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A meta-ethnography to synthesise household cultural research for climate change response

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Abstract

Cultural change is critical to effective responses to climate change, but the in-depth qualitative research that most effectively investigates culture is necessarily conducted at small scales that can be difficult to integrate with policy. Adapting methods used elsewhere in the social sciences, we report and assess a meta-ethnography of household sustainability research, scaling up findings from 12 studies encompassing 276 Australian households. Seven themes are dominant: family concerns are central to household practice; adaptiveness to interruption is contingent, but more pervasive than often assumed; households make sense of the world (and climate change) through physical resources, objects and materials; boundaries of the home space are dynamic and subjective; daily time is an important currency; paradoxes abound among everyday practice; and privacy and a sense of autonomy are prioritised. We assess the method against two criteria, whether it generates new insights and is relevant for climate change response. Insights include new light on familiar themes when seen through an environmental lens, thickening and triangulation of existing research, and a stronger basis for international comparisons. On relevance, findings are uneven. Some have straightforward application to policy, others identify potential areas of risk and resistance, others still are more conceptual. We conclude the method has considerable potential and is worth developing further, providing a critical perspective is maintained.
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Keywords: adaptive capacity; time; ethnography; family; sustainability; mitigation

1. Introduction

Cultural change is critical to effective responses to climate change [1,2,3]. Cultural elements can provide both barriers and enablers to climate change mitigation and adaptation [2:112,4], and adaptive capacity examined at national scales can mask barriers, constraints, vulnerabilities and opportunities at smaller scales [5,6,7]. However the in-depth qualitative research that most effectively investigates culture is necessarily conducted at small scales. Cultural research uses qualitative methods including ethnography to provide rich, contextual understandings of everyday life. Resulting data can be difficult to integrate with the quantitative approaches used in most climate change research, and has not been well integrated into climate change policy [2:112]. An ongoing issue is how to develop rigorous comparison of case study research [8], without compromising the depth and detail which are its key strengths. In this paper we apply and assess a potential method, meta-ethnography, using it to analyse household sustainability research.

An important focus for climate change policy is households of the developed world, which contribute to climate change [9] through greenhouse gas emissions both from direct energy use and as conduits for the flow of goods and services [10]. Households make sense both to the people who live in them, and to government policy-makers, as foundational social units, and as sites through which it is logical to understand the consumption of energy, water and materials that have implications for sustainability issues and climate change mitigation. They are also an important potential scale of climate change adaptation [11,12], although climate change adaptation research in relation to the developed world is only just beginning to systematically engage with the household scale [13,14,15].

In affluent urban societies households are an increasing focus of government policy in relation to sustainability issues, and an expanding research literature considers the household as a crucial scale of social organisation for

pro-environmental behaviour [9,20,21,22,23]. Everyday life in such households is at once insignificantly tiny and the engine of the global economy that drives climate change. This will be even more the case with growing levels of affluence in countries such as China [24,25] and India [26]. The household is an essential site to analyse the dilemmas and potential of 'scaling up' climate solutions from cultural analysis of the complexities of everyday life [27].

In this paper we apply meta-ethnography [28] to a climate change context. We report a meta-ethnography of cultural environmental research about the household. Meta-ethnography synthesises qualitative studies to arrive at interpretations greater than the sum of the parts. Widely used in social studies of medicine and education research (see references in Methods), in which policy applications of research findings are sought, it has not been used in relation to environmental or climate change issues. While somewhat analogous to the role of meta-analysis in quantitative studies, meta-ethnography is not intended to be deductive, aggregative and averaging. Rather it is faithful to the interpretivist paradigm and the grounded, comparative methods of the original research [28: 12,23].

The national scale is an appropriate one at which to undertake this initial analysis. It allows us to synthesise findings about cultural mores understood as broadly shared within Australia, a country that has among the highest per capita emissions in the world [29]. To have scaled up further would prematurely gloss over national differences and risk losing the specific and distinctive underlying themes. Our work provides a basis for comparison with potential studies in other countries, particularly those such as the UK, USA and Canada, which are recognised as having a lot in common with Australia [30].

The structure of the paper proceeds as follows. We first outline a conceptualisation of the household as a complex site of socio-ecological interactions and impacts. We briefly review research showing why simplistic behavioural and policy solutions do not work, in order to build our case that a recognition of in-depth cultural research is important. We then outline the meta-ethnographic method, present our results and discuss the policy and methodological implications.

2. Conceptualising the household in climate change mitigation and adaptation

Tracking the contribution of Western households to their nations' greenhouse gas emissions is widely recognised as important. It is also difficult, and results vary according to the scale and what is measured [31,32,33,34,35,36,25]. In Australia, calculations vary depending on the assumptions made about where responsibility is to be attributed: 13 per cent if only direct energy use within the household is considered, and 56 per cent if the emissions embedded in externally produced goods and services consumed in the household context are included [37]. Direct energy use by US households constituted 38% of US CO_2 emissions (and 8% of global) in 2005 [30]. The way responsibility is attributed in these analyses, for example between household consumers and industrial producers, affects policy priorities for action [38]. These methodological challenges stem from a broader conceptual one: how should we think about configurations of people and material things whose social and ecological relations are diverse, shifting and complex? Treating households as black boxes will not do, but many environmental policies targeted at the household scale tend to take the inherent complexity of the domestic sphere for granted.

We have argued that a more sophisticated conceptualisation of the household is needed to maximise the effectiveness of such policies and suggest alternative ones [21]. Using the theme of 'connected households' [39], we recognise that households are part of, and a product of, a network of connections. The black box contains its own complex politics and practices; households are material and social assemblages with variable gender, age, class, ethnic and familial structures. The family with children, the student shared household, the extended family or the retired couple will all experience and respond to climate change and sustainability concerns differently, as will home-owners, private and public renters, and unit and house dwellers. Households are homes in which social relations are the core human concern; in which families bond, people invest emotions and undertake all kinds of identity work beyond the putatively ' environmental' [40]. The black box is also porous. Home spaces and the people who live in them are inextricably linked into the social, technological and regulatory networks that make up suburbs, cities, regions and nations. Daily life – itself a contested and jostling process within households – is connected to wider systems of provision and socioeconomic networks.

There is considerable potential for reducing emissions in behavioural changes [30] such as installing low-flow showerheads, changing driving behaviours and line-drying of laundry [30], but there is also considerable research showing why behavioural change is not straightforward [52,53). People hold climate change at arms length from everyday life using norms of conversation and emotion [54]. Smart meters do not challenge practices that householders consider non-negotiable [55]. Most incentive and education programs pay little attention to the ways household energy, water and other resource consumption practices are part of the rituals, rhythms, habits and routines of everyday life [56,57]. Sustainability campaigns normally fail to appeal to, or appreciate, the emotional meanings attached to material possessions [58] or home spaces [40]. Even when householders want to make behavioural changes there are a range of ways they can be locked in.

That attitudes and practice often do not match provides both avenues and barriers to reducing emissions, but not necessarily in predictable ways. Some of the most avid water savers express vehemently anti-green attitudes [59:447], drawing instead on a rhetoric and identity of frugality; and a lot of sustainability work is being done by low-income households who do not necessarily identify as 'green' but who nonetheless consume less [60]. Pro-sustainability behaviours such as recycling, and reducing electricity or fossil fuel consumption, are often motivated by financial rather than environmental concerns [57]. Identifying and mobilising underlying cultural resources, while still acknowledging the complexities of everyday life, is thus essential to more effective policy framings and wider cultural change. This is why we sought a means to scale up household cultural research.

3. Methods

We followed the seven broad stages of meta-ethnography identified by Noblit and Hare [28]. As is commonly recommended, we adapted each step to suit the specifics of our study [61].

3.1 Identify research interest

We identified the research interest as the dimensions of everyday life that have implications for climate change mitigation and adaptation at the household scale in Australia. Cultural environmental research into the household is still an emerging field in the Global North (there is a large literature on households in the Global South). Based on a critical mass of comparable ethnographic studies, there are still only a few countries for which a meta-ethnography could be done.

3.2 Decide relevant literature

We selected studies against four criteria; (i) they discussed one or more environmental themes relevant to climate change mitigation and adaptation, (ii) they are each of a separate household sample, (iii) both the qualitative methods and data were reported in the peer-reviewed literature, and (iv) both the methods and data were reported in sufficient detail for analysis. The twelve studies are listed by author, date and sample characteristics in Table 1, and listed in full in the bibliography.

3.3 Repeated reading to extract key concepts

Three authors independently undertook repeated reading of studies to extract key concepts that are the data for synthesis. At this stage we distinguished where possible between 1st order or emic constructs that reflect participant understandings [63] (usually found in the results section of articles) and 2nd order or etic constructs that are interpretations made by authors (usually found in discussion and conclusions sections).

3.4 Determine relationships between studies

In discussion between the three initial coders, the concepts identified in Step 3 were merged down to nine themes. Some approaches to meta-ethnography would keep groups of papers thematically separate, for example first analysing all the water-related papers together. We did not do this because we were explicitly interested in concepts that transcended particular topics.

3.5 Translate studies into one another

This process is analogous to constant comparison. Each study was then independently analysed by a fourth author to search for all nine Step 4 themes. These may not necessarily have been identified in the original empirical studies. We treated this stage as an independent 'back-coding' operation to test the persistence of the themes.

3.6 Synthesise translations

Translations are synthesized by identifying concepts that can encompass those found on other studies. This was initially undertaken by LH and refined in discussion between all five authors. At this point the two least persistent themes were merged or absorbed into others.

3.7 Express synthesis

The synthesis is expressed in the seven persistent themes of the results section. The order of presentation in the text and Table 2 is structured to aid the narrative rather than implying order of importance. Throughout Steps 3-6 we also sought to identify and discuss emergent themes not necessarily identified in any individual paper. These are discussed in the implications section.

Table 1. Sources and characteristics of households in meta-ethnography sample. Total households = 276

Study	Thematic focus	No. households	Methods	Location	Date of fieldwork
[41] Allon and Sofoulis 2006	Water	33	Interview, diary (plus survey)	Western Sydney	Not specified
[42] De Vet 2012	Weather practices	37	Interview, diary, photographic diary	Darwin, Melbourne	2010-2011
[43] Eriksen and Gill 2010	Bushfire preparedness	38	Semi-structured interview (plus survey)	Rural NSW	2008-2009
[44] Farbotko and Head 2013	Christmas	16	Longitudinal ethnography	Wollongong	2010
[17] Head et al. 2011	Wheat farmers, drought, climate change	24	Semi-structured interview	Rural NSW	2006-2007
[45] Horne et al. 2011	Recycling, home renovation	38	3 cohorts for separate but related studies; 16 interviews, 6 interviews, 16 interviews, home and garden tour	Victoria, SA, NSW, Western Australia, Queensland, Tasmania	2008-2009
[46] Klocker et al. 2012	Extended families and sustainability	10	Interview and documentation of household space and contents	Wollongong	2010
[47] Moy 2012	Domestic water tanks	16	16 home visits, incl. 5 in-depth interviews (plus survey, consumption data)	Wollongong	2010
[48] Organo et al. 2013	Gender and labour	6	Video diaries, written diary, home tour, interview	Wollongong	2009
[49] Strengers and Maller 2011	Cooling practices	28	Interview, home tour	New South Wales, Queensland	2007-2008
[50] Strengers and Maller 2012	Energy and water, migrants	19	Interviews, home tour	Melbourne, Sydney	Not specified, but pre-2011
[51] Waitt and Harada 2012	Driving	11	Semi-structured interviews, drive-alongs (plus surveys)	Sydney	2009

4. Results

Seven persistent and inter-connected themes were identified in the meta-ethnography of empirical work on households (see Table 2 for examples under each theme).

4.1 Family is central

Family and social relationships are key drivers of household decision-making, even in environmentally conscious households. This means that family roles, obligations and practices of care – mothering, fathering, care for elderly parents, generational differences – strongly influence environmental outcomes, with implications for climate change response. Environmental practices, like other family issues, are negotiated, argued about and resolved in pragmatic ways. For example, cohabiting extended family households share laundries and kitchens but not TVs and cars. Within this theme, recurring issues deserving of further research include gender roles and the influence of childhood. The presence of children shapes parental decision-making through both aspirations to good parenting, however that is understood, and in the hurly-burly of everyday life. Childhood experience is an important influence on everyday practices later in life.

4.2 Adaptiveness is contingent, but pervasive

Everyday life requires and enhances many types of adaptiveness, flexibility and coping. Households have differential capacities and potential for adaptiveness, their starting point being to work with what they have or the hand they have been dealt. Innovation often emerges through restriction, which is tolerated where it makes sense and is shared, as in the example of water restrictions during drought. Many resource-use minimising practices are driven (often unintentionally) by values such as frugality and thrift rather than environmental values. Experiences of 'other' conditions emerge as a cultural resource. For example rural childhoods can shape lifelong frugal water practices, and migrant experience of interrupted or scarce energy supplies can help deal with impediments arising from scarcity or interruption. Households may begrudge interruptions to supply and prosperity, but they possess social and cultural means to cope.

4.3 A sense of autonomy needs to be maintained

Power is constantly negotiated at a range of scales (individual, family, household) as people make decisions and process a variety of information. They may or may not respond to information provided at a meta-level outside the household. Freedom, choice and control are articulated as important issues – in ways that variously conform with and confound wider governmental objectives. Hence when environmental expectations collide with practices or standards considered non-negotiable (for example, some levels of thermal comfort, seamless scheduling provided by the car, seasonal abundance at Christmas) they may be ignored, resisted or worked around. Meanwhile in the case of adaptive practices such as informal water harvesting, households responded to the collective and governmental imperative to reduce water with an ethic of self-sufficiency and autonomy from big governmental and/or infrastructural systems.

4.4 Households make sense of the world through materials

Everyday interaction with and use of material things, including the materials of the home itself, are at the forefront of people's awareness. In interviews they constantly bring abstract concepts, including climate change, back to the stuff around them. Households engage actively and skilfully with home design and layout in ways that can reduce consumption and use energy more effectively (managing airflow, shade, water use), but can also ratchet up potential greenhouse gas emissions via materials and objects that are obtained, excessively accumulated and cleaned for reasons of aesthetics, status and a sense of self. Changes are easier to make or rationalise when they are visible, as evidenced by more widespread engagement with reducing water rather than energy consumption.

4.5 Boundaries are dynamic and subjective

The family and home provide privacy, freedom and retreat from the world, but are variably permeable to friends, visitors and networks of sharing. The home is a site of integrity, integration, preservation and recognition. Inside and outside spaces can be both boundaries and corridors of connection, with varying degrees of resistance to communality. Within the household both spatial and personal boundaries (related to social class, gender, age and

ethnicity) are maintained and breached. Crucial here are individual patterns of movement and living, and associated levels of convenience. These are prioritised and maintained to the cost of everything else.

4.6 Time is an important currency

Everyday life involves constant attempts to 'smooth' and 'save' time to make routines seamless and minimise interruptions. In practice these rhythms and movements are subject to disruption and friction, especially where children are involved. Maintenance of any sense of routine and rhythm in busy schedules is heavily dependent on female labour, usually unpaid. Things that enhance flexible timings and save 'wasting' time are relatively non-negotiable, cars being the prime example. Given the importance of valuing time saved in a number of studies, its absence in others – each focusing on water – was notable. This indicates that uninterrupted supply of water contributes to seamless household routines that play a significant part in the shaping and functioning of society, and alerts us to possible arenas of both friction and opportunity if supply becomes less reliable.

4.7 Paradoxes abound

All the themes are cross-cut by paradoxes that hold practices, values and perceptions in tension. Consistent with other research, these findings demonstrate that identities and behaviours do not line up [64,53]. Shifts can be unpredictable and policies may have unintended consequences. Thus people risk becoming dependent on an increasingly narrow band of thermal comfort, despite demonstrated capacities to enjoy and adapt to a much wider band. Water tanks that theoretically save water are used to maintain ideas and practices of uninterrupted supply. Business-as-usual continues and dealing with the condition of scarcity is avoided. Though when scarcity does arise there are capacities to cope that stem from willingness to accept seasonal and thermal variability, a shared ethic of minimising waste, and rural, childhood and migrant memories of hardship, and how things were once done.

Table 2. Examples underpinning persistent themes identified in the meta-ethnography.

Theme	Example
Family	Gender division of sustainability labour [48]
	Gender division of bushfire prepredness [43]
	Sharing and individualized practices in extended family households [46]
	Varying thermal tolerance within couples/families [42,49]
	Generational differences in attitude and practice re energy & water consumption [50]
	Influence of children – expectations of good parenting, lifetime role of childhood experience [44,45,48]
Adaptive-ness	Frugal water use often stems from childhood scarcity (rural or non-mains supply areas)[41,47,50)
	Tolerance for diverse weather conditions through clothing and housing (windows, shades) adaptations [42,49]
	Farmers have skills and capacities to deal with risk and uncertainty [17]
	Widespread adoption of DIY water collection and recycling measures during drought, including re-emergence of practices from migrant home countries [41,47,50]
	Informal recycling systems across both household waste (food, paper, metal) and larger items (clothing, furniture) [45,46]
	Cultural practices of not wasting [44,45,47,50]
Autonomy	Financial and caring imperatives are dominant in extended family living [17,46]
	High water users install tanks to maintain freedom and autonomy over water activities [47]
	Car as providing freedom [51]
	Bushfire risk is outweighed by amenity, financial value, space and privacy of rural lifestyle [43]
	Household systems requiring significant investment of time and resources bring ownership of perceived consumption problem [45,48]
Materials	Water as social and family locus [41,47]
	Material spaces used to separate nuclear family units in extended family households [46]
	Climate-appropriate domestic architecture [42, 49]
	Material infrastructure of housing a route through which air-con becomes normalized [49]
	Migrants with acute awareness of different/more limited material resources in home countries [50]

	Renovators going to great lengths to use second hand materials [45]
	Importance of material rather than metaphorical presents at Christmas [44]
Boundaries	Car as 'cocoon' of comfort, privacy, safety [51]
	Desire for space and privacy results in houses in isolated bushland, or gardens planted close to house despite fire risk [43]
	Different standards for family and visitors, eg cooling as hospitality practice [49]
	Influence of public standards of smell,sweat,hygiene on washing practices (bodies and clothes) [42]
	Roadside recycling extends networks of sharing beyond household [45]
	Long term extended family cohabitation requires some independent space and constant negotiation of friction [46]
Time	Importance of smooth domestic routines in sharing practices, eg of cars [46,51]
	Car journeys anticipated as seamless time [51]
	'Always on' women's work can facilitate incorporation of sustainable practices in household rhythm [48]
	Men's block time can facilitate project completion [48]
	Influence of commuting on time available to undertake bushfire maintenance, training [43]
	Expectation to modify homes and interiors more frequently – renovation as leisure practice [45]
	Farmers spending a lot more time on office work and internet selling [17]
Paradoxes	Extended family households/frugal elderly/poor are reaping environmental benefits without attempting to be 'green' [46,47,49]
	Water tanks facilitate continuing high consumption rather than water saving [47]
	Majority of drivers concerned about climate change but had not decreased driving practices [51]
	Awareness of bushfire risk does not correlate with level of preparedness [43]
	With continuous supply of water and energy, some migrants continue to store and save resources as in home country; others change dramatically [50]
	Formal systems of recycling can increase consumption patterns and facilitate domination of supermakets [45].
	Celebration of material abundance in environmantlly conscious households at Christmas [44]..

5. Discussion

In assessing the meta-ethnographic method for its potential to draw new insights from household ethnographic research for climate change response, two main questions are relevant. Does it generate new insights not available in the individual studies? Are the insights generated relevant to climate change response?

Does it generate new insights?

None of the insights generated are blindingly new. It is possible to find each of these themes somewhere in an individual paper or in discursive overviews drawing on the same work. But the findings are useful in several ways. First, take for example the finding that the concept of family is central at a household scale of social life. Surely a no-brainer? But there is more than meets the eye to the idea that even in strongly green identifying households, the social bonds trump the environmental ones. 'Family' provides a promising non-environmental lever that could be mobilized in climate change response. For example, shared valuing of the family – whatever its diverse forms – provides a potential bridge across the current left-right divide on climate change policy in Australia, the USA and elsewhere.

Second, while the persistence of themes across disparate studies can be seen as aggregative rather than newly interpretive, that in itself provides value, for example thickening the way time is considered in different contexts. To a strong extent the findings triangulate the individual pieces of work against one another. While it is a truism that fine-grained qualitative research always throws up complexity, there are clear consistencies here in that complexity.

The findings thus, third, strengthen the basis on which comparisons between households can start to be made at an international scale, particularly from parts of the world acknowledged to be facing similar challenges to Australia, such as the USA [30], and/or where there is a strong tradition of household-scale sustainability research, such as the UK [23]. The paradoxes and contradictions have been widely reported in other literature, for example, confirming that a focus on encouraging green identities is a likely barrier and may be counterproductive, while the

above-mentioned family values – albeit in diverse expressions – may provide a non-environmental lever that can gain wide traction. In contrast, the focus on autonomy and privacy may be a more uniquely Australian concern.

Are the insights potentially relevant to climate change response?

The seven themes are uneven in the extent to which they are relevant to climate change response. They have variable relevance to policy or, more accurately, they are uneven in the extent to which they would be easily translatable into policy applications. Some are quite conceptual and their relevance and/or application will be indirect. Note that it is not the aim of this paper to provide policy recommendations, rather we aim to assess the extent to which the meta-ethnography might be useful in different contexts.

The most positive implication is the strength of adaptiveness in this analysis. It is clear that households have all kinds of capacities to respond, cope and adapt – many of which may not be readily apparent when assessing resilience at either the individual or the population scales [65]. They may be readier to make sacrifices to deal with climate change than governments and policy-makers have given them credit for. Income, education, social class, and geographical location (latitudinal position, coastal exposure, remoteness) have become common proxies for vulnerability [66], but neither vulnerability nor capacity should be assumed from macro-scale demographic or socioeconomic data [7]. Developed world populations determined as vulnerable using quantitative demographic data are being shown through subsequent qualitative methods to have strong social bonds, from prior experiences of rallying together in response to extreme external forces such as droughts, wildfires, and floods [66]. As Anderson [67] argued, seemingly vulnerable low-income, rural households apprehend climate change through shared discourses of endurance, uncertainty, advocacy, and local resolve. It is relatively straightforward to imagine some policy implications of this finding. For example, informal strategies and networks, once identified, acknowledged and supported, could provide safety nets for those without.

The consistently complex themes such as family and autonomy, which on Table 2 show as much potential to decrease mitigation or adaptation actions, are not easily translatable into policy actions. However they provide an important contribution in identifying areas of risk for government intervention. For example the themes encompassing autonomy, privacy and control alert governments to areas where they might expect resistance, and against which policy suggestions should be tested. The issue needs to be considered in light of the evidence for left-right political polarisation in levels of acceptance of climate change science [68], but we interpret this as a deeper issue than that of political leanings towards greater or lesser government regulation. It is consistent with other cultural environmental research showing the importance of privacy and freedom in the context of domestic life [40,69].

Further, our analysis shows how everyday temporalities can provide sites of both resistance and creativity in responding to the challenges of climate change, particularly for families. Certainly the increasing expectations of seamless time and mobility provide points of friction at the moment, and mitigate against a range of sustainability activities, e.g. walking instead of driving. The friction is particularly experienced by women whose role as household managers involves negotiating and integrating the temporalities of individual family members. In many of the studies in our analysis, a slower pace of household life would be welcomed; it is often the expectations of and connections with the wider world that force the speed. But these connections may change by force as the temporalities of modernity unravel. The importance of social temporalities in relation to climate change has been identified by a number of authors [70,54,71). Fincher et al. [72: 203] argue that 'the everyday is the temporal site at which events and meanings at different temporal scales coalesce for people making sense of their situations'. In a study of responses to sea level rise, they showed that the everyday time of elderly residents can sometimes be more realistic in its climate change response than official temporalities focusing on distant futures, even in the name of preparedness. The shifting socialities of time under climate change are important and need further research.

The themes that are the most difficult to translate into policy include the more conceptual ones around boundaries and materiality. But even here there are possibilities. For example, the centrality of engagements with physical things, resources and materials shows that encouraging reduced consumption as a climate change response should not be presented as an attempt to de-materialise everyday life. In fact these kinds of efforts might lead to more active resistance. Rather, new kinds of relationships with things will need to be fostered, in a new phase that extends well beyond municipal recycling schemes [73]. Among the implications of this are fostering cultures of respect for physical things, their embodied energy and input materials (purchasing items, often second-hand, that are 'well-made' or 'built to last'); improved supply-chains for home renovation that facilitate access to reclaimed and low-footprint materials; industrial design of products that pre-empt easy repair

or disassembly for recycling; and catalysing change around norms of cleanliness and newness, including encouraging aesthetics that celebrate re-use. Via everyday objects and materials households thus need to be plugged into the bigger picture of industrial ecology and the circulation of materials.

6. Conclusions

Meta-ethnography has been widely used in other areas of qualitative research but not in relation to environmental or climate change issues. In applying it here to studies of households in the affluent West, we argue that the method holds considerable promise but will also need critique and development. In areas where it is well established, there is ongoing discussion of its merits and complex epistemological questions [74,63], as well as how to foster innovation in the techniques [75]. Notwithstanding any difficulties, its key contribution is that it 'does not conceptually dismiss single case studies as locally bound', but rather 'compels us to acknowledge the importance of not only the uniqueness of individual cases, but also the uniqueness of collectives' (74:340).

We conclude that meta-ethnography has considerable potential and is worth persisting with in this area of research. One area for future work to test is whether a narrower thematic focus in the meta-ethnography, for example household water practices rather than the broader remit of household sustainability, would throw up the more specific new insights found in studies such as those of diabetic medication treatments [62]. Other potential developments would be meta-ethnographies in other national contexts that could then be compared with this one, or meta-ethnographies of studies in environmental institutions and businesses. In the latter case the experiences of professional environmental managers [e.g. 76] could be compared with those of householders. Although the field of cultural environmental research into households is itself relatively new, and the body of work is not huge, we argue it is urgent to consider how to best scale up its findings to inform climate change response, including mitigation and adaptation policies.

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