preferencjach użytkowników w wieku powyżej 65 lat dotyczących wzornictwa i funkcjonalności mebli mieszkaniowych. Na podstawie danych pochodzących z wywiadów bezpośrednich zidentyfikowano najważniejsze dla respondentów cechy mebli skrzyniowych oraz tapicerowanych, wskazując ich zalety i wady. Analiza porównawcza uzyskanych wyników została przeprowadzona w celu określenia wytycznych do projektowania mebli przeznaczonych dla starzejącej się populacji. Ocena ta została dokonana w oparciu o wieloletnie doświadczenia respondentów w korzystaniu z różnych typów mebli wyprodukowanych w Polsce na przełomie XX i XXI wieku.*

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