



Received: 08/01/2024
Accepted: 12/02/2024

Anales de Edificación
Vol. 10, Nº1, 1-5 (2024)
ISSN: 2444-1309
DOI: 10.20868/ade.2024.5382

Percepciones de los arquitectos jóvenes mexicanos sobre su espacio de trabajo durante la pandemia de covid-19: una perspectiva de género sobre las experiencias de distanciamiento físico

Young Mexican architects perception of their workspace during the covid-19 pandemic: a gendered perspective on experiences of physical distancing

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Resumen-- Se realizó un estudio cualitativo durante la pandemia COVID-19 con una muestra de 16 jóvenes arquitectos y 14 jóvenes arquitectas que teletrabajaron desde casa durante la pandemia. Para analizar los datos, se aplicó un método denominado análisis visual-emocional, que consiste en evaluar aspectos tanto de las imágenes como de los sentimientos percibidos a través de testimonios escritos proporcionados por los participantes.

El objetivo de este trabajo es comprender las percepciones de los jóvenes arquitectos sobre su espacio de trabajo durante el distanciamiento social a través de una perspectiva de género, y determinar si existen diferencias entre las experiencias de hombres y mujeres, y en caso afirmativo, cuáles son.

El análisis de contenido reveló que las mujeres proporcionaron descripciones más específicas de las características del espacio de trabajo (por ejemplo, iluminación, distribución del espacio) en comparación con los hombres, que se centraron en crear un espacio de trabajo cómodo y funcional con menos detalles.

Palabras clave— Teletrabajo; Investigación cualitativa; Confinamiento; Análisis de emociones; Photovoice.

Abstract— A qualitative study was conducted during the COVID-19 pandemic with a sample of 16 young male and 14 young female architects who teleworked from home during the pandemic. To analyse the data, a method called visual-emotional analysis was applied to, which consists of assessing aspects from both images and feelings perceived through written testimonies provided by the participants.

The aim of this paper is to understand young architects' perceptions of their workspace during social distancing through a gender perspective, and to determine whether there are differences between men's and women's experiences, and if so, and which they are.

Content analysis revealed that women provided more specific descriptions of workspace features (e.g. lighting, space layout) compared to men, who focused on creating a comfortable and functional workspace with less detail.

Index Terms— Work from home; Qualitative research; Confinement; Sentiment analysis; Photovoice.

I. INTRODUCTION

At the end of January 2020, 7,818 confirmed cases of the Acute respiratory illness, known as COVID-19, were reported worldwide. With the increase in cases, they led the World Health Organization (WHO) to declare an international public health emergency (World Health Organization, 2020a). On 11 March 2020, the World Health Organization (WHO) announced a pandemic situation due to the increase in affected countries. This was the first time a pandemic caused by the coronavirus was declared (World Health Organization, 2020b).

In Mexico, the first case of COVID-19 was detected on 27 February 2020 and on 11 March 2020, the World Health Organization (WHO) declared it a pandemic. In response, the country declared a health emergency on 30 March, by which time more than 1,000 cases had been confirmed and 28 deaths had been recorded. Since there was no clinical cure and no specific form of prevention, preventive measures such as hand washing, covering coughs and sneezes, and "physical distancing became the primary strategy to stop the spread of the virus. The National Healthy Distance Campaign was implemented, requiring the suspension of non-essential activities, and the 'New Normal' campaign was introduced, allowed voluntary containment used an epidemiological traffic light system. Mexico has been one of the countries most affected by the pandemic, with more than 1.4 million confirmed cases and 125,807 deaths reported as of 31 December 2020 (Torres et al., 2021).

While several recommendations for prevention against Covid-19 were issued, such as proper use of face masks in public and enclosed spaces, regular ventilation of indoor areas, frequent use of hydroalcoholic gel to disinfect hands, practice of coughing into the arm or elbow, use of tissues for nasal hygiene, frequent hand washing with soap and water, and regular disinfection of common surfaces (Abellán García et al., 2021), many countries implemented social distancing and adopted lockdown measures following the spread of COVID-19. This resulted in households having to adjust to the new circumstances, which affected daily routines and the distribution of time spent on activities (Navas-Martín et al., 2021). There was also a notable increase in the simultaneous presence of all household members. This change affected indoor environmental quality standards, "in particular ventilation, which was influenced by the continuous presence of people and the lack of contact with the outside (Navas-Martín & Cuerdo-Vilches, 2023b). Activities affected during confinement included teaching (Cuerdo-Vilches & Navas-Martín, 2021) and teleworking (Cuerdo-Vilches, Navas-Martín, & Oteiza, 2021; Cuerdo-Vilches, Navas-Martín, March, et al., 2021). During the health crisis, e-learning became a central element. Higher education institutions around the world were forced to make the transition to online instruction. In Latin American countries, guidelines were issued to discontinue traditional face-to-face teaching in higher education institutions and adopt online classes. This sudden change presented challenges for both professors and students, as they were not adequately prepared for online learning (Salas-Pilco et al.,

2022). In the case of Mexico, in March 2020, the government communicated to the public the preventive actions taken to protect the education sector throughout the country. Higher education institutions, which already had virtual education tools, acted promptly in implementing these measures (Cervantes Holguín & Gutiérrez Sandoval, 2020).

Overall, the measures implemented during the COVID-19 pandemic have had a considerable impact on women, exacerbating the gender gap in society. This may be because boys and girls have different ways of using technology. Men and women have different approaches to technology, especially when it comes to learning through software and computers. Traditionally, the use of technology has been widely associated with the male gender, which has led to the view that it is more appropriate for boys than for girls (Idris et al., 2023).

The aim of this paper is to understand young architects' perceptions of their workspace during social distancing through a gender perspective, and to observe whether there are differences between men's and women's experiences.

II. METHODS

This study was based on the COVID-HAB project (Cuerdo Vilches, Oteiza San José, et al., 2020) carried out in Spain as a reference point. To carry out the research in Mexico, the same methodology was employed (Cuerdo-Vilches et al., 2020), using a mixed approach combining quantitative and qualitative methods. During its implementation, cultural and linguistic differences between the two countries were considered, as well as the redesign of certain questions to adapt them to the specific objectives from the context of Mexican society (Jaimes Torres et al., 2021).

For this qualitative study, the testimonies and images of young architects who were confined to their homes during the pandemic were selected. Through a data collection platform, participants were asked to take a photograph depicting their remote work or study area at home. They were also asked to add three relevant keywords about the image and to provide a brief explanation of the most significant aspects of the photograph.

To analyse the data collected, a method known as visual-emotional analysis (Cuerdo Vilches et al., 2020; Cuerdo-Vilches & Navas-Martín, 2021; Navas-Martín & Cuerdo-

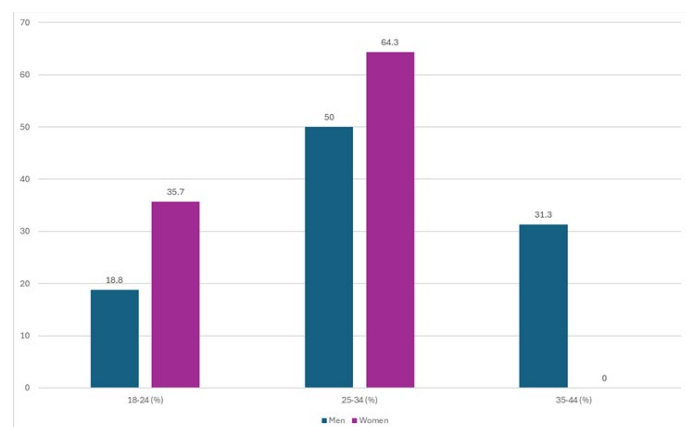


Fig. 1 Participation by gender and age group.
(Source: Own elaboration)



Fig. 2. Selection of photos of men's telecommuting space.
 (Source: Own elaboration)

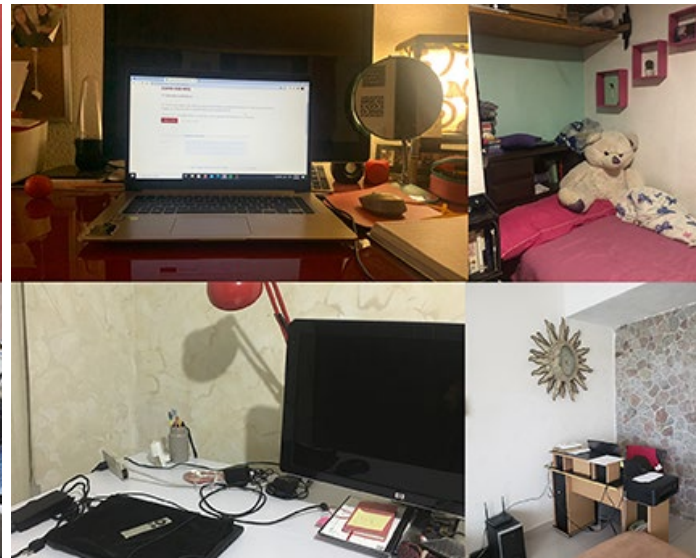


Fig. 3. Selection of photos of women's telecommuting space.
 (Source: Own elaboration)

Vilches, 2023) was employed, which consists of examining both the visual elements and the emotional aspects of the content provided by the participants.

A total of 16 young men and 14 young women participated in the study. Within the different age groups, the 25-34 age group was the most representative, with 50% of the participants in this age range being male, while the majority (64.3%) were female (Fig. 1).

III. RESULTS AND DISCUSSION

As for the visual content provided by the participants, a total of 30 images were collected, of which 16 were contributed by men and 14 by women. Below is a selection of photos taken by male participants (Fig. 2) and those taken by female participants (Fig. 3).

In relation to the labels or keywords provided by the participants, a total of 90 were collected, of which 48 were

provided by the male participants and 42 by the female participants. Among the most frequent words mentioned by men were 'work' with 9.26% (5 times), 'comfortable' with 7.41% (4 times) and 'space', 'study', and 'small' with 5.56% (3 times) each (Fig. 4). On the other hand, the most mentioned words by women were 'work' with 7.63% (9 times), 'space' with 6.78% (8 times) and 'lighting' with 3.39% (4 times) (Fig. 5).

Regarding the polarity analysis (Fig. 5) of the participants' explanations regarding the features they highlighted in the photos they took and why, through an open question. The results showed that women had a higher percentage of positive messages, with 57.1% (n=8), compared to men, who had 43.8% (n=7).

The qualitative analysis of the contextualization of the photos (Table 1) involved categorizing the narratives from the open-ended question into groups using content analysis (Bardin, 1991).

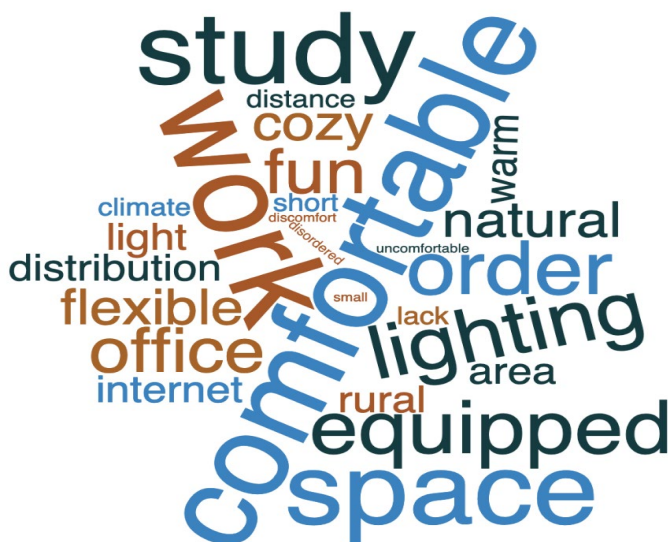


Fig. 4. Word cloud of men's labels.
 (Source: Own elaboration)

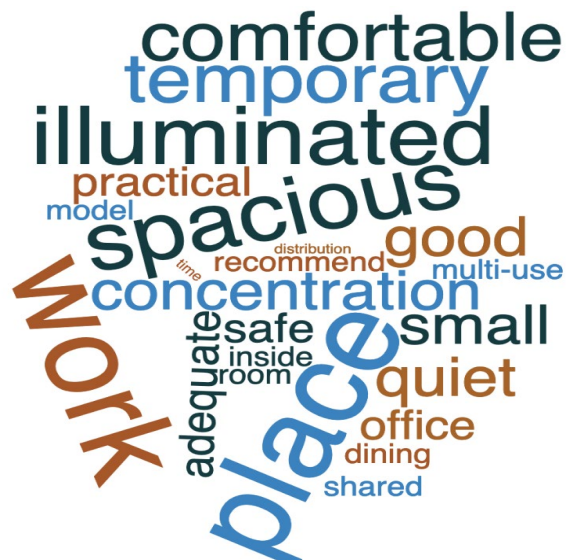


Fig. 5. Word cloud of women's labels.
 (Source: Own elaboration)

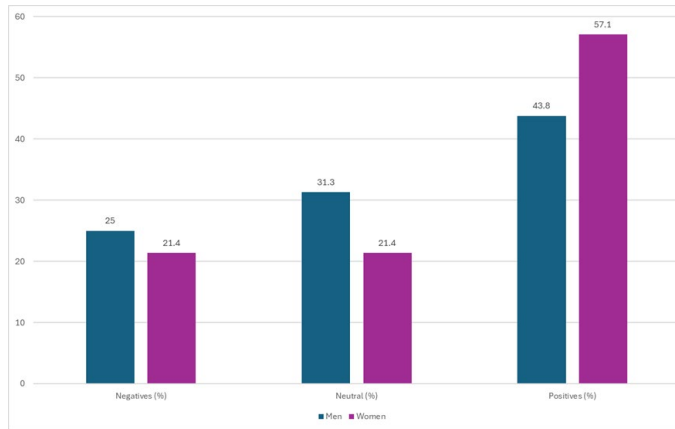


Fig. 6 Gender polarity. (Source: Own elaboration)

TABLE I
CATEGORIES OF TESTIMONIES BY GENDER

Category	Men	Women
	Subcategory	Subcategory
Ergonomics	Furniture	Uncomfortable, furniture, layout
Workspace	Inadequate, accessible, tidy	Small, noisy
Environmental conditions		Lighting, ventilation
Resources	Digital devices	Internet, background (for video calls)

IV. DISCUSSION

Comparison of the most frequent words mentioned by men and women in the study yields some interesting results. Firstly, both men and women mentioned the word ‘work’ as one of the main words, suggesting that the work context was a common concern for both groups during telework. However, there are some notable differences in the most frequently mentioned words. Men highlighted the importance of a ‘comfortable’ environment and mentioned terms related to ‘space’, ‘study’, and ‘small’. These results may indicate that men placed relevance on physical comfort and limited workspace during the pandemic.

On the other hand, women emphasized the importance of ‘space’ in general, which may suggest a concern for having a suitable and sufficient environment to carry out their telework tasks. In addition, they specifically mentioned ‘illuminated’, indicating an awareness of the importance of adequate illumination in the workplace.

These results point to the need to consider different gender perspectives and priorities when approaching the design of remote workspaces. It is important to consider comfort, space, and lighting to promote a favourable working environment for both men and women during pandemic-like situations.

In relation to polarity analysis, the study found gender differences in the negative, neutral, and positive values of participants' perceptions of their remote workspaces. Both

men's and women's testimonies focused on aspects related to workspace, technology, comfort, and ergonomics. However, there are some notable differences between the two sets of testimonies.

Most of the women's testimonies seem to be more detailed and specific in terms of workspace features, such as lighting and layout of the space. Men's testimonies, on the other hand, tend to be less specific.

Women's testimonies tend to mention the importance of having a dedicated space specifically for working or studying, while men's testimonies expressed more the importance of having everything they need on hand.

Men's testimonies, on the other hand, highlighted the discomfort of furniture (specifically, the chair and table), while women's testimonies mention more the discomfort of sitting for long hours.

Regarding the location of the workspace, some men's testimonies mention being in a dining area, while women's testimonies mention being in their bedroom or in a specific place temporarily dedicated to work.

In summary, although both groups of testimonies shared some similarities in terms of aspects of the workspace, women seemed to have a more detailed concern about the quality of the space and the importance of having a dedicated area, while men emphasized more the accessibility of necessary items and the discomfort furniture of the chair and table.

Content analysis revealed that women provided more specific descriptions of workspace features (e.g., lighting, space layout) compared to men, who focused on creating a comfortable and functional workspace with less detail. The differences in perception environment highlight different priority aspects for each gender. Men tend to value technical equipment more, such as having a drawing table, additional monitors, or a graphics tablet, as well as good organization of the space that allows for everything to be within reach and a favourable location. In contrast, women place greater emphasis on connectivity and the appearance of the environment, such as a good internet signal and a suitable background for video calls. Both perspectives agree on the importance of lighting, ventilation, and ergonomic furniture, but women emphasize more the impact of prolonged sitting and the need for sound insulation for efficient work.

ACKNOWLEDGEMENTS

This study was funded by La Salle University through the Reto-COVID Initiative of La Salle University Mexico. The project, with ID 28, is entitled ‘New paradigms in the evolution of Architectural Design: A study on the habitability of housing and how it responds to the requirements of the COVID-19 pandemic’. We are sincerely grateful for the support provided by this institution.

Research, Development and Innovation Group (GI+D+i) ‘Study and Research on the Design of Sustainable Environments: health, energy efficiency and adaptive comfort’, attached to the Department of Architecture, Design and Communication of La Salle University (Mexico).

This contribution belongs to the activities within the international projects LINGGLOBAL VIBRA-IS, with reference INCG20023, and I-COOP VEnUS, with reference COOPB23032, both funded in the 2022 and 2023 call, respectively, by the Spanish National Research Council (Spain), with housing as central theme, in the post-COVID and Climate Change contexts, according to the SDGs.

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