

Energy consumption in the comfortable home: practices, perceptions and conventions



PhD defence 21.04.2017 | Line Valdorff Madsen
Danish Building Research Institute | AAU-CPH

BACKGROUND

- UserTEC: User practices, technologies and residential energy consumption (Innovation Fund Denmark)
- Qualitative analysis of households indoor comfort practices and energy consumption

OUTLINE

1. Introduction
2. Theory
3. Methodology
4. Papers I-III
5. Conclusions & implications

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INTRODUCTION

Practice theoretical
studies on energy
and comfort

Technical studies on
energy and comfort

- Nuanced understanding of comfort
- Comfort as part of energy-consuming practices
- Practices as sensorial
- Practices as situated in the home

RESEARCH QUESTION

“How is comfort perceived and practiced through daily life in Danish detached houses?”

ANALYTICAL PERSPECTIVE

- Practices are sensorial
- Comfort and home are related concepts
- Materiality is both part of and surrounding practices

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THEORETICAL PERSPECTIVES

PERSPECTIVES ON COMFORT

- Support, pleasure, well-being (Crowley 1999, Rybzyński 1988)
- Thermal comfort (de Dear & Brager, Nicol & Humphreys)
- Conventions and socio-cultural construct (Shove 2003)
- Comfort practices (Gram-Hanssen 2010, Strengers 2010, Hitchings 2011)
- Individual perceptions in socio-cultural context (Vannini & Taggart 2013, 1024, Hauge 2013)
- More than thermal
- Empirical study: To feel comfortable in a home

THE SOCIAL, MATERIAL AND SENSORIAL HOME

- House and home:
physical and social (Mallet
2004, Blunt & Dowling 2006)
- Home understood as
both material structure
and social construct (Mallet
2004, Blunt & Dowling 2006)
- Home-making practices
(Blunt & Dowling 2006, Pink 2004)
- The sensory home (Pink 2004)

SENSES AND THE BODY

- Practices are embodied
(Schatzki 2001)
- Bodies and practices
constitute each other
(Wallenborn & Wilhite 2014)
- Senses: e.g.
thermoception, touch,
smell, vision (Vannini 2011)
- Senses represent
embodied experiences
of home-making (Pink 2004)

THEORIES OF SOCIAL PRACTICES

- Practices constitute the social world (Schatzki 1996)
- Practice-as-entity and practice-as-performance (Schatzki 1996)
- Elements of a practice: competences, meanings and materials (Shove et al. 2012)

Perspectives on practice theory in the papers

1. Practices, the body and senses
2. Practices in the home
3. Materiality and practices

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METHODOLOGICAL APPROACH

FIELD STUDY in three groups of detached houses



METHODS in field study

- Photos and observations: materiality
- Home tours: everyday activities
- In-depth interviews: daily life, energy consumption, comfort and home
- Photo-elicitation: comfort and home

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PAPER I – III AND ANALYSES

PAPER I

RQ “How can comfort be understood as sensed and perceived within everyday practices in the home?”



PAPER I

Aspects of comfort in social practices: empirical results

- Warmth and coolness
- Air
- Light
- Material stuff

PAPER I

WARMTH

*“You’re **cosy**, sitting together, **relaxing** after the rigours of the day or week (...) it’s a comfortable **temperature** around 22 degrees, where you’re **not cold**, it’s also often we bring in the **duvet** and sit in the sofa, just to have it as part of the cosiness”*

PAPER I

FRESH AIR

*“Sometimes I feel, for example if I’ve forgotten **to air** down in the basement, then it’s like (...) the air is **cramped**, it’s like it **radiates** from the **furniture** and **clothes**, from all the **stuff** that’s in there. It should be comfortable at home, so you feel like **freshened** up”*

PAPER I

LIGHT

*“(...) now it’s **bright** and the **sun** is shining, but I think it’s just as **cosy** when it gets dark and we light **candles** in the autumn and winter”*

*“What was very important to us was to have good lighting here, **cosy lighting** (...) it shouldn’t just be neon tubes”*

PAPER I

MATERIALITY

*“(...) the dark **floor** and the dark **furniture** (...) it had to go, it had to be bright (...) I bought these two **carpets** (...) So it brightened a bit, and then I had all the **ceilings** painted white”*

*“(...) to sit in **soft furniture**, or to lie in a **soft bed**, then you feel comfortable...or to sit in a good **office chair**”*

PAPER I

CONCLUSIONS

- More **senses** involved and interrelated in the perception of comfort through practices
- Aspects of comfort are **interrelated** in practices
- Sensations of comfort vary according to **performed practices**
- Comfort is sensed and interpreted in relation to social **meanings**, **materialities** and bodily **knowhow**
- Senses **mediate** between materiality and social meaning as a bodily knowhow in practices

PAPER II

RQ “How are notions of comfort and notions of home related and intertwined in daily home-making practices?”



PAPER II – perceptions of *comfort*



PAPER II – perceptions of *homeliness*



Comfort and homeliness:
different rooms and
different practices

Comfort: practices
heating, watching television,
drinking tea or coffee,
showering and working from
home

Comfort: rooms
living room, the home office,
the bathroom and the
bedroom

Comfort and homeliness:
different rooms and
different practices

Homeliness: practices
cooking, doing laundry,
decorating, spending time with
the family; talking, dining and
playing

Homeliness: rooms
kitchen-dining area, the living
room, the bedroom, the utility
room, the office and the
workshop

PAPER II

CONCLUSIONS

- Meanings of comfort and home are **interrelated**
- **Comfort** is more related to bodily sensations and physical experiences; relaxation and leisure time
- **Homeliness** is more related to social relations; the daily tasks of family life
- Comfort and homeliness are related to different **practices** performed in different **rooms**

PAPER III

RQ “How do technologies and material structures of housing form routines of everyday practices and norms of comfort?”



PAPER III

Detached houses

1969-79

- Heating technologies: radiators, underfloor heating, wood stove, heat pump
- Heating practices: more technologies, turning on and off
- Heating and airing practices closely linked
- Ongoing sensing and regulation between warm and cold

PAPER III

Detached houses

1997-2001

- Heating technology: underfloor heating
- Heating practice: both simple and challenging
- Heating and airing: used for regulation
- Regulation around seasons
- Sensing: warm floors

PAPER III

Low-energy houses ***2012-13***

- Technologies: Underfloor heating and mechanical ventilation
- Heating practices: little regulation
- Sensing: even heating, cool floors, air from outside
- Thermostats: facts and senses

PAPER III

CONCLUSIONS

- **Heating** and **airing** practices are interrelated through bodily knowhow and sensations and social meanings
- **Perceptions** of comfort vary with technologies and building types
- Technologies and material structures of houses form and change **practices** related to comfort

SUMMING UP on theoretical perspectives in papers

1. Practices are **sensorial** and performed by **bodies**
2. Practices related to **comfort** are situated within the social and material **home**
3. In the study of comfort **materiality** is both part of practices and surrounding practices

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CONCLUSIONS AND IMPLICATIONS

MAIN CONCLUSIONS AND CONTRIBUTIONS

- Comfort is **multi-sensorial** and more than thermal
- Comfort is **bodily** sensed and **socially** interpreted
- Comfort is part of everyday practices of **homemaking**
- Aspects of comfort are both **part** of performing practices and **background** to performing practices
- Comfort is **individually** sensed and socially **shared** in practices

IMPLICATIONS AND FUTURE VISIONS

- The **comfortable home** and sustainable everyday life
- Different **use of rooms** in houses; accomodate technologies
- Comfort include **various senses**; flexible notion comfort
- Develop new meanings of **sustainable comfort**

Thank you for listening –

*Christmas decoration
representing comfort
and homeliness*



Extra slide

Examples

- Focus on how homes can be regulated and developed to accommodate better zoning of temperatures.
- Experimenting with other ways of building (or renovating) houses, favouring comfort aspects such as light, air, materiality and usability, as well as using knowledge of how this interact with the sensation of heat, e.g. how floor materials feel colder or warmer.
- People sense, perceive and understand through their body as much as through reading figures and text messages. This point to houses that in a more direct way communicate to its inhabitants through bodily sensations, guiding them in the management of their indoor comfort in ways that consume less energy.