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“It’s Just a Matter of Adjustment”: Residents’ Perceptions and the Potential for Low-Impact Home Practices

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ABSTRACT: *In addition to material, spatial and thermal standards and norms that influence the resource intensity of home environments, a key indicator of the environmental impact related to housing is found in residents’ ways of life. Of interest to the study presented in this paper is how residents’ perceptions of home and living standards relate to opinions on environmental issues and the reduction of resource use, exploring the potential and willingness to engage in low-impact ways of living. Empirical material from a questionnaire (n=156) and interview study (n=22) with residents in a tenant-owned housing association in Sweden provides insights into conventions and perceptions surrounding practices primarily linked to voluntary simplicity, living smaller as well as sharing spaces and resources. The study emphasises the need for understanding residents’ perspectives and the implications this might have for targeting the resource intensity of homes in future development and policy.*

KEYWORDS: Home; Housing; Resource use; Low-impact practices; Everyday life;

1. Introduction

Narratives surrounding a sustainable housing development have emphasised various environmental and socio-economic implications, relating to discourses on for example urban form, low-carbon planning and architecture (Holden, 2004; Salat, 2009) as well as housing policy, affordability and sustainable communities (Maliene, Howe, and Malys, 2008; Winston, 2010). In addition, a growing body of research conducted in high-consuming societies in North America, Europe as well as Australia highlights contextual factors, socio-cultural aspects and individual differences among households as influencing resource intensity (Aune, 2007; Janda, 2011; Gibson et al., 2011; Newton and Meyer, 2012; Waitt et al., 2012). Focusing on residents’ lived experiences (Maller, Horne and Dalton, 2012), the household has been framed as a relevant unit of focus for sustainability (Head et al., 2013; Reid, Sutton and Hunter, 2009). This paper adds to this work and further explores precedent research on sustainability in housing on one hand, and research on home and home-related practices on the other, by providing empirical insights from a residents’ perspective in the context of Gothenburg, Sweden.

Continuously increasing levels of consumption pose challenges for living within ecological limits (Mont, Neuvonen, and Lähteenoja, 2014). Housing (specified as buildings, furniture, domestic appliances, room and water heating) constitutes about 20 to 35% of the total environmental impact caused by consumption in the EU (JRC, IPTS, and ESTO, 2006). Precedent research further problematizes the spatial and material standards associated with the modern home, underlining the implications of dwelling and household size (Wilson and

Boehland, 2005; Hille, Simonsen and Aall, 2011; Klocker, Gibson and Borger, 2012). While measures are sought to incentivize the expansion of environmental consideration in the housing sector, integrated developments are often based in an ecological modernization approach (Lundqvist, 2004; Jensen and Gram-Hanssen, 2008) where relative improvements under the guise of 'green consumption' do not adequately address the absolute decrease of total consumption that is needed (Alfredsson, 2004).

The research presented in this paper goes beyond a prevalent techno-economic focus on top-down, technology-driven innovations and rational consumers (as argued for by, among others, Gibson et al., 2011). The work takes its departure in home-related meanings, structures and practices, framed by the need to challenge current ways of residing, and follows a conceptual framework for research on domestic resource use proposed by Ellsworth-Krebs, Reid, and Hunter (2015). The overall aim is to explore the potential for less resource intensive ways of living based in residents' perspectives. The presented study focuses on 'ordinary' households, what perceptions of home and living standards they convey; and if/how these perceptions relate to expressed views on environmental issues and low-impact home-related practices. A key contribution of the paper is the particular interest in perceptions of and willingness to engage in practices and ways of living that can be conceived as radically less environmentally impactful, but that might challenge conventions regarding contemporary representations of home with regards to dwelling size and increasing levels of consumption. This particularly includes practices of voluntary simplicity (Alexander, 2013), living smaller (Wilson and Boehland, 2005) or sharing goods, services or spaces (Bradley, 2014; Jarvis, 2011; Klocker, Gibson and Borger, 2012; Vestbro, 2012).

An outline of relevant perspectives on home and resource use is given in section 2. This is followed by a description of the empirical material in section 3: a questionnaire survey and interviews conducted with residents in an owner-occupied multi-family housing association in Gothenburg, Sweden. Key empirical insights are then presented in section 4, revolving around residents' opinions on environmental issues and 'environmentally-friendly' housing development, notions of home, housing norms and living standards, and willingness to engage in practices of living simpler, smaller and sharing. Section 5 discusses the implications and possible conflicts between low-impact practices and notions of the ideal home. A concluding section emphasises that understanding residents' perspectives in developing new forms of structures and approaches for less resource intensive ways of living is essential for a sustainable housing development.

2. The Resource Intensity of Home

This paper addresses notions of home, social conventions surrounding home-related practices, and how alternative, less environmentally impactful ways of living might be perceived. It takes an approach that goes beyond looking at how people use their dwellings and the corresponding resource use today (Vale and Vale 2010; Hiller 2015; Hendrickson and Wittman 2010), in order to also investigate what they could consider changing or not, and the potential to support low-impact practices and new forms and representations of home.

The term 'home-related' is here used to signify structures and practices that are based in or connected to the physical home environment (encompassing both the dwelling unit and a broader understanding of home as reaching beyond these four walls) as well as practices central or related to notions and meanings of home as such (Easthope, 2004; Després, 1991; Mallet, 2004; Moore, 2000). These patterns of practice are shaped by images of the modern 'good home' and notions of 'homeness' (Dowling and Power, 2011), based on an understanding that residents are restricted by social institutions and infrastructures, as well as being co-creators of these structures and the reproduction of them in everyday life (Seyfang,

2009; Shove, 2004). People's concerns for the environment are here of interest primarily in relation to views on living in alternative ways to save resources, but also in terms of general acceptance towards low-impact housing development, including support for policy. Building upon perspectives surrounding how judgements on environmental sustainability may or may not be translated into everyday resource saving (Martinsson, Lundqvist and Sundström, 2011), this is explored particularly in relation to perceptions and aspirations of home (Maller, Horne and Dalton, 2012), bearing in mind the diverse relational and spatial contexts of households (Waite et al., 2012). Common suppositions that 'green' households have a lower ecological footprint have been questioned in terms of socio-economic, demographic and infrastructural factors (Bradley, 2009; Holden and Linnerud, 2010), as well as with respect to the varying capabilities among households to engage in pro-environmental practices, as proposed by Waite et al. (2012). Connecting to precedent studies such as Hitchings, Collins and Day's (2015) exploration of "inadvertent environmentalism", low-impact practices can certainly be prevalent also among groups of people who might not pursue these out of an explicitly pro-environmental agenda (in comparison to those who are committed, yet might still experience limitations in what they can actually do – cf. Gifford, 2013 and his discussion of 'dragons', 'mules' and 'honeybees').

Exploring potential motivations and factors that could drive a transition to low-impact ways of living is relevant particularly in relation to the cultural assumptions that underline people's opinions and practices, (Hobson, 2002; Head et al., 2013). One imperative aspect is seeing resource consumption as a product of everyday practices rather than an origin of them (Strengers, 2009). This places resource use and the negotiation and navigation of pro-environmental practices in the complexity of residents' everyday lives (Berthou, 2013; Maller, Horne and Dalton, 2012). As suggested by Klocker, Gibson and Borger (2012) the role and dynamics of the household as mediating cultural values as well as material realities emphasises the environmental impact of everyday decisions. Framing householders as stakeholders in influencing assumptions regarding 'normal' practices on a meso level, also situates the home as being connected to various networks of infrastructure, social relations and policy (Lane and Gorman-Murray, 2011; Reid, Sutton and Hunter, 2009; Head et al., 2013). Especially in regards to contemporary ideals surrounding spatial, material and thermal comforts of home (Shove et al., 2008; Gram-Hanssen, 2010), systems of practice need to be positioned in a larger context of social conventions (Shove et al., 2012). The relationship between an increase in small households, living space per person and energy use is for example worth noting (Wilson and Boehland, 2005; Vale and Vale, 2010; Marsh, Larsen, and Kragh, 2010). Various norms (both regulatory and social) that shape definitions and perceptions of spatial and material housing standards should furthermore also be seen in relation to a market standard of what is available and possible; further feeding into policy, media and cultural constructs surrounding what a 'good home' looks like (Leonard, Perkins and Thorns, 2004; Hård, 2010).

While the introduction of more efficient domestic technology is increasingly found to be inadequate as a measure on its own to reduce absolute resource use (Herring and Roy, 2007), the push for automation and solutions that can uphold current levels of standard is strong as it portrays an appealing approach that requires little to no lifestyle changes among residents (Jensen and Gram-Hanssen, 2008). Critiques of the continuous escalation of living standards is nonetheless based in research that also questions the relation between consumption and subjective wellbeing (Andersson et al., 2014), where lowering levels of consumption could even be seen as crucial to 'living better' (Jackson, 2005). An alternative approach thus involves changes in how we construct society (including institutions and infrastructures), homes and ways of everyday life. This paper explores the potential for a transition to low-impact home-related practices in high-consuming societies, with an emphasis on reducing

resource intensity through minimizing living space per capita, lowering living standards and promoting shared use, where residents' willingness, acceptance and support for these types of developments (and for policy measures to this end) go beyond individual changes. Such a transition will need to revolve around the co-evolution of new conventions of the 'good home', exploring narratives, how they become 'normalized' in practice and seeing the home as a node of multiple interlinked practices (Shove, 2003, Shove et al., 2012).

3. Material and Methods

3.1. Research Design and Context

Both a quantitative overview and a more detailed qualitative study were used, with an emphasis on residents' perspectives in the interpretation and presentation of the data (Brannen, 2005). The study was limited to multi-family housing, accounting for about half of the Swedish housing stock, and more specifically owner-occupied, private housing cooperative apartments – a form of tenure that comprises 40% of all Swedish multi-family housing (SCB, 2013a). A housing association was selected via the regional chapter of Sweden's largest cooperative housing organization, *HSB*. Built in 1962, the association comprises four blocks that are a typical example of the industrialized building processes that emerged in the late 1950's and early 1960's.

The area is connected to district heating, with good access to both public transport and forested areas for recreation. Communal use of facilities is typical in this type of Swedish post-war multi-family housing, and in this association includes shared laundry rooms, hobby rooms, areas for recreation, a meeting room, guest apartment etcetera. Four- or five-room apartments constitute almost a forth of the association's stock, as do smaller one- or two-room apartments. The most prevalent, however, are three-room apartments, which make up the remaining half. The energy use (heating, cooling, hot water and electricity) is ~ 120 kWh/m²/year (calculated for the heated living space according to a 2009 energy performance declaration, available through the Swedish National Board of Housing, Building and Planning – Boverket), compared to the national average for multi-family buildings, which in 2013 was 139 kWh/m²/year (Swedish Energy Agency, 2014).

Focusing on households that have not explicitly chosen to live in housing marketed as having a lower environmental impact, the study allows insights among residents that have not committed to 'green' housing or a particular way of life. By limiting the study to a 'typical' form of multi-family housing also provides a basis for possibly reducing resource use in the existing stock as well as seeing these households as potential residents in new development.

3.2. Questionnaire

A questionnaire was distributed to all households in the association (in total 306) with a response rate of 51% (n=156), with the purpose to get a sense of the make up of the sample group and their perceptions of home and the environment respectively. 21 Likert items were used to explore the notions of home that respondents agree with. The items spanned categories of meanings of home revolving around social, material and activity pattern dimensions (following van der Klis & Karsten, 2009); symbolic aspects, particularly relating to social status and expression of identity (Gram-Hanssen & Bech-Danielsen, 2004; Hauge and Kolstad, 2007); as well as elements of ownership (Windsong, 2010), security, control and home as a place for refuge and restoration (Després, 1991).

In order to survey respondents' value orientations, items relating to value clusters were used, including biospheric values (following Steg et al., 2014). Standardized ISSP survey questions on environmental opinions were furthermore included based on the Swedish open

data collection (Svallfors and Edlund, 2011), containing items relating to prioritization, willingness to reduce living standards, and pro-environmental activities engaged in. This was further compared to international ISSP survey data (ISSP Research Group, 2012).

Finally, variables regarding household type and background concluded the questionnaire. 61% of questionnaire respondents were female, and the mean age was 55. 53% (n=156) report being university educated and 64% report a net household income of < €3 300/month, the national average monthly household income being approximately €2 500 (SCB, 2013c).

3.3. Interviews

In order to explore the potential tension noted above, between environmental judgements, resource savings in practice, as well as going beyond this to understand residents' willingness to engage in more radical low-impact practices and alternative ways of living, qualitative insights were also emphasised in the study. Due to the inadequacy of a questionnaire format on its own to capture narratives regarding the lifestyle implications, choices and limitations among residents (Hobson, 2002), this overview was complemented with an interview study of 22 households recruited from the questionnaire. The age range among interview participants was 22-72. 13 were female, seven were male, and in two instances the responding participant was joined by a partner for the interview.

Following a semi-structured framework, the interview guide used contained three parts:

- *Housing biography* – previous housing experiences, impressions of current dwelling and area, notions of home and aspirations;
- *Housing standards and alternative practices* – the perceived level of standard in current dwelling and willingness to accept a lowered spatial, material or thermal standard, including sharing spaces or resources, functions possible to share, and with whom;
- *Housing development* – perceptions of housing development in Sweden, and opinions about and understanding of 'green' housing.

Interviews lasted between 40 min to an hour, were transcribed verbatim and coded. Codes were categorized and linked according to pre-defined themes based on the structure of the interview, as well as themes that emerged during analysis.

4. Residents' Perceptions

4.1. Opinions on the environment and the role of a 'green' housing sector.

Exploring biospheric values¹, a majority of questionnaire respondents view 'respecting the earth' as imperative. About half feel 'protecting the environment' to be of utmost importance (n=79). A majority of respondents also agree that 'almost everything in our modern way of life hurts the environment'. Regarding belief in science to provide a solution without having to change current ways of life considerably, 5% of questionnaire respondents say this will be sufficient, comparable to 8% in the Swedish data (Svallfors and Edlund, 2011), but differing from international data (ISSP Research Group, 2012), where 29% agree with this statement.

The questionnaire results suggest that the sample is not considerably more or less environmentally oriented than the national average (at least according to the ISSP data), but instead could be understood in the context of a relatively high level of self-reported awareness and concern in Swedish society. This is further illustrated in the qualitative insights from the interviews, where all interview participants consider themselves at least equally environmentally conscious compared to friends or family, with a majority seeing themselves

¹ With a high internal reliability (Cronbach's alpha: .91) four items were indexed in this value cluster (Steg et al., 2014): 'respecting the earth', 'protecting the environment', 'unity with nature', 'preventing pollution'

as more aware. How this is translated into action however is not given, and when looking at how biospheric values relate to the reported frequency of engaging in pro-environmental practices², there was only a moderate correlation ($r = .48, p < 0.01$). According to the interviewees, being ‘environmentally minded’ is nonetheless linked to being an avid recycler, composting, turning lights off, driving less or for example showering for a shorter amount of time.

A majority of interviewees have come into contact with areas or buildings that are marketed as ‘environmentally friendly’. What this type of ‘green’ housing would entail is interpreted in numerous ways. Some perceive it as not very different from how they live today, only with better thermal performance and resource efficiency. Yet others see it as quite a personal commitment and/or challenge, relating the concept particularly to aspects such as self-building or limited to specific typologies such as eco-villages.

The role of policy is underlined, both in terms of ensuring a housing development that addresses social concerns (such as affordability) as well as environmental considerations. Several interviewees see subsidies as a mean to steer desired development, provided that current policies “*stop subsidizing villas and cars and instead subsidize other things.*” (Woman, 56). The notion of ‘green-washing’ in the housing sector also provides some scepticism. Regulations that secure transparency are mentioned, along with comments on the perceived corrupt culture of the Swedish building sector. There appears to be disbelief among interviewees in the capability of (big) companies themselves to transition towards a more sustainable housing development: “*I would’ve hoped it could be us residents that could influence more than we do, but I still believe it’s the developers that buy the politicians.*” (Man, 65)

4.2. Perceptions of Home, Standards and Willingness to ‘Live With Less’

4.2.1. Notions of ‘home’ and comfort. The questionnaire results suggest that when it comes to how respondents perceive home this particular group of residents do not significantly stand out compared to prevalent theoretical frameworks surrounding the concept. A principal components analysis of the questionnaire items relating to notions of home (as outlined in section 3.2., based on precedent theory) simply confirmed three main factors corresponding to precedent established clusters of meaning: seeing material structures and an instrumental organization of the home as enabling different kinds of activities; regarding home as a social-categorical expression (including representation and symbolic features of one’s home); and connotations to safety, control and refuge from the outside world. An exploratory factors analysis did not provide any potential significant correlations between environmental values and notions of home, nor between notions of home and frequency of engaging in pro-environmental practices. This perhaps also suggests that general quantitative statements are rather poor predictors, underlining the need to explore practices in a larger web of everyday life, situated in the specific contexts of home.

The interviews on the other hand provide insights from a multitude of different housing experiences. It also shows the diversity in residents’ socio-economic background, ranging from people who jokingly call themselves “apartment rats”, i.e. having lived in multi-family housing in rather dense urban areas most of their lives, to several interviewees who describe growing up in a detached house surrounded by other single-family homes. Notions of what constitutes a good home as expressed by the interviewees revolve mainly around family, social relations and emotive dimensions of home as ‘a feeling’, as well as material, functional

² Combined to create a single scale ($\alpha = .82$), this included acts of saving water, reducing energy use in the home, but also less directly home-related things such as driving less or specific purchasing habits (Svallfors and Edlund, 2011).

and aesthetic aspects: *“Well simply the people you live with [makes a home]. And that it’s functional. That one has a kitchen that works and heat that works and a bathroom that works.”* (Woman, 56). Connotations to comfort and convenience in defining the ‘good home’ are common among interviewees, regardless of age group. One interviewee describes a good home as: *“comfortable, nice, warm. Yeah, it should be cosy.”* (Woman, 41).

Different views on trade offs between convenience (in terms of time and access), costs and resource implications are conveyed. While some report having thrown out appliances they feel they don’t need or because “it costs too much energy”, others have installed a range of new ones. Aspects of social representation are described, and that the home should also accommodate socializing with larger groups of friends or family members at special occasions. One elderly interviewee living alone states that the choice of his dwelling (a 4-room apartment) was influenced by a wish to have ample space for overnight guests: *“It was my daughter who said ‘now you have to think of the fact that your grandkids should be able to come and visit’. It turned out a bit to big for me.”* (Man, 72 years).

4.2.2. Living simpler. Looking at the willingness to accept a lowered standard of living in order to preserve the environment, 40% of the questionnaire respondents report being willing, while 32% are not. A hierarchical multiple regression showed no significant predictive variables except scores on biospheric values (showing only a weak correlation $r = .27$, $p < 0.01$), indicating that reported willingness to lower standards appears to be irrespective of specific aspects of demographic variables or current living space per person, as well as other value orientations.

Over half of the interviewees state being willing to lower their standard of living and pointed towards conciliation between different aspects, weighing conveniences and benefits:

If I sort of got a receipt of some kind that it would contribute I would probably consider reducing a bit. As a conscious act so to speak, like buy a wool sweater and be aware that now I’m making a little difference here. (Man, 57)

The importance of ‘feeling’ and the overall (subjective) qualities that can be found in one’s home are perceived to also contribute to this negotiated approach.

I could imagine living even more primitively, but it’s still this, the aesthetic. I wouldn’t want to live in an ugly house, where I’m freezing and I have an ugly view, just cause I’m saving energy. On the other hand, I’m used to living in the countryside, where you spend your evenings in the kitchen because it’s so cold everywhere else. But that has to do with how beautiful or fresh or meaningful, or whatever, it is. (Woman, 49)

Reducing consumption of home-related goods is something most of the interviewees could consider, and several would welcome a restriction to eliminate what they perceive as a current overflow of stuff. Yet how far people would be willing to go in lowering their living standard (and how they themselves define this) differs, with some imagining getting rid of the microwave oven as the ultimate step, while others see loosing basic modern features such as the freezer or indoor toilet facilities as where they definitely draw the line. Overall, a common conclusion among the interviewees is however that people tend to be rather adaptive: *“We’ve lived in a lower standard before so we know that it works, gosh, it’s just a matter of adjustment.”* (Woman, 37 years). Whether this means that these residents would actually choose to actively seek a lower standard is however not apparent, and perhaps it rather suggests that while these particular residents are not likely to immediately change their current housing situation, ideas of comfort and living standards are also not completely stagnant or non-negotiable.

4.2.3. Living smaller. Over half of the respondents report living alone, and the average household size was 1,9 people/household in the questionnaire and 2,2 among the

interviewees, which can be compared to 2,1 in Sweden as a whole, and 2,4 people/household in the EU (Eurostat, 2015). The average living space per person among questionnaire respondents is 48 m², and 40 m² among the interviewees, while the Swedish average space/person in multi-family dwellings is 39 m² (SCB, 2013b). The questionnaire respondents appear to live relatively spacious, with about 1,9 rooms per person, while the limited group of interview participants report 1,6 rooms/person, which again is more in line with the national Swedish average (1,7) or 1,6 rooms/person in the EU (Eurostat, 2015).

Regarding dwelling size, the interviewees report varying perspectives on spatial preference and what is considered adequate for the household at different occasions. Two thirds, or 15 of the interviewees, say they could consider living smaller (conceived as less space and/or fewer rooms) to save resources (understood both as preserving the environment and the household's own resources, mainly in monetary terms). The remaining third of interviewees seems less convinced of the necessity to live smaller. Either as they feel like they already live rather cramped and would instead be willing to not increase space as the household grows, or due to the fact that they enjoy living in the spatial standard they are used to – it might be hard to go down space-wise once one has experienced living in a larger dwelling. Again, a critical reflection on the adaptive nature of people and how frames of reference can change (both in a positive and negative sense in terms of resource use) can also be discerned: *"Now one has gotten used to this. But I could absolutely do it, no problem. /.../ it's just a thing of habit, it really is."* (Woman, 22 years).

The configuration of the household appears to be a key aspect. Of those who could consider minimising their living space, interviewees living in two person-households appear among the most positively inclined, perhaps as they already share space and could see it used even more efficiently. The acceptance towards living smaller during certain periods in life, such as while being a student, is commonly established among interviewees. Conversely, once those periods in life are over, it is regarded as less desirable to live in similar conditions again. Particularly for households with or in the processes of having children however, spatial needs are reported to be something that is re-evaluated as the household changes. Unsurprisingly, it is primarily the residents who already live in larger apartments (>75 m²) that could also consider living smaller. On average, the interviewees who are willing report they could consider a decrease of between 10-50 m² (the median being 15 m²). The potential excitement of challenging oneself to living *"really small and try to fit everything, as little as possible"* (man, 36) is expressed as a motivation, going beyond a solely environmental perspective in emphasizing the willingness to explore and perhaps test the limits of prevalent norms.

4.2.4. Living and sharing with others. Sharing things, spaces and activities in the home with others is not a too distant concept for many of the interviewees. Nine out of 22 report being directly positive towards living with others to some extent. Seven interviewees report they could perhaps consider it for a certain time period, depending on family situation or particular context, while the rest are less inclined or openly opposed. One elderly interviewee expressing that he is "done with" collectives, having lived in several before, while other elderly emphasise the positive aspects of not having to be alone when their significant others are gone.

The interviews reveal that associations made with respect to the term 'collective housing' (used to describe co-housing in Swedish) could in itself be a hindrance as some of the interviewees expressly resisted to identify with it, underlining the possible need to differentiate from 'collaborative housing' or 'sharing' in different ways (implying a more pragmatic tone that seem easier for residents to adopt). There also appears to be degrees of to what extent residents are willing to live more collaboratively. This relates to norms

concerning what a dwelling should contain and what makes it a good home, where aspects of control and privacy, as well as being able to show one's identity and status, are intrinsically linked to how interviewees talk about the artefacts and practices they deem private or shared today. Having one's own space in some capacity – usually expressed as a private bedroom and preferably some other small space or function except for sleeping – is considered very important, but this could be complemented by functions in shared areas such as gardens, social spaces and kitchen facilities (often building upon the functions already shared in the association currently). One woman (64) says it would be “*perfect if you didn't have to cook every day*”, recalling the cooking teams common in the 1960s and -70s. Another says she could possibly share:

Some kind of common kitchen where all cooking happens. I just have a hard time imagining waking up in the morning and not being able to make breakfast or anything, but just trot away somewhere central. It feels so foreign. It's probably just a question of habit. (Woman, 45)

The availability and access to the shared space is important, and becomes a question of how to organize maintenance and cleanliness, for example, where varying unspoken social contracts or formal rules are considered needed. The disposition towards sharing also depends a lot with whom one shares, where many of those who could consider it say it would have to be with likeminded people, either close friends, siblings or simply people one has something in common with, that would share this ‘project’. Several say they have previously talked about living together with others in different forms. One common idea seems to be to buy a bigger detached or semi-detached house to share (a third have or could consider this an option), particularly being able to share a garden and social spaces. None have yet gone beyond just talking about it, although imagine that it might still be a possibility.

5. Obstacles and possibilities

From the empirical insights presented in this paper, several points for discussion emerge regarding residents' perceptions of low-impact home-related practices, but also potential obstacles facing a development of less resource intense strategies. The results indicate that what is perhaps often considered more ‘radical’ low-impact practices and home environments are not as unfamiliar to residents as perhaps suggested in current techno-economic development and discourse that tends to frame technical solutions as a way to avoid more significant changes in how we live.

Opinions about green building initiatives are overall quite positive among the interviewees, but the need for regulation, potential for further policy incentives, and a wider range of housing alternatives is underscored in order to avoid aspects of green-washing or a unilateral focus on one-fits-all solutions. A current market understanding of housing development, – even that marketed with green pretences – seems to reproduce rather than challenge resource intensive forms of dwelling. Residents' perspectives on the other hand appear to be more nuanced, where understandings of a comfortable home and a reduction of resource use can be negotiated in different ways.

The presented results support the assumption that the study participants are not a particularly niche group of residents, but averagely environmentally minded (compared to the national data). The high consumption levels in countries such as Sweden should however also be noted in relation to this. These are households that live in average or above national spatial standard and while not wealthy, they are well-educated, and could be considered Swedish middle class. It is relevant to explore the potential of these types of households (still acknowledging the diversity among them) as significant actors in implementing solutions in existing housing, as well as provide basis for further development and support for policy

incentives approaching more fundamental changes in how we create living environments that enable low-impact living.

While reported environmental awareness or expressed willingness to live smaller, with less stuff and/or sharing in the home in order to save resources cannot necessarily be said to provide an indication of actual pro-environmental actions taken, this nonetheless provides an insight into the perceptions of such strategies at large. The empirical insights gained primarily through more qualitative inquiries with residents also highlight the potential conflicts between different perspectives and facets of translating intentions and acceptance of changes into practice. There at least seems to be a theoretical openness to alternative low-impact strategies expressed among the group of residents participating in this study, yet this openness appears to also be conditional and surrounded by norms and apprehensions. As expressed by one of the interviewees, when asked if she could consider living smaller: *"Yes in theory. But in practice I have... well, I don't. /.../ for reasons of convenience I don't."* (Woman, 45). Conventions surrounding home shape and are shaped by physical and social structures, linking to prevalent norms of comfort and convenience. Understanding why, how and under what conditions people might consider alternative home-related practices emerges as an important question – why would people willingly challenge prevalent norms and forgo the level of living standard currently available to them?

Conflicting notions and societal norms surrounding portrayals of a housing career are for example ubiquitous, expressed by several of the interviewees. The narratives conveyed often portray the normative journey from smaller (and potentially less resource intense) dwellings to larger (often detached) homes in "nicer areas". This is however also critically reflected upon in the interviews, weighing different aspects against each other:

"We probably wouldn't have any problems staying here, even if we get another [child], so they could share a room. /.../ It's more that if you can, well... then you probably want them to have their own rooms." (Woman, 26).

Or as another interviewee expresses it regarding the continuous advancement expected of you, and that you yourself expect when you as a young couple start engaging in the quest for housing: *"Somewhere you want to improve your standard too. That's like something one strives for..."* (Man, 27). While positive to reducing resource use, many at the same time also seem to harbour these types of dreams of the 'good home', where dwelling size and lavish interiors in particular are perceived as valuable not only as part of personal aspirations, but embedded in norms regarding child rearing (having a big house and lawn for kids to play in), social status (being able to host guests), individual expression (shaping the home to one's preference), and economic wealth (seeing the home as an investment in line with the current economic paradigm). Relating to Maller, Horne and Dalton's (2012) work exploring the intersection between resource-saving efforts and aspirations surrounding the ideal home in the case of renovation, one interviewee concludes in regards to what a good home means for her:

It's really only about what you make it, and that you enjoy it. But what makes it enjoyable is perhaps that you have room for what you want and that you have space for socializing. I like fixing up the apartment the way I want it. We've renovated for example the kitchens in the apartments we've had. So you sort of have the opportunity to make it into what you think fits you. (Woman, 33).

The qualitative insights gained here underline the importance of understanding residents' practices as linked in everyday life, connected to systems of provision as well as intra-household relations. Expressed willingness to reduce resource use is greater among some of the study participants, relating also to interpretations of sustainability and perceptions of how they are able to contribute. Different 'typologies' of low-impact living among the interviewees can be discerned, with some preferring a pragmatic outlook on shared use in order to retain a certain level of standard while others seek a simpler life on more

individualistic terms. If willing to live smaller and in lower standard, it is not guaranteed that one is willing to live collaboratively, and vice versa. Those who say they are willing to explore more radical reductions also cite other principles than purely environmental judgements as central; finding wellbeing in low-consumption practices, alternative aesthetical qualities or intellectual challenges of managing with less. Issues related to rebound effects nonetheless also remain. Interviewees see trade-offs between living in ways that entail certain sacrifices in material or spatial standard, and economic incentives that open up for potentially increased consumption in other sectors, including traveling, and thus demands efforts on numerous levels. Policy measures that address resource use in different areas of people's lives will thus be relevant to follow more closely.

Those who have thought about possibly living in more collaborative forms express perceived difficulty in how to go about it. The motivation to change current living situation might not be pressing enough, but some also say it's a matter of the built environment enabling this or not, providing limited opportunities to change even if they wanted to. Current mainstream housing development is not perceived to offer many alternatives that could make this type of living arrangement easier, demanding more effort on the part of residents to self-organize these types of residential configurations for example in co-housing groups or joint building ventures. While an interest exists; these residents might not necessarily be willing to drive such processes themselves. *"I think most of us aren't really there 100 % yet, that we would really dare to take such a step."* (Woman, 45). There is a need for further development of design and construction solutions that explore new ways of residing, offering flexibility towards practices of voluntary simplicity, living smaller and sharing. As one interviewee concludes, wanting to live less impactful and engaging with others can perhaps be understood as a counter-trend to a perceived individualization in society: *"I think these things will come back, people will get tired of this 'me me me society', so it'll come /.../ that you go back to doing thing together."* (Man, 34). How such a shift is accommodated in current physical and social structures however remains a potential challenge, as more and more shared spaces in associations, such as the one providing a context for this study, are being converted into private/rentable space rather than developed into collaborative resources for the future.

6. Conclusions

Reducing resource use in relation to spatial, material and thermal living standards is imperative to a sustainable housing development. The study presented in this paper explores perceptions among a group of residents in a 'typical' multi-family owner occupied apartment association in Gothenburg, Sweden, and their reported willingness to engage in practices and ways of living that challenge conventions surrounding home – here focused on living simpler (with a lower standard and reducing consumption), smaller, and/or sharing spaces and things. This is relevant especially in light of emerging discussions surrounding, for example, aspects of compact living and co-housing, but where the housing market is lagging behind and where it is not clear how large the interest and potential is for these types of developments.

The empirical material presented, encompassing both a questionnaire and in-depth interviews, suggests that environmental values and opinions on resource saving might be important in establishing acceptance or willingness among residents to for example lower their standards of living, but does not necessarily mean this is translated into action. Different obstacles and possibilities for adopting low-impact home practices are explored, as illustrated by interviewees' negotiations between resource saving and notions of a good, comfortable home. Changing one's dwelling situation is reliant on multiple aspects, relating to socio-structural factors and provision of alternatives as well as individual perceptions of necessity in

relation to convenience. However, the rather broad openness to low-impact living that can be discerned among interviewees, and directly expressed ambitions of reducing consumption of home-related goods and prevalent discussions on the potential of living together with friends or family, offers a positive starting point for assuming that these concepts are not completely foreign to quite ordinary residents.

In line with the explored approaches to low-impact living, the interesting thing might not be whether these households are more or less environmentally oriented in general, but their approach to and critical understanding of current developments in relation to a contemporary consumer society, as expressed in the modern home and everyday life. By acknowledging the role norms (both social and regulatory) surrounding home play in challenging transitions to less resource intensive ways of living, the importance of understanding home-related practices and the negotiation of these in everyday life is underlined. Finding ways to accommodate potentially different typologies for low-impact living relies on exploring the mediation between different aspects, where living smaller or simpler might not automatically imply a willingness to live in more collaborative forms

Incentives for a more alternative development led by the market are rather low, posing an obstacle for mainstreaming of low-impact housing. Further research as well as development within the housing sector needs to address ways to create less resource intensive living environments that could appeal to a broader group of people, emphasising the role of residents in interpreting and shaping the discourse on sustainability in housing. There is a need to test and evaluate new solutions and strategies. This includes how to create environments that might allow for compromises between private and shared spaces, or compact space and resource efficient solutions, based in everyday use and the negotiation of social interactions, mundane activities, as well as reinterpreted representations of the good home. Policy should reflect and support this, emphasising explorations into alternative configurations as well as more radical reassessment of common values and norms relating to housing standards or political ideas related to the notion of a 'housing career'. Along with the market actors, media (both trade and popular media) plays a big part in proposing other narratives, where a sustainable future will mean living with less, rather than more home-related consumption – a significant challenge for developing new and existing housing within ecological limits.

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