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Mixing up everyday life - uncovering sufficiency practices through designerly tools.

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Abstract: Sustainability and its subsequent transformations are a global challenge. In this paper, the focus lies on demonstrating a way to break down these global issues into its micro-elements which can be dealt with in the individual's private sphere. Everyday life has always been where practices and its inherent conflicts between ‹rational and irrational› can be rooted. Design can provide the tools to make the familiar visible and the intuitive communicable through questioning the ‹normal› and offering alternative scenarios. We add to this, that a mixture of participatory and qualitative methods can guide an investigation, producing an array of multi-faceted information. Our aim in this examination is to provide an understanding of the potentials for a possible transformation towards a sufficient way of life and the restrictions stemming from subjective, situational criteria of the individual.

Keywords: Design Methods; Sufficiency; Practice; Design Research

1. Introduction

The great challenges of sustainability we are facing on a global scale, have shifted the focus in Germany on the «great transformation into a more climate-friendly society» (German Advisory Council on Global Change, 2011: 67). This investigation is part of the three-year interdisciplinary research project «Energy Sufficiency - Strategies and instruments for a technical, systemic and cultural transformation towards sustainable restriction of energy demand in the field of Construction and Everyday Life». It is lead by a multifaceted research consortium including sociologists, environmental engineers, design researchers, philosophers of law and gender studies researchers. The main questions the research project

attempts to answer is which paths will lead to a reduction of energy demands and consumption while simultaneously generating an additional social and cultural benefit.

The main indicator of consumption that guides the project, is energy consumption of private households which is reflected by the sum of electric appliances and their daily use. In Germany energy consumption of private households has not considerably fallen between 2005 and 2013 (Federal Environment Office [UBA], 2015: 33), although appliances and devices have become more efficient (Radermacher, 2006: 1). Slight decreases are attributed to the change of costs for energy, whereas the increase of individual living space as well as private goods and appliances is seen as contrary influence in the development of energy consumption (UBA, 2015: 12-28).

Within the project, a working definition of energy sufficiency has been carved out. Energy sufficiency is regarded as the «adaption of benefits to actual needs rather than abstinence and asceticism» while facilitating everyday life instead of stressing consumers with additional loads (Brischke & Thomas, 2014). It follows Zahrnt and Schneidewinds (2014) claim of the «4 lessens», which express the idea that we need to lessen our speed, our distance, the encumbrance of our acquired possessions and the role of commerce and the market in our lives. Although their argumentation might come across overly pessimistic, their key argument is valid in the face of the global environmental crisis. The «Energy Sufficiency» project wants to point out that those «4 lessens» have to be accompanied by the overarching idea of lessening dependencies, which Brischke (2014) describes as «emancipation in the form of strengthening self-determination and reducing alienation from oneself and one's surroundings».

The project frame establishes two points of reference for a sustainable transformation of energy demands in private households:

- The usage of an appliance or device can be motivated from the technological point of view, meaning the provided benefit by the technical system, or
- usage can be motivated from the individually determined point of view according to inner beliefs and values (Brischke & Thomas, 2014).

An example helps clarify this point: The individual need for hygiene or individual practices of keeping order can require a spotless, dust-free floor. This requirement is met by using a standard 2000 watt vacuum cleaner. Here, the concept of energy sufficiency questions both the required and the provided benefit and seeks to develop alternative approaches. To stay with the example, firstly the floor could be cleaned with a less powerful vacuum cleaner, a shared device or by a professional service, or secondly one could also increase the time span of floor cleanliness by keeping shoes outside of the home or refrain from energy consumption by sweeping. The causal aim of individually measured cleanliness would not have to be restricted, but could be met in a more resource-conserving manner.

To thoroughly understand the layout of practices and its motivations behind daily energy use, and where potentials for strategies of sufficiency lie, qualitative interviews were

conducted with twelve selected participants. The aim was to investigate what people consume and how they are motivated to do so, instead of comparing how they re-appropriate, misuse or overuse a certain technology to an allegedly ‹right way› of using it.

Similar approaches of linking design research with social practice theory under the epistemic frame of sustainability are gaining traction amongst design researchers, especially when it comes to investigating unsustainable behavior in the everyday life (e.g. DeJong, 2010; Kuijer, 2014; Lopes & Gill, 2015) and its redirection through designerly tools (e.g. Kuijer et al., 2013).

2. The Everyday Life

2.1 Social Practice Theory

There is a vast body of work on research into everyday life which goes back as far as the 1920s (Wirth, 1927), but reached a peak in the field of social-scientific theory in the 1970s (Barthes, 1957; Bourdieu, 1979; Douglas, 1973; Elias, 1978). A «practice turn» as Schatzki (2001) put it, has been emergent over the last decade in social scientific research. It attempts to move practices towards the centre of social scientific inquiry. Many sub-fields of the social sciences (e.g. science and technology studies (STS) as well as cultural studies) have developed and furthered this idea. Shove (2012) describes theories of practice as having «untapped potential to understanding change» in societies, because they contribute to the understanding of social practices and their origins and transformations over time.

Reckwitz (2002) builds up an account of theories of practice in relation to other cultural theories and to major movements in social sciences. Next to practice theory he identifies three other types of cultural theories, namely textualism, intersubjectivism and mentalism. In terms of practice, Schatzki (1996: 89) proposes to see it as a temporally unfolding and spatially dispersed nexus of doings and sayings. A ‹practice› [Praktik] in this context is a «routinised type of behaviour which consists of several elements, interconnected to one another: forms of bodily activities, forms of mental activities, ‹things› and their use, a background knowledge in form of understanding, know-how, states of emotion and motivational knowledge» (Reckwitz, 2002: 249). Suitable examples are e.g. cooking practices, washing practices, industrial practices, recreational practices, and correctional practices.

2.2 Actors and actions in everyday life

While in everyday life individual actors certainly play a big role as carriers of "bodily and mental agents" (Reckwitz, 2002), the focus in research does not lie on those individual actors but rather on the investigation and interpretation of their actions in concrete situations. This ‹practice-as-entity› as Schatzki coined it, is nevertheless not to be seen isolated from its performance over time. Consequently, in order for practices to be maintained, they need to be performed by an actor or, how Reckwitz (2002) put it, a carrier. In this understanding the

practice is only in existence, when it is actually carried out, since the «doings and sayings» need to be actualized and adapted regularly. The notion of a practice or practices performed by a carrier as «bodily and mental agent», is further elaborated on by Reckwitz (2002), who notes that each carrier holds certain reservations, pre-existing knowledge about how to do and say things and of course also bodily restrictions or limitations, which can alter the way a practice is carried out. A practice thus involves the single individual with his bodily and mental ageny.

3. Research Methods

3.1 Decrypting actions through design research tools

To investigate everyday life on the level of practices and the subsequent value to sufficiency-approaches, we lay our focus on theories of social practice as an fundamental base, while attempting to show touch points to design research. The methods and tools developed within design research and those adopted by it from neighboring disciplines bear the power to decrypt the everyday life. During the research process it became clear that simply asking participants about their daily routines and practices, like e.g. how often they washed their clothes, does not necessarily reflect the actual daily life with all its interconnections, situational limitations and configurations of the artifacts involved. We sought to overcome this barrier by employing a mixed-method approach, including the use of cultural probes, participatory workshops and qualitative interviews, which - in combination - allowed us to shed light on how practices are contextualized and situated within daily routines.

In order to get results that reflect reality to a greater extent, during development of the questionnaire we searched for tangible translations which provoke more spontaneous and authentic reactions. The interview setting consisted of cards, scattered around the table, a camera and a voice recorder. Non-verbal supporting material such as method cards or sorting grids were used to help visualizing participants' personal coping strategies. The established set of methods used during the interview is framed by accompanying tools and steps before and after the actual interview (see figure 1). Preparations included workshop sessions and Cultural Probes (Gaver et al., 1999; Vesa & Mattelmäki, 2003; Matthews & Horst, 2008; McDougall & Fels, 2010) about everyday life and household duties. During the preparation participants with different backgrounds were asked to self-observe their everyday life through the use of Cultural Probes. In workshops and seminars their topics were brought up to grope for relevant issues, strains and concerns.

As a result the interview is designed based on a participatory, user-centered mindset, incorporating methods that allow for the user to reflect on their surroundings and their everyday life, while not being confronted at all times with a researcher who might falsify or influence the results. One of the strengths of visually oriented methods like Cultural Probes, collaborative sketching or card-sorting might be to extract a subjective perspective, while it is quite clear that they need to be complemented with additional methods which allow a more objective viewpoint. Participatory as well as interactive aspects of inquiry came into

play, in order to shed light on the unnoticed of everyday practices. Collaboratively designed artifacts facilitated the translation of indirect and unconscious practices, motivations and wishes for our research.

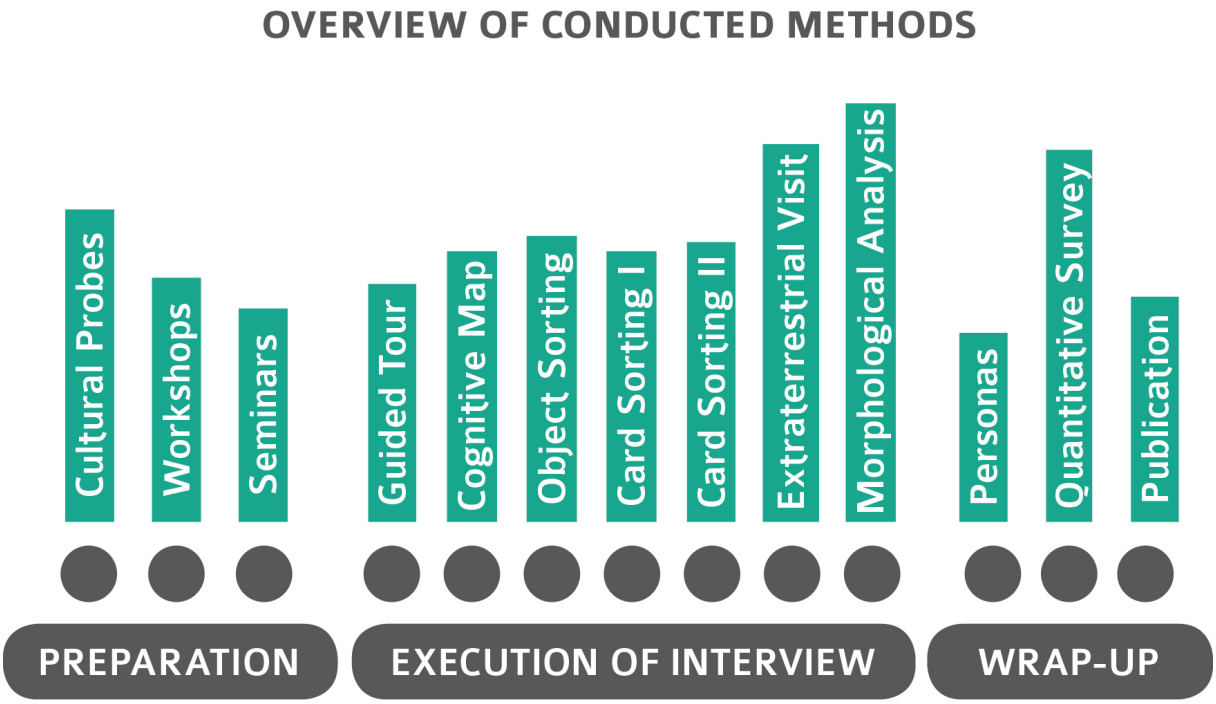

Figure 1 Overview of methods used during the research project either as part of preliminary workshops, subsequent interviews and the wrap-up phase.

3.2 Practices of energy consumption in the private sector

This investigation focused specifically on practices which could be approached with sufficiency strategies, meaning the change of required and provided benefit. Close attention was paid to the area of domestic work, which includes both the maintenance of a household and their members. Technological advances have lead to a huge relief for dwellers who take care of the maintenance of a household. Strategies of lowering energy consumption at the expense - time or effort - of the latter are not in line with our understanding of sufficiency in which house keeping practices lose their dogmatic character.

One of the key energy consuming practices in private households is «doing laundry» (UBA, 2015: 34). In contrast to the practice of «supplying food» it provides a relevant measure regarding consumption of resources which is almost universal, meaning it is only marginally subject to individual or cultural deviation and can be clearly distinguished from leisurely activities. Nevertheless, to evaluate if and how strategies for energy sufficiency vary, once the duty of running the household does not apply, the interview was supplemented by the area of «TV/DVD/Web consumption» as a relevant figure within the field of leisurely activities.

4. The Interview

An inquiry into everyday practices in private households has to be open enough to allow crucial anecdotes, but at the same time structured enough to keep an acceptable time frame. The semi-structured questionnaire provides an appropriate framework to talk about private and personal practices.

The interviews were conducted in the participants' homes. Since they were about authentic private and partly intimate everyday experiences, we did not want to build up a distance to the reality of everyday life. It was therefor helpful to work *in situ* rather than in a research lab. Firstly, participants were asked to give a tour of their home, presenting it to the researchers. The interviewees found themselves in a safe situation while the interviewers assumed their roles as guests. When instructing the interviewees about the process, heavily discussed themes like sustainability, energy sufficiency, or energy consumption were not broached, to help them keep an open mind and not lean towards a - socially desirable - direction.

The interplay between tasks and talks during the interview include the adaption of the following designerly tools:

4.1 Cognitive Maps: Draw your floorplan

This introductory exercise asks participants to draw their floor plan onto a whiteboard including the most important electrical appliances. This shed light on their current living situation, included the social environment within the household and informed about the use of electrical appliances. The floor plan helped structuring the narrative and was also used as a reminder on the positioning of devices within the home.

4.2 Object Sorting: Make your household tasks tangible

Subsequently participants were given the task to distribute colored wooden beads, which each correspond to a certain household task, amongst glasses which represented cohabitants (see figure 2). An additional glass took all those activities in, which were outsourced from the household - ranging from mother-in-law to cafeteria. This way, it became clear how the tasks are distributed within the household and how this is perceived by the interviewee.

Figure 2 Color coded beads served to visualize the employed distribution of errands within the household. In this case the interviewee [«ICH»] is able to illustrate an «overload of duties» through the beads.

4.3 Card Sorting: Get rid of the chaos

The interviewee is then confronted with the fictitious situation, their extended family has visited them over the weekend and layed waste to their home. Now several chores have to be done, which are all represented by small cards. The interviewees arranged the most urgent chores which are regarded necessary to get rid of the chaos on a time frame visualized by a color scale. Sorted into a linear sequence, the cards are moved vertically according to certain criteria (see figure 3): duration of chore, its popularity and finally whether they could imagine outsourcing it. This created a clear image of participants' relationships with certain tasks. Sorting the cards provided room to describe the decisions, adding individual experiences and relevant anecdotes to the information given.

Figure 3 Card sorting on a color grid visually translates different aspects like duration and ‹popularity› of chores in the household.

4.4. Card Sorting: Arrange your leisure time

The household card game is used once more, helping to avoid having free leisure time compete with the non-paid household work. Thus the employed scenario describes that all the chores and tasks are done and the household is put back in order. Selected from a set of leisure time cards, the most relevant activities are sorted along a timeline (see figure 4). During the sorting sequence, a conversation is prompted, concerning questions like, which activities take place at home and which can be outsourced. Then, the interviewee is asked if the arranged activities of those two days (household and leisure) could be combined in any way. This helps pinpoint a central theme: for some, certain household tasks provide leisurely aspects or at least do not interfere with leisure time. In contrast, it became clear which tasks could be ameliorated by combining them with leisurely activities and which meaning could be inscribed in them, possibly leading to a redirected practice. By using the fictitious scenario of a power blackout, the interviewee’s relationship as well as alternatives to energy consumption were touched upon.

Figure 4 The card sorting method was used a second time to pinpoint the substantive differences of the character of these two sets of practice.

4.5. Letter to the Extraterrestrial: Visit from outer space

Similar to the informal design method «letter to grandma» (see Schadt, 2011), interviewees are presented with a scenario which is disconnected from their everyday life: An alien landed in their homes and is now trying to understand what humans are doing day in, day out. It especially worries about the underlying algorithm apparently controlling the movement of textile artifacts within the home: at times worn on the body, sometimes lying on the floor or in baskets, sometimes dry, sometimes wet, here crumpled, there folded up nicely. Interviewees are tasked to draw the path clothes take, from undressing in the evening to getting dressed in the morning with all the intermediate steps on their floor plan from the beginning. Where do clothes go when they are not worn, when are they thrown on the ground or in a basket, when are they washed and when are they sorted in the closet. The alien, who now wants to participate as well, is in a position of asking unabashedly how it is supposed to know when to put an item of clothing on the floor or on a chair, when the washing machine is supposed to be emptied, what the criteria for sorting laundry is and when a machine is full. Without directly asking «What is dirt?», those practices which decide on what has to be washed and what does not are investigated by a detachment from one's own reality. This allows participants to question routines which are usually taken for granted.

4.6. Morphological Analysis: Configure your washing machine

This method provides a ‹wish list› for a new washing machine. A tangible, fluffy felt model (see figure 5) of a washing machine was placed on the table. Interviewees were asked to imagine the functionalities their new washing machine needed to have. Those functions (in the form of stitched appliqués) were attached to it. The user-configured machine was photographed, before the interviewees were put through a kind of counseling interview where other functions were advertised. Amongst them were also imagined functions which imply certain sufficiency strategies, e.g. feedback-functions regarding the load weight. This method helped visualize a discrepancy between requested benefit and provided benefit. Furthermore, acceptances and animosities towards potential sufficiency strategies could be investigated.

Figure 5 The felt model of a washing machine exemplified in a first round the interviewees' ad hoc, basic requirements. In a second round participants were engaged in sales talk which triggered the integration of more sufficient and less sufficient features.

5. Evaluation

We conducted twelve interviews in total and our practice focused approach to everyday life and sufficiency has led to several substantial observations regarding the potentials and limitations for possible transformations towards a sufficient way of life.

5.1 Tasks put strain on household members until they are completed.

Less sufficient practices are favored over more sufficient ones, when the task is completed faster or remains unobstructed and clear. Some interviewees use a tumble dryer against their initial convictions, to some extent even with a guilty conscience. In this case its advantage is not the lightening of the workload (e.g. not having to put washed clothes on the laundry rack), but the good feeling of bringing the ‹practice› of doing laundry to a clear close. Same observation stands for starting half-filled washing machines or dishwashers. Especially elderly or latently overstrained household members (e.g. working single mothers or fathers) express a strong need of controlling the chores and see them concluded. A full laundry basket, the half-full dishwasher or clothes remaining on the laundry rack put a strain on some even if there is no direct need for action. This may explain, why users utilize technological artifacts in a certain manner that could be described as «wrong» and «irrational»instead of using technical devices in the appropriate and expected manner. Considering the surveyed objectives in the development of technical services and applications could bring together maximum utilization with individual constraints.

5.2 Sufficiency practices of sharing work well once they respond to fears or dogmas.

Under certain conditions outsourcing a task can be the more sufficient alternative, when e.g. bundling of tasks on a larger scale is more efficient (professional laundry instead of private washing machine, going to the cinema instead of using your television-set, going to a canteen instead of using your own kitchen to prepare food, etc.) and when it provides the necessary relief in coping with household tasks. However, after outsourcing certain tasks, additional constraints arose such as fear of damage, hygienic drawbacks or fraud. Feeling ashamed of showing one's own dirt, delegating dirty work or the humiliating feeling of not being able to cope with it oneself, can be major obstructions. Apparently irrational dogmas can be decisive factors and should be taken into account for future services.

5.3 Well-adapted structures facilitate sufficiency practices.

To a certain extent, all interviewees use sufficiency practices and establish corresponding supporting structures. One participant, for example, cooks only every second day since her husband passed away, and reheats the leftovers the next day. For storing and reheating she bought «aesthetically pleasing» and convenient glass containers. Another interviewee, a single mother, does not need a tumble dryer despite her small apartment, since she purchased a high-quality laundry rack that is pleasing to her eyes and provides «joy with every use». Alternative approaches tending to please user affections may induce sufficient behaviour along the way.

5.4 A bad conscience more likely leads to counterproductive behavior and resignation

Some practices are conducted in a less sufficient way due to a lack of capacity or conscious choice. The single father always uses the tumble dryer for bed linen and towels, even though he has ample space in his house and garden and he enjoys the task of putting them on laundry racks. He loves the «fluffy sensation» of tumble-dried laundry and enjoys providing it for his children as well. This does not prevent him from choosing other more sufficient alternatives in other cases. When performing less sufficient tasks leads to a bad conscience, resignation might follow. The mother of a large family believes that she acts «bad» anyways, so for her it does not make sense to consider sufficient practices. Instead of triggering a bad conscience by defining «right» and «wrong» behavior, less sufficient activities should be consciously experienced as ‹luxury› and situational limitations should be acknowledged.

5.5. Sufficiency practices do not correlate with financial leeway.

In some cases sufficiency practices compensate a financial deficit (wearing clothes for a long time, treating them with care or washing them with cold water). In other cases financial deficits create a frustration which suppresses possible sufficiency strategies and puts even more strain on the financial situation (more consumption, cheap products, disposable products). At the same time there are households where financial leeway helps favor sufficiency practices (long-lasting, high-end and eco-efficient acquisitions), or counteract it by celebrating less sufficient practices (e.g. «nostalgic power-consumer»).

5.6. Sufficiency practices always count.

The twelve interviews showed clearly that there are big differences regarding the small details. All interviewees do their laundry when enough dirty laundry accumulates. But which item really is ‹dirty› or still ‹clean›; how much laundry is ‹enough› for one load; which temperature and which machine presets are appropriate, is decided in very different manners. That said, they all might consider their actions ‹normal›. We hypothesize that potentials for sufficiency strategies especially lie in these details. If you look at households with one ore more (small) children, it becomes clear how the configuration of each laundry cycle (e.g. 30 or 60 degrees; fully loaded) matters, since this ‹setting› is employed more frequently because of the big amount of kids laundry.

5.7. Sufficiency practices are very common.

What is within the limit of acceptance and what is outside of it, relies not only on individual decisions which were determined by upbringing, experiences, background information or such, but also on societal norms that can change over time. Underpants are washed daily without any scrutiny, pullovers only once a year and shirts are put through olfactory testing. This is a common process for several interviewees, although it has not always been and does not necessarily have to remain this way. What exactly societal norms tag as «normal» is in constant flux and key for transformation processes. Technical questions could take

presumptions of normality into account (e.g. by incorporating alternative approaches addressing subjective rationales).

5.8. It is more difficult to conduct sufficiency practices during individual leisure time.

Within their households many interviewees believe to cope with their everyday life in a «normal» or «right» way. Meanwhile during leisure time, they put more emphasis on conducting activities the way they want, without inhibitions. It is seen as an attack on their personal freedom, when they are confronted with norms which restrict the use of (energy-consuming) technology regarding entertainment and leisure time. Furthermore, the amount and size of devices that cater to leisure time, is not to be questioned. While household tasks seem to trigger a bad conscience (e.g. when situational restrictions demand higher energy use), increased usages during leisure time are considered «well-deserved rewards» or «personal rights». This may reflect as well the intrinsic - and questionable - self-understanding of technical innovations in these fields. Technical appliances for the household address and communicate the facile, thrifty and equitable usage of products as the best benefit, while equipments for amusement announce stoutly, luscious and unlimited usage to achieve maximal satisfaction.

6. Conclusion

The interviews were conducted with only twelve carefully selected, entirely diverse participants. Consequently the design of the questionnaire was not done with a specific target group in mind and required a heterogeneous language. So the questions asked were open, in order to allow for adaption depending on the context, the participant's home. In fact, the questionnaire consisted partly of prompts targeted at the core issues which emerged from the workshops conducted beforehand and the cultural probes handed out.

Approaching the interview like this allowed each participant, regardless of the disparity of the group, to engage with the questions on several levels. By leaving the questions partly open, experiences, fears and persistent myths of sufficiency were revealed. Playful tasks during the interview allowed all participants to talk about very intimate details of their everyday life. It was remarkable how «normal» practices of supply and maintenance can be over-charged with emotions. There are very specific notions of how everyday practices are to be conducted and what can be classified as «wrong behavior», even though individually these norms vary greatly.

In order to verify some of the hypotheses generated by the interviews, a quantitative survey was conducted by a large research agency. We were able to confirm that a majority of users utilize their tumble dryers for reasons other than accelerated drying. For instance, 60 % of respondents appreciate the simplicity of the process, 56% think it is important to get their laundry dry during bad weather and for 51% it is crucial that laundry is fluffy and soft afterwards. Only 15 % lack the space to dry their clothes on a laundry rack.

The example underlines the complexity of needs, hidden behind daily energy use and how multifaceted decisions are motivated depending on periods of life, broader circumstances or cultural experiences. We argue that a qualitative, low-threshold and multi-layered research method can enrich conventional approaches to understand unidentified «misuse» or «overuse» of certain technologies. Integrated into early steps of innovation development, the technological configuration of appliances could also address multilayered demands to provoke more sufficient practices.

In conclusion, there is a lot of work to be done regarding sparking change towards a more sufficiency-centered way of life. With our methods we were able to shed light on some of the subjective, individual wishes and requirements which could, as a next step, lead to suggestions on how to approach the topic of sufficiency practices in the everyday life.

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