# Transforming Residential Interiors into Workspaces during COVID-19 Pandemic

Subjects: Architecture And Design

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Residential interiors (RIs) have been designed by anonymous designers throughout history and have reflected their users' identity, culture, and habits until modern times, although design and architecture courses rarely involve residential interiors in their curriculums. Therefore, decision-makers (architects, interior architects, designers, and users) took them for granted. However, COVID-19 forced revisiting this approach towards RIs and they faced a gap in the literature helping them to design these interiors, especially workspaces, in order to improve their users' experience.

Keywords: COVID-19 ; colour scheme ; workspaces ; residential interiors ; new normal

## 1. Introduction

Interior architecture as a discipline has been overlooked for long decades as a professional. Nevertheless, the IFI (International Federation of Interior Architects/Designers) has been withstanding this bias against professionals [1]. An average user spends more than 90% of their time indoors [2], the importance of which is underestimated. Hence, it is an emerging subject area, especially during and after the COVID-19 pandemic. Recently, commercial and public interior architects have been appreciated more compared to interior architects who focus on residential interiors (RI) because their contributions to society are more visible. However, residential interior architecture is still dominated by sources such as coffee table books (websites) and is perceived as a less respectful field for a successful and creative interior architect. Lockdowns revealed that the researchers rely on their RIs more than other interior typologies as their shelters, homes, and asylums. Their RIs have always been a protective shelter for us, but over time, the temptation of social life in the outside world has moved people away from the shell that protects people, and the researchers have delayed designing their RIs in line with their lives. However, during the lockdown, the researchers once again remembered the importance of their RIs in sustaining their lives. Now, RIs are functioning as their offices, classrooms, gyms, and coffee shops and it can be anticipated that RIs will contribute more to well-being in the new normal.

COVID-19 caused lockdowns, self-isolation, and social distancing which resulted in many people spending their days in their RIs. It is not the first pandemic, nor will it be the last one. As Honey-Roses et al. [3] (p. 3) stated "the size, scope, and speed of the crisis make it feel like people are living through a profound transformation" which deeply affects people's perspectives and relationships with RIs. Unlike other pandemics, it raises public awareness and through social media, people share, inform, and support each other more than ever before. "Stay Home" hashtags encourage millions to inhabit their RIs, which they took for granted. Among interior typologies, RIs are the very first interiors in human history as precious shelters. They were created by anonymous designers throughout generations until modern times and were gradually perfected according to the climate, culture, environment, technology, and society in which they are raised. On the other hand, while life has drastically been changing in the last few decades, decision-makers (architects, interior architects, designers, and users) and researchers have been focusing on public and commercial interiors more; however, none of them were ready for such a fundamental change that COVID-19 caused. COVID-19 arouses new debates around residential interior architects whose raison d'etre has been challenged more than the other professionals in the design discipline [4].

## 2. RIs in the New-Normal

The World Health Organisation (WHO) claimed in 2019 that the next pandemic "is a matter of when, not if" [5]. Not surprisingly, COVID-19 inevitably showed up and forced millions of people into self-isolation and social distancing. Many people self-isolated even before their governments and local governments asked (Guidance: Staying at home and away from others (social distancing) from the UK Government). However, when they stayed a few days in their homes without going to other interiors, they faced a challenge in adapting them to their actual needs. Especially young professionals,

who used to spend their waking hours in their offices, and parents, who have to teach their kids, struggled to adapt to that new circumstance. They always had a home, but they never had to use it for 24 h. Some users complained about being alone all the time whereas others felt exhausted due to a lack of personal space in which they could have a rest on their own and some “me time”. People's houses are their primary living spaces and all the remaining interior spaces such as work environments, pubs, libraries, etc. are the secondary spaces. While the “old normal” fast life put their houses in the second place, it brought all the rest of the interiors to the primary place. Therefore, people who were not accustomed to spending most of their time in their houses suffered greatly during the lockdown. Although some people were socialising and occupying their homes as leisure spaces and some people had been using their homes as a workspace (i.e., home offices), many people used to go out and their RIs were limited to offering specific functions such as sleeping, watching, listening, etc. Nevertheless, COVID-19 showed that people's houses serve them beyond a simple safe place to sleep and survive. Being shelters, homes, and asylums, they are physical and metaphorical shells to protect them from the outside world.

The emergency situation has transformed interiors to function as a library, a pub, a classroom, retails, and so on since lockdown. For instance, this emergency forced users to transform their RIs to function as a classroom (home-schooling) which was not a function of RIs except as a small working area in their kids’ room. In this example, different activities needed to occur in a single space which could be only possible with the high flexibility of the space. Therefore, having multiple activities within a single space requires special attention that can be only created by architects, interior architects, and designers with minimal effort [6]. Scott [7] (p. 1) indicated that there are three possible scenarios for all buildings: “to remain unchanged, to be altered or to be demolished”. As Thoring et al. [6] (p. 64) stated: “a space type is a dedicated space for a specific activity at a specific time”. Moreover, space can be described as “a self-contained entity, infinite or finite, an empty vehicle ready and having the capacity of being filled with things” [8] (p. 9), although without being filled with objects, space is a container that still exists [9] (p. 8). Thus, an interior should alter and adapt itself according to the new needs and new activity types or it is condemned to be demolished and perish. Thus, the research embraced Scott’s [7] theory and claimed that RIs’ destiny is to be altered, as the RIs are compulsory to adapt, in order to adapt to the new normal and new lifestyle of the century.

During and after the pandemic, people's lives and ways of thinking changed considerably. A need for developing an international perspective for interiors has arisen, just as in the period of tuberculosis in the 19th century [10]. To overcome the epidemic in the 19th century, a new town morphology was generated to assure public health [11]. This movement started in Paris in the 1820s and aimed to transform air circulation, water drains, wastewater treatment, waste removal, lighting, and sunlight on an urban scale and became an international architectural model afterward [10]. During the rebuilding of Paris, crowded neighbourhoods were demolished and replaced with broader avenues, public squares, and parks [12] for providing enough space for everyone. The model generated in the 19th century then became the fundamentals of contemporary urban approaches. Fezi [10] showed Le Corbusier’s Villa Savoye as a product of this contemporary architectural approach.

Le Corbusier’s Five Points of a New Architecture are largely inspired by anti-tuberculosis hygienist theories: the house on pilotis, reinforced concrete columns that raise the house from the ground that free it from the “dark and often humid premises”, the roof garden, for “technical, economy and comfort reasons”, the free plan that uses the reinforced concrete to liberate it from being the “slave of the load-bearing walls”, the horizontal window is an “essential goal of the house” which “runs from one end to the other of the facade”, and the free facade in front of the columns, “lightweight membranes made of isolating walls or windows” [10] (p. 191).

Likewise, now, interior architecture/design professionals can build the fundamentals of future RIs for challenging the “pandemic’s ongoing unknowability” [12] (p. 8). COVID-19 forced people to stay and think at a junction point where pandemic and architecture/design meets, where the researchers have an opportunity to reshape their RIs. This new global experience of a pandemic, i.e., the new normal period, certainly alters people's way of thinking about everything since it forced people to change their behaviours and habits [3].

## 3. Changing the Process of Work: WRIs (Workspaces in Residential Interiors)

RIs are always multi-purposed; however, COVID-19 put more strain on it. Even though the researchers are so familiar with their RIs and RIs' multi-purposefulness, they struggled a lot when they had to bring too many tasks into their RIs. During quarantine times, they tried to continue their pre-pandemic daily routines as much as possible in as small a space as possible [12] (p. 5), because previously, they had several other interiors for each task. With the constraints caused by the COVID-19, many of their behaviours and habits transformed which forced organisations such as restaurants,

shopping malls, offices, etc. to transform their environments according to the new needs. One of the fundamental transformations occurred in the process of working. The proportion of working adults from home was 27% in 2019, but it increased to 37% in 2020 [13]. “Twitter told its employees that they never have to return to the office” [14] (p. 9). As numerous surveys about the future of the workspaces reveal, the majority of companies, especially the ones that were not on-site dependent, will be more remote than ever [15] (p. 2308). Accordingly, an 18% increase was detected in the preference of employees for remote working as compared to the times before COVID-19. Furthermore, 41% of the respondents stated that their productivity has been increased and absenteeism has been reduced to 40% [15]. Therefore, the transformations of WRIs are inevitable as the future of traditional offices is uncertain.

Offices are physical workplaces surrounded by static walls containing tables, technical equipment, private and public workstations, and formal and informal meeting areas. Offices before the pandemic were the centres of productivity, creativity, and collaboration, they were seen as the prestigious images of the organisations and companies. These “expensive showplace offices” turned into unused spaces with the outbreak of COVID-19 [14] (p. 3). With the declaration of the COVID-19 pandemic, many organisations and companies quickly and effectively adapted to digital forms of collaboration [16]. The static walls of the physical offices evolved into virtual offices which are now surrounded by the walls of people's RIs. Most organisations and companies put a lot of effort into providing productive, creative, and comfortable workplaces for their workers, but the sudden transformation of the RIs into home offices caught everyone off guard, which raises several questions that should be certainly answered and solved by the professionals: Has working from home succeeded only because it is viewed as temporary, not permanent? [16], Does it matter where you work? [17], How can people transform their RIs into a workspace according to their new needs? How can homes that are not designed to induce creativity be altered into a creative space? How will this global experience of a pandemic alter people's way of thinking in redesigning people's WRIs? Through colour design, is it possible to influence people’s behaviours and experiences in their WRIs? etc. Thus, there is an urgent need to provide guidance to users who do not have access to professional help and interior design professionals (architects, interior architects, and designers) who do not have any previous experience designing WRIs according to the new normal.

The previously raised questions and many more are not so easy to reply to. Thus, this research focuses on the role of colour in improving the quality of WRIs and arouses academic awareness in which existing research studies about creativity and workplaces can be applied to post-pandemic home offices through colours. At this point, it becomes important how WRIs are going to adapt to this profound transformation in the process of working during a new-normal period. Since the crisis is very new, there is a gap in the literature on how WRIs should be designed to adapt during lockdowns and self-isolation times to boost well-being by mitigating negative moods and atmosphere as well as increasing creativity and productivity. Many of the employees stated that they have enjoyed this new experience, and their productivity increased; others are fatigued by it [16]. These employees might correspond to high and low screeners in Kwallek’s study [18] (p. 124) who are capable of “screening less relevant stimuli of their environments” and those who are not capable of, respectively (see **Table 1**). The unsuitable working conditions such as lack of privacy, acoustical problems, ergonomically incorrect seating, inappropriate equipment, work set-up, and Zoom fatigue [14] (p. 3), and the presence of family members made WRIs tougher to adapt. Existing questions and problems about workspaces, particularly about offices, have been raised in RI during the pandemic. Until having to share the same space with several family members or housemates for several functions in addition to having to stay at home all the time, these issues were negligible in RIs. Moreover, separating work and home is affecting the quality of the home-office experience. Academic studies explored how to make an office efficient, productive, and comfortable; however, WRIs are ignored as other RI types (e.g., living rooms). RIs are never designed for creativity and productivity but rather relaxation and comfort, causing conflict in workspaces. Working from home is not new for many users; however, finding sources to learn how to design them is very rare. Keeping employees in their WRIs provides a financial advantage to many companies in addition to positive effects on the environmental crisis (such as low-carbon footprint due to lack of transportation/commute, etc.). On the other hand, office interiors are affected by technological inventions more than other typologies (such as religious interiors). Many employees are dealing with work-related problems in home-offices: tangible elements (e.g., back pain due to inappropriate sitting position) or intangible elements (e.g., procrastination, stress) [19]. Nevertheless, while many employees are working from home and are dealing with tangible and intangible elements, their work requires high technology which is rapidly changing, which puts extra pressure on them. Academic studies cannot offer reliable sources to decision-makers and workers to improve the quality of the home-office experience. Thus, there is a growing gap in the literature about how WRIs should be designed to serve productivity and creativity as a work environment and boost well-being. Moreover, providing guidance to decision-makers and workers is a growing need.

**Table 1.** Previous works on colour in the workspace before the pandemic.

| Source | Dependent Variable(s) | Results |
| --- | --- | --- |
| Kwallek et al. [20] | Mood and performance for clerical tasks | White offices: more proofreading errors.<br>Saturation has different effects on males and females: for females, more depression, confusion, and anger occur in low saturation; however, for males in high saturation.<br>Preference of office colours: beige and white are most preferred whereas orange and purple are less. |
| Kwallek et al. [18] | Mood and performance | Red scheme in office interiors caused more dysphoria than the blue-green scheme.<br>Red scheme has more dysphoria than the high screeners in the red scheme. High screeners' performance is better in red office and low screeners' performance is better in blue-green. |
| Kwallek et al. [21] | Job satisfaction and perceived performance | White and blue-green colour schemes caused higher satisfaction and perceived performance.<br>High and moderate screeners reported higher job satisfaction and perceived performance. |
| Kwallek et al. [22] | Work week productivity | Final performances are different from the initials for the three groups, which reveals that time is an important factor in the effects of colour schemes in work environments. |
| Küller et al. [23] | Arousal and performance (both for clerical and creative works) | Experiment 1: colourful scheme is more complex and has less unity than the grey one. The participant felt more extroverted in the grey scheme than in the colourful one. Both EKG and EGG are lower in the colourful room.<br>Experiment 2: higher affection and a more closed environment in the red room and higher potency in the blue room were reported.<br>Experiment 3: blue has high potency and red is more pleasant. No difference in performance whereas, in the red room, people who had negative mood checked longer texts with higher percentage of errors. No difference in creativity, but in red office people who had negative mood wrote longer texts.<br>Overall results: chromacity increase complexity but decrease unity. Consistently, blue has higher potency than red. |
| Öztürk et al. [24] | Appraisal and task performance | Significant difference on task scores between two colour schemes, no difference in self-reports. Chromatic scheme has positive effect on performance.<br>For appraisals: chromatic interior scheme is more pleasant, attractive, satisfying, and dynamic.<br>Preference was discussed in environmental and social context, because of high percentage of white and off-white colours in real life applications. |

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