



Adult student perspectives toward housing during COVID-19

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ABSTRACT

Precarious housing conditions are on the rise in many developing economies, which has resulted in increasing segmentation between population groups with different socioeconomic backgrounds, and in differentiated access to life chances. With the onset of the COVID-19 pandemic, and its subsequent lockdowns, the relation between learning and housing conditions has become crucial for understanding the adult student's learning experience and well-being. However, knowledge about this relation is limited. This study employs the concept of dwelling to investigate how housing-related precarities may impact upon experiences of students during COVID-19 induced stay-at-home orders. The study draws on fifteen in-depth interviews and a Zoom Video Conferencing (ZVC)-aided focus group in the Ashaiman Municipality in Ghana, to explore students' perspectives on precarious housing conditions, well-being and learning. Findings reveal that experiences of precarious housing conditions can be complicated and compromised in diverse ways related to quality learning environment, financial, and personal well-being. Through ZVC-aided focus groups, participants defined housing suitable for learning – not purely in academic terms but in relation to housing characteristics, the neighbourhood environment, the built environment, and the social relations of learning. The study finds that students perceive an array of economic, social and geographic barriers to learning and that these perspectives deserve attention in adult student housing policy debate.

Introduction

Housing environment, social, and individual factors all play a role in a student's learning process and well-being. Connecting learning and well-being to a particular housing environment is important because where we live can and does influence our learning behaviour (Aris-tovnik et al., 2020). Learning outcomes are related to a student's physical, social, and psychological environment, including factors such as good ventilation, quietness, social relations and the local neighbourhood environment (Byers et al., 2018; Huang et al., 2020). The arrival of the COVID-19 pandemic is expanding the range of ways in which a lack of housing, or poor quality housing, can negatively affect learning and well-being. In particular, it is important to highlight the urgency of housing issues surrounding well-being especially in the developing world where housing policies are rarely implemented (Marx et al., 2013).

Student housing has undergone a shift over the last two years. In the years before COVID-19, the dominant dwelling for most university students was on campus accommodation. The emergence of COVID-19 resulted in lockdowns, disruption of in-person instruction and removal of students from university on campus accommodations (Blake et al.,

2021). This was substantially replaced by off-campus accommodation during COVID-19. The lack of housing to meet learning needs, combined with economic changes (brought about by COVID-19) and lack of welfare policies, has impacted significantly on the ability of vulnerable and low-income students to access adequate housing (Barnett-Howell et al., 2021). This raises concerns around housing quality, learning conditions, and the impact this may be having on student well-being. Studies in the domains of student housing, accommodation, and welfare have examined the relationship between housing conditions and learning activities (Bates et al., 2019; Barnett-Howell et al., 2021). The field of student housing has received less attention, even though it is the site that determines student quality of life, and precarious housing can undermine feelings of being at-home at the dwelling scale (Bates et al., 2019; Canning & Robinson, 2021). Student housing conditions therefore have the potential to influence student academic success and well-being throughout their life. However, related research has yet to explore the housing environment that enables students to remain living in their home should their needs change – as demonstrated by the COVID-19 pandemic (Bond et al., 2012).

This study on student housing, part of a larger project on uncertainties of COVID-19 and well-being of adults in Ghana, is aimed at

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exploring students' perspectives on precarious housing conditions, well-being and learning during the COVID-19 pandemic. Like all areas upended by COVID-19, impacts are complex assemblages of the social, economic, and psychological factors that go into them: walkability, perceived crime, the social interaction with family and friends, inadequate space for learning, noise, and the neighbourhood environment, and so on, all of which affect the adult student (Mayen & Cafagna, 2021). What is more, the home learning environment includes, in addition to the physical space of the house, the influences of the learning technologies (access to computers, internet, regular source of light) and the community built environment. As students shifted from regular in-person instructions to virtual engagements with lecturers and peers, new questions emerged about students' new learning environment – the home conditions, not given much consideration and attention to be a learning environment prior to the COVID-19 pandemic. Understanding this trajectory will mean negotiating for a new learning space; it will mean a shift to online learning with its associated challenges, such as information, communication and technology (ICT) access (computers, internet, cost of data, connectivity challenges), poor housing conditions to support learning, and more competing responsibilities of family, friends and learning (Aristovnik et al., 2020). Questions about the right home environment to enable students to remain living in their homes should their needs change remain largely unaddressed (Zetlin et al., 2012; Madrigal & Blevins, 2021). Thus, the goal of this paper is to contribute to the existing body of research examining the housing circumstances of undergraduate students during COVID-19. In doing so, the paper presents the findings of a qualitative study aimed at exploring perceived learning and well-being impacts of the home environment amongst undergraduate students, residing in one Ghanaian municipality.

Dwelling place, learning, and well-being

Dwelling place as “home” is not just a physical shelter, but also a foundation for social, psychological and cultural well-being (US Department of Health and Human Services, 2016; Garnham & Rolfe, 2019), during which the home becomes a meeting place of human practices and objects, spaces that blend learning and everyday social and bureaucratic life. Chapham (2010) argued that housing research does not have to be a one-size-fits-all approach, but could be understood in a way that is based on the meaning that housing has for the people who live in it. Here we attempt to address these concerns within a local-level context. Today, the disruption of on campus accommodation in general, and face-to-face instructions more specifically, paradoxically has expanded the immediacy of the home space as a learning environment while advancing searches for more effective ways to maximise the housing conditions for learning. In doing so, this paper also suggests an extension of one of the most extensively employed concepts for examining housing research – that of Heidegger – by inclusion of a more nuanced notion of dwelling place. In his seminal work, *Building Dwelling Thinking*, Heidegger (1971) used the concept of dwelling to convey the idea of *being-in-the-world*, which goes beyond the idea of mere presence, indicating the way an entity shows itself within a *world* (Heidegger, 1962, p. 84).

Beginning with Heidegger's description of the concept of dwelling (Heidegger, 1971) and building on Ingold's idea of dwelling, a number of researchers have used the concept as an approach to nature, place, and landscape. Some seek to distinguish between the built environment (*the ville*) and the ways of living (*the cité*), and introduced time as part of the relational processes the individual develops through dwelling (Sennett, 2018), where people anchor their existence in space and time (Besse, 2013), and dwelling as a “skill, the potentiality of which lies in most people” (Sennett, 2018, p. 204). Some underscored that in order to dwell, there is a need to learn to perceive the world and the affordances of the environment (Ingold, 2000), distanced networks (Amin, 2002), pluri-local communities (Pries, 2001), cosmopolitical space (Entrikin,

2004), and multi-stranded social relations (Coe & Bunnell, 2003). So, what are the commonalities amongst these conceptualizations, and is there still a place for dwelling in housing studies? At a glance, it appears dwelling is associated with the way of caring for oneself – the contextual (i.e., the characteristics of space, and place within which the individual is situated) and collective (i.e., the nature of the social relationships in which the individual engages within his/her context). Second, dwelling is not a straightforward process, as Heidegger (1971) pointed out that dwelling has to be learned. Third, the approaches all underline that dwelling, apart from space, is also constituted in time.

Recently, there has been an increasing policy and academic interest in the role of learning environments in affecting students' well-being. While few studies examine access at these levels, some recent studies suggest that the home environment (dwelling places) may play a role in shaping education and learning experiences. For example, a non-threatening environment and adult individual learning style needs, have been demonstrated to shape learning, suggesting that dwelling place may have an impact on learning and access within home spaces (Khan et al., 2020). With the arrival of COVID-19 and further disruption of in-person instruction, studies have found that the outcomes of teaching, the pedagogy, the content, the teacher-student communication, the economy, and the workload on teachers and students have changed, yet the dwelling place, although fundamental, has not been considered aside from assuming that the home environment is somehow different from the school environment (Jandrić et al., 2020; Bubb & Jones, 2020; Butola, 2021). Financially, students in all countries, who have to work to support their studies, now found themselves unemployed and without funding support (Grant & Gedeon, 2020). Further studies in South Africa found that people mostly access the Internet from their smartphones, but data costs are too expensive, making their students' situations even worse (Venter & Daniels, 2020). Given that in recent years the dwelling place has been seen as vital in determining the appropriate provision of services for many students in the world (Hu, Roberts, Azevedo, & Milner, 2021), it is important to understand how the learning process and access to learning resources is manifested at the home learning environment (Cranfield et al., 2021). However, in Ghana, the impact of housing conditions and the home environment on students' learning and well-being during the COVID-19 pandemic is yet to be researched. At the current time, most students are found to be learning at home and research on this topic is limited. The Heidegger (1971) framework has been used extensively in many educational settings at different geographic locations. This paper offers a Ghanaian example that explores the applicability of the framework for identifying determinants of students' learning conditions and access at the home scale of analysis (i.e., virtual). Specifically, in light of Ingold's (2000) charge, and extending the earlier conceptual frameworks of Heidegger (1971), this study explores explicitly students' perspectives on precarious housing conditions, well-being and learning in the Ashaiman Municipality, Greater Accra, Ghana.

Method and Setting

This study is part of an ongoing project investigating uncertainties of COVID-19 and well-being of adults in the Ashaiman municipality. Home to over 230,000 people, it is about 30 km to the North-east of Accra. According to the Ghana Statistical Service, the average household size in the municipality is 3.7 persons per household. Approximately 78% of all dwelling units are compound houses (rental houses); 9.2% are separate houses and 3.0% are semi-detached houses. In addition, about 11.2% of households in the municipality have 10 or more members occupying one room. A little over 63% of households in the municipality use the public toilet facility with 4.0% having no toilet facility and therefore resort to the bush/beach/field (Ghana Statistical Service, 2014). The Municipality has always been portrayed as an unattractive and unsafe part of Greater Accra, a place of violence and poverty. It is different in terms of its type of housing unit (unstructured), and has a mixed resident

population with lower levels of socioeconomic status than other areas in the region.

A qualitative research approach was employed because of its ability to provide personal, in-depth, and nuanced understanding of the home environment and its learning and well-being impacts. Ethical clearance was sought from the University of Ghana (Protocol number ECH-036/2019-2020). The research was conducted in two phases. First, I conducted in-depth interviews with fifteen undergraduate students (from six universities in Ghana, see Table 1) in the study area to explore students' experiences and perceptions of the home space in relation to learning and well-being during COVID-19. I contacted participants through phone calls and a WhatsApp message. Although the study explicitly targeted students that had already participated in our previous study (students were contacted via church announcements, the Federation of Ashaiman Youth Club, and referrals), it was difficult to reach a number of them for the current study, and therefore, I resorted to referrals from participants.

The interview consisted of open-ended questions about students' experiences of the impacts of COVID-19, their attitudes about trade-offs between on campus accommodation and the home environment, their understanding of the home environment, benefits and costs of learning at home, and constraints on learning at home. Although twenty-two participants indicated interest in participating in the study, only

Table 1
Participants' demographics.

ID	Sex	Age	No. of people, Household	University Affiliated	Level of Study	Housing type
UG1	F	21	3	University of Ghana	2 nd year	Single family detached
UG2	F	20	5	University of Ghana	2 nd year	Multi-family home
UG3	M	22	5	University of Ghana	3 rd year	Multi-family home
UG4	M	21	6	University of Ghana	2 nd year	Bungalow
UG5	M	24	3	University of Ghana	4 th year	Single family detached
CEN1	M	26	4	Central University	3 rd year	A shared compound (Rented)
KNUST1	M	22	5	KN University of Science & Technology	2 nd year	Single family detached
KNUST2	M	23	5	KN University of Science & Technology	4 th year	Multi-family home
KNUST3	M	24	6	KN University of Science & Technology	3 rd year	A shared compound (Rented)
UCC1	F	21	5	University of Cape Coast	1 st year	Single family detached
UCC2	M	24	4	University of Cape Coast	3 rd year	Single family detached
UDS1	M	22	5	University of Development Studies	1 st year	A shared compound (Rented)
UEW1	F	21	5	University of Education, Winneba	2 nd year	A shared compound (Rented)
UEW2	F	25	4	University of Education, Winneba	2 nd year	A shared compound (Rented)
UEW3	M	27	5	University of Education, Winneba	1 st year	Multi-family home

fifteen participants responded and participated. Participants were asked at the end of the interviews to indicate their interest in participating in a Zoom-aided focus group to explore issues related to the home learning environment and well-being in the Ashaiman Municipality. All participants were in university accommodations prior to the suspension of in-person instructions. The interviews were conducted between November 2020 and February 2021. Each interview lasted approximately 50 to 60 minutes. All interviews were conducted via phone or Zoom, depending on the participant's preference and requested permission to record.

The second phase of the study comprised of a Zoom-aided focus group. As in a typical focus group, the session was organised as an exploratory conversation amongst a small group of participants. The Zoom Video Conferencing (ZVC) provided a tool for encouraging participants to interact and respond to questions in a group, analogous to a real life situation. The focus group centred on two questions: (1) How have housing conditions impacted your learning and well-being during the pandemic and the subsequent closure of schools? (2) If you have had the chance to choose, which type of accommodation, housing characteristics would you prefer, and why? The first question aimed at evaluating participants' experiences during COVID-19 in relation to the social, economic, and environmental constraints of the home space. The second question was explicitly contextual and explored participants' perspectives about where in the city they would like to live and why? Thirteen participants indicated their willingness to participate in the focus group during the in-depth interview. However, only seven actually participated.

Using a method described by Braun and Clarke (2006), data were analysed thematically. The approach involved familiarising with the data, gathering initial codes, searching for themes, reviewing themes, defining and naming of themes, and finally producing results. Further, following Harboe et al. (2012), the Affinity Technique was used to group the themes according to their natural relationships. This involved identifying themes; initial codes with similar characteristics were colour-coded. Similar and recurrent codes were grouped together under one heading. For example, financial challenges and the disruption of in-person interactions with other students were grouped under one theme. The themes were reviewed by two researchers who are well grounded in qualitative research data analysis. The researchers reviewed the themes to ensure that they reflected the data and searched for new codes, which were added to the initial ones. The results of the analysis are discussed below.

Results

The students who participated in the study were similar in demographic characteristics. Three quarters of the participants were twenty-two years of age or older, with an average age of 22.9. Housing conditions and household characteristics were common amongst the participants. The Zoom-aided focus group provided an opportunity to explore students' perspectives on the home environment in detail. It focused on the home space and learning challenges during COVID-19, and it echoed many of the themes identified in the in-depth interviews. These findings were merged with the in-depth interviews. In general, three main themes emerged: (i) impact of COVID-19 on learning and well-being; (ii) impact of the home environment on learning and well-being; and (iii) impact of home environment on student learning skills.

Theme 1: Impact of COVID-19 on Learning and Well-being

The most widely discussed sub-themes under this theme were related to aspects of disruption of in-person interaction with lecturers and peers, online learning difficulties, and financial issues. The most frequently mentioned well-being issues identified were anxiety, frustration, stress, and unhappiness, all of which were perceived by participants to result from the COVID-19 pandemic.

Disruption of in-person interaction with lecturers and peers

As a result of the restrictions barring students from in-person on campus instructions, and removal from on campus accommodations, some students had challenges related to learning and their well-being. One participant captures the feelings shared by many of the participants with respect to how the change impacted their well-being:

Not finding a way to connect to lectures online after so much time, it impacts our learning and success. We don't have any learning management system (LMS), there was no communication as to how to join online classes, no way to connect to lectures and others. Lecturers just used WhatsApp [WhatsApp platform] for sharing learning materials and other information. It creates confusion, disappointment, and it creates a lot of stress (UDS1: M, 22 years old, 2nd year).

Interestingly, the disruption was varied depending on the characteristics of the individual student and the University's lockdown logistics, such as availability of LMS. There were some universities that had more robust learning management systems than others and therefore expressed relatively little concern about engaging students online.

We didn't suffer like our colleagues in other universities. Before COVID-19, we were having assignments and interim assessment on the SAKAI Learning Management Platform, so the transition was a bit easier for some of us. But they [lecturers] don't really spend much time with us, duration of the lesson is very short, and no time to interact with others (UG1: F, 21 years old, 2nd year).

For me the COVID-19 has disrupted our campus life. I miss the in-person interaction, I miss my friends, and preferred face-to-face delivery (UCC2: M, 24 years old, 3rd year).

Online learning difficulties

Participants reported that some students had expressed fear of not doing well in the online education. This affected their confidence in the online programme. In the extracts below, three participants suggested that the fear of not doing well affected the trust of the online mode of teaching and learning:

If you are just getting along with the small kind of online learning, it is not going to make one happy mentally...it also adds to the tension. The more time that is being spent on those things [acquainting oneself with online modalities] is taking away and losing time needed for study. You need to learn to adjust to online teaching and learning as quickly as possible, and it's frustrating (UEW2: F, 25 years old, 2nd year).

There is no real education, it is just doing something, better than nothing. It is not strong enough, we need to do more to get to the level of what we could have achieved prior to COVID-19. I'm not enthused with this kind of teaching and learning [online learning]. It is a waste really... (CEN1: M, 26 years old, 3rd year).

As is evident in the quotes above, lack of trust in the online mode of teaching and learning, which accompanies fear of educational failure, leads to unhappiness, frustration and anxiety. In addition, others spoke of increased feelings of failure:

And if you talk to people about this online thing, they are afraid that they may end up getting lower grades, which will likely affect their chance in the future (UG2: F, 20 years old, 2nd year).

Financial issues

Many participants in this study expressed concern that their inability to find employment due to COVID-19 affected their well-being and that

of their family members at home. Not all participants could afford to rely on their families for full support. Thus the unmet expectations regarding the participants' ability to support themselves financially were perceived as affecting well-being in different ways:

I need to find some job. You know, when you stay at home for a long period, you start to be bored and crazy. You get frustrated with the very small thing because you need money to survive (KNUST2: M, 23 year old, 4th year).

It's not about online learning, it's about money. My mom is home without a job. I'm home without a job, so you can image the frustration. We still pay tuition fee as we're home. Now we're just doing a small job to survive financially (UEW1, F, 21 year old, 2nd year).

The quotes suggest that as stress from a lack of job increases so do tensions in the home, which in turn affect the well-being of the household. Thus, the stress, anger, frustration of not doing any work appeared as influencing the home environment and the entire household's well-being. Amongst some of the participants who did not have financial support from immediate family members, a few discussed how their well-being was impacted by the lack of job during the pandemic:

I believe even if I can't work, I have to find ways to survive because I can't depend on my poor parents and siblings. Even if I get some small job [precarious job], there is some kind of relief, at least less pressure (UG5: M, 24 years old, 4th year).

Theme 2: Impact of Home Environment on Learning

This theme captures some of the ways that the home environment emerges as a kind of assemblage in which the built environment, the housing conditions, and the characteristics of the individual households combine to influence learning and well-being.

Housing condition

According to participants, one of the key areas that affected student learning and well-being during COVID-19 was the home environment (housing conditions and characteristics). Also, participants had to contend with many other factors that influence their learning and well-being including the neighbourhood environment. Participants had divergent views on housing conditions and learning outcomes:

I have a good learning environment at home. I only live with my mom and my little sister so the house is not crowded. I have my room with a study desk, the house is quiet during the day so no struggles with that. You should not be thinking all the time about this COVID thing, because it has an effect on you. It is part of life, so for me, learning at home is cool... (UCC1: F, 21 years old, 1st year).

Participants also talked about how their home conditions were extremely hot and poorly ventilated, that they could not stay indoors for long hours during the day, and that it affected their online engagements with lecturers and peers. Few of these participants discussed actual physical health problems resulting from such housing conditions, but some did feel that their learning and well-being could potentially be affected if they were to continue studying at home:

I share a single room with my two brothers. The room is not spacious, with a small window, so it's dark even during the day. There's no space for writing desk and a chair. So I join online classes while sitting on the bed. So like back pain, that kind of pain when you sit on the bed for long time. It's not comfortable and hard to concentrate. It's a compound house [A rented house with single units, shared toilet and bath, no kitchen, all tenants share the open space as kitchen and other activities] and there's no porch where you can sit and relax (UEW3: M, 27 years old, 3rd year).

Sometimes I feel much stressed because there is a lot of noise there [house]. You know Ashaiman... [Area details withheld] it is close to the roadside and there a lot of activities [mini markets]. When your house is close to the roadside with background noise, it focuses your attention... You can only focus when it's night, and when everyone is asleep... (UG3: M, 22 years old, 2nd year).

In addition, the Zoom-aided focus group also focused on the built environments in the study area and their suitability for supporting home learning. Questions were raised about rezoning the area. As one participant summarised, "*The whole area is mixed up, there is no order. Residential houses are mixed with markets, shops, and everything. No sanity in the area, all noise.*" Thus, participants expressed concerns about the built environment's impacts and proposed for a well-defined residential areas. I asked participants to describe a suitable home environment that supports learning and well-being. The housing location and characteristics were important in participants' assessment of houses suitable for learning; they identified well demarcated residential areas with proper housing units, serene and quiet areas suitable for learning and well-being. As in the in-depth interviews, they emphasised "noisy places" as inappropriate places for learning.

Information, Communication and Technology Challenges (ICT)

The increasing role of the home environment's impact on learning and well-being is one of its most important evolutions during the COVID-19 pandemic. In addition to the aforementioned housing conditions' relationships and impacts, a whole range of ICT and related challenges have become increasingly clear. These include the quality of the internet access, appropriate digital equipment to access the LMS or join online classes, cost of data, poor connectivity, and regular access to electricity. When asked what kind of ICT issues affect learning and well-being, one participant responded:

I don't think there is any other alternative than to study at home. But the problem has to do with access to the Internet. We don't have broadband in our homes, we only rely on our smartphones [internet]. So once you have a problem with your phone, or network issues, it means you can't join classes (KNUST1: M, 22 years old, 2nd year).

Another participant reiterated:

Since this lockdown came and no access to internet on campus, there are a lot of people who cannot pay for internet to access online platforms on their own. The cost of internet is high, and especially if you need to download some learning materials. And aside the cost, it's not strong enough to download learning materials, you may have to wait during the night or dawn to download some of the things you need for classes (UEW2: F, 25 years old, 2nd year).

In the Zoom-aided focus group, participants emphasised the need for a broadband in homes and expressed concern about the cost of internet. Getting strong internet that supports teaching and learning was seen as crucial for online learning, a participant commented, "*We don't have proper internet access at home.*" In addition to ICT challenges, participants stressed the high cost of purchasing ICT equipment for online engagements, including laptops, desktop computers, tablets, smartphones, and cost of data. Concerns were also raised about financial support for students during the pandemic. Participants expressed the need for the government to support students financially to be able to meet some of their basic needs, such as cost of internet. Concern was also expressed about tuition fees during the pandemic. One participant described the payment of tuition fees during the pandemic as "*a cheat and robbery*", urging the government to absorb the tuition fee for all tertiary students.

While there were numerous ICT concerns discussed by participants as outlined above, constant access to electricity was perceived as having the biggest impact on online engagements. They observed that some

people have been questioning the Electricity Company's attitude in helping students during the lockdown:

You wake up in the morning, and there's no light. You ask, and you're told that the lights are out. This means not only missing online classes, but also not doing anything, not even watching TV, you can't go out so what do you do? It increases the stress. I would say it's directly connected to your mental health (UG2: F, 20 years old, 2nd year).

Sometimes the lights are out throughout the day, so we can't charge our phones, laptops. You'll ask your friends in other areas and they have light. I think this place [Ashaiman] is horrible. So much illegal [electricity] connection in this areas, which is causing the authorities to remove some of the lines. There should be a review of the lighting system here (UCC1: F, 21 years old, 1st year).

Family relations and competing roles in the house

Regardless of the number of members in the household, the effects of family and social relations on learning and well-being are inevitable, particularly in a collectivist society like Ghana. All parts of the family relations cannot change overnight due to COVID-19. Family relations varied amongst participants in this research:

It is very difficult to stay home without them [parents] for more than 8 hours... I feel lonely, because my parents go to work throughout the week. I feel lonely, be a lonely soul always, it is very difficult you know. After studying, what next, you need people in the house, boring, boring, boring... (UG1, F, 21 years old, 2nd year).

While some participants suffered with feeling lonely, others complained about how the presence of other family members affected their learning and well-being negatively. One participant captures this feeling and how the lengthy stay with family members has impacted his life:

Initially when I came home, it was a very bleak picture, because I found it was hard to concentrate. Your parent would want you to do other things regardless of your status as a student. They don't care about your study periods. They would ask to help in the kitchen, help the little ones with their work, engage in conversation and other things that distract your attention... that creates a lot of confusion and distraction (UG4: M, 21 years old, 2nd year).

For me, I have not benefited studying at home. Home is home and not a learning space. I find it difficult to concentrate or study at home even if I'm alone. I'm not used to doing this (KNUST3: M, 23 years old, 3rd year).

The Zoom-aided focus group added additional insight in to the family relations. As students, several participants described the competing roles in the house and the fact that they would have to do other chores and participate in family activities. Although other family members understood their roles as students, excusing oneself from family and other activities would be more controversial because it might affect the family relations. Participants emphasised "*not involving in family activities may also be impacting your well-being negatively, so you need to balance the time.*"

Theme 3: Impact of Home Environment on Student Learning Skills

In many cases, the home environments promoted opportunity for learning skills for many participants, albeit few participants who indicated otherwise. For instance, it created a contingent of students who familiarised themselves with the online activities and with effective forms of engagements. As one participant put it:

My personal view, held long before the COVID-19, is that the home space is a good learning space. I prefer to work independently... I prefer accessing the online learning environment more than the in-person on campus learning. It's flexible, you don't need to get up early and chase the bus to campus (UG5: M, 24 years old, 4th year).

For me, online learning during the pandemic has helped me improved my digital skills. I have learned a lot more than I would have done on campus. The computer is your teacher so you learn a lot. I feel that online learning should be blended with in-person even after COVID-19. It's so cool (UG1, F, 21 years old, 2nd year).

Other participants agreed that they missed the in-person interaction and preferred in-person on campus learning style to online learning:

The house makes you lazy. Sometimes you miss classes that you shouldn't have, you can't learn from peers, no activities to improve your learning skills [speaking, computer literacy, presentations], in so doing all your skills will be gone (CEN1, M, 26 years old, 3rd year).

Throughout the discussion, participants defined homes suitable for learning and well-being not purely in academic terms but in relation to the housing conditions, neighbourhood environment, the built environment and the family relations. One participant commented that home learning is *"a better option for places like Trasacco Estate, Airport Residential Area where the environment is conducive, less human activities, and calm for learning."* In the home environment of Ashaiman, the home is a mixture of networks of markets, shops, mini industries, bus stations, hawkers and a host of other activities. These characteristics served as a focal point in participants' perceptions of the home environment.

Discussion, contributions, and conclusion

The concept of dwelling provides insight into the socio-spatial transformation of learning environments during COVID-19. Further, in this research, we are urged to take seriously the opportunities that such an idea of place presents for understanding the home environment, learning processes, and well-being of populations. This research demonstrates that the learning experience and well-being of participants in this study does seem to be affected by the change from the in-person on campus lifestyle to the online home-learning environment experienced due to the COVID-19 pandemic. Many of the learning impacts identified in this research amongst undergraduate students are similar to those found in past research amongst the general population regarding the well-being of people in precarious housing conditions (Bates et al., 2019). However, the unique position of these participants as students, results in worsened learning challenges for themselves and their families. In particular, the noise concerns that participants linked to the built environment are especially unique to the students because that environment is not conducive and appropriate for learning. The existing literature on home environment, learning, and well-being demonstrates the links amongst noise, lack of concentration, and loss of identity (Xie et al., 2011; Mayen & Cafagna, 2021; Yang et al., 2021). For students who are learning from home because of the pandemic and school closures, the subsequent migration from in-person to online via the home environment appears to have exacerbated the well-being of students in the Ashaiman area.

It is important to note that the participants' status as students may have contributed to an overestimation of the home environment's impacts on participant well-being and learning experience. The stress associated with the change, including adjustment to the new learning environment – the home, the household characteristics, the built environment, adjustment to online modes of learning, the stress associated with separation from lecturers and peers – may be impacting the well-being of participants in this study. Evidence suggests that COVID-19 restrictions can have mixed effects on family dynamics (Russell et al., 2020; Salifu & James, 2020). While the lockdown measures provided opportunity for families to be together for an extended period of time,

the frequent engagements of family members made disruptive patterns (particularly for students) more apparent, exacerbating the family stress. In this study, a handful of participants found it difficult, or even impossible to study at home, perhaps a reflection of the family's socio-economic status (Grant & Gedeon, 2020). This finding resonates with Heidegger's notion of dwelling, such as "a belonging to men's being with one another" (Heidegger, 1927, p. 149).

There is evidence that students all over the world, who usually have to work to support their studies, found themselves unemployed and without funding during COVID-19 (Grant & Gedeon, 2020). A similar result was found in this study. Participants noted that the lack of jobs and funding support from the government during the pandemic had resulted in the reduction of their income, which in turn, impacted their well-being. Employment difficulties and well-being impacts may be even greater for those students who come from less privileged socio-economic backgrounds. Income is a contributing factor to well-being amongst unemployed individuals (Jara, Tamayo & Tumino, 2021). Income itself is a widely accepted determinant of health and a lack of income has been found to correlate with poor health (Dupas & Miguel, 2017; Sharma et al., 2020).

This research demonstrates the value of ICT in online modes of learning during the pandemic. The findings showed that the majority of the participants had challenges with ICT and related issues in the home environment. According to participants, some students could not access ICT and had issues including connectivity, cost of data, and regular supply of electricity to support ICT equipment. These kinds of disadvantages have been highlighted in other contexts (Aristovnik et al., 2020). Venter and Daniels (2020) described how in Europe and South Africa, many individuals lacked access to the Internet and complained about the cost of data, and the impacts on the learning experiences and well-being of students. In addition, participants created narratives about the potential for the home environment to support online learning should their learning needs change as witnessed during the pandemic. In a focus group discussion, participants identified poor housing conditions, poorly planned neighbourhoods, and "noisy" areas as main factors that do not support learning and well-being. To fully explore participants' perceptions on housing and learning, one must recognise the complexity of the interrelationships between housing, learning, identity and well-being that exist in everyday lives. This research is consistent with Heidegger (1971), with respect to the importance of examining the relationship that building (here, housing conditions including neighbourhood characteristics) has with dwelling. Heidegger holds that problems of building are essentially problems of dwelling and that the manner in which we dwell is the manner in which we are, we exist – an extension of our identity, of who we are.

There are a number of lessons to be learned from this study concerning the quality of housing in shaping students' learning and well-being. The current study has demonstrated attention to a segment of the population whose learning and well-being may have been compromised during the COVID-19 pandemic. In addition, findings from this research have the potential to inform our understanding of quality housing, including neighbourhood resources that could be put in place to support students and the general population should their dwelling conditions change, as experienced during the COVID-19 pandemic. Lastly, findings from both the in-depth interviews and Zoom-aided focus group will deepen our understanding of the lived experiences of students during the pandemic. Findings of this study will be shared with the academic community through seminars, conferences and publications.

Two main factors limit the applicability of these findings. The sample sizes for the in-depth interviews and Zoom-aided focus group were each not randomly selected; results of this study should be viewed as suggestive, and need to be evaluated through studies in more diverse geographic contexts. The study area – the unattractive Ashaiman – strongly conditioned participants' responses and influenced their narratives on the home environment's impacts on learning and well-being. Students in more attractive areas, perhaps might find the home

environment more conducive for learning and their well-being.

Despite these limitations, the results reveal the home environment's impacts on student's well-being, a perspective that can inform efforts to re-zone, re-design, and influence housing construction across the country. In summary, the multiple pathways through which the home environment impacts learning and well-being include the housing conditions and characteristics, ICT related challenges, and the built/neighbourhood environment. The concept of "dwelling", in this study, the home environment, is offered as a foundation for learning and for understanding the role of housing in education and well-being.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.wss.2022.100086](https://doi.org/10.1016/j.wss.2022.100086).

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