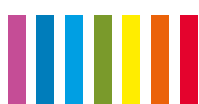




Proceedings of the International Colour Association (AIC) Conference 2018

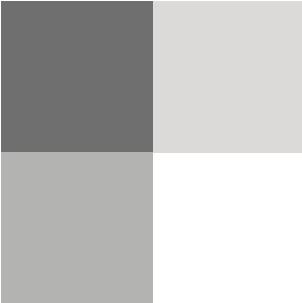
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AIC LISBOA 2018
colour & human comfort

European Research Group on Light and Colour in Architecture for the care and well-being of older people

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ABSTRACT

The purpose of the content of this communication is to present the objectives and motives that prompt the need to establish the collaboration between diverse research groups of different European countries on light and colour in architecture for the care and well-being of older people. This grouping appears as an initiative to study and to offer a response to the progressive ageing of the population phenomenon. As experts in color and light in the built environment, this grouping intends to establish the guidelines for the chromatic characterization of the different types of architectural spaces targeted to older people, in a global way, for the different European countries, which will enable to achieve a specifically adapted habitability to their physical, sensory and psychological satisfaction needs.

Keywords: older people, colour, built environment, visual comfort, European Network

INTRODUCTION

At present, the increase of population age is one of the most evident realities in human development (UNFPA & International 2012). It is expected that this trend continues over the next decades (Eurostat & European Commission 2011). The fact that in the latter years the number of older people has increased implies a major shift in human evolution and, consequently, the challenges of older people needs must be faced. At the same time, diverse studies demonstrate that during ageing new answers are generated to the immediate environment (Caramelo Gomes

& Lott Daré 2011). These are gradual changes in most cases and profound changes in others; both have to do with the progressive decrease of the physical and perceptive abilities (Causapie et al. 2011; Sancho et al. 2002; Fu et al. 2009), and with the less adaptability to changes and spatial situations (Andersson 2011).

As it is known, physical environment can affect the well-being and behaviour of people. For this reason, the effect that physical space has on people is an issue of increasing interest in research related to the well-being of people. In particular, the effects of physical environment are of particular significance in care and health centres such as nursing homes (Falk et al. 2009), where residents, in the final stages of the life, are particularly vulnerable and can experience a relatively high degree of uncertainty, disorientation and frustration in these places that happen to be their homes (Head & Isom 2010). Therefore, it is important to obtain the keys that enable the understanding of the importance of adapting the built environment to the specific needs of residents regarding visual comfort, promoting independence, orientation and, therefore, wellness.

Collaboration between different European countries is necessary to face the current situation from an overall view, whilst extending the knowledge of this field of study. In addition, by joining the diverse studies carried out by the different countries in a common and communal form it is possible to obtain a scientific justification which provides reasoned guidelines about how colour or chromatic environments and the lighting can influence in residential spaces for older people.

From this experience, we analysed the implications involved in a research of such characteristics at European level, of the same field of study, but from diverse perspectives, and evaluated their different impact levels.

METHODOLOGY

It is expected that this study focusses on theoretical and practical research. The work process involves carrying out forums, conferences and meetings where debates can be developed, as well as organising the necessary tasks in order to draw practical results and conclusions. The starting point of this work process raises the issue of different exchange possibilities of cultural nature other than just theoretical and practical research. In this sense, we deepen in the country's culture and adapt it to each case, at the same time as we get to know the cultural context of each place. The accorded aspects that in some way originated the early stages of work of this collaboration were the following:

With regard to the joint collaboration:

- To establish the interdisciplinary work patterns in the frame of the European Colour and Light Network.
- To analyse the difficulties and possibilities that an interdisciplinary research between different European countries offers.
- To determine the new perspectives and strategies resulting from the collaboration between different research groups and institutions in solving practical problems for their future application by professionals.
- To generate an European forum to which other countries can join in.

With regard to the common aims:

- To get to know the culture of each place.
- To determine the type of spaces we want to enhance and the characteristics of each of them.

- To improve the environment by improving visual comfort and the well-being of older people with the correct use of light and colour.
- To reach objective conclusions about the influence of colour in architecture, so that it can be effectively implemented in other European countries.

In order to assess the scientific impact of this European Colour and Light Network and evaluate its characteristics, an analysis should be carried out considering the possible weaknesses, threats, strengths and opportunities. Without being exhaustive, we will review the main characteristics that the creation of this new European collaboration raises.

RESULTS AND DISCUSSION

SIGNIFICANCE OF COLLABORATION BETWEEN EUROPEAN COUNTRIES

Many countries are facing the progressive ageing of population and the necessity of creating places for the well-being of older people. Collaboration between countries is an effective tool to extend, share and accelerate research in this field of study. For this reason, it is necessary to develop, adapt, transfer and share knowledge and personal experiences so that they can be extrapolated to all partner countries, while taking advantage of the existing resources and capacities. As a result, problems and concerns encountered beyond national borders can be solved, knowledge and resources can be widely shared and strategic collaboration to reach common goals can be promoted; offering beneficial solutions to all member countries.

SIGNIFICANCE OF A MULTIDISCIPLINARY APPROACH

The need to establish this multidisciplinary collaboration beyond the national level, is mainly due to the innovation processes and the evolution of the practice itself from a multiple point of view: the approximation between different areas of study to generate general knowledge of the research topic. This multidisciplinary collaboration consists of experienced architects specialised in colour in architecture on the one hand and experts in the field of health on the other hand; two very different professional areas that are closely related at the same time, since the definition of architectural spaces that promote the health and the well-being of older people is pursued. In other words, places that contribute to internal organisation from a technical point of view and that look for the stay and comfort of the users, the proper development of the welfare processes and the optimization of human and material resources. Therefore, this reality requires a methodological collaboration of diverse and different disciplines and, in general, the collaboration of specialists from different areas of knowledge so that the object of study can be understood in a comprehensive manner.

STRATEGIES TO OBTAIN RESULTS AND FOR RESULTS DISSEMINATION

The projects that are currently carried out by the different research groups are the following ones:

- SPAIN. Spain is developing a State Project funded by the Ministry of the Economy, Industry and Competitiveness and the State Research Agency on *Modifications of Visual Comfort in Residential Centres for the Improvement of Quality of Older People*. This project is being carried out by a multidisciplinary group of researchers that consists of architects of the Universitat Politècnica de València, sociologists and psychologists of the Universitat of Valencia, as well as other professionals.

This research aims to establish the guidelines for the chromatic characterization of indoor spaces for older people, taking into account the existence of different rooms where different

activities are held. By working with light and colour we are able to improve the existing facilities by adapting them to usage and visual comfort.

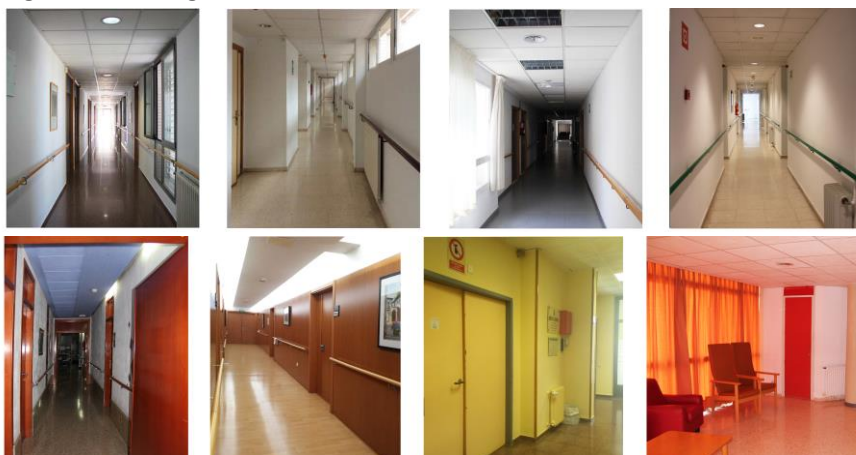


Figure 1: Upper row: Example of public nursing homes' typical corridors in Spain. It is noticeable the presence of dazzles as well as very dark zones. White-coloured spaces with no interest nor stimulus too. Bottom row: Example of chromatic scenes in public nursing homes in Spain. The colours used do not meet any specific design criterion.

- SWEDEN. Sweden is seeking to deliver further light on the importance of an adapted environment for older people in sheltered as well as ordinary housing, in relation to adequate and supportive colour and light. The work is conducted in a multidisciplinary research group, situated at Gotheburg University within Caring Sciences together with researchers from Center for Health Care architecture at Chalmers University. The goal is to provide evidence based facts for guide lines on adequate colour schemes and illumination in older peoples environment in order to support safety and well-being.

- NORWAY. Norway has initiated different studies and pilot projects within research programs, especially at The University of Bergen and The University of Trondheim (NTNU). Two of these pilots are being presented at the AIC meeting in Lisboa; "Saturated Space. Colour schemes for elderly in Nursing Homes." (Mette L'orange UiB).

More specifically, this initiative is discussing how the use of saturated colours can improve the environment of nursing homes, and how it affects the behaviour of dwellers and employees. Colour makes a vital tool in establishing safe, explanatory and stimulating environments, especially for people with cognitive setbacks. Qualitative data collection methods are used for evaluation, group discussions, individual interviews and observations.



Figure 2: Left: Existing situation for many nursing homes in Norway. Middle and right: New colour schemes (UiB).

By bringing together the results obtained from the different researches performed we attempt to consolidate multidisciplinary collaboration in the field of the well-being of older people studies. As a result, we manage to establish the proper knowledge and experiences of the topic of research from a global perspective, based on research training, by firstly developing a conceptual

theoretical framework from which starting the research. Thus, by gathering the results obtained in the different European countries we contribute to develop the knowledge of the perceptive characteristics of the different architectural spaces addressed to older people.

Therefore, there is the need of developing organizational strategies and resources to reach conclusions about the topic of study at the prospect of a comprehensive research. In this case, the goal is to be capable of analysing, defining and proposing chromatic scenes that foster practical solutions to the needs of residents, and that improve their living conditions and their personal well-being. As a result of the findings of the research, we intend to facilitate chromatic guidelines to architects and designers so that they can apply them in their projects and thereby develop a more habitable architecture. For that reason, it is necessary to spread the knowledge and to promote its use to improve the quality of life and visual comfort of the older people that live in nursing homes. It is equally important to make official organisms, private entities and general population aware of the current situation and of the importance of colour in the architectural space, so that specific actions can be taken for specific case studies.

CONCLUSION

In conclusion, the aim is to formalise this new European research group in the field of light and colour and to increase the number of member countries. In addition, we look forward to making progress on research and disseminating research information through seminars, conferences and scientific journals. Certainly, future scientific efforts based on evidence must have the potential to address the unique needs of institutions for older people. Therefore, we aim to strengthen European Colour and Light Network research taking into consideration the findings based on the relationship between colours of the chromatic scene in architecture and its proper design to improve the visual comfort of older people. To do so, new reasoned colour schemes that can reduce the negative consequences of age-related eye disorders must be explored.

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