

Exploring the impacts of COVID-19 on the lifestyles of community-living adults in Singapore: A qualitative study

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Abstract

Introduction: Disruptions caused by the COVID-19 pandemic have not only restricted people from performing occupations but also adversely affected their health and quality of life. However, the impact of the pandemic on Singaporean adults at different life stages remains unclear. This study aimed to understand the impact of COVID-19 on a range of community-living age groups' occupations and sense of well-being.

Methods: Community-living adults in Singapore were invited to participate in this qualitative descriptive study. Thematic analysis was conducted to generate themes and identify common patterns (e.g. impacts on different occupations) in different age groups.

Findings: Twenty-nine semi-structured interviews (young adults: 10, middle-aged adults: 10, older adults: 9) were conducted and thematically analysed, revealing three main themes: (1) impact on occupations, (2) impacts on personal well-being, and (3) responses to COVID-19 situation. Participants from all age groups experienced both positive and negative impacts across various occupations, such as productivity (work and study), leisure, and self-care activities. Young and middle-aged adults were less affected as they were more proficient in using technology to make adequate adaptations. Older adults were least equipped with coping strategies and thus the most compromised. In response to the impacts of the pandemic on occupations and well-being, participants from different age groups adjusted differently (e.g. adopting a sedentary lifestyle and developing different coping strategies).

Conclusion: This study identified the impacts of COVID-19 on the daily occupations of Singaporean adults and how it is intricately linked with their well-being. Findings also revealed the significant role of technology in adapting to the COVID-19 situation. The younger Singaporean adults were more agile to make occupational changes and adaptations. More can be done by occupational therapists to assist community-living older adults to enable continued participation in meaningful occupations during pandemics.

1 | INTRODUCTION

The outbreak of the novel coronavirus (COVID-19) was declared a pandemic by the World Health Organisation (WHO) on 11 March 2020. In response to the COVID-19 pandemic, measures have been taken across the globe to prevent harm, including lockdowns such as travel restrictions and closure of non-essential services. Disruptions caused by the pandemic have not only restricted people from performing occupations but have adversely affected their health and quality of life. Studies conducted across the globe have reported a significant reduction in social participation, increased sedentary leisure behaviour, and decreased physical activity, leading to poorer physical and psychological health in adults (Ammar et al., 2020; Flanagan et al., 2020). The overall reduction of physical activity has been linked to reduced strength, a declined functional capacity (Machado et al., 2020), and higher risk for chronic diseases (Booth et al., 2017).

Specific to each age group, younger adults have been found to be less susceptible to adverse health outcomes associated with COVID-19, but still experience increased levels of perceived stress and anger during the pandemic (Shanahan et al., 2020). Meanwhile, middle-aged adults have reported challenges such as financial concerns, arranging work from home (WFH), and juggling child caregiving responsibilities (Klaiber et al., 2020). Considered to be more vulnerable due to age and possible underlying medical conditions, older adults are being prevented from participating in meaningful physical activities, predisposing them to risk of frailty, sarcopenia, and disability (Visser et al., 2020). Older adults' psychological well-being has also been found to be greatly impacted as a result of loneliness and social isolation during the pandemic (Tyrrell & Williams, 2020).

Singapore was one of the first countries to be affected by COVID-19. A local study analysed 7760 responses from the Singapore Life Panel, a monthly nationwide panel survey of middle-aged and older Singaporeans (Cheng et al., 2020). Coinciding with the introduction of a nationwide lockdown, this study reported a significant decline in overall life satisfaction involving daily activities, social relationships, jobs, and economic situations, with effects remaining even after the lockdown was lifted (Cheng et al., 2020). However, this study solely focused on examining the life satisfaction and well-being of middle-aged and older Singaporeans during the pandemic. Although different lifestyles can affect people's general health (Jackson et al., 1998), the impact on lifestyles and occupations for different age groups during the pandemic remains unclear. As experiences are largely

Key Points for Occupational Therapy

- The impacts on different age groups' occupations should be taken into considerations during occupational therapy assessment and treatment planning during pandemics.
- Occupational therapists can develop strategies for specific age groups to promote occupational balance during pandemics.
- Occupational therapists can advocate for the adoption of telerehabilitation services for all age groups.

subjective and can vary at different life stages, there is a lack of comprehensive data on the needs and challenges specific to each age group, especially those concerning young adults.

Therefore, our study aimed to understand the impact of COVID-19 on a range of community-living age groups' occupations and sense of well-being in Singapore. This study also sought to explore the coping strategies people had adopted to manage their lifestyle changes during the pandemic. Findings may be beneficial in equipping the Singapore healthcare systems with interventions to optimise participation in meaningful occupations and reduce negative impacts during pandemics.

2 | METHODOLOGY

As part of a larger population survey study (Zulkifflin et al., 2021), this study used semi-structured interviews with a descriptive approach to understand the complexity and range of impacts experienced in the adult population (Taylor, 2007). The semi-structured interview method has been found to be successful to help the researchers to interact and converse in depth about the research topic with participants (Kallio et al., 2016). The consolidated criteria for reporting qualitative research were used as a reference (Tong et al., 2007). Ethics approval was obtained from the Singapore Institute of Technology Institutional Review Board (Protocol Number: 2020083).

2.1 | Participants

Participants were recruited via convenience sampling from a pool of 208 subjects in a recent survey study (Zulkifflin et al., 2021) and the general public. Subjects

from the survey study were contacted by the researchers if they indicated interest to take part in an interview. An electronic poster displaying interview details was posted on various social media platforms and spread through word of mouth to invite people from the general public to participate in the study. Participants' inclusion criteria were those living in the community, aged 18 and above, able to communicate in English or Mandarin and provide written consent to attend a virtual interview. Those who had a diagnosis of COVID-19 might have different life experiences from others and therefore were excluded from the study.

2.2 | Data collection

Qualitative data were collected between August and September 2020 through semi-structured interviews via phone calls and Zoom videoconferencing. A suitable time was arranged with the participants for the interviews. Each interview was conducted by two researchers (PNL and JAH) who were occupational therapy students. Anonymous data collected were categorised into age ranges: young (18–29), middle-aged (30–64), and older adults (65 and above). Guided interview questions (Supporting Information) consisted of knowledge of the COVID-19 situation, the impact of COVID-19 on a national (e.g. economic, social and health impacts on Singapore) and personal level (e.g., lifestyle changes before and during COVID-19 situation), and available supports and resources. They were developed based on the Canadian Occupational Performance Measure (Law et al., 1990) and Person-Environment-Occupation model (Law et al., 1996) to encourage open dialogue on the impacts of the pandemic on participants' occupations. Interview questions were refined after pilot testing with the researcher's friends and family. Each interview lasted approximately 1 h and was audio-recorded with permission.

2.3 | Data analysis

A verbatim transcription was completed for all interviews in their respective languages, and all participants were allocated a unique code number in the transcripts to remain anonymous. One transcript in Mandarin was translated into English using the "forward and backward" translation method (Ponce et al., 2004) to ensure the quality and accuracy of the translated script. All interview transcripts were cross-checked among all researchers and were uploaded to NVivo software

(v12). As guided by Braun and Clarke's (2006) process, thematic analysis with a descriptive approach was used to identify and analyse any patterns (e.g. impacts on different occupations) in the qualitative data set. A basic coding tree was developed using a line-by-line coding method before generating sub-themes and main themes across different age groups. To ensure methodological rigour, coding was cross-checked by another researcher, and regular team meetings were conducted to refine the analysis and achieve a common consensus.

3 | FINDINGS

Twenty-nine healthy participants including 10 young (Y1–10), 10 middle-aged (M1–10), and 9 older adult (O1–9) participants were recruited. As shown in Table 1, more than half of the participants were females ($n = 18$), Chinese ($n = 22$), and working ($n = 19$). Most of the participants were living with their families or spouses ($n = 24$). Each interview took approximately an hour and was conducted in English, except for one in Mandarin.

Three common themes across the different age groups were derived from the thematic analysis (Figure 1). These three themes are interrelated and had positive and/or negative impacts on one another. Restrictions during the pandemic had a direct impact on participants' occupations, which in turn affected personal well-being and eventually triggered a response to the situation.

Sub-themes and categories under each identified main theme are shown in Table 2. Some categories are unique to the experiences of the specific age group, whereas other categories share commonality between two or across all three age groups.

3.1 | Impacts on occupations

When Singapore enforced strict measures to contain the spread of COVID-19, participants from all age groups reported experiencing both positive and negative impacts on their usual occupations, such as productivity (work and study), leisure, and self-care activities.

3.1.1 | Negative impacts on productivity

Young and middle-aged adults were highly concerned about their decrease in productivity (e.g. study and work)

TABLE 1 Demographics of participants

	Young adults (18–29 years)	Middle-aged adults (30–64 years)	Older adults (≥65 years)
Total participants (<i>n</i> = 29)	10	10	9
Age (mean ± SD)	24.1 (3.1)	47.1 (9.2)	70.8 (6.8)
Gender			
Male (<i>n</i> = 11)	4	5	2
Female (<i>n</i> = 18)	6	5	7
Ethnicity			
Chinese (<i>n</i> = 22)	5	8	9
Malay (<i>n</i> = 6)	5	1	-
Others (<i>n</i> = 1)	-	1	-
Occupation			
Studying in university (part-time, full time) (<i>n</i> = 1)	1	-	-
Studying at university and working (<i>n</i> = 3)	3	-	-
Working (part-time, full time) (<i>n</i> = 19)	6	10	3
Not studying or working (<i>n</i> = 6)	-	-	6
Living situation			
Living with family (<i>n</i> = 21)	10	9	2
Living with spouse (<i>n</i> = 3)	-	-	3
Living alone (<i>n</i> = 5)	-	1	4

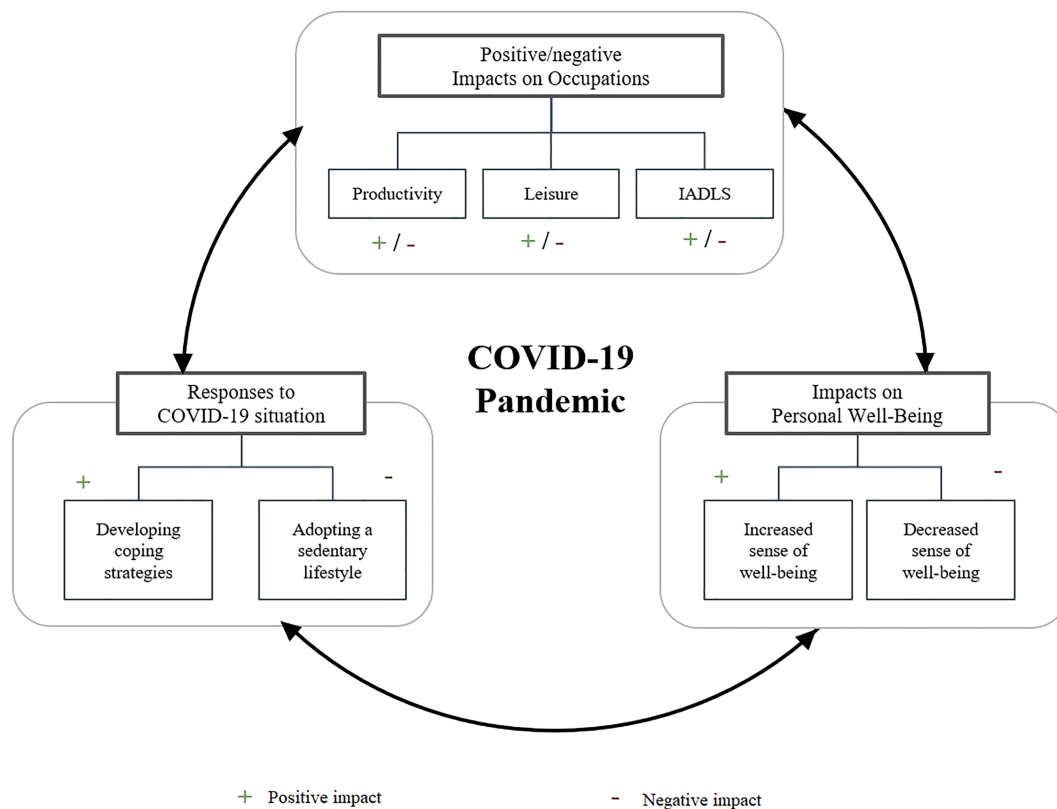


FIGURE 1 Main themes and interrelation between themes

TABLE 2 Themes, sub-themes, and categories for adults of all age groups

	Young adults	Middle-aged adults	Older adults
Theme 1: Impacts on occupation			
Sub-theme 1a: Negative impacts on productivity			
Decreased work productivity	X	X	X
Poorer work–life balance	X	X	
Loss of jobs	X		X
Pay cuts	X		X
Sub-theme 1b: Positive impacts on productivity			
Flexibility and convenience	X	X	
Better work–life balance	X	X	
Sub-theme 1c: Negative impacts on leisure			
Decreased quality of social interactions	X	X	X
No group activities	X	X	
Sub-theme 1d: Positive impacts on leisure			
More time to engage in hobbies	X	X	X
Picked up new leisure/skill	X	X	X
Family bonding	X	X	
Sub-theme 1e: Negative impacts on instrumental activities of daily living (IADLs)			
Unable to visit places of worship		X	
Increased child caregiving responsibilities		X	
Inconvenience when grocery shopping			X
Postponed medical appointments			X
Sub-theme 1f: Positive impacts on instrumental activities of daily living (IADLs)			
More time for home management		X	
Theme 2: Impacts on personal well-being			
Sub-theme 2a: Decreased sense of well-being			
Frustration	X	X	X
Worried about socio-economic impacts	X		X
Worried about contracting the virus		X	X
Sub-theme 2b: Increased sense of well-being			
Sufficient rest	X	X	X
Sense of accomplishment	X	X	
Deeper appreciation of the situation	X		
Theme 3: Responses to COVID-19 situation			
Sub-theme 3a: Adopting a sedentary lifestyle			
Non-meaningful time use	X	X	
Adopt sedentary lifestyle		X	X
Sub-theme 3b: Developing coping strategies			
Seeking social support	X		X
Occupational adaptations	X	X	
Adhering to hygiene and distancing measures		X	X
Developing stress management strategies	X		

given the environmental factors when they were working from home during lockdowns.

... falling behind schedule ... My home does not have a conducive area to do work, so I get easily distracted. (Y1)

When kids come back, I need to prepare lunch then start my work ... when I return, I have lost my flow of thoughts. (M5)

Similarly, older adult workers were also affected due to the lack of familiarity with technology.

Got to learn everything from scratch ... Do not know how to, it's not like hardcopy anymore, so initially working from home was quite stressful. (O1)

In addition, some young and middle-aged adults experienced poor work-life balance due to the lack of boundaries or allocated time to work, when they were working from home.

[work] can drag on for 2-3 hours. (Y2)

Last time work stops in the office ... Now you can work at any point in time ... This has eaten into my family time, my leisure time. (M5)

The pandemic also caused young and older adults to face financial constraints due to losing jobs and receiving pay cuts.

To be denied of my income [from tuition] ... It felt very difficult and sudden. (Y7)

[My husband] has a lot of underlying illness ... not able to contribute now ... I do part-time jobs as much as I can, but due to COVID-19, my contract stopped.... (O2)

3.1.2 | Positive impacts on productivity

Out of the three different age groups, only young and middle-aged adult participants experienced better productivity during the pandemic. They reported having less structure when they worked from home, and this meant they had more freedom in how they scheduled their day.

Work is more efficient ... converted to online lessons so this cuts my travelling time. (Y7)

Gives me a certain type of flexibility ... I can log in later if I work late ... It's up to us to juggle our timeline now. (M5)

3.1.3 | Negative impacts on leisure

During the pandemic, participants reported that most interactions with people outside of one's household were conducted through video calls. All participants perceived this to be less meaningful than face-to-face interactions.

There are subtle nuances you can feel based on a person's body language ... On Zoom, you miss all these things. You can just turn off the camera and be less engaged in the conversation. (Y2)

Through Zoom there's nothing, no affection, no personal touch ... Affects us in terms of conversation and the number of things that we share. (M5)

I have not been able to see them, except via Zoom. So, meeting them face-to-face is quite different. (O2)

In addition, some young adult participants discussed that they vented their frustration on family members causing strained relationships when staying home more often:

My sister and I cannot get along, so we fight every day. Not being able to get out of the house stressed both of us, as we cannot have time away from each other. (Y4)

Unlike older adult participants, young and middle-aged adults were regularly involved in group recreational activities, which played a role in regulating their emotions. When halted, this affected their quality of life.

Netball is a way for me to release my stress ... Once it stopped, it was very depressing. (Y4)

The interest groups all ceased. All big or small-scale events are cancelled. (M2)

3.1.4 | Positive impacts on leisure

With freed-up time during the pandemic, middle-aged and older adult participants had increased opportunities to engage in meaningful hobbies.

I have more time to watch a Netflix show or read a book ... (M3)

Last time, I cannot find time to even finish reading the newspaper Now I have more time to go swimming and watch my videos. All these are very important to me. (O4)

But young and some other middle-aged participants also exposed themselves to new leisure occupations.

Trying new stuff like baking and cooking ... (Y4)

I sign up [for] online courses. I try to do online learning on my own. (M3)

For young and middle-aged adults, being home meant spending more time with family members living within the household, facilitating opportunities to interact and bond with family.

I'm making more effort to spend time with [my parents], talk to them, get to know about their day ... Things that I did not do last time. (Y3)

Because my family members also work from home. So, we get to see each other every day ... get to know each other better ... (M1)

As opposed to young and middle-aged adults, most older adult participants lived alone or with their spouses and were apart from their families. These older adults reported a decrease in connection with family as there were less visits between different households.

I used to visit my son ... Now I do not visit them, neither do they visit me ... I miss that kind of closeness with my own family. (O8)

3.1.5 | Negative impacts on instrumental activities of daily living (IADLs)

Instrumental activities of daily living (IADLs) completed by the participants in this study included grocery shopping, managing finances, and cleaning in the home. In general, young adults were significantly less involved in IADLs compared with the other age groups.

Middle-aged adults had negative experiences and were concerned with religious, caregiving, and home

management activities. Religious activities were important to the middle-aged adults with the majority mentioning that they had to either stop or find alternative ways of participation.

I used to go to the mosque, but now not anymore. (M5)

I cannot go to church service now ... I'm attending an online service. (M1)

At the time of the interviews, schools were closed, and children had been engaged in home-based learning. Middle-aged adults who were parents reported an increase in caregiving responsibilities as they were expected to spend additional time and energy on teaching and parenting.

Because I work from home, I tend to check on [my children] every few minutes ... (M5)

Additional responsibility, yes ... we still need to discipline him because he is still a kid. (M6)

Meanwhile, older adults reported only negative experiences in IADLs in relation to grocery shopping and clinical appointments. A simple grocery trip could evoke anxiety among older adults as many tried to avoid crowded places for fear of catching the virus.

I do not go out at all ... When I run out of food, I pluck up my courage to visit the nearest supermarket ... I take whatever's near me, like canned food. (O1)

We'll try to avoid the peak hours and crowded places. It gives us some stress ... We try to finish shopping then go home as soon as possible. (O5)

Older adult participants also reported that they postponed their clinical appointments due to COVID-19, which for some resulted in further deterioration in their health conditions.

In these 6 months, I have already postponed 10 [clinical] appointments. (O8)

My legs are not in the best condition. [Physiotherapists] asked me to do exercises at home because of COVID-19. (O1)

3.1.6 | Positive impacts on IADLs

In all age groups, only middle-aged adults discussed that they had more time to perform IADLs (e.g., household chores, organising their belongings, and preparing meals for the family).

Having a full day to do chores now, they are easier to clear ... (M6)

There's nothing much to do ... Occasionally I'll do some house cleaning and clear up certain stuff ... (M10)

3.2 | Impacts on personal well-being

Whereas most participants from different age groups were affected by the COVID-19 pandemic in their occupations, such as productivity, leisure, and self-care, they also reported both an increased and decreased sense of well-being.

3.2.1 | Decreased sense of well-being

Due to the lack of freedom to go outside and stay home for prolonged periods, all age groups felt trapped and frustrated and had low levels of energy. They also experienced discomfort and uncertainty surrounding their routines during this period.

When all the days look the same, there's nothing much you can look forward to. (Y3)

Frustrating sometimes because you were so happy in the routine previously but now everything is so out of that routine ... (M2)

Cannot go outside and having to stay home makes me want to cry ... Stay too long will go crazy ... I do not know what to do. (O9)

Whereas most middle-aged adult participants continued working from home, young and older adults experienced some challenges as they anticipated how COVID-19 affected job opportunities and finances during the pandemic.

The uncertainty of finding a job is a bit terrifying. (Y5)

I hope to get a part-time job. If I can bring back income, no matter how small, I think there's still some contribution ... Otherwise, we have to rely on our savings account, but we do not know how long that will last. (O2)

Stemming from the health consequences of the virus, except young adult group, both middle-aged and older adults shared feelings of fear and paranoia about catching the virus and that they were afraid of affecting their family. This seemed to result in a lack of confidence and uncertainty in middle-aged and older adult participants' completion of daily tasks in the community.

Must be more cautious, think carefully about whether it is worth risking ... Am I putting myself at risk for certain errands ... (M10)

I do not want to expose myself. I must think of my family. If I catch the virus it's going to impact the family. (O3)

3.2.2 | Increased sense of well-being

Despite the pandemic, the majority from all age groups described that they had an increased sense of well-being. For instance, they felt sufficiently rested to get through each day.

I'm very recharged because I have a lot of time to myself. I am resting a lot but at the same time getting work done. (Y6)

I sleep a lot. (M8)

It's a different lifestyle. You can relax ... (O1)

In addition, some young and middle-aged adults experienced a sense of accomplishment when performing tasks that they wanted to do but did not frequently engage with pre-pandemic.

I feel proud and relaxed when doing activities like reading a book and colouring. (Y4)

I use the Internet to look for cooking tips and I managed to improve my recipe, for my family to enjoy. (M6)

Unlike middle-aged and older adult participants, young adults developed appreciation toward their own situation as COVID-19 served as a reminder of things that many had taken for granted previously.

I still have food on the table, a roof over my head ... I still have time to work because I have my family to care for my baby. (Y7)

I'm very blessed to be staying in Singapore, where everything's well-handled during this period. (Y8)

3.3 | Responses to the COVID-19 situation

In response to the impacts of the pandemic on occupations and well-being, participants from different age groups adjusted differently. Some had adopted a sedentary lifestyle, whereas others developed different coping strategies.

3.3.1 | Adopting a sedentary lifestyle

Due to the closure of facilities or adherence to stay-at-home measures during this pandemic, participants from all age groups reported that they reduced or stopped their outdoor activities and engaged in low-energy and indoor activities.

I always lie on my bed and watch Netflix ... (Y4)

I do not get to exercise as much as I want to because of the limitation of the facilities. (M3)

I swim regularly ... But during phase one, all pools were closed ... so I could not do my usual exercise. (O4)

3.3.2 | Developing coping strategies

Whereas some participants from all age groups adopted a sedentary lifestyle, others demonstrated different methods of responding to the COVID-19 situation, such as seeking social support, occupational adaptation, adhering to hygiene and distancing measures, and developing stress management strategies.

Social support was vital to young and older adults as they reached out to friends and family to regulate negative emotions surrounding their worries about the virus, to stay connected, or even for financial support.

Talking to friends helps ... Hearing that people felt the same made me feel like I wasn't alone. (Y3)

I'll call my daughter and she always told me "Mummy, do not keep thinking [about] ambulance and COVID, do not think so much". (O1)

To utilise freed-up time, young and middle-aged adults performed more leisure occupations (e.g. cooking) and IADLs (e.g. cleaning) in their time use. Technology was also heavily utilised by these two groups.

Technology has advanced so much that we can adapt to this pandemic much faster and easier ... Food delivery apps are helpful for us to get our food ... (Y6)

I used to have group exercises, but now they have online lessons. I can do it at home by watching the trainer through Zoom sessions. (M1)

Compared to young and middle-aged adults, technology did not come naturally; thus, most older adults made the effort to learn to use online platforms. This enabled them to carry out virtual calls in place of the lack of visits to and from family and friends.

My daughter had to teach me how to use Zoom. (O8)

Just learnt Zoom recently, so I'm still not good at it, but at least my friends and I can see one another and that makes me so happy! (O3)

Unlike young adults, middle-aged and older adults adhered to hygiene and distancing measures more strictly during the pandemic to cope with their fears and anxiety surrounding the virus.

I bathe immediately when I get home. I also wash my hands regularly. (M2)

When I go out, I wear a mask, bring sanitiser, sanitise my hands wherever I go ... quickly go out, quickly come back. (O1)

Young adults were the only age group that adopted stress management strategies such as reflection, self-talk, and turning to music and entertainment for relaxation.

Do you see the mirror behind? I use that and give myself a pep talk. (Y5)

When I am stressed or bored, I always try to listen to music to calm myself down. (Y1)

4 | DISCUSSION

This is the first study exploring the lived impact of COVID-19 on adults of all age groups in Singapore. Our findings revealed that all participants experienced both positive and negative impacts across various occupations such as productivity, leisure, and IADLs (refer to Table 2). Young and middle-aged adults were less affected, with mixed reports of increased and decreased well-being. These two age groups were also capable of using technology to make adaptations for continued occupational participation. The older adults were notably most compromised, with more reporting a decreased sense of well-being with less use of coping strategies.

Young adults in our study experienced limitations to group leisure activities, study, and work, which could be attributed to the social, educational, and professional transitions during this stage of life. Similar to one study investigating the impact of COVID-19 on young adults who were university students in Brazil, schooling young adults found virtual classes to be an ineffective substitute for their learning (de Oliveira Dias et al., 2020). Another study revealed that working young adults struggled with managing boundaries of their professional and personal lives in this work-from-home culture, resulting in decreased productivity and increased burden of work (Dubey & Tripathi, 2020). Despite this, many young adults in our study appreciated the reduction of stress and commuting time as they were more adaptive and tech-savvy, leading to a positive outlook regarding working from home. By actively utilising online resources, younger adults could fulfil their roles and experience a sense of personal capacity. Hence, this suggests that among all adults, young adults would least likely require intervention during such pandemics compared with older adults in Singapore. In future research, it will be worthwhile exploring the differences in the impact of

COVID-19 on young adults between countries with different economic statuses and cultures.

Our middle-aged participants experienced disruptions to their work–life balance. Many had to work from home, resulting in the additional burden of caregiving and housework, blurring of personal workspaces and schedules, and increased working hours, leading to increased anxiety. Another study reported similar findings of reduced physical activities with increased sitting and screen time in working adults during the pandemic (McDowell et al., 2020). Despite these impacts, most middle-aged participants were equipped with adequate coping strategies for continual participation in social activities and maintaining employment during the pandemic, attributed to their technological skillsets. Another contributing factor that provided relief could also be Singapore's job support schemes such as wage subsidies to retain local employees, grants, and cash payouts to self-employed persons (Lim, 2021). For some participants, the transition to working from home proved challenging, and support may be required in future to achieve better balance. Previous research has suggested that setting boundaries and planning schedules that include physical activity and rest is important to achieve work–life balance (Kerman et al., 2021).

Our study found that older adults were most affected by the pandemic, due to sedentary lifestyles and limited social participation. This was supported by Goethals et al. (2020) who reported an increase in sedentary lifestyle with a decline in physical activity among older adults during the same period. This increases the risk of frailty, falls, and functional limitations (Merchant et al., 2021). Furthermore, most of the older adults in our study lived alone or with a spouse; this meant that they were at risk of social isolation and loneliness that has been shown to be associated with increased risk of poor physical health (e.g., increased blood pressure and obesity), psychological dysfunctions (e.g., depression and anxiety) and even mortality (DiNapoli et al., 2014; Nicholson, 2012). To make matters worse, the older adults in this study faced disruptions to accessing pre-existing clinical services during this period, which is crucial for the continuity of care to manage chronic conditions and minimise hospital admissions (Tan et al., 2020).

Coping with the changes was found to be challenging for older adults during the pandemic. Our older participants experienced difficulties with adopting technology and required assistance in using online tools such as Zoom. This puts older adults at a disadvantage during a pandemic where individuals are confined to their homes with many activities moved online. This highlights the urgency to intervene and develop strategies for older adults' continual engagement in not just physical

activities but also social engagement in a virtual space to mitigate potential complications during this pandemic.

Our study revealed that technology played a crucial role in coping with the pandemic across all age groups. Online platforms provided an avenue for participants to continue educational pursuits, schedule business meetings, and remain engaged with the community. Similarly, Fancourt et al. (2020) found that adults across all age groups made consistent efforts to cope with the pandemic's distress by connecting virtually with their loved ones. With increasing dependence on technology, the role of telerehabilitation during the pandemic is apparent in supporting the health of community-living adults. Evidence shows that telerehabilitation is effective in improving mental health conditions (e.g. loneliness and depressive symptoms) and quality of life (Varker et al., 2019; Velayati et al., 2020). Despite their unfamiliarity with technology, a local study (Tan et al., 2020) reported a higher acceptance of teleconsultations during the pandemic among older patients compared with younger patients, demonstrating the potential for use of telehealth services among older adults. Although telehealth (including telerehabilitation) services are well developed and readily available in Singapore during this pandemic, adequate training for older adults, especially those who live alone, on the use of the technology for telehealth services should be provided to maximise the effectiveness of the interventions.

4.1 | Implications for occupational therapy practice

Our study revealed that all participants experienced an altered sense of well-being, particularly older adults who were at higher risk of social isolation, loneliness, frailty, and falls. This highlights a need for occupational therapists in serving community-living older adults to ameliorate the negative impacts of COVID-19 by facilitating social connectedness and maintaining physical fitness to promote health and well-being (World Federation of Occupational Therapists [WFOT], 2020). In view of the occupational disruptions during COVID-19, occupational therapists can develop strategies catered to specific age groups and suggest alternative activities to facilitate continued access to people's occupations, which includes "individual, family, community, social and environmental adaptation, mental health, assistive technology and telehealth" (World Federation of Occupational Therapists [WFOT], 2020).

Occupational therapists can support older adults in independent community living (Liu et al., 2018). Existing group-based multicomponent programmes that can be

conducted by occupational therapists such as Lifestyle Redesign (Jackson et al., 1998) and the Stepping On programme (Clemson et al., 2004) have been proven effective in promoting self-management of chronic diseases and falls prevention among community-living older adults respectively. To minimise potential coronavirus exposure, occupational therapists along with other healthcare professionals can leverage technology as an avenue to deliver similar programs to the wider community during pandemics. A recent systematic review found that using telerehabilitation in occupational therapy practice has positive therapeutic effects (Hung & Fong, 2019). Additionally, local studies supported the use of telehealth in the provision of continuity of care to older adults during the pandemic (Tan et al., 2020). Given the current situation that may extend over time, it is recommended to incorporate technology with a hybrid-design (both face-to-face and virtual) group-based intervention to avoid unnecessary admissions, preventing further strain on the healthcare system. Future research on the effectiveness of the hybrid-design group interventions is warranted. Meanwhile, occupational therapists can continue to raise awareness and advocate for the adoption of telerehabilitation services.

4.2 | Limitations

The findings from this study should be interpreted with caution due to several limitations. First, the presence of selection bias towards healthy individuals with good Internet literacy and access as participants were recruited via online platforms. This affected the accurate representation of subsections of the population, for instance, people with disabilities or older adults who might not be as tech-savvy. Second, the limited detection of occupational changes to culturally specific norms and practices due to the lack of stratification by racial groups (e.g. Malay and Indian) in a multiracial society like Singapore. Lastly, compromised field non-verbal cues cannot be observed through virtual interviews; and connectivity issues could affect the clarity of the recordings, limiting the quality of the interviews.

5 | CONCLUSION

This research identified the impacts of COVID-19 on the daily occupations of Singaporean adults and how it is intricately linked with their wellbeing. Findings also revealed the significant role of technology in adapting to the COVID-19 situation. Understanding that younger age groups can be more agile to make occupational changes

and adaptations, more can be done by occupational therapists to assist older adults in the community to enable continued participation in meaningful occupations and prevent secondary complications during pandemics.

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CONFLICT OF INTEREST

The authors confirm that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

PNL, JAH, and TX drafted and developed the study protocol. PNL and JAH recruited participants and completed the data analysis. PNL drafted the manuscript, and all authors reviewed and edited the manuscript. All authors declare that this work is original and approve the final version of the manuscript.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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