

SUSTAINABLE LIFESTYLES – HOW VALUES AFFECT SUSTAINABLE PRACTISES

IDENTITIES

SARA ILSTEDT
KTH ROYAL INSTITUTE OF TECHNOLOGY
SARAI@KTH.SE

MIA HESSELGREN
KTH ROYAL INSTITUTE OF TECHNOLOGY
MIAHES@KTH.SE

ELINA ERIKSSON
KTH ROYAL INSTITUTE OF TECHNOLOGY
ELINA@KTH.SE

ABSTRACT

This paper presents a project that explores how different values and lifestyle choices are related to sustainable practices. The goal has been to develop an understanding of both complexity in people's everyday practices as well as patterns in this complexity to be used when designing interventions for sustainable lifestyles. In the project, we have used a mixed methods approach in order to develop a more comprehensive picture of both the larger patterns of the complexities of everyday practices as well as the particulars of sustainability engagement in Sweden. In this paper we present the initial results from a Swedish study of people with different values and their relations to sustainability, based on Schwartz Theory of Basic Human Values. In particular, we present their overall perspective on sustainability, their existing sustainable practices, and their needs for transitions towards more sustainable lifestyles.

INTRODUCTION

The aim of this project has been to gain a richer understanding of how values and lifestyles affect

sustainability practices in Sweden today, as well as to explore the support people need for developing sustainable practices. The goal has been to understand both the complexity in people's everyday practices as well as the patterns in this complexity. Based on these insights, our aim is to develop tools useful for stakeholders in private and public sector as well by those in academia interested in facilitating transitions towards a sustainable society existing within planetary boundaries (Steffen 2015). We argue that through a deeper understanding of different lifestyles and human values, sustainable services, products and systems can be better developed and communicated to citizens.

When developing interventions towards a sustainable future, we need to take into account that people are different. This is not always the case today. Strengers for example describes how smart tools for energy savings, most often are geared towards "Resource man", a person that loves control and maximised results, and how this figure is based on the idea of the rational consumer, that hardly exists (Strengers 2014). Also, Knowles point out that the prevailing emphasis for persuasive technologies, including those aiming towards more environmental behaviours, fosters extrinsic values and are far from successful in changing people's practices (Knowles et al. 2014). In contrast, The Common Cause Handbook (Holmes et al. 2011), states that we cannot build a sustainable future "by appeals to people's greed, fear or ego". Instead we need to strengthen intrinsic values such as care for others, empathy and concern for nature. The focus of energy saving solutions towards the Resource man and persuasive technologies, point to the power relation in sustainability measures and the limitations of existing strategies.

Rather than focus on only one strategy, we need to acknowledge that people are different and that there exists a plethora of sustainable lifestyles side by side. Measurements and policies, as well as products and services, need to take these differences into account to include more groups into sustainability practices.

In this project we set out to explore a combination of methods that on the one hand simplify complexity by aggregated data at a population level, and on the other hand enhance richness of variety at household level. In this paper we present our project, the methods and describe the first results of four value segments and their relations to sustainability. We report their overall perspectives, practises and particularly what they need in order to change into more sustainable practices.

SUSTAINABLE LIFESTYLES

A lifestyle refers to the way we live our lives that allows us to fulfil our needs and life aspirations, as well as the patterns of consumption and use, that are associated with different social groups and classes (Mont 2008). Much of today's environmental problems are related to high consumption of resources, and to meet the challenges of the future, we need to radically change our consumption patterns. Many argue that a change of individuals' behaviours and lifestyles are considered to be of vital importance for transitions towards a sustainable society (Worldwatch Institute 2010). The new sustainable development goals by the UN, underpins this with goal nr 12 to "Ensure sustainable consumption and production patterns" (UN 2015). A sustainable lifestyle "... means rethinking our ways of living, how we buy and how we organize our everyday life. It is also about altering how we socialize, exchange, share, educate and build identities." (UNEP 2010, p. 45). So there is a need to develop sustainable lifestyles, but how can we ensure that the sustainable products, services, and structures are fitted to different practices, lifestyles and values?

In design and design research, user samples are often quite small, but despite this we can most of the time detect patterns of needs and behaviours. In the case of less bounded situations, such as sustainable lifestyles, the issue of understanding is so complex that there is a need for new combinations of methods and deeper understandings of what guides choices.

There are several taxonomies for understanding consumers in relation to sustainability. A framework for pro-environmental behaviour developed by Defra (Defra 2008), divided British citizens into seven clusters depending on their willingness and ability to act in a sustainability direction, and studied main drivers and barriers. However, the framework does not account for goals and values, or *why* people behaved in one way or another. The EU project SPREAD Sustainable Lifestyles resulted in four future scenarios based on foresighting, co-design workshops and interviews with 75 EU citizens (Koutinen et.al.2012). The material

presents individuals' lives and environmental footprints, but does not provide help in understanding how these individuals fit into larger patterns. There are yet other attempts at trying to understand differences of people's relations to sustainability including ways to classify contemporary environmentalists, for example the three groups of green as in: "dark", "bright" and "light" green (Steffen 2009), but this does not account for non-environmentalists (who are all lumped together as grey). In our project we were interested in understanding both the more environmentally engaged as well as the less environmentally interested in order to explore different possibilities for more sustainable lifestyles. Wanting to find ways to support more sustainable lifestyles, we have, in this project, explored lifestyle choices and everyday practices in relation to sustainability.

APPROACH

The research team consisted of three practice based design researchers with a background in product and service design, branding and interaction design. In our own earlier work we have had experiences of researching user interactions of different sizes and complexity, ranging from long-term interventions with few samples (Hesselgren & Hasselquist 2016) to larger groups of interactions about sustainable futures (Ilstedt & Wangel 2014). We have ourselves wrestled with heterogenic results and have tried to find an overarching system for how to understand variations in values, attitudes and behaviours related to sustainability.

In this project we have used both large scale quantitative as well as qualitative methods and combined a value based theory with a social practice approach. With scaled up quantitative methods it is possible to visualise patterns of practices in a population. However, even with a wide representation, statistics cannot reflect the variety of practices existing within that population. With qualitative research methods, we can explore and account for the multitude of practices in everyday life and to reflect upon the performances of how these practices as entities work. This provides a rich and deep data at a household level, complementing the quantitative material (Browne, Medd, & Anderson 2013).

As a starting point for the understanding of the macro level, we have chosen Schwartz's Theory of Basic Human Values. This model is based on studies in 82 countries and has been proven valid across cultures (Schwartz 2012). Values represent what is important for us in life and when they are activated they become filled with emotions. A person for whom tradition is an important value becomes aroused when tradition is threatened and happy when they can sustain it. Values refer to desirable goals that motivate actions and also serve as standards for actions and events. For example, people for whom justice, power or independence are important values are motivated to pursue these goals. Schwartz define ten universal values, when represented in a visual model these values are distributed in a circle,

thus some values that appear close to each other whereas some are opposite each other (see Figure 1). The values are organised in a space between two dimensions of overarching tensions. The first dimension contrasts between Openness to change and Conservation. The other dimension contrasts between Self-transcendence and Self-enhancement.

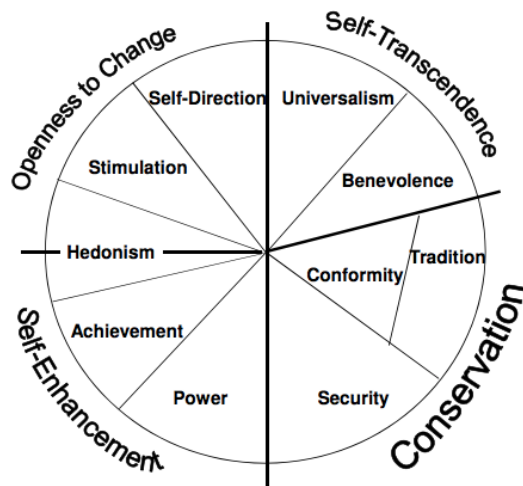


Figure 1. Schwartz's Theory of Basic Human Values (Schwartz 2012)

Values are also related to behaviours, particularly stimulation and tradition, but according to Bardi and Schwartz (2002), they are partly obscured by norms. Schwartz theory of basic values is widely used in communication models but has not been much used in design research. We found Schwartz model useful since it can be helpful in explaining basic driving forces for people's actions and could be used to understand both everyday choices and worldviews. In this project we wanted to bring the value segments to life and relate them to a Swedish context, as a way to better understand how to communicate changes for sustainability.

As a complement to the quantitative methods and macro level understanding enabled with Schwartz', we have chosen social practice theory as an analytical lens. This research field focuses on real lives, and people's practices in everyday situations. A practice lens to understand the world is focused on understanding how practices are produced, reinforced, disrupted, and changed. Practices are bundles of human activities and are linked to structures. They are routinized activities carried out in everyday life, with several connected elements (Reckwitz 2002). The elements can be divided into three different categories: material, meaning and competence (Shove, Pantzar, & Watson 2012). Material elements are tangible objects and technologies, meaning involves the shared meanings and norms prevailing the practice, and competence refers to individual skills needed to perform a practice. Social practice theory can be used at a multitude of levels to understand and analyse the role of technologies and products, as well as

values and cultural aspects, that are co-shaping everyday lives. We find this lens useful for understanding the complexity of sustainable lifestyles and the relations between different categories of elements of sustainable practices as well as how these links could be strengthened. Performances of practices emerge in specific relations between people, including things, meanings and competences. They can also be disrupted, transformed and replaced with new constellations, hence changed into new practices. Many social practice theory scholars criticise too simplified approaches of change, such as ABC (attitude, behaviour, choice) methods where behavioural change is viewed as based on rational choices (Shove 2010). We align with this criticism and agree that social practice theories as tools for analysis can balance the attention to structure with the dynamics of individuals co-shaping practices with objects (Spaargaren 2011). To change practices into more sustainable ones, it can be useful to understand the configuring of connections between the categories of elements (Shove et al. 2012). We have used social practice theory as an analytical lens to understand the different needs the value segments have for changing to more sustainable practices.

METHOD

The empirical material has been collected in four different stages. In the first stage we interviewed eight experts within Swedish public, private, non-profit and academic sectors to define which individual behavioural changes have the most substantial sustainability effects. These desired changes were later used as focus areas when discussing everyday choices with the participants in the study. In our expert interviews, as well as in literature, it is agreed that individuals' practices within the following four areas have the greatest sustainability effects: travelling (both daily commuting and longer trips), food consumption, housing and living (including energy usage) and general consumption (Swedish EPA 2017).

In the second stage we cooperated with Kantar SIFO, a Swedish based market research consultancy. Together, we carried out a cluster analysis based on their annual poll Orvesto, a yearly questionnaire sent to 40.000 Swedes between 18 - 80 years. Our cluster analysis was based on responses from 14.334 Swedes regarding sustainability. Three clusters within the Swedish population in relation to their attitudes towards sustainability were identified. 39% of the respondents claimed that they were very interested in sustainability (Engaged green), 47% stated that they were interested (Open green) and 14% stated they were not at all interested (Rejecting). We selected the first two clusters and divided them into four value segments aligning with the four dimensions in Schwartz's model. This resulted in four value segments for the highly engaged in sustainability (Engaged green) and four value segments for those less engaged in sustainability but still open

(Open green). From these eight different groups we selected participants for interviews and participation in focus groups.

In the third stage we conducted contextual interviews in 24 homes, including three participants in each of the eight segments. Being in people's homes enabled us not only to talk to people but also to observe their everyday contexts and take photographs in their homes. This provided rich information about people's sustainability choices in their everyday lives as well as general views on sustainability. Based on insights from these interviews and previous cluster analysis, we created eight personas (see Figure 2 for an example). Four personas represented the highly engaged in sustainability and four represented those less engaged. Thus, we developed two personas in each value segment: Openness to change, Conservation, Self-transcendence and Self-enhancement, adding up to a total of eight different personas. Each persona was described with collages of texts, illustrations and photos telling a story about everyday life of a typical person within this segment. The personas were developed with the aim to open up for the reader's imagination and encourage reflections.

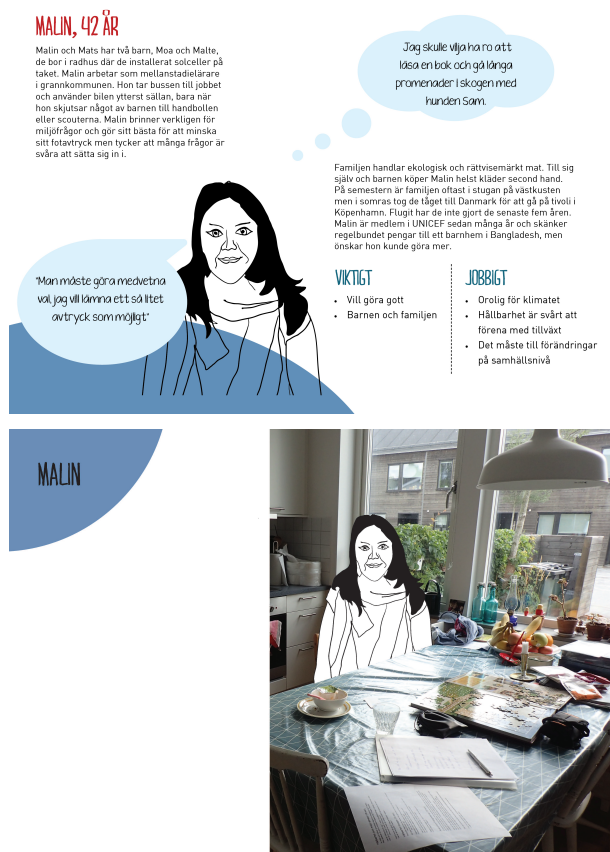


Figure 2. Example of persona

In the fourth stage, we carried out eight focus groups in three Swedish cities with a total of 62 people to explore how people from different value segments approach sustainability. These eight matched the previously

defined eight segments. Prior to each focus group, the participants had received a workbook with questions regarding their everyday lives to answer before the group session. Also, the participants were asked to measure their carbon-dioxide footprint by help of the on-line tool www.klimatkollen.se and to reflect on their current status. This sensitizing material (Sanders & Stappers 2012) was used to encourage the participants to reflect on their everyday lives and sustainability choices. These warm-up activities were intended to facilitate discussions around personal experiences, everyday practices and the complexity of sustainability. During the focus groups the participants were invited to reflect on their diaries and results of their current carbon-dioxide footprint. Furthermore, the two personas representing the same value segment as the segment in the focus group were introduced as trigger material in the group discussions. The information from the focus groups, as well as the interviews and workbooks, were analysed to explore characteristics and differences in approaching sustainability. The first insights from this analysis will be presented in the following section.

RESULTS

The project generated large amounts of data in the form of interview notes, photographs, diaries, and recorded workshops. We have analysed the 24 contextual interviews and eight focus groups, with 62 participants (in total 86 informants) and below we describe the first results. We here present results from the four value segments, where we elaborate on the different levels of engagement in sustainability. The results below could be described as an instantiation of sustainability values, practices and choices. For each value segment we include some characteristics of their *overall perspective* and *particulars* regarding their sustainable practices. Furthermore, we include a section each about what they *need* in order to live more sustainably.

SELF-TRANSCENDENCE

Overall perspective

In this segment, people valued justice and human rights, although this differed somewhat between Engaged green and Open green. The Open focused more on personal justice, while the Engaged had a more universal outlook. The Engaged were more involved in social sustainability and fairtrade than Engaged from other segments. They were driven by their own moral to make just and fair choices, and to contribute to a better world. Not surprisingly it is in this group we found the most environmentally engaged people, which coincides with Holmes et al. (2011).

Particulars

We discovered that the Engaged green in this value segment underestimated their environmental engagement and that they felt they should do more, while at the same time actually doing quite a lot. For example, the Engaged respondents bought products that were not only organic but also fairtrade and they tended

to avoided over-consumption. They found it difficult to get information about what choices to make and got stressed by their lack of overview.

Both groups within the segment were often engaged in charities, unions or other organisations. However, for the Open green the human needs and injustices were sometimes more pressing than climate issues, as in this quote: *“How can one care about the environment when Turkey just has legalized child marriage?”* We found that the group of Open green, if they lacked resources, could feel bitter, under-privileged, and that they felt sustainability was something just for the rich.

In the Engaged group we found some examples of individuals with stress syndromes that felt the needs of the world too heavily rested on their shoulders. As one informant expressed it: *I hope I'm dead before my children are grown up. Everything will be so terrible by then.”*

Needs

The results suggest that individuals in this segment need to feel part of something bigger, to channel their worries by engaging in organisations and find support from others. They need help to make priorities, to simplify complex information and for example they appreciate eco-labelling.

OPENNESS-TO-CHANGE

Overall perspective

The respondents from this segment were curious and eager to explore new ideas, technologies and new ways of living. They were active, problem solvers and used their creativity to do something concrete. The Engaged green in this segment had a systemic view on sustainability and we also found people with a revolutionary outlook who believed radical changes in society were needed. The Open green on the other hand, had a more narrow view on sustainability and put much hope to technological solutions.

Particulars

People in this segment were often creative. We met respondents who for example made their own skincare products, built their own furniture or produced films about vegan cooking. The Engaged green respondents strived for an exhaustive and systemic understanding of the issues they got involved in. We saw examples where this systemic perspective invited radical choices, such as people who had stopped flying or anti-consumption ideas as in the following quote: *“It's sick how much people consume. Second hand is nicer, cheaper and more fun!”*

The respondents in this segment were driven by curiosity, creativity and fear of stagnation. The barriers for a more sustainable lifestyle, especially among the Open green, seemed to be that they are too busy, love to travel and appreciate new experiences, and they are more focused on their personal development than on the planet. Among the Engaged green, potential barriers could be that their urge for radical changes could

obstruct small steps and that they disliked to be controlled.

Needs

The results imply that this segment needs to feel stimulated, to understand the whole picture and they want to make informed choices. They need to be creative, to try things out for themselves and be part of the solution. Furthermore, all this should be accomplished without compromising their personal development and growth.

SELF-ENHANCEMENT

Overall perspective

Respondents from this segment value social recognition, health and material achievement. Their goals include creating a secure and comfortable life. For both the Engaged and the Open green we met, sustainability mainly meant saving resources, recycling and a clean natural environment. This segment talks about economical sustainability and the importance of having means to live a good life. In this segment, the differences between the Open and Engaged green were less pronounced.

Particulars

Both Engaged and Open green respondents in this segment talked about recycling and conservation of electricity, as it saves both money and resources. They were goal-oriented and disliked wasted time and resources, such as time spent in car congestions or litter thrown in nature. Within this segment we met men who cycled a lot, as in the following quote from a respondent who used his bike to commute to work: *“People take the car to the gym! Cycling saves time and is free exercise.”*

Health were important for respondents in this segment, both to exercise and stay fit, to look good, and to eat healthy, which could be potentials for more sustainable practices entailing less meat and more organic food. Other potentials for sustainability choices were their attraction to control and economizing, and their dislike of unnecessary waste and pollution. Barriers against sustainable practices among the Open green were their own comfort and pleasures and the tendency to think that it was somebody else's problem, as this quote suggests: *“I suppose flying is not so good for the environment. Best to take the opportunity as long as it is possible!”*

We saw tendencies to overestimate their own achievements pertaining sustainable practices and a belief that technological development would solve the problems. Furthermore, the perceived lack of actions from politicians were taken as a sign that the problems were not so severe, as in the following quote: *“If [the researchers] were right, then the government would surely had done something”.*

Needs

The results imply that this group needs to feel confident, have evidence and prefer following norms. They call for

politicians to take responsibility and want regulations and taxations as solutions. Furthermore, they want to be healthy and can be engaged against chemicals, pollution and waste.

CONSERVATION

Overall perspective

This segment valued tradition and was deeply rooted in the local community, its culture and customs. Engaged green respondents described sustainability as being foremost about saving resources, to care and repair instead of consume, and to conserve the earth for coming generations. The Open green on the other hand was more engaged with their direct surrounding, and here the natural (as how we always have done things) was perceived as more important.

Particulars

Many of the respondents from this segment wanted to live close to nature, and they were often involved in hunting, picking mushrooms and growing their own vegetables, independent of their engagement in sustainability issues. Many were brought up in the countryside and had learnt to value resources and to repair and take care of things. Things were not thrown away recklessly, but rather stored, waiting to be used again. The local community was considered important, and they liked to support local businesses and preferred locally produced food. The Engaged green were even revolted by all the food being transported from far away as in the following quote: *“It’s horrible with all the different apples from all over the world in the store.”* The Engaged green was also acknowledging the complexity of the issues and generally had a more holistic perspective on sustainability.

Among the Open green, many showed a large dose of scepticism towards what they perceived the alarmism about climate change as well as organic labelling. Furthermore, Open respondents also expressed scepticism towards national politicians who were perceived to be too far away and unknowing, making decision that affected them negatively. A barrier for these respondents was the perception that Sweden is already such an environmentally friendly country, and small. Nothing Sweden could do would amount to anything, compared to larger countries with perceived higher environmental impacts, such as China and the US, as expressed in the following quote: *“When discussing these things, it is just hopeless. Whatever we do in Sweden will make no difference.”*

Needs

The findings suggest that people in this segment need to feel secure and safe that their normal lives are not disrupted. They need concrete examples and recommendations by trustworthy forerunners. They can be encouraged to change if they feel this supports the local community or picks up on traditional methods or tools.

DISCUSSION

In this paper, we have presented the first results from a study exploring the particular practices connected to sustainability of households and individuals in Sweden. The goal of the study has been to unravel the differences between individuals’ relations to sustainability in different value segments according to Schwartz’ Basic Human Value model and to populate the overarching model with concrete contemporary practices. Furthermore, using social practice theory as analytical lens, we have explored what support people in different value segments need that could facilitate more sustainable lifestyle choices.

Our analyses show that there are differences between the four value segments understandings of sustainable practices. The Self-Transcendence segment typically underestimates their own performances, whereas the Self-Enhancement tends to exaggerate their own achievements. However, the practices people in this segment involve in are often limited to recycling activities. The Conservation segment already engage in many sustainable practices, such as saving and repairing, without necessarily characterising these practices as specifically sustainable practices. For those belonging to Openness-to-change, explorations of new practices are willingly initiated without always knowing all the sustainability aspects, which sometimes creates a tension for them.

Besides the particulars in the four segments described above we have also seen overarching differences. One important difference is between making individual choices and following rules. The segments of Self-transcendence and Openness-to-change believe in personal responsibility and that it is up to every individual to contribute. Particularly Openness-to-change value independence and freedom, and dislike rules and regulations. These two groups like to think outside the box and try out new ways of living. The Conservation and Self-enhancement, on the other hand, believe that the responsibilities for sustainability transitions lie elsewhere. Politicians, the global community, companies and other countries are accountable for the problems and should solve it. However, if norms and regulations exist, they are happy to apply. These two fundamental approaches to sustainability are observed elsewhere, for example by Robinson (2004), and align with a classic tension between romanticism and enlightenment, between intrinsic and extrinsic values.

Our belief is that we cannot steer towards a sustainable future without grasping the full complexity of different lifestyles, values and practices. The next step in this project is to develop tools based on our findings that can be used by municipalities, organisations and companies to better understand to differences, contradictions and similarities of the people they are designing for.

REFERENCES

- Bardi, A & Schwartz, S. (2002) Values and Behavior: Strength and Structure of relations. *Personality and social psychology bulletin*, SAGE journals.
- Browne, A.L., Medd, W., & Anderson, B. (2013) Developing Novel Approaches to Tracking Domestic Water Demand Under Uncertainty-A Reflection on the “Up Scaling” of Social Science Approaches in the United Kingdom. *Water Resources Management*, 27(4), 1013–1035. <https://doi.org/10.1007/s11269-012-0117-y>
- Defra (2008) *A framework for pro-environmental behaviours*. London 2007. www.defra.gov.uk
- Hesselgren, M. & Hasselquist, H. (2016) Give car-free life a try: Designing seeds for changed practices. *In proceedings of DRS 2016*, Brighton.
- Holmes, T., E. Blackmore, R. Hawkins and T. Wakeford. (2011) *The common cause handbook*, Public Interest Research Centre.
- Ilstedt, S. & Wangel, J. (2014) Altering expectations: how design fiction and backcasting can leverage sustainable lifestyles *In proceedings of DRS*
- Knowles, B., Blair, L., Walker, S., Coulton, P., Thomas, L. & Mullagh, L. (2014) Patterns of Persuasion for Sustainability, In the proceedings of DIS2014, June 21-25, 2014, Vancouver, BC, Canada. <http://dx.doi.org/10.1145/2598510.2598536>
- Koutinen et. al. (2012) “Ifuture - The diversity of sustainable lifestyles.” Report available at www.sustainablelifestyles.eu/publications/publications.html, retrieved 3 March 2017.
- Kvale, S. (2007) *Den kvalitativa forskningsintervjun*. Studentlitteratur, Lund.
- Mont, O., (2008) In search of sustainable lifestyles. In *Sustainable Consumption and Production: Framework for Action*, 2nd Conference of the Sustainable Consumption Research Exchange (SCORE!) Network 2008.
- Reckwitz, A. (2002) Toward a theory of social practices. *European Journal of Sociology*, 5(2), 243–263.
- Robinson, J. (2004) Squaring the circle? Some thoughts on the idea of sustainable development. *Ecological Economics*, 48(4), 369–384. <https://doi.org/10.1016/j.ecolecon.2003.10.017>
- Sanders, L. & Stappers, P.J. (2012) *Convivial Toolbox: Generative research for the frontend of design*, BIS publishers, Amsterdam
- Schwartz, S. (2012) An Overview of the Schwartz Theory of Basic Values, *Online reading in psychology and culture*. IACCP 2012, ISBN 978-0-9845627-0-1, Retrieved 3 March 2017.
- Shove, E. (2010) Beyond the ABC: Climate change policy and theories of social change. *Environment and Planning A*, 42(6), 1273–1285. <https://doi.org/10.1068/a42282>
- Shove, E., Pantzar, M., & Watson, M. (2012) The Dynamics of Social Practice. *The Dynamics of Social Practice. Everyday Life and How It Changes*, 1–19. <https://doi.org/10.4135/9781446250655.n1>
- Shove, E. & Walker, G. (2010) Governing transitions in the sustainability of everyday life. *Research Policy*, 39(4), 471–476. <https://doi.org/10.1016/j.respol.2010.01.019>
- Spaargaren, G. (2011) Theories of practices: Agency, technology, and culture. Exploring the relevance of practice theories for the governance of sustainable consumption practices in the new world-order. *Global Environmental Change*, 21(3), 813–822. <https://doi.org/10.1016/j.gloenvcha.2011.03.010>
- Steffen, Alex (27 Feb 2009) "Bright Green, Light Green, Dark Green, Gray: The New Environmental Spectrum". *Worldchanging*. Archived from the original on 2016-01-12. Retrieved 3 March 2017.
- Steffen, W., K. Richardson, J. Rockström, S. E. Cornell, I. Fetzer, E. M. Bennett, R. Biggs, S. R. Carpenter, W. de Vries and C. A. de Wit (2015) Planetary boundaries: Guiding human development on a changing planet. *Science* 347(6223): 1259855.
- Strengers, Y. (2014) Smart energy in everyday life: are you designing for resource man? *Interactions* 21(4): 24-31. ACM Digital Library
- Swedish EPA (2017) Consumption based greenhouse gas emission per person and year, web statistics, accessed 23 Feb, 2017
- SPREAD Sustainable lifestyles 2050. (2012) Documentation available at: www.sustainablelifestyles.eu
- <http://www.naturvardsverket.se/Sa-mar-miljon/Statistik-A-O/Klimat-vaxthusgasutslapp-fran-svensk-konsumtion-per-person/>
- UN (2015) Transforming our world: The 2030 agenda for sustainable development A/RES/70/1, United Nations, Department of Economic and Social Affairs, New York.
- UNEP (2010). ABC of SCP, p. 45
- Worldwatch Institute (2010) *State of the world 2010: Transforming Cultures*. Available at: <http://www.worldwatch.org/bookstore/state-of-the-world>