

Article

Transforming Residential Interiors into Workspaces during the COVID-19 Pandemic

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Abstract: 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. In connection with previous studies, which explored creativity in workspaces, this study aims to compile colour-related literature work on workspaces in RIs (WRI) which will require further attention from interior architects to reconsider the discipline under new normal conditions. Providing a framework for WRIs in terms of function and activity might lead to the semantics of RIs in future studies. This study's findings contribute to the interpretation and understanding of new normal workspace interiors after the COVID-19 pandemic so it will be beneficial for decision-makers in addition to researchers who aim to investigate this topic in future studies.



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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 we rely on our RIs more than other interior typologies as our shelters, homes, and asylums. Our RIs have always been a protective shelter for us, but over time, the temptation of social life in the outside world has moved us away from the shell that protects us, and we have delayed designing our RIs in line with our lives. However, during the lockdown, we once again remembered the importance of our RIs in sustaining our lives. Now, they are functioning as our offices, classrooms, gyms, and coffee shops and it can be anticipated that they 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 we are living through a profound transformation” which deeply

affects our 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’être* has been challenged more than the other professionals in the design discipline [4].

1.1. 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”. Our houses are our 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 our 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 our houses serve us beyond a simple safe place to sleep and survive. Being our shelters, homes, and asylums, they are our physical and metaphorical shells to protect us 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 study embraced Scott’s [7] theory and claimed that RIs’ destiny is to be altered, as our RIs are compulsory to adapt, in order to adapt to the new normal and new lifestyle of the century.

During and after the pandemic, our lives and our 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 us to stay and think at a junction point where pandemic and architecture/design meets, where we have an opportunity to reshape our RIs. This new global experience of a pandemic, i.e., the new normal period, certainly alters our way of thinking about everything since it forced us to change our behaviours and habits [3].

1.2. 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 we are so familiar with our RIs and their multi-purposefulness, we struggled a lot when we had to bring too many tasks into our RIs. During quarantine times, we tried to continue our pre-pandemic daily routines as much as possible in as small a space as possible [12] (p. 5), because previously, we had several other interiors for each task. With the constraints caused by the COVID-19, many of our 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 our 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 we transform our RIs into a workspace according to our 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 our way of thinking in redesigning our 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 study 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. 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. 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. 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. 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. 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. Experiment 2: higher affection and a more closed environment in the red room and higher potency in the blue room were reported.
Küller et al. [23]	Arousal and performance (both for clerical and creative works)	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. Overall results: chromaticity increase complexity but decrease unity. Consistently, blue has higher potency than red. Significant difference on task scores between two colour schemes, no difference in self-reports. Chromatic scheme has positive effect on performance.
Öztürk et al. [24]	Appraisal and task performance	For appraisals: chromatic interior scheme is more pleasant, attractive, satisfying, and dynamic. Preference was discussed in environmental and social context, because of high percentage of white and off-white colours in real life applications.

2. (Re-)Designing the WRIs with Colour

Change is inevitable in life and architecture, degrees of alteration are open for discussion with the inclusion of colour applications:

“In the question of degree of intervention, one might say that there are two different categories of alteration, surface and spatial, although obviously, the latter may include the former. Surface prompts consideration of colour. Colour sometimes feels to the scholar like an unnecessary and unfair dimension to existence, because of its elusive nature with regard to intelligence, combined with its enormous experiential power. That the act of merely smearing can render such changes, and the magic of it be locked up in the eye and the mind of the artist, seems sometimes doubly unfair to the intellect; its power may even make us feel shallow ourselves.” [7] (pp. 92–93).

Change (and to providing this change, alteration) is the ineluctable fate of artifacts, nonetheless, it is always coming with its cost. Most alterations in interiors cost an arm and a leg, and many families and individuals who are suffering the consequences of COVID-19 in their interiors cannot afford such expenses. Changing the atmosphere and experiencing interiors with colour applications are financially efficient since colour effects on the user have been proven in many different interior typologies and many different types in these typologies [20,21,25–29]. Colour alterations on surfaces are cheaper compared to spatial alterations or other surface alterations (such as changing surface materials) and their effects are immense and fruitful. Scott [7] discussed how alteration is necessary due to time which changes not only the building, but also everything around it (such as technology, lifestyles, and so on), and underscored the power of colour. In addition, the changes that COVID-19 has been enforcing are not happening over time; on the contrary, they happened in weeks, if not in a night, for many people on the planet. Therefore, instead of spatial alterations, surface alterations are more feasible for such kinds of rapid changes by using this power of surface colours in interiors. Undoubtedly, Fred Scott [7] did not build his theory on alteration around these considerations of forthcoming pandemics or sudden changes of COVID-19; however, it embraces the alteration strategy that can be helpful during these uncertain times: altering surfaces of interiors with powerful effects of colours. This approach would save both money and time for users and would provide a rapid response to their needs in their homes (RIs) which changed after the beginning of the COVID-19 pandemic and its subsequent lockdowns and self-isolations.

Since RIs' destiny is to be altered for adapting to a new normal, with the guidance of previous studies, WRIs can also be re-designed according to today's needs. For instance, the previous study proved that people tend to prefer different colours in some RI types [29] which proves that people assign different meanings and different connotations to them. Moreover, RI is not a solid interior typology that serves few similar functions which are very private; on the contrary, different interior types in RIs can function for different purposes in which people can feel secure, have family time, spend time with the self, socialise, focus on specific things, work and be creative at the same time.

Likewise, traditional work environments, such as RIs, have various spaces for different tasks: meeting and conference rooms to meet, share ideas and collaborate; office areas to use technology, reflect, and create; kitchens, wellness rooms, and common areas as public spaces; and other areas where various work are supported. Furthermore, for optimising comfort and managing stress, the users need various opportunities to adjust their environment according to their task requirements that change with time [30]. It is well known that there is a strong effect of an interior work environment on the user's mood and performance in office-related tasks [18,20]. Correspondingly, the potential of colour in enhancing an individual's mood, creativity, and productivity by inducing feelings of comfort, good will, activeness, passiveness, or contentedness has been studied in traditional work environments [31]. However, additional work is needed for WRIs since "old normals" are still far away for now. Thus, it is time to focus on the potential of colour in the WRIs and its function in improving people's creativity.

The concept of creativity in interiors is hard to define. Previous researchers explored it in terms of teaching/learning (T&A) environments and workspaces [6,32–38]. Although it is hard to define, it is experienced by every user, and we are seeking creativity-enhancing environments as human beings. In an earlier study, Thoring et al. [38] (p. 3) mentioned space types for creative learning spaces: the solitary space, the team space, the presentation space, the tinker space, and the transition space. A more recent study [6] (p. 65) revealed space types and space qualities for creative spaces: personal space, collaboration space, presentation space, making space, and intermission space for space types, and knowledge processor, an indicator of culture, process enabler, social dimension, and source of stimulation for space qualities. Setola and Leurs [32] (p. 179) mentioned similar creative learning space qualities with metaphors of the wild to "observe and register", the pub to "share and compare", the attic to "analyse and generalise", and the workplace to "make and

plan". Similarly, Meinel et al. [34] indicated that relaxing space, disengaged space, doodle space, and unusual/fun spaces are space types for workspaces. In a similar vein, WRIs need to acquire space types and space qualities which might reveal how different space types in RI are interacting in daily life and mitigating the negative effects of spending too many hours in the same interior. The literature on creativity for workspaces and T&A environments and workspaces might be transferred to WRIs to enhance creativity and pleasure, and mitigate the negative effects of self-isolation, lockdown, and quarantine (such as stress) in RIs. Knowing how to use an interior type can support decision-makers to change and adapt their interiors because change is inevitable for a building (a space or a design) [7]. Ulusoy, Olguntürk, and Aslanoğlu [29] (p. 5) revealed that "entrance, living room, corridors, kitchen/dining room, toilet, work room, balcony, bathroom, kid's room, and bedroom" are common interior types, however, depending on culture and context, more interior types can be explored. For instance, a balcony might be referred to as a garden in many cases. Considering all the previous information, a table summarising for residential interior space types (RITs) and their correspondence with creative space types which can be used as different parts of WRIs was compiled.

Table 2 reveals RITs, which are mentioned in the previous study [29], and their function-activity features in the previous study [6], which showed types of creative spaces. This proposes five space types in RIs: solitude space, commune space, interaction space, making space, and enabling space. Creative space types correspond with RIs because they provide a variety of interior experiences and transferring them to RIs will compile several interior features/activities under a structure that can be attained by decision-makers. Although considering bedrooms as a part of workspace sounds unfamiliar to our "old normal" minds, many bedrooms functioned as a reflection space which we used to employ in our traditional offices, Setola and Leurs's [32] attic to experience solitude (see Table 2). As highlighted by Ainsworth et al. [31], the induced feelings of comfort can enhance an individual's mood, creativity, and productivity. In this case, an interior environment and its design elements can stimulate comfort, hence increasing creativity. Meinel et al. [34] compiled design elements that support creativity in workspaces: intangible ones (e.g., colour, light, temperature, etc.), tangible ones (e.g., furniture, plants, etc.), and spatial layout (privacy, flexibility, etc.). As one of the intangible elements, colour in workspaces was mostly studied by a group of researchers in traditional office environments [20,21,23,39]. A cross-cultural study including 988 participants was conducted by Küller et al. [23] for understanding the possible effects of lighting and colour on office workers' mood in real work environments. Their results showed the importance of colour by stressing the ability to increase the index of emotional status as an environmental factor. The office workers who had the most colourful work environments tended to have higher emotional status. Küller et al. [23] concluded their study by stating that it is possible to escalate a more positive mood by using "good colour". Kwallek et al. [20] searched the effects of nine different colours (red, white, green, orange, yellow, blue, beige, grey, and purple) on performance, mood, and the colour preference of a group of 675 office workers. Their results indicated that office workers preferred beige- and white-coloured offices whereas the least preferred colours were purple and orange. Similarly, the previous study [7] showed purples were not picked as much as other colours on RIT walls and they were selected for negative meanings. Moreover, some orange colours were associated with negative meanings on RIT walls [7], similar to an earlier study finding of Taft (1997) who revealed that orange is the loudest and ugliest colour for product design [40]. A study using a laboratory office setting aimed to uncover the effect of colour on perceived performance and job satisfaction. White and mainly blue-green offices were found more effective in higher perceived performance and job satisfaction than red offices [21]. A red office increases anxiety more than a blue-green office, and a red office distracts the participants more compared to a white office [18,20]. The performance during a high-demanding task of the participants was decreased when they were in a red environment [41]. An unconventional experiment was designed by Kwallek et al. [39] to investigate the effect of office colour on

workers' mood and productivity. They asked 36 office workers to fill out an eight-state questionnaire, which was measuring mood while being in a red or a blue office. After spending some time in either a red or blue office, workers were informed that they could continue their experiment in the same office or move to a different-coloured one. The participants who preferred to stay in the red office had increased anxiety and stress mean scores whereas the mean depression scores were found higher for the participants in the blue office. The mean arousal score of the participants who moved to the different-coloured offices during the experiment were found higher.

Table 2. Residential interior space types and their correspondence with creative space types.

Creative Space Types [6]	RI Space Types	Residential Interior Types	Functions-Activities
Personal Space	Solitude Space	Bedroom, Workroom, Balcony, Living room, Bathroom, Kid's room	Working and reflection: reading, writing, praying, self-care (skincare), playing, watching, listening, learning, exercising, etc.
Collaboration Space	Commune Space	Kitchen, Dining room, Living room, Balcony, Kids' room,	Sharing and leisure: teaching, learning, playing, watching, listening, family activities, cooking, online shopping, chats, exercise, etc.
Presentation Space	Interaction Space	Living room, Dining room, Workroom, Balcony, Entrance	Presenting and transferring: video chats, meetings, socially distanced gatherings, welcoming, etc.
Making Space	Making Space	Kitchen, Balcony, Living room, Workroom	Creating and hands-on experiences: cooking, chats, gardening, DIYs, etc.
Intermission Space	Enabling Space	Corridors, Entrance, Kitchen, Bathroom, Toilet	Provide facilities: chores, passing by, etc.

Previously mentioned studies conducted about traditional office environments have shown some colour effects on workers (see Table 1) and with this current study, we wanted to make some suggestions for WRIs in line with the results of previous studies for office environments and based on our own published studies on RIs [29,42]. Furthermore, as Kwallek et al. [39] highlighted, the participants who moved to the different-coloured offices during the experiment had increased mean arousal scores which indicated the need for different-coloured areas in WRIs for higher creativity. For instance, bedrooms, workrooms, balconies, and living rooms can be used as personal spaces for working and reflection; corridors, entrances, kitchens, bathrooms, and toilets can be used as an intermission space to take a break between the work done in WRIs (see Table 2). For all the various functions, activities, and areas, different predominant colours are needed for increasing creativity. In this direction, some suggestions were presented below (see Table 3). These predominant colours should be balanced with accent colours in order to provide harmony on interior surfaces. The abstract colour palette of Guerin et al. [43] can be used to decide on these accent colours during the design process.

Table 3. RITs, their correspondence with creative space types, and suggested predominant colours with Munsell codes.

Creative Space Types [6]	RI Space Types	Functions-Activities	RI Types Used as WRIs and Suggested Predominant Colours
Personal Space	Solitude Space	Working and reflection	Bedroom: a
			Workroom: a
			Balcony: a b
			Living room: a b c
Collaboration Space	Commune Space	Sharing and leisure	Kitchen and Dining room: a d
			Living room: a b c
			Balcony: a b
Presentation Space	Interaction Space	Presenting and transferring	Living room: a b c
			Dining room: a d
			Workroom: a
			Balcony: a b
			Entrance: a b
Making Space	Making Space	Creating and hands-on experiences	Kitchen: a d
			Balcony: a b
			Living room: a b c
			Workroom: a
Intermission Space	Enabling Space	Provide facilities	Corridors: a b e
			Entrance: a b
			Kitchen: a d
			Bathroom and Toilet: a

Legend for colour codes a: 7.5Y 9/4, b: 5YR 7/4, c: 2.5R 5/4, d: 2.5G 9/4, e: 5YR 7/6

With COVID-19, the world economy has been disturbed [44] and financial difficulties caused many schedule delays and impacted decision-making processes in several areas and industries. For instance, for building projects, financial difficulties were found as the first and most important factor affecting decision-making [45]. As mentioned in this study [45], planning from the beginning is very important for avoiding financial difficulties, but unfortunately, this cannot be achieved so easily. Especially, the COVID-19 pandemic designers

and decision-makers could not foresee this novel pandemic and/or that people would spend so much time in their residential interiors. As COVID-19 has caused radical changes in the process of working [44,46], the demand for new, rapid, less money-consuming, and small-scale solutions has increased. Just as ventilation plays an important role in mitigating viral loads in a confined space [47,48], the use of appropriate colours in such spaces can be crucial in enhancing the overall well-being of residents. As Anand, Cheong, and Sekhar [47] (p. 3) highlighted, “the sociological or psychological aspects significantly influence occupant behaviour”. Consequently, our houses have many alterations that can be enhanced with interior design professionals. As a result, decision-makers will allow RIs to be reborn, to become multi-purpose shelters again. In addition to each individual’s methods, decision-makers will suggest better solutions for future RIs in light of this study. Future studies need to focus on space types in RIs one by one and explore their functionality and meaning in terms of several interior architecture elements such as colour, natural light, materiality, etc. in order to fulfil users’ physical and emotional needs.

3. Conclusions

Our world is constantly changing, only we could not notice this change because of our fast lives. With COVID-19, we realised that our world has changed, and our needs have altered with this change. The lockdowns, self-isolation, and social distancing taught us many things and continue to teach us, including doing a very basic activity: spending our days in interiors. We were forced to learn how to stay in a house like a new learning child because we were caught unprepared for this new situation, and we needed to remind and encourage each other with the “Stay Home” hashtags. These hashtags show that we forget to spend time in our houses and we tell each other again that we should stay in our houses for all our sakes.

The current pandemic generates new needs, new behaviour patterns, and new usage configurations [3] which need to be adapted to RIs. So far, the impact of the pandemic has shown that architecture can be more effective with small-scale alterations that can be applied faster than large-scale alterations. By using technological and scientific innovations, safer, healthier, more welcome, and more comfortable interiors can be created. Interior design professionals have the unique ability to redesign and reorganise every interior according to their users’ new physical and mental needs by uniting the design decisions regarding aesthetics and environmental meanings [49]. They can reorganise them in such a way that they can limit the spread of the current pandemic and prevent further pandemics. For instance, transformed home-office interiors can support and lower the stress levels of users while working. However, it is challenging to convert an interior typology such as the RI (i.e., homes), which was never designed to be productive and creative until the COVID-19 pandemic, to another interior typology such as workspaces (i.e., offices), whose essential purpose is promoting creativity and productivity. Fortunately, existing research studies in the literature provide sources to rebuild alteration strategies around RIs, and colour studies in workspaces reveal how surface alterations can be applied to home-offices.

COVID-19 and its consequences function as a call to action for designers from different disciplines to change the world we used to live in and for the interior architecture discipline, that call is for attention to RI typology. This study aims to raise academic awareness, enhance interest and scholarly engagement in RIs, open subsequent research avenues, particularly in cross-cultural studies, and discuss influential space types on the home-office interior experience for future studies, in addition to proposing an initial colour chart for RIs in light of previous studies about creativity in other typologies. The study results will be beneficial for professionals and researchers in interior architecture, product design, and architecture disciplines. The new normal requires new arrangements in home-office interiors and the study findings offer a framework for exploring interior architecture space types that can promote well-being by mitigating the stress of self-isolation and the new normal. Moreover, it might provide a guide for users who need/prefer to self-isolate now and in the future.

All of the pioneering and important studies on offices and home-offices about colour covered the pre-COVID period. Now, what we decision-makers (architects, interior architects, designers, and users) have to do is use our knowledge from before COVID-19 to find novel solutions that can minimise the negative effects of the radical changes that COVID-19 has created and will probably continue to create, and implement these solutions quickly. We should accept COVID-19 as a milestone and spend all our energy creating healthier, safer, creative, and productive RIs. Therefore, now is the time to reconsider home-offices. Some companies are planning to continue working from home even after the pandemic period is over. Additionally, unlike COVID-19, during the next pandemic, RIs should be ready to diminish the possible negative effects. For the future, which may be in the next pandemic, we should be ready to reorganise our RIs by taking into consideration that they have the possibility to go even further just by being a living space. Furthermore, it can always help to remind ourselves of these words: “Whether walled, open, or cloud-based, an office is about the people who work there.” [14] (p. 11).

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