



The voices of vulnerable tenants in renovation

Downloaded from: <https://research.chalmers.se>, 2023-03-31 22:07 UTC

Citation for the original published paper (version of record):

Femenias, P., Punzi, E., Granath, K. (2022). The voices of vulnerable tenants in renovation. IOP Conference Series: Earth and Environmental Science, 1078(1).
<http://dx.doi.org/10.1088/1755-1315/1078/1/012083>

N.B. When citing this work, cite the original published paper.

PAPER • OPEN ACCESS

The voices of vulnerable tenants in renovation

To cite this article: P Femenias *et al* 2022 *IOP Conf. Ser.: Earth Environ. Sci.* **1078** 012083

View the [article online](#) for updates and enhancements.

You may also like

- [Renovation rate as a tool towards achieving SDGs 11 and 13](#)
B Gepts, E Nuyts and G Verbeeck
- [Sustainable renovation of non-profit housing in the Netherlands: from projects to programs](#)
F M Meijer and A Straub
- [Defining a framework to apply retrofitting optimisation models for long-term and step-by-step renovation approaches](#)
I Maia and L Kranzl



The Electrochemical Society
Advancing solid state & electrochemical science & technology

243rd ECS Meeting with SOFC-XVIII

More than 50 symposia are available!

Present your research and accelerate science

Boston, MA • May 28 – June 2, 2023

[Learn more and submit!](#)

The voices of vulnerable tenants in renovation

P Femenias^{1,3}, E Punzi² and K Granath¹

¹Dep. of Architecture and Civil Engineering, Division of Building Design, Chalmers University of Technology, SE-412 96 Gothenburg, Sweden

Dep. of Social Work, Gothenburg University, SE-411 23 Gothenburg, Sweden

³Author to whom any correspondence should be addressed:
paula.femenias@chalmers.se

Abstract. This paper focuses on the intersection between agendas for housing renovation and social politics for ageing-in-place and social integration of people with psychological disabilities. The aim is to understand how elderly tenants and people on a longer sick leave are affected by a renovation. In a sample of 79 interviews, 34 tenants decided to permanently relocate as a result of a renovation. When the renovation is a driver for permanent relocation, tenants do so to avoid disturbances and temporal evacuation. If the home is subject to a comprehensive or deep renovation, rent increases is another reinforcing factor to relocate. While tenants that move prior to a renovation worry about how the renovation will affect their daily life and their economy, tenants that move after the renovation do so because they are dissatisfied with the results of the renovation. The findings call for awareness for how housing renovation will affect vulnerable tenants and highlights the need for the design or appropriate communication strategies.

Keywords: housing renovation, tenant perspectives, elderly, disabilities

1. Introduction

Contemporary housing renovations is pushed by technical needs and by political strive for energy efficiency. This paper has as a starting point a larger empirical study of tenants in public housing, how they are affected by renovation, and if and why a renovation motivate a decision to permanently relocate. The paper is an inter-disciplinary collaboration between renovation studies in the built environment and social work, and focus is on the intersection between renovation, energy goals and social policy regarding elderly and people on longer sick-leave.

Previous research has brought to the public knowledge the social effects of housing renovation agendas. The precarious situation for tenants with respect to rent increases in renovation and energy retrofits, that lead to economic anxiety and involuntary relocation has been highlighted [1, 2]. Forced displacement as a result of housing renovation, has also been found related to reinforcements of societal segregation [3]. This study should be understood as a complement to previous studies, as these either focus on a smaller number of interviews and cases or mainly on rent increases as a reason to relocate [2],[4], while potentially overlooking other drivers for tenants' decisions to relocate [3].

Elderly and people who are subject to psychological care belong to low-income groups and they are consequently vulnerable to the effects of contemporary renovation [3, 4]. In Swedish elderly care, the principle of aging-in-place (*kvarboendepincipen*) is governing according to the Social Service Act [5]. The guiding principle is that older people as long as possible should live their lives according to their sense of identity and personal characteristics and that their everyday should be understandable,



manageable and meaningful [6]. In similar ways, Swedish care for disabled [7] and psychiatric care [8] has in recent decades focused on the autonomy and integration of individuals in society. The municipalities have the responsibilities that these people as well as the elderly should be able of live in their homes rather than in institutions.

The living conditions for the elderly and for persons with disabilities are complex, and finding a solution requires cooperation between various stakeholders, professions and even family members [9, 10]. The Social Service Act and the aging-in-place principle aims at autonomy and self-determination for the individuals concerned, but since the laws, regulations, and interventions are difficult to comprehend, many of those concerned do not always benefit from these acts and principles [11]. Their living conditions are not easily understood, and it may be difficult to handle renovation of if one belongs to a vulnerable group that needs support and intervention from the welfare state.

Previous Swedish studies have focused on the design of apartments that can support aging-in-place [12] and the functionality of municipal support to create good conditions for this group [13]. International studies have drawn attention to challenges regarding cost-efficient renovation measures that will benefit an aging population [14], but no similar study is found in Sweden.

3. Method and material

The study sample is part of a larger study and 450 interviews with households that has been relocating in connection to housing renovations carried out between September 2018 and March 2021. The tenants belong to 29 properties that are owned and managed by three municipally owned housing companies in one Swedish metropolitan area. These three companies together own and manage 70.000 apartments. The 29 renovation projects involve 7000 apartments and are, except minor maintenance projects, the total of all renovation projects that the three companies have carried out during the study period.

The study has taken a starting point in all terminated rental contracts in the 29 renovation projects, from the first day the tenants got information about the planned renovation up until two years after the completion, to capture tenants that decide to relocate before the renovation, and after.

In total 908 tenants ended their contracts in these 29 projects during the study period. The contract holders were approached for an interview (in the following referred to as tenants) about their relocation and the possible connection to the renovation. During the interviews, the tenants were also asked about their experiences of the renovation in general and demographic data of the household was collected.

Of the 450 interviews, 24 were found to be temporary “renovation contract”, that is a non-permanent rental contract used to rent out apartments while preparing for a renovation. These 24 interviews were removed in the final sample as they are by definition caused by the renovation.

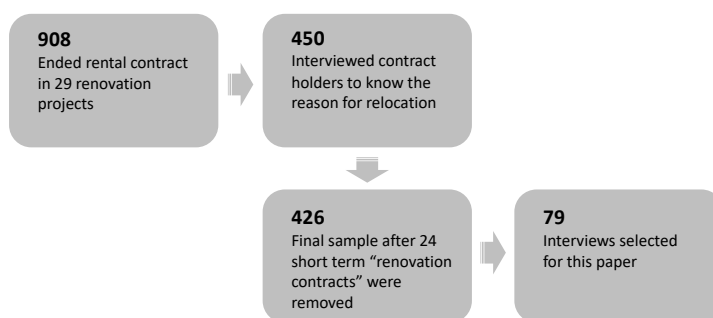


Figure 1. How the sample of 79 interviewees in this study relate to the larger study.

For this paper, we selected 79 of the interviews carried out with tenants that are either retired or on a longer sick leave. Figure 1 shows the relation between the 79 interviews and the whole sample.

Table 1 gives an overview of demographic data of the 79 interviews. All age groups are represented in the sample with a majority in the age group 65-74 (43%) (the normal age to retire in Sweden is at present 65 years), and single households (56%). The tenants in the sample have lived longer in their apartment than the Swedish average which is seven to ten years [15]. Nineteen tenants have lived in their apartment more than 15 years. In the age group 65-74 one tenant has lived in the same apartment

for 46 years, and two other for 41 years. Also, among the younger age groups in this sample, several have lived in their apartment more than 20 years.

3.1. Data collection

The ambition was to meet the interviewees face-to-face, with a telephone interviews as a second option. However, after the break-out of the pandemic in March 2020, all interviews were made by phone. Interviews lasted from a few minutes up to 1 hour. If consent was given, the interviews were recorded and transcribed, otherwise notes were taken. In this sample of 79 interviews, 69 were made on the phone, and six face-to-face. Thirty-one were recorded and transcribed. A methodological limitation could be that most interviews were made over the phone. However, longer interviews even if they are done over the telephone has provided a rich qualitative materia, but the very short interviews have limited richness in data. The short interview primarily answers the main questions of the reason for the relocation and the relation to the renovation.

Table 1. Demographics of the sample of 79 interviewees

Age group	No interv- iews	ofNo relocations motivated renovation	ofMean length byrental contract (years)	Occupation		Household size		
				Retired	Sick leave	One adult	Two adults	1-3 children
25-34	6	2	3,1	-	6	3	3	5
35-44	5	4	12,3	1	4	4	1	1
45-54	5	3	8,8	1	4	4	1	-
55-64	11	4	8,5	4	7	7	3	-
65-74	34	15	15,6	34	-	11	23	-
75-84	13	3	12,2	13	-	10	1	-
85-94	2	1	19,8	2	-	1	1	-
95 - 105	1	1	34,4	1	-	1	-	-
No info	3	1	10,4	2	1	3	-	-
<i>Total</i>	<i>79</i>	<i>34</i>	<i>13,9</i>	<i>57</i>	<i>22</i>	<i>44</i>	<i>33</i>	<i>6</i>

3.2. Level of renovation

To facilitate the analysis, the 29 renovation projects have been grouped in three different types with respect measures and the influence on tenants. Level 1 renovation is a climate envelope renovation. It can be separate measures, such as window replacement, or a combination of measures. Four out of 29 projects belong to this category. Level 1 renovation leads to high energy savings, up to 40% compared. With respect to disturbances, workers will enter the apartment for 1-2 days when the windows are sealed. In the case of a façade renovation, scaffolding might be in place for up to 12 months. Rent increases for are rather limited (1-15%) and are mainly motivated by the improved indoor environment.

A level 2 renovation is driven by the need to replace plumbing which usually means that also bathrooms are renovated. This is the category to which a majority, 17 of 29, renovations in this study belongs. A level 2 renovation can be combined with other internal renovation measures such as new electricity and/or ventilation. The tenants are also offered to add measures such as a renovated or replaced kitchen. This type of renovation results only in minor energy efficiency improvements, mainly related to ventilation and decreased hot-water use. The rent increase is medium to high, 12-30%. The higher range includes more measures and possibly also a new/renovated kitchen. With respect to disturbances, the bathroom might be impossible to use between 6 to 12 weeks. If the tenant chooses to replace the kitchen, they might need to be evacuated during the time for the renovation works.

Level 3 refers to deep renovation with both internal measures and external climate envelope renovation. In the study, five projects belong to level 3. A level 3 renovation leads to high energy

efficiency, up to 40% and to high rent increases of 20-50%. A level 3 renovation implies a temporal relocation of tenants which can last for up to 12 months.

Two of the 29 projects were not possible to fit into the typology of levels. This was a 18th century building with fungus problems, and a 19th century building with needs for ground reinforcement. Finally, for one project, the level of renovation is not yet decided.

3.3. Data analysis

The total body of material (the sample of 426 interviews) is currently undergoing analysis in different ways including statistical regression analysis, and qualitative coding using NVivo. As the study is still on-going, this paper builds on a spreadsheet that gathers data from all interviews and complemented with detailed content from transcriptions and notes from the interviews.

The spreadsheet enables an overview of the interviews, and sorting of data to describe relations. The spreadsheet contains information about demographics of the tenants (age, household, primary occupation of interviewed tenant), the renovation project that they have been moving from (level of renovation, length of the project etc.), and a summary of essential information from the interviews (the motive for permanent relocation, if the renovation motivated the relocation and if it was primary or secondary cause, if the relocation took place prior to or after the renovation). The spreadsheet does so far not include descriptions of disturbances experiences by the tenants, this will be done in the NVivo analysis. The process of transforming and condensing the qualitative content from the interviews to data in the spreadsheet was made in triangulation between three researchers.

4. Results

The tenants seldom mention one single motive for a permanent relocation, instead they can have up to ten intertwined reasons. In this sample of tenants 27 motivations were found. In 45 of the 79 interviews (57%) the tenants declare that the renovation had no influence on their choice of relocating, and in 34 (43%) the renovation motivated the permanent relocation. Compared to the total valid sample of 426 interviews, a higher number of the permanent relocations related to renovation was found in this specific sample. Of the 426 interviews a total of 117 tenants (27,5% of 426) said that their permanent relocation was in some way motivated by renovation. In seventeen of these 34, the renovation was a primary cause for relocating and in seventeen it was a secondary and supporting motive. Table 2 gives an overview of these three groups in relation to the renovations projects described using the typology explained in 3.2.

Table 2. The level of renovation and the renovation as a motivator for permanent relocation.

Level of renovation	Number of tenants		
	Renovation had no influence	Renovation was a primary cause	Renovation was a secondary cause
Level 1	8	-	2
Level 2	30	7	11
Level 3	3	10	4
Special	3	-	-
Not decided	1	-	-
<i>Total</i>	<i>45</i>	<i>17</i>	<i>17</i>

4.1. When the renovation is not a driver for permanent relocation

For tenants who did not permanently relocate because of the renovation, the relocation was motivated by either a wish to live in another way, personal or family reasons, or driven by a dissatisfaction with their current home. As many as sixteen tenants refer to a lack of quality, standard or accessibility as a reason to relocate. One tenant refer to noise originating from a trafficked road and others to a wish for a balcony or a terrace. Five tenants mention a lack of accessibility for physical impairment, and six

tenants mention unsafety or problems with the neighbours. Seven tenants moved to the country side or a privately owned villa. Five tenants needed a larger apartment, among those two younger tenants with growing families. Two tenants moved in with a new partner, one of them is in the age group 75-84. Six tenants relocated to get a better environments for their pets. Seven tenants downsized as children and partners have moved or passed away, to get a lower rent, or to spend more time in the summer house.

4.1.1 Experiences of the renovation

Twenty of the tenants in this groups moved after the renovation. Even if the renovation did not influence their decision to move they have experiences that can be of value in the planning of future renovations. A majority, sixteen of 20 tenants, are very satisfied with the process, the information preceding the renovation and the results of the renovation. P079 described that they had to live with temporary bathrooms in the courtyard, but this was fine, and it only lasted 8 weeks. A P060 describes that she felt that the process was well prepared:

P60: It was a very long process, but it worked very well. The renovation was made in a serious way, They did not only replace things, they also controlled and inspected that everything was fine afterwards, like the windows.

However, three of the 20 tenants describe negative experiences, even if this was not the cause for a permanent relocation. One tenant did not express either positive or negative experiences. P446, a tenant in the age group 65-74, describe negative experiences from the renovation process:

P446: It sounded very good at first. It was also good, but I and the neighbours upstairs felt that no one was listening to how darn hard it was. No. I don't wish anyone that. It was awful.

The three tenants with negative experiences refer to the result of the renovation. They thinks that some of the measures, such as the design of the bathrooms are not compatible will elderly. P091, who was interviewed about a parent's relocation to a home for elderly after having endured the renovation: "*You cannot pull up an old person with the roots*". The son says that the parent had not been allowed to choose for herself what should be replaced in the dwelling.

P091: She [parent] wanted to keep the old kitchen but in the new apartment [where she moved after the evacuation] there was a new stove with induction hob, and so on. She also missed the bathtub that had been removed.

4.2 When the renovation is a primary cause for permanent relocation

All seventeen tenants that moved because of the renovation did so from Level 2 and Level 3 renovations. In none of the cases, a Level 1 renovation was a primary cause for relocating.

Of the seventeen tenants that had the renovation as a primary motivation for permanently relocating, five refer to the rent increase (four tenants from Level 3 and one to Leve 2), eleven declare that they wished to avoid a temporal relocation or to move twice (six tenants from Level 3 and 5 from Level 2), and in one case (from level 2) the tenant is dissatisfied with the result of the renovation.

4.2.1. Relocation from Level 3 – primary cause

Of the ten tenants that moved from a Level 3, four claim that the rent increase was a main reason to relocate. Three of them relocated before the renovation and evacuation. They were all offered a less expensive apartment by their landlord in the nearby area, either a smaller or with lower standard. One decided to downsize to a smaller apartment in connection to the evacuation.

One of those who moved before the renovation, P063, is a single mother on a longer sick leave, with a low income (10.000 – 15.000 € per year) in the age group 35-44. She says about the permanent relocation: "*I had no choice*". She is disappointed with the public landlord and politicians that allows

for standard improvements and rent increases. Even if she was offered a new apartment, the new one does not offer the same good conditions for the daughter as it is closer to a road “*She will miss the silence and the forest, and I will not be able to let her out to play without being afraid of the cars.*” P063 says that politicians talk about improving integration, and not having people being dependant on subsidies, but these expensive renovations work in the opposite direction.

The other three tenants say that even if the landlord apply a stepwise increase of the rents over several years for those who lived in the property before the renovation, the rent will eventually be too high for them. Two of them are pensioners in the age group 65-74, P200 living alone and P425 living with a partner, and one P066 is in the age group 35-44 and used to live with a parent that recently passed away. The quote of P425 shows the way the reason about the permanent relocation:

P425: It was a long process before it was decided what it would be like after the move, before we found out what the rents would be and what it would be, so then we thought for a long time. Actually, it was like this, that we had planned to move back, but we realised that it would be too expensive after a few years, because we are retired.

The other six tenants that moved from Level 3 did so to avoid the temporal relocation. They all moved either before or during the renovation process. These six tenants mention foreseeing the problem of having to move twice, caused by the evacuation of the building, and instead accepted the offer to stay in an already renovated apartment in the same area or in another apartment offered by the landlord. In three of these cases the tenant moved to a smaller apartment to get a lower rent. However, even though smaller, a renovated apartment can be more expensive than the older unrenovated one. Tenant P414 has reconciled with the high rent and focus on the qualities the new apartment has offered:

P414: It's quite expensive for me, but it may be reasonable rent, but it's expensive for me. The elevator helps me very, very much. I must arrange it in one or another way.

One of the ten cases of relocation form a Level 3 renovation illustrates the worries before a comprehensive renovation with evacuation. P066, in the age group 35-44 is on a longer sick-leave and used to live with an older parent. P066 blames uncertainties about the renovation for the premature death of the parent. When they heard of the renovation, they pushed a decision to relocate the parent to a nursing home so that the parent did not have to live with the disturbances. In the end, the renovation was delayed with two years. Afterwards, P066 has understood that they would have recieved help with the relocation and been offered a new permanent apartment. If they had known or understood this, they would not have rushed into getting the parent in a nursing home. P066 blames a constant change of staff from the landlord office for the inconsequent and lacking information.

P066: .../At the meeting it sounded as if, now it happens. But after six months, he could not stand it and passed away...//...In retrospect, when we received the information... it was different if you had a person with a disability in the family, you get support while moving. If we had not moved him to a nursing home, we would have had to move faster and already permanent [apartment].

4.2.2. Relocation from level 2 – primary cause

Regarding those who permanently relocated from a Level 2 renovation, one of the tenants mentions the rent increase, another mentions negative results from the renovation, and the remaining five that they wanted to avoid disturbances. A Level 2 renovation is carried out without evacuation of the building, but some landlords offer people with special reasons, e.g. elderly and those with shift work, a temporal apartment. P279 a retired tenant in the age group 65-74 who lives with his partner, was temporarily relocated. Even if they could have moved back to their original apartment, P279 describes the feeling of being kicked out from their long-time home:

P279 I've lived for 30 years at number 19 and then we were kicked out. We have ended up in an evacuation apartment at number 11. They are in the process of doing complete renovations to the apartments. Replace kitchen, plumbing, bathroom, plus they will also add two stories to the building. They will pull new pipe trunks through the apartments as well.

P279 decided to permanently relocate instead of moving back to their renovated apartment. The rent would be too high, and they were offered a smaller and less expensive apartment by the landlord.

P279: We have two reasons for not moving back. We got a three-room apartment on [name of street] instead, with a lower rent, and a three-room apartment is better for two persons than a four room apartment.

Another tenant in this group, P127, describes difficulties with planning for a temporal relocation, and enduring disturbances.

P127: .../In the high-rise I live in, there are five shaft that they would drill in. And then it would be drilled for a week and then it would be quiet next week, then it would be drilled next and then it would be quiet. It would go on like that. And there are six or seven floors in this house so it will be very noisy for a very long time. And on top of this, I should move, and bring clothes and stuff that I needed until April. So you don't know what clothes you should bring. How much clothing should you take with you. How many towels should you have? Bed changes? /.../ And then, I felt the panic grow, I simply cannot cope with this. I have very kind children and we had discussions back and forth about how we should do this. And I have been registered in Boplats for almost 20, 25, 30 years because I know that it is difficult to get apartments. So I was registered at Boplats so I just checked it out one evening. Yes, then there was the vacant apartment I live in now.

P395 belongs to age group 25-34 and was not offered a temporal relocation even if he is on a longer sick leave and spends considerable time at home. He describes how the renovation can be difficult to support for someone in his situation, even if he managed to find another apartment on his own:

P395: I enjoyed the area, but I worried that the renovation would be too loud. I am on sick leave and I'm at home all day. I felt that the renovation would probably be a problem, but then an apartment appeared in [area in the central city]. I have previously looked at accommodation in [area in the central city] and thought it would be nice.

Only one tenant in this groups of relocators from a Level 2 renovation blame a dissatisfaction with the results of the renovation, but also the larger on-going transformation of the whole area.

4.3. When the renovation is a secondary motivation for permanent relocation

In this group of seventeen tenants, two moved from a Level 1 renovation, eleven from a Level 2 and four from Level 3. For those in this group who moved before or during the renovation, which are twelve cases, the renovation gave a push to take a decision to move, something that had been in their minds for some time. The remaining five, that moved after the renovation, claim a dissatisfaction with the results from the renovation as a driver.

4.3.1. Relocation from Level 1 – secondary motivation

Two tenants moved from a Level 1 façade renovation, that does not include internal renovations. One of them moved before the renovation as this would result in disturbances, especially for her cats:

P270: They did not start with my house yet, but I felt some concern, because of the animals. I have some indoor cats and would not be able to let them out.

In the other case of relocation from a Level 1 renovation, P446 is dissatisfied with the process: “*it was terrible to live here during the renovation*”, and says that the compensation in terms of rent reduction was not compensation enough. He also specifies the disturbances in relation to the windows:

P446: I think that the tenants should be better treated and get more compensation.
//...// Then it was difficult to open the windows and ventilate. This was not good.

4.3.2. Relocation from Level 2 – secondary motivation

Among the tenants that moved from a Level 2, eight of eleven relocated prior to the renovation and three after. For all eight that moved before, the renovation gave them a push to move. Three of them needed a more accessible apartment due to their age and got help from the landlord to find a more suitable home. P245 is an example that show that the renovation can have advantages. P245 says that she awaited the renovation for years to get “*a chance to move in connection with it*”. Also the interview with P31, explains how the renovation created an opportunity for his parent:

P31: In any case, he his condition has become worse, as to speak, and he has difficulties to use the stairs, so this meant killing two birds with one stone...

Tenants moving from a Level 2 renovation describe how the lack of information regarding the procedure of the renovation process, and its implications for their daily lives created worries. It is not only the lack of information but also the way of communicating it. P264, in the group 25-34, who has a small child and on a sick leave found it difficult to find the time to attend meetings and get information.

P264: Yes. It was very poorly informed, what was to be done and how. There were two information meetings but I didn't have the opportunity to attend. I was on sick leave and with children at home. The only thing you got was dates on a piece of paper.

The three tenants in this group that moved after the renovation refer to dissatisfaction with the results from the renovation as a supporting motivation to relocate. P150, a tenant in the age group 55-64 on a longer sick leave, gives a detailed description of the many problems that makes her daily life complicated and which motivated a relocation. She experienced problems with the new ventilation, that creates a draught and make parts of the apartment unbearable. The new design of the bathroom makes it difficult to clean. P150 also brings up taps with flow-control in the kitchen and flushing bottoms on the toilet. They are hard and tardy and difficult to manipulate for those with weak hands or arthrosis. P150 experience that the representative from the landlord waive off the complaints.

P150: And both of them [taps] are just as tardy. If I didn't already have a beginning of arthrosis, which I have, I would get it [from using them]. When I contacted the landlord, so ‘You are the only one who has complained’. Mhm, I talked to a neighbour two days later who said, ‘No, I have also complained about this’.

4.3.3. Relocation from Level 3 – secondary motivation

Four tenants moved from a Level 3 deep renovation. Three of them took the opportunity to relocate to another apartment before the start of the renovation. One tenant, P198, moved after the renovation and claim the bad results of the renovation. P198 calls the renovation a “Jerry-building” and refer to listels and doorstep that easily detach, and the floor on the balcony had to be changed three times.

5. Discussion

The aim of this study is to provide insights into how elderly and people with disabilities and on longer sick leaves experience housing renovation. The motivation for pinpointing these groups is that previous studies have shown that housing renovation and related rent increases can force people in lower income segments to relocate [2, 3]. In the prolongation, this can lead to negative social development [1, 16].

Forced relocations of these vulnerable groups stand in opposition to political ambitions that people with special need for care should be able stay in their homes.

Almost half of the tenants in the study, 34 out of 79 tenants (43%), says that the renovation has been their primary or secondary motivation to relocate. This percentage is higher than in other tenant segments covered by the larger study from which the sample of 79 interviews have been taken. In the larger group of 426 people, 27% said that the renovation had influenced their decision to relocate.

The traumatic experience of having to relocate because of inability to pay the rent increase, has been brought up by previous studies [1, 2, 4], and was confirmed among the tenants in this study. What this study contributes with is to show that it is not only rent increases which forces some tenants to relocate. There are other disturbances that in most cases lead to permanent relocation, notably to avoid evacuation, disturbances when parts of the dwelling is temporally unavailable, or to avoid noise.

The study shows some similarities in the experiences of renovation among tenants, independently on whether they relocated because of a renovation or not, but there are some interesting correlations. There seems to be a correlation between the level of renovation and if it leads to a relocation, and between the motivation for relocating dependent on if it is done before or after the renovation. There also seems to be a difference whether the tenant is satisfied with renovation or not. Among the tenants that did not relocate because of the renovation there is a higher number that are satisfied with the renovation process and its results.

The study indicates the existence of a relation between the disturbance that the renovation causes the tenant and if the renovation motivates a permanent relocation. A Level 1 renovation, which is only external measures on the climate envelope can be disturbing for tenants, but there are only two tenants in the sample that claim that this type of renovation has motivated their relocation.

Level 2 renovation of plumbing and bathrooms and Level 3 deep renovation, seem to create a higher expectancy for permanent relocations. Normally tenants will not be temporarily evacuated from a Level 2 renovation, but older people and those with special needs can be offered a temporal apartment if some functions in the apartment, such as bathrooms or kitchen, will be out of use for some time. What regards Level 3 renovation, a temporal evacuation is necessary. Among the tenant in this study, an evacuation in most cases becomes permanent as the tenants prefer to stay in the temporal apartment, or find another new apartment, instead of having to move twice.

The specific group of elderly, persons with different kinds of disabilities, need special attention when planning for a renovation. The elderly describes the situations where they must deal with uncertainties, and they express experiences of being unwanted and unrecognised. Renovation can be bothersome and even anxiety provoking, and those who moved prior to the renovation often mentions a wish to avoid disturbances or evacuation, and a decision to relocate is done in a rush. In these situations, a vulnerable person needs support that is sometimes difficult to fully grasp for those of us who do not have any disabilities. One example is that it can be difficult to know what to pack when you need to be temporally relocated. Another example is that the inherent dirtiness of a construction area may be irritating for many of us, but for a person who needs a walker to move around, muddiness may make it impossible to leave the apartment.

The studied group of tenants are also likely to spend considerable amounts of time in their homes, compared to people with employments. Accordingly, behavioural and interpersonal daily patterns evolve, that are important to them, and these become difficult to uphold during renovations. Moreover, disturbances become specifically bothersome for a person who spends their days at home, during the hours when renovation work is ongoing. Even if the renovation does not affect the individual apartment, drilling might be on-going in the rest of the building or area, or the windows might be covered for a longer period. Another factor to consider is that elderly people have lived a long time in the same place can be a challenge. The mere thought of packing belongings for a shorter temporal relocation or a permanent one can be overwhelming. The study also shows that some renovation measures have been installed without the perspective of elderly and people with disabilities, and that this can be a cause for relocating. Some of these measures are directly related to energy savings such as taps with flow-control, low-flushing toilets, and removal of bathtubs.

Findings show the importance of well-designed communication for elderly and those in need of care, and personal contacts between the landlord and the tenants, should not be underestimated. It is important that the tenants are informed at an early stage that a renovation will take place. At the same time, the early phases of the renovation projects are characterised by insecurities related to time plans, exact procedures, and costs, and consequently it can be a challenge to give precise information.

Even if the study gives examples of negative effects of renovation, there are some effects that can be understood as an opportunity. Movements on the housing market induced by a renovation can have positive sides from a societal perspective. Older tenants that live in larger apartments can take the opportunity to downsize in favour for larger families, or to get a renovated or modern apartment with more amenities for physical impairment. Nevertheless, the relocation will challenge the Swedish social political visions of aging-in-place. That is if the vision is based on the idea that the elder and people with special needs for care should be able to remain in their home, a place with memories, and where they a sense of belonging.

6. Conclusion

This study provides insights into the lived situation of vulnerable tenants among groups of elderly and people with disabilities, and thus set anticipated large-scale renovation and energy efficiency in relation to other important agendas like the ones of affordable housing, an aging society, and care for people with special needs.

The outcomes of this study aim at informing the design of policy and strategies for renovation. The study is still on-going and, more in-depth analysis will be made also to better determine relation between tenant groups, renovations and disturbances. The strength of the study is the large empirical material that enables both quantifications and provides qualitative insights. The limitation is that the results can only be claimed regarding the studied material. Generalisations cannot directly be made to other kinds of locations, types of renovations, or landlords. As a last comment, we observe that even though energy renovation is high on the political agenda, few renovation projects in this study have high energy efficiency goals. Another observation that needs further analysis is how energy efficiency measures, such as taps with flow-control, can be a problem for physically disabled people.

References

- [1] Bouzarovski S, Frankowski J, Tirado Herrero S. Low-Carbon Gentrification: When Climate Change Encounters Residential Displacement. *International Journal of Urban and Regional Research* 2018; 42: 845–863.
- [2] Polanska D. Inside Sweden's housing crisis: when renovation means eviction. *The Conversation*.
- [3] Boverket. *Flyttmönster till följd av omfattande renoveringar*. Karlskrona, 2014.
- [4] Polanska D, Richard Å. Narratives of a fractured trust in the Swedish model: Tenants' emotions of renovation. *Culture Unbound Journal of Current Cultural Research* 2019; 11: 141–164.
- [5] Swedish Government. Socialtjänstlagen. Stockholm.
- [6] SBU. *Kunskapsläget för bedömning och insatser inom äldreomsorgen*. Stockholm, 2019.
- [7] Swedish Government. Lag om stöd och service till vissa funktionshindrade. Stockholm: Department of Social Affairs.
- [8] SOU. Valfärd och valfrihet – service, stöd och vård för psykiskt störda.
- [9] Duner A. Care planning and decision-making in teams in Swedish elderly care: A study of interprofessional collaboration and professional boundaries. *Journal of Interprofessional Care* 2013; 27: 246–253.
- [10] Olin E, Dunér A. Careful assistance? Personal assistance within the family as hybridization of modern welfare policy and traditional family care. *Alter* 2019; 13: 113–125.
- [11] Barron K. Autonomy in everyday life, for whom? *Disability & Society* 2001; 16: 431–447.
- [12] Andersson M, Granath K, Nylander O. Aging-in-Place: Residents' Attitudes and Floor Plan Potential in Apartment Buildings From 1990 to 2015. *HERD: Health Environments Research & Design Journal* 2021; 14: 211–226.
- [13] Ljungqvist R. Vårdarna: Nya lagen om bostadsanpassning har bidragit negativt. *Hem & hyra*; Januari.

- [14] Serrano-Jiménez A, Barrios-Padura Á, Molina-Huelva M. Sustainable building renovation for an ageing population: Decision support system through an integral assessment method of architectural interventions. *Sustainable Cities and Society* 2018; 39: 144–154.
- [15] SCB. Bostäder i Sverige.
- [16] Mangold M, Österbring M, Wallbaum H, et al. Socio-economic impact of renovation and energy retrofitting of the Gothenburg building stock. *Energy and Buildings* 2016; 123: 41–49.
- [17] Mjörnell K, Femenías P, Annadotter K. Renovation Strategies for Multi-Residential Buildings from the Record Years in Sweden—Profit-Driven or Socioeconomically Responsible? *Sustainability* 2019; 11: 6988.

Acknowledgments

Authors wish to thank the Swedish Energy Agency, grant 49592-1, Centre for Management in Construction and Framtiden Utveckling AB for funding, and to acknowledge the invaluable assistance from Lina Jonsdotter, Alexander Knutsson, Jens Widmark och Nina Dereban for contributing to data collection and compilation. The authors also wish to thank two independent reviewers for valuable comments to develop the paper.